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

8/26/2013

Certified Mail

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

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

RE: DRAFT AIR POLLUTION PERMIT-TO-INSTALL
Facility ID: 0302020012
Permit Number: P0114527
Permit Type: Initial Installation
County: Allen

Dear Permit Holder:

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

Andrew Hall
Permit Review/Development Section
Ohio EPA, DAPC
50 West Town Street, Suite 700
P.O. Box 1049
Columbus, Ohio 43216-1049

and

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

Comments and/or a request for a public hearing will be accepted within 30 days of the date the notice is published in the newspaper. You will be notified in writing if a public hearing is scheduled. A decision on issuing a final permit-to-install will be made after consideration of comments received and oral testimony if a public hearing is conducted. Any permit fee that will be due upon issuance of a final Permit-to-Install is indicated in the Authorization section. Please do not submit any payment now. If you have any questions, please contact Ohio EPA DAPC, Northwest District Office at (419)352-8461.

Sincerely,

Michael W. Ahern

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

Cc: U.S. EPA Region 5 *-Via E-Mail Notification*
Ohio EPA-NWDO; Indiana

Allen County

PUBLIC NOTICEPUBLIC HEARING
OHIO ENVIRONMENTAL PROTECTION AGENCY
ISSUANCE OF A DRAFT PERMIT-TO-INSTALL TO
Lima Refining Company
1150 South Metcalf Street
Lima, Ohio 45804

Public notice is hereby given that the Ohio EPA - Division of Air Pollution Control (DAPC) has issued, on **August 26, 2013**, a draft Permit-to-Install (PTI) to
Lima Refining Company (Permit Number: P0114527). The draft PTI involves a proposed project for new installations and modifications of existing refinery operations which would increase the flexibility for the facility to process crude oil with higher sulfur and acid contents.

The proposed project is for the Lima Refining Company facility located at 1150 South Metcalf Street, Lima, Ohio 45804. Lima Refining Company is located in an area in attainment with National Ambient Air Quality Standards (NAAQS) and the facility is subject to Prevention of Significant Deterioration (PSD) regulations. The allowable air emissions from the proposed project comply with all applicable air pollution rules and conform to ambient air impact requirements of federal and state regulations.

Copies of the draft PTI are available for review at Ohio EPA's Northwest District Office, 347 North Dunbridge Road, Bowling Green, Ohio, (419) 352-8461. The draft permit may also be accessed through Ohio EPA's website at the following link:

http://www.epa.ohio.gov/dapc/newpermits/issued.aspx

An Ohio EPA information session and public hearing concerning the draft PTI will be held on October 1, 2013at the Lima City Council Chambers, 50 Town Square, Lima, Ohio 45801. The information session will begin at 6:30 pm. The public hearing will follow immediately and continue until all persons have had the opportunity to provide testimony related to the proposed permit.

All interested persons are entitled to attend or be represented and give written or oral comments on the draft permit at the hearing. Written comments must be received by Ohio EPA at the close of the business day on October 7, 2013. Comments received after this date will not be considered to be a part of the official record. Written comments may be submitted at the hearing or sent to: Jeff Skebba, Division of Air Pollution, Ohio EPA's Northwest District Office, 347 North Dunbridge Road, Bowling Green, Ohio 43402.

STAFF DETERMINATION FOR THE APPLICATION TO CONSTRUCT UNDER BOTH THE PREVENTION OF SIGNIFICANT DETERIORATION FOR LIMA REFINING COMPANY LIMA, OHIO (ALLEN COUNTY) PERMIT NUMBER P0114527

Ohio Environmental Protection Agency
Division of Air Pollution Control
Lazarus Government Center
50 West Town St., Suite 700
Columbus, Ohio 43215

The Clean Air Act and regulations promulgated thereunder require that major air pollution sources undergoing construction or modification comply with all applicable Prevention of Significant Deterioration (PSD) provisions and nonattainment area New Source Review (NSR) requirements. The federal PSD rules govern emission increases in attainment areas for major stationary sources, which are facilities with the potential to emit 250 tons per year or more of any pollutant regulated under the Clean Air Act, or 100 tons per year or more if the source is included in one of 28 source categories. In nonattainment areas, the definition of major stationarysource is one having at least 100 tons per year potential emissions. A major modification is one resulting in a contemporaneous netincrease in emissions which exceeds the significance level of one or more pollutants. Any changes in actual emissions within this five- or ten-year period are considered to be contemporaneous. In addition, Ohio has incorporated the PSD and NSR requirements by rule under OAC 3745-31, and currently has a program that is fully approved by USEPA. For PM2.5, Ohio will have to use the requirements established in 40 CFR Part 51, Appendix S until the Ohio Administrative Code regulations are modified to include PM2.5 emissions.

Both PSD and nonattainment NSR rules require that certain analyses be performed before a facility can obtain a permit authorizing construction of a new source or major modification to a major stationary source. The principal requirements of the PSD regulations are:

1) Best Available Control Technology (BACT) review - A detailed engineering review must be performed to ensure that BACT is being installed for the pollutants for which the new source is a major stationary source.

2) Ambient Air Quality Review - An analysis must be completed to ensure the continued maintenance of the National Ambient Air Quality Standards (NAAQS) and that any increases in ambient air pollutant concentrations do not exceed the incremental values set pursuant to the Clean Air Act.

For nonattainment areas, the requirements are:

1) Lowest Achievable Emission Rate (LAER)

   a) The most stringent emission limitation that is contained in the implementation plan of any state for such class or category of emissions unit, unless the owner or operator of the proposed emissions unit demonstrates that such limitations are not achievable; or,

   b) The most stringent emission limitation that is achieved in practice by such class or category of emissions unit.

This limitation, when applied to a major modification, means lowest achievable emissions rate for the new or modified emissions units within the stationary source. In no event shall the application of this term permit a proposed new or modified emissions unit to emit any air pollutant in excess of the allowable amount under applicable new source standards of performance.

2) Compliance certification

The applicant must certify that all existing major stationary sources owned or operated by the applicant (or any entity controlling, controlled by, or under common control with the applicant) in Ohio as the proposed major stationary source or major modification are in compliance with all applicable emission limitations and standards under the Clean Air Act (or are in compliance with an expeditious schedule which is federally enforceable or contained in a court decree).

Site/Facility Description

The Lima Refining Company facility is located in Lima, Ohio, Allen County.

This area is classified as attainment or unclassifiable for all criteria pollutants, particulate matter 10 microns and less in diameter (PM_{10}), particulate matter 2.5 microns and less in diameter ($PM_{2.5}$), sulfur dioxide (SO_2), nitrogen oxides (NO_x), carbon monoxide (CO), volatile organic compounds (VOC), and lead (Pb).

Lima Refining Company operates an oil refinery which focuses on the processing of light sweet crude to produce gasoline, diesel, jet fuel, residual fuels, and petrochemical feedstocks. The facility is a major stationary source of multiple criteria and regulated pollutants for purposes of both Prevention of Significant Deterioration (PSD) and Title V permitting.

Project Description

This permit to install (PTI) is for a proposed project to the existing refinery to increase the flexibility to process crude oil with higher sulfur and acid contents (heavy crude or bitumen). The proposed project involves the following major changes:

- Replacement of burners for crude and vacuum heaters;
- Metallurgical upgrades in crude, vacuum and coker process units;
- New unheading devices on coke drums allowing improved cycle time and changes to coke handling operations (modified pit/rail car loading);
- New sulfur recovery unit (SRU) and retrofit of existing SRU to enable oxygen enrichment;
- Increased amine and sour water stripping capability;
- Other changes – increased cooling tower water circulation, new decanted oil rail loading, larger emergency acid gas flare.

New Source Review (NSR)/PSD Applicability

The current Lima Refining Company facility meets the definition for a major stationary source for attainment (PSD) as defined in 3745-31-01 of Ohio's Administrative Code.

Lima Refining Company is located in an area designated as attainment for PM10, PM2.5, SO2, NOx, CO, VOC (ozone), and lead. The Lima Refining Company facility is one of the 28 stationary source categories (petroleum refineries) that has the potential to emit greater than 100 tons per year of PM10, PM2.5, SO2, NOx,

CO, VOC, and particulate matter (PM). Lima Refining Company has a potential to emit greater than 100,000 tons of carbon dioxide equivalent (CO2e) emissions resulting in greenhouse gases (GHG) from the facility becoming "subject to regulation" as defined in 40 CFR 51.166(b)(48)(i). The potential to emit for GHG on a mass basis is greater than 100 tons per year.

The proposed installations and modifications by Lima Refining Company in this permitting action are deemed to be a physical change in or change in the method of operation at a current major stationary source. The proposed installations and modifications result in a significant increase in emissions as specified in 3745-31-01 of the Ohio Administrative Code that trigger a major modification at a current major stationary source. Emission increases associated only with the proposed project exceed PSD significant emission threshold levels for NOx, CO, SO2, and GHG. Table I below identifies emission increases for the proposed project:

TABLE I

PROJECT EMISSION INCREASES

Operations, Property, and/or Equipment Description	Emissions Unit ID	Emissions Unit Project Status	Pollutant Increases (tons/year)[a]							
			PM	PM10	PM2.5	SO2	NOx	VOC	CO	CO2e
Vacuum Unit II Heater	B001	modified	1.30	1.30	1.30	7.56	-35.89	0.94	6.96	24,178
ISO Stabilizer/Splitter Heaters	B002	affected	1.21	1.21	1.21	9.76	2.27	0.87	13.35	25,657
ISO I & II Heaters	B003	affected	0.28	0.28	0.28	2.19	0.52	0.20	3.09	5,873
Crude II Heater	B004	modified	2.93	2.93	2.93	37.17	14.12	2.12	15.71	74,592
FCC Furnace	B016	affected	0.13	0.13	0.13	1.65	1.69	0.09	1.42	4,265
Coker Furnace	B027	affected	1.01	1.01	1.01	7.75	9.35	0.73	5.42	27,465
Decanted Oil Loading Rack	J011	new						1.74		
Two Coker Drums & Distillation Column	P005	modified	11.66	3.04	0.31			10.76		
Fluid Catalytic Cracker (FCC)/	P010	affected	0.04	0.04	0.03	40.07	67.16	0.70	229.75	90,005
LIU Cooling Tower[a]	P037	modified	0.00	0.00	0.00			2.64		
Sulfur Recovery Unit Claus 1 & 2 Units	P040	modified	0.36	0.36	0.36	65.90	4.81	0.26	5.50	15,767
Sulfur Recovery Unit - Claus 3	P049	new	0.72	0.72	0.72	99.30	9.52	2.44	8.00	40,512
Sulfur Recovery Units Acid Gas Flare	P050	new (replaced)	0.01	0.01	0.01	0.001	0.01	0.21	0.56	177
Decanted Oil Storage Tanks		affected						2.25		
Diesel Storage Tanks		affected						1.39		
Total Project Emission Increases			19.64	11.02	8.29	271.35	109.55	27.34	289.76	309,283
PSD Significant Emissions Threshold Levels			25	15	10	40	40	40	100	75,000

[a]LIU Cooling Tower will experience an actual decrease in PM/PM10/PM2.5 by a requirement to apply new high efficiency drift eliminators. Because this project will not involve or require a determination of contemporaneous net emission increases, a value of 0.00 was applied for purposes of calculating the project increase in particulate emissions.

The proposed project triggers PSD review requirements for SO2, NOx, CO, and GHG.

Control Technology Review (BACT)

The requirement to conduct a BACT analysis and determination is set forth in section 165(a)(4) of the Clean Air Act (Act), in federal regulations at 40 CFR Part 52.21.(j) and also in OAC rules 3745-31-15(C) and 3745-31-01(S). The BACT requirement is defined as:

> "an emissions limitation (including a visible emissions standard) based on the maximum degree of reduction for each regulated NSR pollutant which would be emitted from any proposed major stationary source or major modification which the director, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such major stationary source or major modification through application of production processes or available methods, systems and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of such pollutant. In no event shall application of best available control technology result in emissions of any pollutant that would exceed the emissions allowed by any applicable standard under 40 CFR Parts 60, 61, and 63. If the director determines that technological or economic limitations on the application of measurement methodology to a particular emissions unit would make the imposition of an emissions standard infeasible, a design, equipment, work practice, operational standard, or combination thereof, may be approved by the director instead to satisfy the requirement for the application of best available control technology. Such standard shall, to the degree possible, set forth the emissions reduction achievable by implementation of such design, equipment, work practice or operation and shall provide for compliance by means which achieve equivalent results."

The BACT process was further formalized in a memorandum by USEPA on December 1, 1987 and in the draft New Source Review Workshop Manual (EPA 1990b) issued on March 15, 1990, by introducing a "top-down" concept for BACT analysis. The top-down process requires that all available control technologies be ranked in descending order of control effectiveness. The BACT process first examines the most stringent - or top - alternative. That alternative is established as BACTunless it is demonstrated that technical considerations, or energy, environmental, or economic impacts justify a conclusion that the most stringent technology is not applicable. If the most stringent technology is eliminated, then the next most stringent alternative is considered, and this process is continued until an acceptable BACT is selected.

The objective of the BACT analysis is to conduct pollutant-specific control technology evaluation per USEPA requirements. The BACT evaluation steps consist of:

Step 1: identify all control technologies;

Step 2: eliminate technically infeasible options;

Step 3: rank remaining control technologies by control effectiveness;

Step 4: evaluate most effective controls and document results; and

Step 5: select the most effective control based on energy, environmental and economic impacts (generally the feasible technology that is also considered to be cost effective).

BACT Analysis: Vacuum Unit II Heater (B001)

Pollutant	BACT Requirements
NOx	Use of ultra-low NOx burners; Compliance with the 40 CFR, Part 60, Subpart Ja emission standard of 0.04

	lbNOx/million Btu of actual heat input, based upon a 30 day rolling average; and Compliance with the NOx emission standard of 0.03 lb of NOx/million Btu of actual heat input, based upon a 365-day rolling average
SO2	Compliance with 40 CFR, Part 60, Subpart Ja: Compliance with hydrogen sulfide standards for refinery fuel gas, including 230 mg/dscm, as a 3-hour rolling average (0.10 grain/dscf)(the equivalent concentration is 162 parts per million by volume of H2S; or stack SO_2 not to exceed 20 parts per million by volume, dry basis, corrected to zero percent excess air; and 60 parts per million by volume of H2S, dry basis, as a 365-day rolling average; or stack SO_2 not to exceed 8 parts per million by volume, dry basis, corrected to zero percent excess air
CO	0.04 lb of CO/million Btu of actual heat input, based upon a 365-day rolling average, and based on good combustion practices
CO_2 as a surrogate for GHG	Use of low-carbon gaseous fuels (refinery fuel gas or natural gas); Heat recovery through use of a convection section and boiler feed water preheating; and Excess oxygen monitoring and annual burner tuning and heater inspection

BACT Analysis: Crude II Heater (B004)

Pollutant	BACT Requirements
NOx	Use of ultra-low NOx burners; Compliance with the 40 CFR, Part 60, Subpart Ja emission standard of 0.04 lbNOx/million Btu of actual heat input, based upon a 30 day rolling average; and Compliance with the NOx emission standard of 0.03 lb of NOx/million Btu of actual heat input, based upon a 365-day rolling average
SO2	Compliance with 40 CFR, Part 60, Subpart Ja: Compliance with hydrogen sulfide standards for refinery fuel gas, including 230 mg/dscm, as a 3-hour rolling average (0.10 grain/dscf)(the equivalent concentration is 162 parts per million by volume of H2S; or stack SO2 not to exceed 20 parts per million by volume, dry basis, corrected to zero

	percent excess air; and 60 parts per million by volume of H2S, dry basis, as a 365-day rolling average; or stack SO2 not to exceed 8 parts per million by volume, dry basis, corrected to zero percent excess air
CO	0.04 lb of CO/million Btu of actual heat input, based upon a 365-day rolling average, and based on good combustion practices
CO_2 as a surrogate for GHG	Use of low-carbon gaseous fuels (refinery fuel gas or natural gas); Heat recovery through use of a convection section and boiler feed water preheating; and Excess oxygen monitoring and annual burner tuning and heater inspection

BACT Analysis: Two Coker Drums & Distillation Column (P005)

Pollutant	BACT Requirements
CO_2e	Use of good combustion practices

BACT Analysis: Sulfur Recovery Unit Claus 1 & 2 Units (P040)

Pollutant	BACT Requirements
NOx	1.84 lbs of nitrogen oxides (NOx)/hr; and Use of good combustion practices
SO2	Compliance with 40 CFR, Part 60, Subpart Ja; 19.18 lbs of sulfur dioxide (SO2)/hr, as a 12-hr average; 250 parts per million by volume (dry basis) of SO2 at 0% excess air as a 12-hour average; and Use of a tail gas treatment unit and tail gas incinerator
CO	1.55 lbs of CO/hr; and

	Use of good combustion practices
CO_2 as a surrogate for GHG	Use of low-carbon gaseous fuel (natural gas)

BACT Analysis: Sulfur Recovery Unit – Claus 3 (P049)

Pollutant	BACT Requirements
NOx	2.17 lbs of NOx/hr; and Use of good combustion practices
SO2	Use of tail gas treatment unit and tail gas incinerator; Compliance with 40 CFR, Part 60, Subpart Ja; 22.67 lbs of SO2/hr, as a 12-hr average; and 250 parts per million by volume (dry basis) of SO2 at 0% excess air as a 12-hour average
CO	1.83 lbs of CO/hr; and Use of good combustion practices
CO_2 as a surrogate for GHG	Use of low-carbon gaseous fuel (natural gas)

BACT Analysis: Sulfur Recovery Units Acid Gas Flare (P050)

Pollutant	BACT Requirements
NOx	Use of good combustion practices
SO2	Use of natural gas or refinery fuel gas for the flare pilot flame and sweep gases, and implementation of a load shedding plan to minimize periods of gas release from the

	sulfur recovery units (Claus 1, Claus 2 and Claus 3 units) to the acid gas flare
CO	Use of good combustion practices
CO_2 as a surrogate for GHG	Use of low-carbon gaseous fuels (refinery fuel gas or natural gas)

Modeling Summary:

The Lima Refining Company facility is located in Lima, Ohio (Allen County). The area is attainment for all criteria pollutants. U.S. EPA regulations require the establishment of baseline air quality in the vicinity of the proposed project. This is normally accomplished using representative air quality monitoring data. Air quality modeling can be utilized to demonstrate that the project will have less than a threshold impact. This threshold impact is identified as the PSD monitoring de minimus level. If the projected impact from the proposed project exceeds this level, ambient data must be collected or existing representative data must be identified which is representative of the area.

Lima Refining Company has conducted ambient air quality modeling to determine the potential impact due to the proposed installation. SO2, CO, and nitrogen dioxide (NO2) impacts from the proposed installation/modification are below their respective PSD monitoring de minimus level. Ohio EPA has identified representative SO2, CO, and NO2data for use by Lima Refining Company in this project. Therefore, Lima Refining Company would not be required to perform preconstruction or post-construction monitoring. The following are the projected impacts:

Pollutant	Averaging Period	Modeled Impact (ug/m3)	Monitoring De Minimus Level (ug/m3)
SO2	24-hour	5.0	13
CO	8-hour	5.0	575
NO2	Annual	0.01	14

Modeling

Air quality dispersion was conducted to assess the effect of this modification on the national ambient air quality standards (NAAQS) and for the PSD increments. AERMOD (version 12345) was used in the regulatory default, rural mode. Five years of representative meteorological data (Dayton International Airport, OH) and five years of upper air data (Wilmington Airborne Park, OH) was used. Building downwash was incorporated into the modeling analysis.

Peak impacts of SO2, CO, and NO2 were below their respective PSD significant impact levels. Therefore, no additional modeling to address PSD increments and NAAQS were necessary.

Pollutant	Averaging Period	Modeled Impact (ug/m3)	Significant Impact Level (ug/m3)
SO2	1-hour	6.80	7.86
	3-hour	10	25
	24-hour	5.0	5

	Annual	0.4	1
CO	1-hour	10	2000
	8-hour	5	500
NO2	1-hour	1.7	10
	Annual	0.01	1

Secondary Impact Analysis

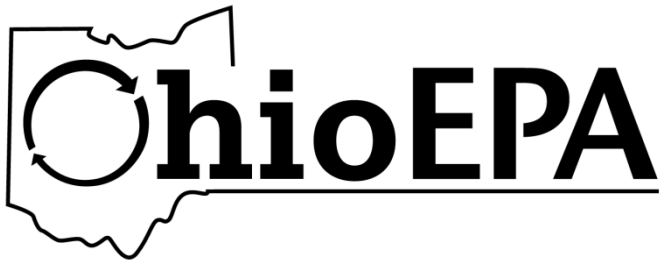
Lima Refining Company has demonstrated that the predicted pollutant concentrations throughout the study area are below the secondary NAAQS thresholds. The secondary NAAQS are designed to limit the amount of pollutants in the ambient air to levels below those which could have an adverse impact on human welfare, soils and vegetation. The modeling analyses demonstrate that no significant impacts on human welfare, soils or vegetation will occur from the proposed modification. Specific details are presented in the permit application.

Qualitative Assessment of the Potential for Secondary PM2.5 Formation

In accordance with U.S. EPA draft guidance (March 4, 2013) impacts of SO2 and NOx as precursors to secondary PM2.5 formation was performed. A qualitative assessment as conducted in accordance with U.S. EPA's "Draft Guidance for PM2.5 Permit Modeling" and precursor emissions of SO2 and NOx are not expected to have a significant impact to ambient air quality nor will they result in a violation of the NAAQS for PM2.5.

Conclusions

Based upon the review of the permit to install application and the supporting documentation provided by the applicant, the Ohio EPA staff has determined the installation/modification will comply with all applicable State and Federal environmental regulations and that the requirements for PSD review are satisfied. Therefore, the Ohio EPA staff recommends that a permit to install be issued to Lima Refining Company for the proposed project.



DRAFT

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

Facility ID:	0302020012
Permit Number:	P0114527
Permit Type:	Initial Installation
Issued:	8/26/2013
Effective:	To be entered upon final issuance

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

Table of Contents

Authorization

Facility ID:	0302020012
Facility Description:	Petroleum Refinery and Storage
Application Number(s):	A0047431, A0047911
Permit Number:	P0114527
Permit Description:	Crude Oil Flexibility (COF) project to include modifications to the refinery to increase the flexibility for processing crude oil with higher sulfur and acid contents.
Permit Type:	Initial Installation
Permit Fee:	$9,650.00*DO NOT send payment at this time, subject to change before final issuance*
Issue Date:	8/26/2013
Effective Date:	To be entered upon final issuance

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

Scott J. Nally
Director

Authorization (continued)

Permit Number: P0114527
Permit Description: Crude Oil Flexibility (COF) project to include modifications to the refinery to increase the flexibility for processing crude oil with higher sulfur and acid contents.

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

Emissions Unit ID:	**B001**
Company Equipment ID:	Process Heater
Superseded Permit Number:	P0109701
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	**B004**
Company Equipment ID:	Process Heater
Superseded Permit Number:	P0109701
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	**J011**
Company Equipment ID:	DO Rail Load Rack
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	**P005**
Company Equipment ID:	Process
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	**P037**
Company Equipment ID:	LIU Cooling Tower
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	**P040**
Company Equipment ID:	SRU Claus TGTU
Superseded Permit Number:	P0107933
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	**P049**
Company Equipment ID:	SRU 3
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	**P050**
Company Equipment ID:	Acid Gas Flare
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable

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

b) It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the federally enforceable terms and conditions of this permit.

c) This permit may be modified, revoked, or revoked and reissued, for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or revocation, or of a notification of planned changes or anticipated noncompliance does not stay any term and condition of this permit.

d) This permit does not convey any property rights of any sort, or any exclusive privilege.

e) The permittee shall furnish to the Director of the Ohio EPA, or an authorized representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying or revoking this permit or to determine compliance with this permit. Upon request, the permittee shall also furnish to the Director or an authorized representative of the Director, copies of records required to be kept by this permit. For information claimed to be confidential in the submittal to the Director, if the Administrator of the U.S. EPA requests such information, the permittee may furnish such records directly to the Administrator along with a claim of confidentiality.

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 emissionlimitations, operationalrestrictions, andcontroldeviceoperatingparameterlimitations, 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, andreportingrequirements contained in this permit shall be submitted (i.e., postmarked) 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) The emissions unit(s) identified in this Permit shall remain in full compliance with all applicable State laws and regulations and the terms and conditions of this permit.

b) 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.

c) 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.

d) 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 (i.e., postmarked) quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

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).

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 party 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 Ohio EPA’s “Air Services” along with the date the emissions unit(s) was permanently removed and/or disabled. Submitting the facility profile update will constitute notifying of the permanent shutdown of the affected emissions unit(s).

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.

No emissions unit certified by the authorized official as being permanently shut down may resume operation without first applying for and obtaining a permit pursuant to OAC Chapter 3745-31.

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 the proposed new or modified source(s) would be prohibited by the terms and conditions of an existing Title V permit, a Title V permit modification must be obtained before the operation of such new or modified source(s) pursuant to OAC rule 3745-77-04(D) and OAC rule 3745-77-08(C)(3)(d).

13. Construction Compliance Certification

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

a) Completion of initial installation date shall be enteredupon 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 (i.e., postmarked), 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.

B. Facility-Wide Terms and Conditions

1. All the following facility-wide terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only:

   a) None.

2. The following emissions unit contained in this permit is subject to 40 CFR, Part 60, Subpart J, Standards of Performance for Petroleum Refineries: P040. The complete NSPS requirements, including the NSPS General Provisions may be accessed via the internet from the Electronic Code of Federal Regulations (e-CFR) website http://ecfr.gpoaccess.gov or by contacting the Ohio EPA, Northwest District Office.

   The permittee shall comply with all applicable requirements of 40 CFR, Part 60, SubpartJ. The permittee shall also comply with all applicable requirements of 40 CFR, Part 60, Subpart A (General Provisions). Compliance with all applicable requirements shall be achieved by the dates set forth in 40 CFR, Part 60, Subpart J, and Subpart A.

3. The following emissions units contained in this permit are subject to 40 CFR, Part 60, Subpart Ja, Standards of Performance for Petroleum Refineries for Which Construction, Reconstruction or Modification Commenced after May 14, 2007: B001, B004, P005, P049 and P050. The complete NSPS requirements, including the NSPS General Provisions may be accessed via the internet from the Electronic Code of Federal Regulations (e-CFR) website http://ecfr.gpoaccess.gov or by contacting the Ohio EPA, Northwest District Office.

   The permittee shall comply with all applicable requirements of 40 CFR, Part 60, SubpartJa. The permittee shall also comply with all applicable requirements of 40 CFR, Part 60, Subpart A (General Provisions). Compliance with all applicable requirements shall be achieved by the dates set forth in 40 CFR, Part 60, Subpart Ja, and Subpart A.

4. The following emissions unit contained in this permit is subject to 40 CFR, Part 60, Subpart VV, Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemical Manufacturing Industry for which Construction, Reconstruction or Modification Commenced after January 5, 1981 and on or before November 7, 2006: P040. The complete NSPS requirements, including the NSPS General Provisions may be accessed via the internet from the Electronic Code of Federal Regulations (e-CFR) website http://ecfr.gpoaccess.gov or by contacting the Ohio EPA, Northwest District Office.

   The permittee shall comply with all applicable requirements of 40 CFR, Part 60, SubpartVV. The permittee shall also comply with all applicable requirements of 40 CFR, Part 60, Subpart A (General Provisions). Compliance with all applicable requirements shall be achieved by the dates set forth in 40 CFR, Part 60, Subpart VV, and Subpart A.

5. The following emissions unit contained in this permit is subject to 40 CFR, Part 60, Subpart VVa, Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemical Manufacturing Industry for which Construction, Reconstruction or Modification Commenced after November 7, 2006: P049. The complete NSPS requirements, including the NSPS General Provisions may be accessed via the internet from the Electronic Code of Federal Regulations (e-CFR) website http://ecfr.gpoaccess.gov or by contacting the Ohio EPA, Northwest District Office.

   The permittee shall comply with all applicable requirements of 40 CFR, Part 60, SubpartVV. The permittee shall also comply with all applicable requirements of 40 CFR, Part 60, Subpart A (General

Provisions). Compliance with all applicable requirements shall be achieved by the dates set forth in 40 CFR, Part 60, Subpart VVa, and Subpart A.

6. The following emissions unit contained in this permit is subject to 40 CFR, Part 60, Subpart GGG, Standards of Performance for Equipment Leaks in Petroleum Refineries for which Construction, Reconstruction or Modification Commenced after January 4, 1983 and on or before November 7, 2006: P040. The complete NSPS requirements, including the NSPS General Provisions may be accessed via the internet from the Electronic Code of Federal Regulations (e-CFR) website http://ecfr.gpoaccess.gov or by contacting the Ohio EPA, Northwest District Office.

   The permittee shall comply with all applicable requirements of 40 CFR, Part 60, SubpartGGG. The permittee shall also comply with all applicable requirements of 40 CFR, Part 60, Subpart A (General Provisions). Compliance with all applicable requirements shall be achieved by the dates set forth in 40 CFR, Part 60, Subpart GGG, and Subpart A.

7. The following emissions units contained in this permit are subject to 40 CFR, Part 60, Subpart GGGa, Standards of Performance for Equipment Leaks in Petroleum Refineries for which Construction, Reconstruction or Modification Commenced after November 7, 2006: P005 and P049. The complete NSPS requirements, including the NSPS General Provisions may be accessed via the internet from the Electronic Code of Federal Regulations (e-CFR) website http://ecfr.gpoaccess.gov or by contacting the Ohio EPA, Northwest District Office.

   The permittee shall comply with all applicable requirements of 40 CFR, Part 60, SubpartGGG. The permittee shall also comply with all applicable requirements of 40 CFR, Part 60, Subpart A (General Provisions). Compliance with all applicable requirements shall be achieved by the dates set forth in 40 CFR, Part 60, Subpart GGGa, and Subpart A.

8. The following emissions units contained in this permit are subject to 40 CFR, Part 61, Subpart V, National Emission Standard for Equipment Leaks (Fugitive Emission Sources): P040 and P049. The complete NESHAPS requirements, including the NESHAPS General Provisions may be accessed via the internet from the Electronic Code of Federal Regulations (e-CFR) website http://ecfr.gpoaccess.gov or by contacting the Ohio EPA, Northwest District Office.

   The permittee shall comply with all applicable requirements of 40 CFR, Part 61, SubpartV. The permittee shall also comply with all applicable requirements of 40 CFR, Part 61, Subpart A (General Provisions). Compliance with all applicable requirements shall be achieved by the dates set forth in 40 CFR, Part 61, Subpart V, and Subpart A.

9. The following emissions units contained in this permit are subject to 40 CFR, Part 61, Subpart FF, National Emission Standard for Benzene Waste Operations: P040 and P049. The complete NESHAPS requirements, including the NESHAPS General Provisions may be accessed via the internet from the Electronic Code of Federal Regulations (e-CFR) website http://ecfr.gpoaccess.gov or by contacting the Ohio EPA, Northwest District Office.

   The permittee shall comply with all applicable requirements of 40 CFR, Part 61, SubpartFF. The permittee shall also comply with all applicable requirements of 40 CFR, Part 61, Subpart A (General Provisions). Compliance with all applicable requirements shall be achieved by the dates set forth in 40 CFR, Part 61, Subpart FF, and Subpart A.

10. The following emissions units contained in this permit are subject to 40 CFR, Part 63, Subpart CC, National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries: J011, P040 and P049. The complete NESHAPS requirements, including the NESHAPS General Provisions may be accessed via the internet from the Electronic Code of Federal Regulations (e-CFR) website http://ecfr.gpoaccess.gov or by contacting the Ohio EPA, Northwest District Office.

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

11. The following emissions units contained in this permit are subject to 40 CFR, Part 63, Subpart UUU, National Emission Standards for Hazardous Air Pollutants for Petroleum Refineries – Catalytic Cracking Units, Catalytic Reforming Units and Sulfur Recovery Units: P040, P049 and P050. The complete NESHAPS requirements, including the NESHAPS General Provisions may be accessed via the internet from the Electronic Code of Federal Regulations (e-CFR) website http://ecfr.gpoaccess.gov or by contacting the Ohio EPA, Northwest District Office.

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

12. The following emissions units contained in this permit are subject to 40 CFR, Part 63, Subpart DDDDD, National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial and Institutional Boilers and Process Heaters: B001 and B004. The complete NESHAPS requirements, including the NESHAPS General Provisions may be accessed via the internet from the Electronic Code of Federal Regulations (e-CFR) website http://ecfr.gpoaccess.gov or by contacting the Ohio EPA, Northwest District Office.

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

13. This PTI addresses a modification of the “refinery” operations associated with a project to increase the flexibility to process crude oil with higher sulfur and acid contents (heavy crude or bitumen). The requirements of this permit shall become enforceable on the date the permittee commences operation under the modification authorized by this permit. Identification of the specific date modified operation commences is required by term A.13.b) within the Standard Terms and Conditions of this permit. Authorization and permitting requirements associated with the current operation (prior to modification) of emissions units B001, B004, P005, P037, and P040 are contained in the facility’s Title V permit and are incorporated by reference (IBR) as requirements of this permit as indicated by the following:

    a) The permittee shall comply with all applicable emission limitations/control measures, operational restrictions, monitoring and recordkeeping requirements, reporting requirements, testing requirements, and additional term and condition requirements contained in the facility’s Final Title V Chapter 3745-77 permit with an issuance and effective date of 07/15/13. The IBR requirements shall cease to be enforceable for each emissions unit after the date an emissions unit commences operation under the modification authorized by this permit as indicated above.

14. The modification project involves the replacement of the existing acid gas flare (emissions unit P036) with a new flare (emissions unit P050). Upon startup of the new acid gas flare (P050), the existing acid gas flare (P036) shall be permanently removed from service.

    The new flare (P050) will provide emergency control for modified emissions unit P040 (Sulfur Recovery Unit - Claus 1 & 2 Units) and new emissions unit P049 (Sulfur Recovery Unit – Claus 3). During construction and periods of start-up involving changes to sulfur recovery unit (SRU) operations, the existing acid gas flare will remain in service providing control for SRU operations. During the time period the existing flare is utilized for providing control, the production of sulfur from SRU operations (P040) shall not exceed its existing design capacity of 110 tons (long) per day.

    If any connection is made to the existing acid gas flare system prior to P036's removal from service, and if such connection is a flare modification " as defined in 40 CFR 60.100a (c), then the emissions unit P036 will become an "affected facility" subject to 40 CFR, Part 60, Subpart Ja as a modified flare.

    Authorization and permitting requirements associated with operation of emissions unit P036 are contained in the facility's Title V permit. The requirements of 40 CFR, Part 60,SubpartJa for the flare are incorporated by reference (IBR) as requirements of this permit as indicated by the following:

    a) The permittee shall comply with all applicable requirements of 40 CFR, Part 60, Subpart Ja – Standards of Performance for Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After May 14, 2007 (See 40 CFR 60.100a – 109a). As specified in the rule, the work practice standards of 40 CFR 60.103a and the monitoring requirements of 40 CFR 60.107a are not required for modified flares until the later of November 11, 2015 or startup of the modified flare.

    b) IBR requirements for emissions unit P036 shall become effective upon the commencement of operation under the modification which results in the existing acid gas flare becoming an "affected facility" subject to the requirements of 40 CFR, Part 60,SubpartJa.

    c) In association with the requirements of 40 CFR, Part 60, Subpart Ja, the permittee shall also comply with all applicable requirements of 40 CFR, Part 60, Subpart A (General Provisions). Compliance with all applicable requirements shall be achieved by the dates set forth in 40 CFR, Part 60, Subpart A.

15. The permittee shall maintain records of sulfur production, in tons (long) per day from all SRU operations beginning on the date the permittee commences operation under the modification authorized by this permit and ending the date emissions unit P036 is replaced by the new flare (emissions unit P050).

16. The permittee shall notify the Northwest District Office in writing of any daily record of sulfur production from SRU operations that exceeds110 tons (long) per day during the time period specified in B.15 above.This notification shall identify the cause for the exceedance and the actual sulfur production, in tons (long). This notification shall be submitted to the Northwest District Office within 15 days after the exceedance.

17. The permittee shall maintain the following records to demonstrate that the crude oil flexibility modification project, as described in PTI application A0049711 submitted on May 29, 2013 does not trigger a major modification for PM, PM_{10}/ $PM_{2.5}$, and VOC:

a) the projected actual annual emissions for PM, PM_{10}/ $PM_{2.5}$, and VOC, in tons per year, from the crude oil flexibility modification project as submitted in the PTI application A0049711 on May 29, 2013; and

b) the total combined actual annual emissions for PM, PM_{10}/ $PM_{2.5}$, and VOC, in tons per year, for five calendar years after commencing operation of the crude oil flexibility modification project for the following existing operations which are "affected" by the crude oil flexibility modification project:

(1) emissions units; B002, B003, B016, B027, P010, P036, and facility emissions from decanted oil tank storage and facility emissions from diesel fuel tank storage.

It should be noted that for purposes of determining the projected actual annual emissions for "modified" operations/emission units contained in this permit (B001, B004, J011, P005, P037, P040, P049, and P050) the potential to emit reflected in allowable limitations shall be used.

18. The permittee shall notify the Northwest District Office in writing if annual emissions from all operations associated with the crude oil flexibility modification project, as specified in B.17 above,result in a significant PM, PM_{10}/$PM_{2.5}$, and/or VOC emissions increase and exceed the projected actual PM, PM_{10}/$PM_{2.5}$, and VOC emissions contained in PTI application A0049711, submitted May 29, 2013. This notification shall identify the cause for the difference from the preconstruction projection and the actual PM, PM_{10}/$PM_{2.5}$, and/or VOC emissions. This notification shall be submitted to the Northwest District Office within 60 days after the end of such year.

C. Emissions Unit Terms and Conditions

1. B001, Process Heater

Operations, Property and/or Equipment Description:

Reconstruction of existing refinery fuel gas or natural gas fired vacuum unit II heater to include installation of ultra-low nitrogen oxide burners, 102.3 million Btu/hr maximum heat input (PR 175151)

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)	See b)(2)a.
b.	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.
c.	OAC rule 3745-18-08(C)(1)	See b)(2)b.
d.	40 CFR, Part 63, Subpart DDDDD (40 CFR 63.7480-7575) [In accordance with 63.7575, this emissions unit is a large gaseous fuel 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)c., c)(2) and c)(3) 63.7500(a) Table 3 requirements
e.	40 CFR, Part 60, Subpart Ja	See b)(2)d. and b)(2)e.
f.	40 CFR, Part 60, Subpart A	See 40 CFR 60.1 through 60.19
g.	OAC rule 3745-31-05(D)	0.0075 lb of particulate emissions/ particulate matter less than or equal to 10 microns in diameter/particulate matter less than or equal to 2.5 microns in diameter ($PE/PM_{10}/PM_{2.5}$)/million Btu of actual heat input and 3.34 tons of

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		$PE/PM_{10}/PM_{2.5}$/yr 0.0054 lb of volatile organic compounds (VOC)/million Btu of actual heat input and 2.42 tons of VOC/yr See b)(2)f. and b)(2)g.
h.	ORC 3704.03(T)	See b)(2)h.
i.	OAC rule 3745-31-05(A)(3), as effective 11/30/01	See b)(2)i. and b)(2)j.
j.	OAC rule 3745-31-05(A)(3), as effective 12/1/06	See b)(2)k.
k.	OAC rules 3745-31-10 through 3745-31-20	0.03lbof nitrogen oxides (NOx)/million Btu of actual heat input, based upon a 365-day rolling average; 0.04 lb of NOx/million Btu of actual heat input based upon a 30-day rolling average; and 13.44 tons of NOx/rolling, 12-month period 0.04 lb of carbon monoxide (CO)/million Btu of actual heat input, based upon a 365-day rolling average and 17.92 tons of CO/rolling, 12-month period 11.09 tons of sulfur dioxide (SO2)/rolling, 12-month period Carbon dioxide(CO_2) as a surrogate for greenhouse gas (GHG) emissions shall not exceed 53,905 tons per rolling, 12-month period See b)(2)l.
l.	OAC rule 3745-110	See b)(2)m.

(2) Additional Terms and Conditions

a. The emission limitation of 0.020 lb of particulate emissions (PE) per million Btu of actual heat input specified by OAC 3745-17-10(B)(1) is less stringent than the PE limitation specified pursuant to OAC rule 3745-31-05(D).

b. The emission limitation of 0.15 lb of sulfur dioxide (SO2) per million Btu of actual heat input specified by OAC 3745-18-08(C)(1) is less stringent than the SO_2emission limitation specified pursuant to OAC rule 3745-31-05(D).

c. 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., it is 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).

d. The permittee shall not burn any refinery fuel gas in this emissions unit that containshydrogen sulfide (H2S) in excess of the following limitations:

i. 230 mg/dscm, as a 3-hour rolling average (0.10 grain/dscf)(the equivalentconcentration is 162 parts per million by volume of H2S). This H2S standard in 40 CFR60.104(a)(1) is also applicable if the permittee combines and combusts natural gasin any proportion with refinery fuel gas in this emissions unit, according to the fuelgas definition in 40 CFR 60.101(d); or stack SO2 not to exceed 20 parts per million by volume, dry basis, corrected to zero percent excess air; and

ii. 60 parts per million by volume of H2S, dry basis, as a 365-day rolling average; or stack SO2 not to exceed 8 parts per million by volume, dry basis, corrected to zero percent excess air.

e. The permittee shall not discharge to the atmosphere any emissions of NOx in excess of the applicable limits in NSPS Subpart Ja paragraphs b)(2)a.ii.(a) through (d).

i. The permittee shall comply with the limit in either paragraph b)(2)e.i.(i) or (ii). The permittee may comply with either limit at any time, provided that the appropriate parameters for each alternative are monitored as specified in 40 CFR 60.107a; if fuel gas composition is not monitored as specified in 40 CFR 60.107a(d), the permittee must comply with the concentration limits in paragraph b)(2)e.i.as follows.

(i) 40 ppmv (dry basis, corrected to 0-percent excess air) determined daily on a 30-day rolling average basis; or

(ii) 0.040 pounds per million British thermal units (lb/MMBtu) higher heating value basis determined daily on a 30-day rolling average basis.

The permittee has elected to comply with NOx limits in permit condition b)(2)e.i.(ii). Therefore, the remaining monitoring and recordkeeping requirements in this permit are reflective of that compliance option. If the permittee decides to revise the compliance option at a later date as allowed by 40 CFR 60.102a(g)(2), this will be allowed upon notification to Ohio EPA. The permittee shall submit an administrative permit modification request to Ohio EPA prior to the change.

f. It is assumed that all PE are equivalent to both PM_{10} and $PM_{2.5.}$

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

i. 0.0075lbof PE/PM_{10}/$PM_{2.5}$/million Btu of actual heat input and 3.34 tons of PE/PM_{10}/$PM_{2.5}$/yr; and

ii. 0.0054lb of VOC/million Btu of actual heat input and 2.42 tons of VOC/yr.

h. Best Available Technology (BAT) requirements for NOx, CO and SO2 emissions under ORC 3704.03(T) have been determined to be compliance with the emission limitations and requirements established pursuant to OAC rule 3745-31-10 through 3745-31-20.

i. BAT requirements for PM_{10} and VOC emissions under OAC rule 3745-31-05(A)(3), as effective 11/30/01 have been determined to be compliance with OAC rule 3745-31-05(D); OAC rule 3745-17-07(A); and compliance with the terms and conditions of this permit.

j. The permittee has satisfied the BAT requirements for PM_{10} and VOC emissions pursuant to OAC rule 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to ORC changes effective August 3, 2006 (S.B. 265 changes), such that BAT is no longer required by State regulation for NAAQS pollutant emissions less than 10 tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revision to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then these emission limits and control measures no longer apply.

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

The BAT requirements under OAC rule 3745-31-05(A)(3)(a) do not apply to the PM_{10} and VOC emissions since the potential to emit is less than 10 tons per year.

l. The permittee shall employ Best Available Control Technology (BACT) for this emissions unit. BACT has been determined to be the following:

Pollutant	BACT Requirements
NOx	Use of ultra-low NOx burners; Compliance with the 40 CFR, Part 60, Subpart Ja emission standard of 0.04 lbNOx/million Btu of actual heat input, based upon a 30 day rolling average; and

	Compliance with the NOx emission standard of 0.03 lb of NOx/million Btu of actual heat input, based upon a 365-day rolling average
SO2	Compliance with 40 CFR, Part 60, Subpart Ja: Compliance with hydrogen sulfide standards for refinery fuel gas, including 230 mg/dscm, as a 3-hour rolling average (0.10 grain/dscf)(the equivalentconcentration is 162 parts per million by volume of H2S; or stack SO_2 not to exceed 20 parts per million by volume, dry basis, corrected to zero percent excess air; and 60 parts per million by volume of H2S, dry basis, as a 365-day rolling average; or stack SO_2 not to exceed 8 parts per million by volume, dry basis, corrected to zero percent excess air
CO	0.04 lb of CO/million Btu of actual heat input, based upon a 365-day rolling average, and based on good combustion practices
CO_2 as a surrogate for GHG	Use of low-carbon gaseous fuels (refinery fuel gas or natural gas); Heat recovery through use of a convection section and boiler feed water preheating; and Excess oxygen monitoring and annual burner tuning and heater inspection

m. Pursuant to OAC rule 3745-110-01(B)(19), this emissions unit is an existing large boiler. The emissions limitations for NOx in OAC rule 3745-110-03(C) are less stringent than the NOx BACT emission limitation established pursuant to OAC rule 3745-31-10 through 3745-31-20.

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). 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.

(3) 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 limitations of:

- 230 mg/dscm, as a 3-hour rolling average (0.10 grain/dscf)(the equivalentconcentration is 162 parts per million by volume of H2S in the refinery fuel gas (and if applicable, combined fuel firing as noted in b)(2)d. above); or stack SO2 not to exceed 20 parts per million by volume, dry basis, corrected to zero percent excess air; and

- 60 parts per million by volume of H2S, dry basis, as a 365-day rolling average; or stack SO2 not to exceed 8 parts per million by volume, dry basis, corrected to zero percent excess air;

The permittee shall operate and maintain an instrument for continuously monitoring and recording the concentration (dry basis) of H2S in the refinery fuel gas or combined fuel stream before being burned in this emissions unit. The monitoring shall be conducted in accordance with 40 CFR 60.105(a)(4), as follows:

a. The span value for this instrument is 425 mg/dscm of H2S.

b. Fuel gas combustion devices having a common source of fuel gas may be monitored at only one location, if monitoring at this location accurately represents the concentration of H2S in the fuel gas being burned.

c. The performance evaluations for this H2S monitor under 40 CFR 60.13(c) shall use Performance Specification 7 of 40 CFR, Part 60, Appendix B. The permittee shall conduct a relative accuracy test audit (RATA) for the H2S 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 H2S continuous emission monitoring system (CEMS) shall be maintained on site and shall consist of a letter from the Ohio EPA detailing the results of an Agency review of the certification tests and a statement by the Agency that the system is considered certified in accordance with the requirements of 40 CFR, Part 60, Appendix B, Performance Specification 7.

Proof of certification shall be made available to representatives of the Ohio EPA, Northwest District Office upon request.

(4) The permittee shall operate and maintain existing equipment to continuously monitor and record H2S from this emissions unit in units of the applicable standard. Such continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR, Part 60.13.

The permittee shall maintain records of all data obtained by the H2S CEMS including, but not limited to, parts per million of H2S for each cycle time of the analyzer, with no resolution less than one data point per minute required, emissions of H2S 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 H2S. 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 H2S CEM at a minimum frequency of once every three years; and

b. Conduct cylinder gas audits on the H2S CEM during each quarter when a relative accuracy test audit is not conducted.

(6) The permittee shall install, operate, and maintain equipment to continuously monitor and record NOx 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 all 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 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 (g) and (h).

All valid data points generated and recorded by the continuous emission monitoring and data acquisition and handling system shall be used in the calculation of the pollutant concentration and/or emission rate over the appropriate averaging period.

(7) The permittee shall record the following for this emissions unit:

a. the volume, in million standard cubic feet, of refinery fuel gas and natural gas combusted per month;

b. the volume, in million standard cubic feet, of refinery fuel gas and natural gas combusted per rolling, 12-month period;

c. the CO_2, as a surrogate for GHG, emission rate, in tons, for each month of operation;

d. heater design documents; and

e. heater maintenance activities, as completed.

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 H2S CEMS downtime while the emissions unit was on line (date, time, duration, and reason), along with any corrective action(s) taken. The permittee shall provide the emissions unit operating time during the reporting period and the date, time, reason, and corrective action(s) taken for each time period of source and control equipment malfunctions.

The total operating time of the emissions unit and the total operating time of the analyzer while the emissions unit was on line shall be included the quarterly report.

(3) The permittee shall notify the Director (the Ohio EPA, Northwest District Office) on a quarterly basis, in writing, of:

a. All rolling, 3-hour periods during which the average concentration of H2S as measured by the H2S CEMS under 40 CFR 60.105(a)(4) 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.

b. All rolling, 365-day periods during which the average concentration of H2S as measured by the H2S CEMS under 40 CFR 60.105(a)(4) exceeds 60 parts per million by volume, dry basis. The rolling, 365-day average shall be determined as the arithmetic average of 365 contiguous daily averages.

c. All exceedances of the 53,905 tons per rolling, 12-month period emission limitation for CO_2 as a surrogate for GHG emissions.

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 H2S 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), as a 3-hour rolling average; or 60 parts per million by volume of H2S, as a 365-day rolling average; during the calendar quarter, then the permittee shall submit a statement to that effect along with the emissions unit and monitor operating times. These quarterly reports shall be submitted by January 30, April 30, July 30, and October 30 of each year and shall address the data obtained during previous calendar quarters.

(5) Pursuant to the 40 CFR Part 60.7, the permittee is hereby advised of the requirement to report the following at the appropriate times:

a. Construction date (no later than 30 days after such date);

b. Anticipated start-up date (not more than 60 days or less than 30 days prior to such date);

c. Actual start-up date (within 15 days after such date); and

d. Date of performance testing (if required, at least 30 days prior to testing).

(6) 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 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 appropriate Ohio EPA District Office or local air agency, 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 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 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/each malfunction** of the continuous NOx monitoring system, emissions unit, and/or control equipment;

xii. 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

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.

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:

230 mg/dscm (0.10 grain/dscf)(the equivalent concentration is 162 parts per million by volume) of H2S, as a 3-hour rolling average, 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 H2S emission limitation by using Method 15 of 40 CFR, Part 60, Appendix A, or other U.S. EPA-approved methods.

c. Emission Limitation:

60 parts per million by volume of H2S, dry basis, as a 365-day rolling average, 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 H2S emission limitation by using Method 15 of 40 CFR, Part 60, Appendix A, or other U.S. EPA-approved methods.

d. Emission Limitations:

0.0075 lb of PE/PM_{10}/$PM_{2.5}$/million Btu of actual heat input and 3.34 tons of PE/PM_{10}/$PM_{2.5}$/yr

Applicable Compliance Method:

The PE/PM_{10}/$PM_{2.5}$ emission limitation above was developed by dividing the PM_{10}/$PM_{2.5}$ emission factor from AP-42, Table 1.4-2 (dated 7/98) (7.6 lb/mmscf) by the average heating value for natural gas specified in AP-42, Table 1.4-2 (dated 7/98) (1,020 Btu/scf). Compliance is presumed by only using gaseous fuels as required in C.1.(c)(1).

If required, the permittee shall demonstrate compliance with the hourly emission limitation by conducting emission testing in accordance with the methods and procedures specified in Methods 201, 201A and 202 of 40 CFR, Part 51, Appendix M. Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA.

The annual emission limitation was established by multiplying the lb/million Btu emission limitation by the design heat input (102.3 million Btu/hr), and then multiplying by the maximum operating schedule of 8,760 hrs/yr and dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the lb/million Btu emission limitation, compliance with the annual emission limitation shall also be demonstrated.

e. Emission Limitations:

0.0054 lb of VOC/million Btu of actual heat input and 2.42 tons of VOC/yr

Applicable Compliance Method:

The VOC emission limitation above was developed by dividing the VOC emission factor from AP-42, Table 1.4-2 (dated 7/98) (5.5 lb/mmscf) by the average heating value for natural gas specified in AP-42, Table 1.4-2 (dated 7/98) (1,020 Btu/scf). Compliance is presumed by only using gaseous fuels as required in C.1.(c)(1).

If required, the permittee shall demonstrate compliance with the hourly emission limitation by conducting emission testing in accordance with the methods and procedures specified in Methods 1 through 4, and 18, 25, or 25A, as appropriate, of 40 CFR, Part 60, Appendix A. Use of Method 18, 25, or 25A is to be selected based on the results of a pre-survey stack sampling and U.S. EPA guidance documents. Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA.

The annual emission limitation was established by multiplying the lb/million Btu emission limitation by the design heat input (102.3 million Btu/hr), then multiplying by the maximum operating schedule of 8,760 hrs/yr and dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the lb/million Btu emission limitation, compliance with the annual emission limitation shall also be demonstrated.

f. Emission Limitations:

0.03lbof NOx/million Btu of actual heat input based upon a 365-day rolling average, 0.04lbNOx/million Btu of actual heat input based upon a 30-day rolling average, and 13.44 tons NOx/rolling, 12-month period

Applicable Compliance Method:

Ongoing compliance with the NOx emission limitation(s) shall be demonstrated through the data collected as required in the Monitoring and Recordkeeping Section of this permit; and through demonstration of compliance with the quality assurance/quality control plan, which shall meet the requirements of 40 CFR, Part 60.

The rolling, 12-month emission limitation was established by multiplying the 0.03 lbNOx/million Btu of actual heat input emission limitation by the maximum heat input of 102.3 million Btu/hr,then multiplying by the maximum annual hours of operation (8,760 hrs/yr) and dividing by 2,000 pounds per ton.

Therefore, compliance is shown using the data collected as required in the Monitoring and Record keeping Section of this permit.

g. Emission Limitation:

0.04 lb of CO/million Btu of actual heat input based upon a 365-day rolling average and 17.92 tons CO/rolling, 12-month period

Applicable Compliance Method:

The permittee shall demonstrate compliance with the lb CO/million Btu of actual heat input emission limitation by conducting emission testing pursuant to Methods 1 through 4, and 10 of 40 CFR, Part 60, Appendix A.

The rolling, 12-month emission limitation was established by multiplying the 0.04 lb CO/million Btu of actual heat input emission limitation by the maximum heat input of 102.3 million Btu/hr,then multiplying by the maximum annual hours of operation (8,760 hrs/yr) and dividing by 2,000 pounds per ton.Therefore, provided compliance is shown with the lb/million Btu of actual heat input emission limitation, compliance with the rolling, 12-month period emission limitation shall also be demonstrated.

h. Emission Limitation:

11.09 tons of SO2/rolling, 12-month period

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 SO2 emission

limitation by using Method 6 of 40 CFR, Part 60, Appendix A, or other U.S. EPA-approved methods.

i. Emission Limitation:

CO_2 as a surrogate for GHG emissions shall not exceed 53,905 tons per rolling, 12-month period.

Applicable Compliance Method:

The allowable CO_2 as a surrogate for GHG emissions limitation was established to reflect the potential to emit for this emissions unit based on an emission factor (120lbs CO_2/mmBtu) derived from actual refinery fuel gas data collected pursuant to the GHG MMR rule (40 CFR, Part 98) from 2011and 2012, and is based on the highest annual average emission factor calculated during this time period for the heater plus a margin of 10 percent.

This emissions limitation was established by multiplying the CO_2emission factor (120lbs CO_2/mmBtu) by the maximum hourly heat input (102.3mmBtu/hr), and then multiplying by the maximum annual hours of operation (8,760 hrs/yr) and dividing by 2,000 pounds per ton.

Compliance shall be demonstrated by multiplying the annual average site-specific emission factor (lb/mmscf) derived from actual refinery fuel gas data collected pursuant to the GHG MMR rule (40 CFR, Part 98) by the actual fuel usage (mmscf/rolling, 12-month period) and dividing by 2,000 pounds per ton.

(2) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. The emission testing shall be conducted within 60 days after achieving the maximum production rate at which the emissions unit will be operated, but not later than 180 days after initial startup of the emissions unit.

b. The emission testing shall be conducted to demonstrate compliance with the lb of CO/million Btu of actual heat input limitation.

c. The following test methods shall be employed to demonstrate compliance with the allowable CO mass emission rate: Methods 1 through 4, and 10 of 40 CFR, Part 60, Appendix A.

Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

d. The test(s) shall be conducted at a Maximum Source Operating Rate (MSOR), unless otherwise specified or approved by the Ohio EPA, Northwest District Office. MSOR is defined as the condition that is most likely to challenge the emission control measures with regards to meeting the applicable emission standard(s). Although it generally consists of operating the emissions unit at its maximum material input/production rates and results in the highest emission rate

of the tested pollutant, there may be circumstances where a lower emissions loading is deemed the most challenging control scenario. Failure to test at the MSOR is justification for not accepting the test results as a demonstration of compliance.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA, Northwest District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s).

Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA, Northwest District Office's refusal to accept the results of the emission test(s).

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

g. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA,Northwest District Office within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Ohio EPA, Northwest District Office.

h. Within 60 days of achieving the maximum production rate at which the emissions unit(s) will be operated, but not later than 180 days after initial startup, the permittee shall conduct certification tests of the continuous NOx monitoring system in units of the applicable standard(s) to demonstrate compliance with 40 CFR, Part 60, Appendix B, Performance Specifications 2; and ORC section 3704.03(I).

Personnel from the Ohio EPA Central Office and the Ohio EPA Northwest District Office shall be notified 30 days prior to initiation of the applicable tests and shall be permitted to examine equipment and witness the certification tests. Two copies of the test results shall be submitted to Ohio EPA, one copy to the Ohio EPA Northwest District Office and one copy to Ohio EPA Central Office, and pursuant to OAC rule 3745-15-04, within 30 days after the test is completed.

Certification of the continuous NOx monitoring system shall be granted upon determination by the Ohio EPA, Central Office that the system meets the requirements of 40 CFR, Part 60, Appendix B, Performance Specifications 2; and ORC section 3704.03(I).

g) Miscellaneous Requirements

(1) None.

2. B004, Process Heater

Operations, Property and/or Equipment Description:

Reconstruction of existing refinery fuel gas or natural gas fired crude II heater to include burner modification of existing low nitrogen oxide burners, and tube replacement, 624 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)	See b)(2)a.
b.	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.
c.	OAC rule 3745-18-08(C)(2)	See b)(2)b.
d.	40 CFR, Part 63, Subpart DDDDD (40 CFR 63.7480-7575) [In accordance with 63.7575, this emissions unit is a large gaseous fuel 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)c., c)(2) and c)(3) 63.7500(a) Table 3 requirements
e.	40 CFR, Part 60, Subpart Ja	See b)(2)d. and b)(2)e.
f.	40 CFR, Part 60, Subpart A	See 40 CFR 60.1 through 60.19
g.	OAC rule 3745-31-05(D)	0.0075 lb of particulate emissions/ particulate matter less than or equal to 10 microns in diameter/particulate matter less than or equal to 2.5 microns in diameter ($PE/PM_{10}/PM_{2.5}$)/million Btu of

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		actual heat input and 20.36 tons of PE/PM_{10}/$PM_{2.5}$/yr 0.0054 lb of volatile organic compounds (VOC)/million Btu of actual heat input and 14.74 tons of VOC/yr See b)(2)f. and b)(2)g.
h.	ORC 3704.03(T)	See b)(2)h.
i.	OAC rule 3745-31-05(A)(3), as effective 11/30/01	See b)(2)i. and b)(2)j.
j.	OAC rule 3745-31-05(A)(3), as effective 12/1/06	See b)(2)k.
k.	OAC rules 3745-31-10 through 3745-31-20	0.03lb nitrogen oxides (NOx)/million Btu of actual heat input based upon a 365-day rollingaverage, 0.04 lb/million Btu of actual heat input based upon a 30-day rolling average, and 81.99 tons NOx/rolling, 12-month period 0.04 lb of carbon monoxide (CO)/million Btu of actual heat input based upon a 365-day rolling average and 109.32 tons CO/rolling, 12-month period 67.62 tons of sulfur dioxide (SO2)/rolling, 12-month period Carbon dioxide(CO_2) as a surrogate for greenhouse gas (GHG) emissions shall not exceed 328,807 tons per rolling, 12-month period See b)(2)l.
l.	OAC rule 3745-110	See b)(2)m.

(2) Additional Terms and Conditions

a. The emission limitation of 0.020 lb of particulate emissions (PE) per million Btu of actual heat input specified by OAC 3745-17-10(B)(1) is less stringent than the PE limitation specified pursuant to OAC rule 3745-31-05(D).

b. The emission limitation of 1.0lb of sulfur dioxide (SO2) per million Btu of actual heat input specified by OAC 3745-18-08(C)(2) is less stringent than the SO_2emission limitation specified pursuant to OAC rule 3745-31-05(D).

c. 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., it is 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).

d. The permittee shall not burn any refinery fuel gas in this emissions unit that containshydrogen sulfide (H2S) in excess of the following limitations:

i. 230 mg/dscm, as a 3-hour rolling average (0.10 grain/dscf)(the equivalentconcentration is 162 parts per million by volume of H2S). This H2S standard in 40 CFR60.104(a)(1) is also applicable if the permittee combines and combusts natural gasin any proportion with refinery fuel gas in this emissions unit, according to the fuelgas definition in 40 CFR 60.101(d); or stack SO2 not to exceed 20 parts per million by volume, dry basis, corrected to zero percent excess air; and

ii. 60 parts per million by volume of H2S, dry basis, as a 365-day rolling average; or stack SO2 not to exceed 8 parts per million by volume, dry basis, corrected to zero percent excess air.

e. The permittee shall not discharge to the atmosphere any emissions of NOx in excess of the applicable limits in NSPS Subpart Ja paragraphs b)(2)a.ii.(a) through (d).

i. The permittee shall comply with the limit in either paragraph b)(2)e.i.(i) or (ii). The permittee may comply with either limit at any time, provided that the appropriate parameters for each alternative are monitored as specified in 40 CFR 60.107a; if fuel gas composition is not monitored as specified in 40 CFR 60.107a(d), the permittee must comply with the concentration limits in paragraph b)(2)e.i.as follows.

(i) 40 ppmv (dry basis, corrected to 0-percent excess air) determined daily on a 30-day rolling average basis; or

(ii) 0.040 pounds per million British thermal units (lb/MMBtu) higher heating value basis determined daily on a 30-day rolling average basis.

The permittee has elected to comply with NOx limits in permit condition b)(2)e.i.(ii). Therefore, the remaining monitoring and recordkeeping requirements in this permit are reflective of that compliance option. If the permittee decides to revise the compliance option at a later date as allowed by 40 CFR 60.102a(g)(2), this will be allowed upon notification to Ohio EPA. The permittee shall submit an administrative permit modification request to Ohio EPA prior to the change.

f. It is assumed that all PE are equivalent to both PM_{10} and $PM_{2.5.}$

g. This permit establishes the following federally enforceable emission limitations for the purpose of representing the potential to emit of the emissions unit:

i. 0.0075lb PE/PM_{10}/$PM_{2.5}$/million Btu of actual heat input and 20.36 tons of PE/PM_{10}/$PM_{2.5}$/yr; and

ii. 0.0054lb of VOC/million Btu of actual heat input and 14.74 tons of VOC/yr.

h. Best Available Technology (BAT) requirements for NOx, CO and SO2 emissions under ORC 3704.03(T) have been determined to be compliance with the emission limitations and requirements established pursuant to OAC rule 3745-31-10 through 3745-31-20.

i. BAT requirements for PM_{10} and VOC emissions under OAC rule 3745-31-05(A)(3), as effective 11/30/01 have been determined to be compliance with OAC rule 3745-31-05(D); OAC rule 3745-17-07(A); and compliance with the terms and conditions of this permit.

j. The permittee has satisfied the BAT requirements for PM_{10} and VOC emissions pursuant to OAC rule 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to ORC changes effective August 3, 2006 (S.B. 265 changes), such that BAT is no longer required by State regulation for NAAQS pollutant emissions less than 10 tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revision to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then these emission limits and control measures no longer apply.

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

The BAT requirements under OAC rule 3745-31-05(A)(3)(a) do not apply to the PM_{10} and VOC emissions since the potential to emit is less than 10 tons per year.

l. The permittee shall employ Best Available Control Technology (BACT) for this emissions unit. BACT has been determined to be the following:

Pollutant	BACT Requirements
NOx	Use of ultra-low NOx burners; Compliance with the 40 CFR, Part 60, Subpart Ja emission standard of 0.04 lbNOx/million Btu of actual heat input, based

Pollutant	BACT Requirements
	upon a 30 day rolling average; and Compliance with the NOx emission standard of 0.03 lb of NOx/million Btu of actual heat input, based upon a 365-day rolling average
SO2	Compliance with 40 CFR, Part 60, Subpart Ja: Compliance with hydrogen sulfide standards for refinery fuel gas, including 230 mg/dscm, as a 3-hour rolling average (0.10 grain/dscf)(the equivalentconcentration is 162 parts per million by volume of H2S; or stack SO2 not to exceed 20 parts per million by volume, dry basis, corrected to zero percent excess air; and 60 parts per million by volume of H2S, dry basis, as a 365-day rolling average; or stack SO2 not to exceed 8 parts per million by volume, dry basis, corrected to zero percent excess air
CO	0.04 lb of CO/million Btu of actual heat input, based upon a 365-day rolling average, and based on good combustion practices
CO_2 as a surrogate for GHG	Use of low-carbon gaseous fuels (refinery fuel gas or natural gas); Heat recovery through use of a convection section and boiler feed water preheating; and Excess oxygen monitoring and annual burner tuning and heater inspection

m. Pursuant to OAC rule 3745-110-01(B)(19), this emissions unit is an existing large boiler. The emissions limitations for NOx in OAC rule 3745-110-03(C) are less stringent than the NOx BACT emission limitation established pursuant to OAC rule 3745-31-10 through 3745-31-20.

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).

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.

(3) 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 limitations of:

- 230 mg/dscm, as a 3-hour rolling average (0.10 grain/dscf)(the equivalentconcentration is 162 parts per million by volume of H2S in the refinery fuel gas (and if applicable, combined fuel firing as noted in b)(2)d. above); or stack SO2 not to exceed 20 parts per million by volume, dry basis, corrected to zero percent excess air; and

- 60 parts per million by volume of H2S, dry basis, as a 365-day rolling average; or stack SO2 not to exceed 8 parts per million by volume, dry basis, corrected to zero percent excess air;

The permittee shall operate and maintain an instrument for continuously monitoring and recording the concentration (dry basis) of H2S in the refinery fuel gas or combined fuel stream before being burned in this emissions unit. The monitoring shall be conducted in accordance with 40 CFR 60.105(a)(4), as follows:

a. The span value for this instrument is 425 mg/dscm of H2S.

b. Fuel gas combustion devices having a common source of fuel gas may be monitored at only one location, if monitoring at this location accurately represents the concentration of H2S in the fuel gas being burned.

c. The performance evaluations for this H2S monitor under 40 CFR 60.13(c) shall use Performance Specification 7 of 40 CFR, Part 60, Appendix B. The permittee shall conduct a relative accuracy test audit (RATA) for the H2S 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 H2S continuous emission monitoring system (CEMS) shall be maintained on site and shall consist of a letter from the Ohio EPA detailing the results of an Agency review of the certification tests and a statement by the Agency that the system is considered certified in accordance with the requirements of 40 CFR, Part 60, Appendix B, Performance Specification 7. Proof of certification shall be made available to representatives of the Ohio EPA, Northwest District Office upon request.

(4) The permittee shall operate and maintain existing equipment to continuously monitor and record H2S from this emissions unit in units of the applicable standard. Such continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR, Part 60.13.

The permittee shall maintain records of all data obtained by the H2S CEMS including, but not limited to, parts per million of H2S for each cycle time of the analyzer, with no resolution less than one data point per minute required, emissions of H2S 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 H2S. 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 H2S CEM at a minimum frequency of once every three years; and

b. Conduct cylinder gas audits on the H2S 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 and 40 CFR, Part 60, Subpart Ja, 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 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; 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.

(12) The permittee shall record the following for this emissions unit:

a. the volume, in million standard cubic feet, of refinery fuel gas and natural gas combusted per month;

b. the volume, in million standard cubic feet, of refinery fuel gas and natural gas combusted per rolling, 12-month period;

c. the CO_2, as a surrogate for GHG, emission rate, in tons, for each month of operation;

d. heater design documents; and

e. heater maintenance activities, as completed.

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 H2S CEMS downtime while the emissions unit was on line (date, time, duration, and reason), along with any corrective action(s) taken. The permittee shall provide the emissions unit operating time during the reporting period and the date, time, reason, and corrective action(s) taken for each time period of source and control equipment malfunctions.

The total operating time of the emissions unit and the total operating time of the analyzer while the emissions unit was on line shall be included the quarterly report.

(3) The permittee shall submit reports within thirty (30) days following the end of each calendar quarter to the Ohio EPA, Northwest District Office documenting any NOx 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.

(4) 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 O2 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.

(5) The permittee shall notify the Director (the Ohio EPA, Northwest District Office) on a quarterly basis, in writing, of:

a. All rolling, 3-hour periods during which the average concentration of H2S as measured by the H2S CEMS under 40 CFR 60.105(a)(4) 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.

b. All rolling, 365-day periods during which the average concentration of H2S as measured by the H2S CEMS under 40 CFR 60.105(a)(4) exceeds 60 parts per million by volume, dry basis. The rolling, 365-day average shall be determined as the arithmetic average of 365 contiguous daily averages.

c. All rolling, 30-day periods during which the average emissions of NOx as measured by the NOx CEMS under 40 CFR 60.13 exceeds 0.04 lbNOx/million Btu of actual heat input. The rolling, 30-day average shall be determined as the arithmetic average of 30 contiguous daily averages.

d. All exceedances of the 328,807 tons per rolling, 12-month period emission limitation for CO_2 as a surrogate for GHG emissions.

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.

(6) If there are no concentrations of H2S 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), as a 3-hour rolling average; or 60 parts per million by volume of H2S, as a 365-day rolling average; or 0.04 lbNOx/million Btu of actual heat input, as a 30-day rolling average, 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.

(7) Pursuant to the 40 CFR Part 60.7, the permittee is hereby advised of the requirement to report the following at the appropriate times:

a. Construction date (no later than 30 days after such date);

b. Anticipated start-up date (not more than 60 days or less than 30 days prior to such date);

c. Actual start-up date (within 15 days after such date); and

d. Date of performance testing (if required, at least 30 days prior to testing).

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:

230 mg/dscm (0.10 grain/dscf)(the equivalent concentration is 162 parts per million by volume) of H2S, as a 3-hour rolling average, 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 H2S emission limitation by using Method 15 of 40 CFR, Part 60, Appendix A, or other U.S. EPA-approved methods.

c. Emission Limitation:

60 parts per million by volume of H2S, dry basis, as a 365-day rolling average, 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 H2S emission limitation by using Method 15 of 40 CFR, Part 60, Appendix A, or other approved U.S. EPA methods.

d. Emission Limitation:

0.0075 lb of PE/PM_{10}/$PM_{2.5}$/million Btu of actual heat input and 20.36 tons of PE/PM_{10}/$PM_{2.5}$/yr

Applicable Compliance Method:

The PE/PM_{10}/$PM_{2.5}$ emission limitation above was developed by dividing the PM_{10}/$PM_{2.5}$ emission factor from AP-42, Table 1.4-2 (dated 7/98) (7.6 lb/mmscf) by the average heating value for natural gas specified in AP-42, Table 1.4-2 (dated 7/98) (1,020 Btu/scf). Compliance is presumed by only using gaseous fuels as required in C.1.(c)(1).

If required, the permittee shall demonstrate compliance with the hourly emission limitation by conducting emission testing in accordance with the methods and procedures specified in Methods 201, 201A and 202 of 40 CFR, Part 51, Appendix M. Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA.

The annual emission limitation was established by multiplying the lb/million Btu emission limitation by the design heat input (624 million Btu/hr), then multiplying by the maximum operating schedule of 8,760 hrs/yr and dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the lb/million Btu emission limitation, compliance with the annual emission limitation shall also be demonstrated.

e. Emission Limitations:

0.0054 lb of VOC/million Btu of actual heat input and 14.74 tons of VOC/yr

Applicable Compliance Method:

The VOC emission limitation above was developed by dividing the VOC emission factor from AP-42, Table 1.4-2 (dated 7/98) (5.5 lb/mmscf) by the average heating value for natural gas specified in AP-42, Table 1.4-2 (dated 7/98) (1,020 Btu/scf). Compliance is presumed by only using gaseous fuels as required in C.1.(c)(1).

If required, the permittee shall demonstrate compliance with the hourly emission limitation by conducting emission testing in accordance with the methods and procedures specified in Methods 1 through 4, and 18, 25, or 25A, as appropriate, of 40 CFR, Part 60, Appendix A. Use of Method 18, 25, or 25A is to be selected

based on the results of a pre-survey stack sampling and U.S. EPA guidance documents. Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA.

The annual emission limitation was established by multiplying the lb/million Btu emission limitation by the design heat input (624 million Btu/hr), and then multiplying by the maximum operating schedule of 8,760 hrs/yr and dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the lb/million Btu emission limitation, compliance with the annual emission limitation shall also be demonstrated.

f. Emission Limitations:

0.03lbNOx/million Btu of actual heat input based upon a 365-day rolling average, 0.04lbNOx/million Btu of actual heat input based upon a 30-day rolling average, and 81.99 tons NOx/rolling, 12-month period

Applicable Compliance Method:

Ongoing compliance with the NOx emission limitation(s) shall be demonstrated through the data collected as required in the Monitoring and Recordkeeping Section of this permit; and through demonstration of compliance with the quality assurance/quality control plan, which shall meet the requirements of 40 CFR, Part 60.

The rolling, 12-month emission limitation was established by multiplying the 0.03 lbNOx/million Btu of actual heat input emission limitation by the maximum heat input of 624 million Btu/hr,then multiplying by the maximum annual hours of operation (8,760 hrs/yr) and dividing by 2,000 pounds per ton.Therefore, compliance is shown using the data collected as required in the Monitoring and Record keeping Section of this permit.

g. Emission Limitations:

0.04 lb of CO/million Btu of actual heat input based upon a 365-day rolling average and 109.32 tons CO/rolling, 12-month period

Applicable Compliance Method:

The permittee shall demonstrate compliance with the lb CO/million Btu of actual heat input emission limitation by conducting emission testing pursuant to Methods 1 through 4, and 10 of 40 CFR, Part 60, Appendix A.

The rolling, 12-month emission limitation was established by multiplying the 0.04 lb CO/million Btu of actual heat input emission limitation by the maximum heat input of 624 million Btu/hr,then multiplying by the maximum annual hours of operation (8,760 hrs/yr) and dividing by 2,000 pounds per ton.Therefore, provided compliance is shown with the lb/million Btu of actual heat input emission limitation, compliance with the rolling, 12-month period emission limitation shall also be demonstrated.

h. Emission Limitation:

67.62 tons of SO2/rolling, 12-month period

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 SO2 emission limitation by using Method 6 of 40 CFR, Part 60, Appendix A, or other U.S. EPA-approved methods.

i. Emission Limitation:

CO_2 as a surrogate for GHG emissions shall not exceed 328,807 tons per rolling, 12-month period.

Applicable Compliance Method:

The allowable CO_2 as a surrogate for GHG emissions limitation was established to reflect the potential to emit for this emissions unit based on an emission factor (120lbs CO_2/mmBtu) derived from actual refinery fuel gas data collected pursuant to the GHG MMR rule (40 CFR, Part 98) from 2011and 2012, and is based on the highest annual average emission factor calculated during this time period for the heater. This emissions limitation was established by multiplying the CO_2emission factor (120lbs CO_2/mmBtu) by the maximum hourly heat input (624mmBtu/hr), then multiplying by the maximum annual hours of operation (8,760 hrs/yr) and dividing by 2,000 pounds per ton.

Compliance shall be demonstrated by multiplying the annual average site-specific emission factor (lb/mmscf) derived from actual refinery fuel gas data collected pursuant to the GHG MMR rule (40 CFR, Part 98) by the actual fuel usage (mmscf/rolling, 12-month period) and then dividing by 2,000 pounds per ton.

(2) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

a. The emission testing shall be conducted within 60 days after achieving the maximum production rate at which the emissions unit will be operated, but not later than 180 days after initial startup of the emissions unit.

b. The emission testing shall be conducted to demonstrate compliance with the lb of CO/million Btu of actual heat input limitation.

c. The following test methods shall be employed to demonstrate compliance with the allowable CO mass emission rate: Methods 1 through 4, and 10 of 40 CFR, Part 60, Appendix A.

Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

d. The test(s) shall be conducted at a Maximum Source Operating Rate (MSOR), unless otherwise specified or approved by the Ohio EPA, Northwest District Office. MSOR is defined as the condition that is most likely to challenge the emission control measures with regards to meeting the applicable emission standard(s). Although it generally consists of operating the emissions unit at its maximum material input/production rates and results in the highest emission rate of the tested pollutant, there may be circumstances where a lower emissions loading is deemed the most challenging control scenario.

Failure to test at the MSOR is justification for not accepting the test results as a demonstration of compliance.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA, Northwest District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s).

Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA, Northwest District Office's refusal to accept the results of the emission test(s).

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

g. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA,Northwest District Office within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Ohio EPA, Northwest District Office.

h. Within 60 days of achieving the maximum production rate at which the emissions unit(s) will be operated, but not later than 180 days after initial startup, the permittee shall conduct certification tests of the continuous NOx monitoring system in units of the applicable standard(s) to demonstrate compliance with 40 CFR, Part 60, Appendix B, Performance Specifications 2; and ORC section 3704.03(I).

Personnel from the Ohio EPA Central Office and the Ohio EPA Northwest District Office shall be notified 30 days prior to initiation of the applicable tests and shall be permitted to examine equipment and witness the certification tests. Two copies of the test results shall be submitted to Ohio EPA, one copy to the Ohio EPA Northwest District Office and one copy to Ohio EPA Central Office, and pursuant to OAC rule 3745-15-04, within 30 days after the test is completed.

Certification of the continuous NOx monitoring system shall be granted upon determination by the Ohio EPA, Central Office that the system meets the requirements of 40 CFR, Part 60, Appendix B, Performance Specifications 2; and ORC section 3704.03(I)

g) Miscellaneous Requirements

(1) None.

3. J011, DO Railing Loading, Sulfur Loading and Caustic Unloading Rack

Operations, Property and/or Equipment Description:

Loading rack to load out decanted oil by tank railcar, to load out sulfur from the Sulfur Recovery Unit (SRU) by railcar and to unload caustic by railcar

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(D)	1.74 tons volatile organic compounds (VOC)/rolling, 12-month period from DO Rail Loading only See b)(2)a.
b.	OAC rule 3745-31-05(A)(3), as effective 11/30/01	See b)(2)b. and b)(2)c.
c.	OAC rule 3745-31-05(A)(3), as effective 12/1/06	See b)(2)d.
d.	OAC rule 3745-21-09(T)(4)(a)	See b)(2)e. and b)(2)f.
e.	40 CFR, Part 63, Subpart CC	See b)(2)f.
f.	40 CFR Part 63 Subpart A (40 CFR 63.1 through 63.15)	Table 6 to 40 CFR, Part 63, Subpart CC – Applicability of General Provisions to Subpart CC shows which parts of the General Provisions in 40 CFR 63.1 - 63.15 apply.

(2) Additional Terms and Conditions

a. This permit establishes the following federally enforceable emission limitation for the purpose of limiting potential to emit (PTE). The federally enforceable emission limitation is a voluntary restriction established under OAC rule 3745-31-05(D) and is based on the operational restriction contained in c)(1):

i. 1.74 tons VOC/rolling, 12-month period from DO Rail Loading only

b. Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3), as effective 11/30/01 have been determined to be compliance with OAC rule 3745-31-05(D), use of submerged fill loading of tank railcars, and compliance with the terms and conditions of this permit.

c. The permittee has satisfied the BAT requirements pursuant to OAC rule 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to ORC changes effective August 3, 2006 (S.B. 265 changes), such that BAT is no longer required by State regulation for NAAQS pollutant emissions less than 10 tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revision to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then these emission limits and control measures no longer apply.

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

The BAT requirements under OAC rule 3745-31-05(A)(3)(a) do not apply to the emissions of PM_{10} since the potential to emit is less than 10 tons per year, taking into account the federally enforceable restrictions established under OAC rule 3745-31-05(D) in this permit.

e. It should be noted that the requirements of OAC rule 3745-21-09(T)(4)(a) contained in the facility's alternative leak detection and repair (LDAR) program [see b)(2)f. below] have not been incorporated into Ohio's State Implementation Plan (SIP).

f. The permittee has an approved [as indicated in OAC rule 3745-21-09(T)(4)(a)] alternative leak detection and repair (LDAR) monitoring, recordkeeping and reporting program entitled "Premcor LimaRefinery, LDAR Plan" dated November 19, 2002. The permittee's alternative LDAR monitoring planincludes regulations in 40 CFR, Part 60, Subparts VV and GGG; 40 CFR, Part 61, Subpart V; and 40CFR, Part 63, Subpart CC.

Any components associated with this emissions unit that are applicable to state and federal LDAR requirements shall be included in the alternative LDAR monitoring, recordkeeping and reporting program.

c) Operational Restrictions

(1) The following operational restriction has been included in this permit for the purpose of establishing the following federally enforceable requirements which limit PTE [See b)(2)a.]:

m. The maximum rolling, 12-monththroughput of decanted oil for this emissions unitshall not exceed 57,855,420 gallons, based upon a rolling, 12-month summation of the monthly decanted oil throughput rates.

To ensure enforceability during the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the permittee shall not exceed the throughput levels specified in the following table:

Month	Maximum Allowable Cumulative Throughput (Gallons)
1	11,571,084
1-2	23,142,168
1-3	34,713,252
1-4	57,855,420
1-5	57,855,420
1-6	57,855,420
1-7	57,855,420
1-8	57,855,420
1-9	57,855,420
1-10	57,855,420
1-11	57,855,420
1-12	57,855,420

After the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, compliance with the rolling, 12-month, throughputrate limitation shall be based upon a rolling, 12-month summation of the throughput rates.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall maintain monthly records of the following information:

a. the throughput rate, in gallons of decanted oil loaded, for each month; and

b. beginning after the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the rolling, 12-month summation of the throughput rates.

Also, during the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the permittee shall record the cumulative throughput rate for each calendar month.

(2) Modeling to demonstrate compliance with, the "Toxic Air Contaminant Statute", ORC 3704.03(F)(4)(b), was not necessary because the emissions unit's maximum annual emissions for each toxic air contaminant, as defined in OAC rule 3745 114 01, will be less than 1.0 ton per year. OAC Chapter 3745 31 requires a permittee to apply for and obtain a new or modified permit to install prior to making a "modification" as defined by OAC rule 3745 31 01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would cause the emissions of any toxic air contaminant to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new permit to install.

e) Reporting Requirements

(1) The permittee shall notify the Director (the Ohio EPA, Northwest District Office) on a quarterly basis, in writing, of:

a. All exceedances of the rolling, 12-month limitation on the throughput for this emissions unit; and for the first 12 calendar months of operation or the first 12 calendar months following issuance of this permit, all exceedances of the maximum allowable cumulative throughput rates.

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.

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:

1.74 tons VOC/rolling, 12-month period from DO Rail Loading only

Applicable Compliance Method:

The rolling, 12-month limitation represents the potential to emit [see b)(2)a.] based on a rolling, 12-month throughput restriction of 57,855,420 gallons of decanted oil and a loading loss emission factor of 0.045 lb VOC per 1,000 gallons loaded. The emission factor was determined in accordance with equation (1) from AP-42 Section 5.2.2.1.1(6/08). Therefore, provided compliance is shown with the rolling, 12-month throughput restriction, compliance with the rolling, 12-month period emission limitation shall also be demonstrated.

g) Miscellaneous Requirements

(1) None.

4. P005, Process

Operations, Property and/or Equipment Description:

Two Coker Drums (PR164237/164238) and Distillation Column (PR164903), modification including installation of new Coke Pit and addition of Front End Loader Traffic to Load Coke Product into Railcars

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 3745-17-11(B)(1)	See b)(2)a.
b.	OAC rule 3745-17-07(A)	See b)(2)b.
c.	OAC rule 3745-21-07(M)	See b)(2)c.
d.	OAC rule 3745-31-05(D)	The combined volatile organic compound (VOC) emissions from coke drum venting, coke cutting. and coke drum draining shall not exceed 20.81 tons/yr 18.20 tons VOC/yr from fugitive equipment leaks subject to leak detection and repair (LDAR) requirements Emissions from coke product transfer points and front-end loader traffic at the coke pit, combined: Visible fugitive particulate emissions (PE) shall not exceed 20 percent opacity as a 3-minute average; 11.66 tons fugitive PE/yr; 3.04 tons fugitive particulate matter less than or equal to 10 microns in diameter (PM_{10})/yr; and

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		0.31 ton fugitive particulate matter less than or equal to 2.5 microns in diameter ($PM_{2.5}$)/yr See b)(2)d. and b)(2)e.
e.	ORC 3704.03(T)	See b)(2)f.
f.	OAC rule 3745-31-05(A)(3), as effective 11/30/01	See b)(2)g. and b)(2)h.
g.	OAC rule 3745-31-05(A)(3), as effective 12/1/06	See b)(2)i.
h.	OAC rule 3745-31-10 through 20	GHG emissions shall not exceed 1533 tons CO2e per rolling, 12-month period See b)(2)j.
i.	40 CFR, Part 60, Subpart A (40 CFR 60.1 – 60.19)	See 40 CFR 60.1 through 60.19
j.	40 CFR, Part 60, Subpart GGGa	See b)(2)e.
k.	OAC rule 3745-21-09(T)	See b)(2)e.
l.	40 CFR, Part 60, Subpart Ja (40 CFR 60.100a – 60.109a)	See b)(2)l.

(2) Additional Terms and Conditions

a. The uncontrolled mass rate of PE* from this emissions unit is less than 10 lbs/hr. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. In addition, Table I of OAC rule 3745-17-11 does not apply because the process weight rate is equal to zero. "Process weight" is defined in OAC rule 3745-17-01(B)(14).

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

c. This emissions unit is not subject to the requirements of the rule because it does not meet all of the conditions outlined in OAC rule 3745-21-07(M)(3)(a).

d. The permittee shall employ best available control measures that are sufficient to minimize or eliminate visible emissions of fugitive dust from coke product transfer points and front-end loader traffic at the coke pit.

The permittee shall employ best available control measures for the coke product processing/handling operations identified below, for the purpose of ensuring compliance with the applicable PM_{10} requirements presented in b)(1)a.

In accordance with the permit application, the permittee has committed to perform the following control measure(s) to ensure compliance:

Coke Product Processing and Handling Operation	**Control Measure(s)**
Coke product drop - coker unit into coke pit	Saturate coke product with water
Removal of coke product from coke pit with front-end loader	Inherently wet coke product from saturation
Fugitive dust from front-end loader traffic on unpaved roadways	Apply dust suppressant as necessary

Nothing in the table above shall prohibit the permittee from employing other equally-effective control measures to ensure compliance.

e. The Coker process unit (actual vessel) is not subject to leak detection and repair (LDAR) requirements in 40 CFR, Part 60, Subpart GGGa (Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries for Which Construction, Reconstruction or Modification Commenced after November 7, 2006), since it does not meet the definition of "modification" in 40 CFR 60.590a.

New and modified piping components associated with this emissions unit are subject to LDAR requirements in 40 CFR, Part 60, Subpart GGGa, specifically 40 CFR 60.640a through 60.679a. In addition, the new and modified piping components are subject to the appropriate provisions (including operational restrictions, monitoring and record keeping, reporting, and testing) of OAC rule 3745-21-09(T) – Leaks from petroleum refinery equipment.

The requirements of these rules are equivalent to or less stringent than the alternative LDAR monitoring plan submitted by the permittee, pursuant to OAC rule 3745-21-09(T)(4) and 40 CFR, Part 63, Subpart CC. Terms and conditions for the alternative LDAR plan are listed in section B.2 of the Facility-Wide Terms and Conditions of the facility's renewal Title V with effective date of 3/26/13.

f. Best Available Technology (BAT) requirements for VOC emissions under ORC 3704.03(T) have been determined to be compliance with OAC rule 3745-31-05(D).

g. BAT requirements for PM_{10} emissions under OAC rule 3745-31-05(A)(3), as effective 11/30/01 have been determined to be compliance with OAC rule 3745-31-05(D) and compliance with the terms and conditions of this permit.

h. The permittee has satisfied the BAT requirements for PM_{10} emissions pursuant to OAC rule 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to ORC changes effective August 3, 2006 (S.B. 265 changes), such that BAT is no longer required by State regulation for NAAQS pollutant emissions less than 10 tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revision to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then these emission limits and control measures no longer apply.

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

The BAT requirements under OAC rule 3745-31-05(A)(3)(a) do not apply to the emissions of PM_{10} since the potential to emit is less than 10 tons per year.

j. The permittee shall employ Best Available Control Technology (BACT) for this emissions unit. BACT has been determined to be the following:

Pollutant	BACT Requirements
GHG	Use of good combustion practices

k. The permittee shall depressurize each coke drum to 5 pounds per square inch gage (psig) or less prior to venting the coke drum steam exhaust to the atmosphere. When the pressure exceeds 5 psig, vent gases must be routed to the refinery fuel gas system, the FCC/coker flare (emissions unit P006), or other control device prior to opening the vent to the atmosphere.

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) Except as otherwise provided in this section, for coke product handling operations that are not adequately enclosed, the permittee shall perform visible emission inspections of such operations during representative, normal operating conditions in accordance with the following minimum frequencies:

Coke Product Processing and Handling Operation	Minimum Inspection Frequency
Coke product drop - coker unit into coke pit	Once per day of operation
Removal of coke product from coke pit with front-end loader	Once per day of operation
Fugitive dust from front-end loader traffic on unpaved roadways	Once per day of operation

(2) The permittee shall maintain daily records of the following information:

a. the date and reason any required inspection was not performed;

b. the date of each inspection where it was determined by the permittee that it was necessary to implement the control measure(s);

c. the dates the control measure(s) was (were) implemented; and

d. on a calendar quarter basis, the total number of days the control measure(s) was (were) implemented.

The information in d)(2)d. shall be kept separately for each coke product processing/handling operation identified above, and shall be updated on a calendar quarter basis within 30 days after the end of each calendar quarter.

e) Reporting Requirements

(1) The permittee shall submit deviation reports that identify any of the following occurrences:

a. each day during which an inspection was not performed by the required frequency, excluding an inspection which was not performed due to an exemption for snow and/or ice cover or precipitation; and

b. each instance when a control measure, that was to be implemented as a result of an inspection, was not implemented.

The deviation reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

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:

The combined VOC emissions from coke drum venting, coke cutting.and coke drum draining shall not exceed 20.81 tons/yr

Applicable Compliance Method:

The permittee shall demonstrate compliance by multiplying the maximum number of 730 coke producing cycles/yr* by an emission factor of 57 lbs VOC/cycle, then dividing by 2,000 lbs/ton. The emission factor was determined in accordance with Table 5-5, "Average Vent Concentrations and Emission Factors for Delayed Coking Unit Vents – Emission Estimation Protocol for Petroleum Refineries, U.S. EPA, Version 2.1.1 (5/11).

* 730 coke producing cycles/yr represents the potential to emit for this emissions unit

b. Emission Limitation:

18.20 tons VOC/yr from fugitive equipment leaks subject to LDAR requirements

Applicable Compliance Method:

Compliance with the annual fugitive VOC emissions limitation is demonstrated by compliance with the applicable leak monitoring and repair requirements of 40 CFR, Part 60, Subpart GGG and 40 CFR, Part 63, Subpart CC. The annual fugitive VOC emission limitation was established for PTI purposes to reflect the maximum potential to emit (PTE) for this emissions unit. Therefore, it is not necessary to develop any further monitoring, record keeping and/or reporting requirements to ensure compliance with this limitation.

c. Emission Limitation:

Visible PE shall not exceed 20 percent opacity as a 3-minute average from coke product transfer points and front-end loader traffic at the coke pit

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.

d. Emission Limitation:

11.66 tons PE/yr from coke product transfer points and front-end loader traffic at the coke pit, combined

Applicable Compliance Method:

The emission limitation was established using the following emission factors:

i. 0.0014 lb PE/ton of coke product for all coke product transfer points - Equation (1) in AP-42, section 13.2.4.3 for drop operations (11/06)

multiplied by the maximum amount of coke handled of 370,840 tons/yr*, then dividing by 2,000 lbs/ton; and

ii. 9.28 lbs PE/vehicle mile traveled by front-end loader – Equation (1a) in AP-42, section 13.2.2 (11/06) and based on 182 vehicle trips per day**, 1,300 feet/trip, applying a control efficiency of 85% for inherent moisture in the coke product; and use of various constants in Tables 13.2.2-2 and 13.2.4-1 in AP-42 (11/06).

* 370,840 tons of coke handled/yr represents the potential to emit for this emissions unit

**182 vehicle trips per day represents the potential to emit for this emissions unit

Therefore, provided compliance is shown with the requirements to employ the best available control measures, compliance with the annual emission limitation shall also be demonstrated.

e. Emission Limitation:

3.04 tons PM_{10}/yr from transfer points and front-end loader traffic at the coke pit, combined

Applicable Compliance Method:

The emission limitation was established using the following emission factors:

i. 0.0007 lb PM_{10}/ton of coke product for all coke product transfer points - Equation (1) in AP-42, section 13.2.4.3 for drop operations (11/06) multiplied by the maximum amount of coke handled of 370,840 tons/yr*, then dividing by 2,000 lbs/ton; and

ii. 2.38 lbs PM_{10}/vehicle mile traveled by front-end loader – Equation (1a) in AP-42, section 13.2.2 (11/06) and based on 182 vehicle trips per day*, 1,300 feet/trip, applying a control efficiency of 85% for inherent moisture in the coke product; and use of various constants in Tables 13.2.2-2 and 13.2.4-1 in AP-42 (11/06).

* 370,840 tons of coke handled/yr represents the potential to emit for this emissions unit

**182 vehicle trips per day represents the potential to emit for this emissions unit

Therefore, provided compliance is shown with the requirements to employ the best available control measures, compliance with the annual emission limitation shall also be demonstrated.

f. Emission Limitation:

0.31 tons $PM_{2.5}$/yr from transfer points and front-end loader traffic at the coke pit, combined

Applicable Compliance Method:

The emission limitation was established using the following emission factors:

i. 0.0001 lb $PM_{2.5}$/ton of coke product for all coke product transfer points - Equation (1) in AP-42, section 13.2.4.3 for drop operations (11/06) multiplied by the maximum amount of coke handled of 370,840 tons/yr*, then dividing by 2,000 lbs/ton; and

ii. 0.24 lbs $PM_{2.5}$/vehicle mile traveled by front-end loader – Equation (1a) in AP-42, section 13.2.2 (11/06) and based on 182 vehicle trips per day*, 1,300 feet/trip, applying a control efficiency of 85% for inherent moisture in the coke product; and use of various constants in Tables 13.2.2-2 and 13.2.4-1 in AP-42 (11/06).

* 370,840 tons of coke handled/yr represents the potential to emit for this emissions unit

**182 vehicle trips per day represents the potential to emit for this emissions unit

Therefore, provided compliance is shown with the requirements to employ the best available control measures, compliance with the annual emission limitation shall also be demonstrated.

g. Emission Limitation:

GHG emissions shall not exceed 1533 tons CO2e per rolling, 12-month period

Applicable Compliance Method:

The allowable GHG emissions limitation was established to reflect the potential to emit for this emissions unit based on an emission factor (200 lbs methane/coke producing cycle) derived from Table 5-5, “Average Vent Concentrations and Emission Factors for Delayed Coking Unit Vents – Emission Estimation Protocol for Petroleum Refineries, U.S. EPA, Version 2.1.1 (5/11) multiplied by the global warming potential of methane (21 CO2e/methane), and by the maximum number of coke producing cycles of 730 per year, and then dividing by 2,000 lbs/ton.

g) Miscellaneous Requirements

(1) None.

5. P037, LIU Cooling Tower

Operations, Property and/or Equipment Description:

Modification of existing LIU cooling tower to include installation of a new high efficiency drift eliminator

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(D)	13.63 lbs particulate emissions (PE)/hr and 59.68 tons PE/yr 9.54 lbsparticulate matter less than or equal to 10 microns in diameter (PM_{10})/hr and 41.78 tons PM_{10}/yr 5.72 lbsparticulate matter less than or equal to 2.5 microns in diameter ($PM_{2.5}$)/hr and 25.07 tons $PM_{2.5}$/yr 3.40 lbs volatile organic compounds (VOC)/hr and 14.90 tons VOC/yr See b)(2)a.
b.	ORC 3704.03(T)	See b)(2)b.
c.	OAC rule 3745-17-11(B)	See b)(2)c.
d.	OAC rule 3745-17-07(A)	Visible PE shall not exceed 20% opacity, as a 6-minute average, except as provided by the rule
e.	40 CFR, Part 63, Subpart CC	See b)(2)d.
f.	40 CFR 63.1 through 63.15	Table 6 to 40 CFR, Part 63, Subpart CC – Applicability of General Provisions to Subpart CC shows which parts of the General Provisions in 40 CFR 63.1 – 63.15 apply.

(2) Additional Terms and Conditions

a. This permit establishes the following federally enforceable emissions limitations for the purpose of limiting potential to emit (PTE). The federally enforceable emissions limitations are voluntary restrictions established under OAC rule 3745-31-05(D) and are based on the operational restrictions contained in c)(1):

i. 13.63 lbs PE/hr and 59.68 tons PE/yr;

ii. 9.54 lbs PM_{10}/hr and 41.78 tons PM_{10}/yr;

iii. 5.72 lbs $PM_{2.5}$/hr and 25.07 tons $PM_{2.5}$/yr; and

iv. 3.40 lbs VOC/hr and 14.90 tons VOC/yr.

b. The BAT requirements under ORC 3704.03(T) for PE, PM_{10},$PM_{2.5}$ and VOC have been determined to be compliance with OAC rule 3745-31-05(D).

c. The PE limitation specified by this rule [using Table 1 of OAC rule 37435-17-11(B)] is less stringent than the PE limitation established pursuant to OAC rule 3745-31-05(D).

d. This emissions unit is subject to the heat exchanger requirements in 40 CFR 63.654.

c) Operational Restrictions

(1) The following operational restrictions have been included in this permit for the purpose of establishing the following federally enforceable requirements which limit PTE [See b)(2)a.]:

a. The permittee shall not exceed a total dissolved solids (TDS) content of 5,600 mg/l in the cooling water for this emissions unit; and

b. Use of a high efficiency drift eliminator designed to achieve a drift rate of 0.006 percent.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall test and record the TDS content, in ppm, of the cooling water at least once per month. The TDS content shall be measured using test procedures that conform to regulation 40 CFR, Part 136, "Test Procedures for the Analysis of Pollutants" or an equivalent method approved by the Ohio EPA, Northwest District Office.

(2) Each month, the permittee shall calculate and record the PE, in lbs per hr. The PE shall be calculated as follows:

[(81,000 gallons/minute) x (ppm TDS) x (0.00006) x (60 min/hr) x (0.0584)]/(7,000 grains/lb) = PE, in lbs/hr

Where:

81,000 gallons/minute = the maximum water flow rate;

ppm TDS = the TDS level, on a monthly average basis, if more than one measurement is taken in a month;

0.00006 = the maximum drift loss factor;

60 min/hr = conversion factor for minutes to hours;

0.0584 = conversion factor for ppm to grains/gallon; and

7,000 gr/lb = conversion factor for grains to pounds.

(3) Each month, the permittee shall calculate and record the PM_{10}, in lbs per hr. The PM_{10} shall be calculated as follows:

[(81,000 gallons/minute) x (ppm TDS) x (0.00006) x (60 min/hr) x (0.0584)]/(7,000 grains/lb) x 0.70 = PM_{10}, in lbs/hr

where:

81,000 gallons/minute = the maximum water flow rate;

ppm TDS = the TDS level, on a monthly average basis, if more than one measurement is taken in a month;

0.00006 = the maximum drift loss factor;

60 min/hr = conversion factor for minutes to hours;

0.0584 = conversion factor for ppm to grains/gallon;

7,000 gr/lb = conversion factor for grains to pounds; and

0.70 = PM_{10} is 70 percent of total PE, based on California Emissions Inventory Development and Reporting System

(4) Each month, the permittee shall calculate and record the $PM_{2.5}$, in lbs per hr. The $PM_{2.5}$ shall be calculated as follows:

[(81,000 gallons/minute) x (ppm TDS) x (0.00006) x (60 min/hr) x (0.0584)]/(7,000 grains/lb) x 0.42 = $PM_{2.5}$, in lbs/hr

where:

81,000 gallons/minute = the maximum water flow rate;

ppm TDS = the TDS level, on a monthly average basis, if more than one measurement is taken in a month;

0.00006 = the maximum drift loss factor;

60 min/hr = conversion factor for minutes to hours;

0.0584 = conversion factor for ppm to grains/gallon;

7,000 gr/lb = conversion factor for grains to pounds; and

0.42 = PM_{10} is 42 percent of total PE, based on California Emissions Inventory Development and Reporting System

(5) Each month, the permittee shall calculate and record the calendar year to date emissions of PE, PM_{10} and $PM_{2.5}$.

e) Reporting Requirements

(1) The permittee shall notify the Director (the Ohio EPA, Northwest District Office) on a quarterly basis, in writing, of:

a. All exceedances of the TDS content restriction of 5,600 mg/l; and

b. All exceedances of the hourly allowable mass emission limitations for PE, PM_{10} and $PM_{2.5}$.

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.

f) Testing Requirements

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

a. Emission Limitations:

13.63 lbs PE/hr and 59.68 tons PE/yr

Applicable Compliance Method:

Compliance with hourly emission limitation shall be demonstrated by the monitoring and record keeping requirements specified in sections d)(1) and d)(2) of these terms and conditions.

If required, the permittee shall conduct drift measurement testing to determine the drift factor for this cooling tower utilizing the "Isokinetic Drift Measurement Test Code for Water Cooling Towers", ATC-140(94), June, 1994 (or the most recent edition) from the Cooling Technology Institute.

The annual emission limitation was established by multiplying the hourly emission limitation by the maximum operating schedule of 8,760 hrs/yr and then dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the TDS content operational restriction in section c)(1)a. and the hourly emission

limitation, compliance with the annual emission limitation shall also be demonstrated.

b. Emission Limitations:

9.54 lbs PM_{10}/hr and 41.78 tons PM_{10}/yr

Applicable Compliance Method:

Compliance with the hourly emission limitation shall be demonstrated by the monitoring and record keeping requirements specified in sections d)(1) and d)(3) of these terms and conditions.

If required, the permittee shall conduct drift measurement testing to determine the drift factor for this cooling tower utilizing the "Isokinetic Drift Measurement Test Code for Water Cooling Towers", ATC-140(94), June, 1994 (or the most recent edition) from the Cooling Technology Institute.

The annual emission limitation was established by multiplying the hourly emission limitation by the maximum operating schedule of 8,760 hrs/yr, and then dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the TDS content operational restriction in section c)(1)a. and the hourly emission limitation, compliance with the annual emission limitation shall also be demonstrated.

c. Emission Limitations:

5.72 lbs $PM_{2.5}$/hr and 25.07 tons $PM_{2.5}$/yr

Applicable Compliance Method:

Compliance with the hourly emission limitation shall be demonstrated by the monitoring and record keeping requirements specified in sections d)(1) and d)(4) of these terms and conditions.

If required, the permittee shall conduct drift measurement testing to determine the drift factor for this cooling tower utilizing the "Isokinetic Drift Measurement Test Code for Water Cooling Towers", ATC-140(94), June, 1994 (or the most recent edition) from the Cooling Technology Institute.

The annual emission limitation was established by multiplying the hourly emission limitation by the maximum operating schedule of 8,760 hrs/yr, and then dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the TDS content operational restriction in section c)(1)a. and the hourly emission limitation, compliance with the annual emission limitation shall also be demonstrated.

d. Emission Limitations:

3.40 lbs VOC/hr and 14.90 tons VOC/yr

Applicable Compliance Method:

The permittee shall demonstrate compliance with the hourly limitation by multiplying the appropriate VOC emission factor of 0.7 pounds per million gallons of flow, from AP-42 Table 5.1-2 (1/95), by the maximum flow of 4,860,000 gallons per hour.

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

e. Emission Limitation:

Visible PE 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).

g) Miscellaneous Requirements

(1) None.

6. P040, Sulfur Recovery Units 1 and 2

Operations, Property and/or Equipment Description:

Modification of Sulfur Recovery Unit Claus 1 and Claus 2 Units to add oxygen enrichment and increase production to 160 long tons per day, combined capacity

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(D)	Combustion emissions from the tail gas incinerator shall not exceed the following: 0.14 lb of particulate emissions/ particulate matter less than or equal to 10 microns in diameter/particulate matter less than or equal to 2.5 microns in diameter ($PE/PM_{10}/PM_{2.5}$)//hr and 0.61 ton of $PE/PM_{10}/PM_{2.5}$/yr 0.10 lb of volatile organic compounds (VOC)/hr and 0.44 ton of VOC/yr. Visible PE shall not exceed 20% opacity, as a six-minute average. See b)(2)a. through b)(2)d.
b.	ORC 3704.03(T)	See b)(2)e.
c.	OAC rule 3745-31-05(A)(3), as effective 11/30/01	See b)(2)f. and b)(2)g.
d.	OAC rule 3745-31-05(A)(3), as effective 12/1/06	See b)(2)h.
e.	OAC rule 3745-31-10 through 3745-31-20	Combustion emissions from the tail gas incinerator shall not exceed the following: 1.84 lbs of nitrogen oxides (NOx)/hr and 8.06 tons of NOx/rolling, 12-month period

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		1.55 lbs of carbon monoxide (CO)/hr and 6.77 tons of CO/rolling, 12-month period Carbon dioxide(CO_2) as a surrogate for greenhouse gas (GHG) emissions shall not exceed 33,241 tons per rolling, 12-month period Process emissions from the tail gas incinerator shall not exceed the following: 19.18 lbs of sulfur dioxide (SO2)/hr, as a 12-hr average; 84.02 tons of SO2/rolling, 12-hour period; and 250 parts per million by volume (dry basis) of SO2 at 0% excess air as a 12-hour average See b)(2)i.
f.	40 CFR, Part 63, Subpart CC [40 CFR 63.640 – 63.656] [In accordance with 40 CFR 63.640, this emissions unit is an affected source since it contains Group 1 process vents that are routed to either the FCC/Coker flare (emissions unit P006) or the LIU flare (emissions unit P007)]	See b)(2)l., b)(2)m. and e)(4)
g.	40 CFR, Part 63, Subpart UUU [40 CFR 63.1560 – 63.1579] [In accordance with 40 CFR 63.1562, this emissions unit is an affected source consisting of process vent or group of process vents on the two Claus sulfur recovery plant units and the tail gas treatment unit serving the sulfur recovery plant, that are associated with sulfur recovery, including any bypass line(s), subject to the emission limitations/control measures specified in this section.]	See b)(2)n., d)(5) , e)(5) , and f)(2)
h.	40 CFR 60.104(a)(2)(i)	250 parts per million by volume (dry basis) of SO2 at 0% excess air.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
i.	OAC rule 3745-21-09(T)	leaks from petroleum refinery equipment [See b)(2)o.]
j.	OAC rule 3745-21-09(DD)	leaks from petroleum refinery equipment [See b)(2)o.]
k.	40 CFR, Part 60, Subpart VV	leaks from petroleum refinery equipment [See b)(2)o.]
l.	40 CFR, Part 60, Subpart GGG	leaks from petroleum refinery equipment [See b)(2)o.]
m.	40 CFR, Part 60, Subpart A	See 40 CFR 60.1 through 60.19
n.	40 CFR, Part 61, Subpart V	leaks from petroleum refinery equipment [See b)(2)o.]
o.	OAC rule 3745-18-08(C)(3)	100 lbs SO2/1,000 lbs of sulfur processed [See b)(2)b.]
p.	OAC rule 3745-17-11(B)(1)	None [See b)(2)j.]
q.	OAC rule 3745-17-07(A)	None [See b)(2)k.]
r.	40 CFR, Part 61, Subpart FF [40 CFR 61.340 – 61.358] [In accordance with 40 CFR 61.340, this emissions unit is an affected source since processing of wastewater containing benzene occurs.]	See b)(2)p.
s.	40 CFR, Part 61, Subpart A	See 40 CFR 61.01 through 61.19
t.	40 CFR 63.1 through 63.15	Table 6 to 40 CFR, Part 63, Subpart CC – Applicability of General Provisions to Subpart CC shows which parts of the General Provisions in 40 CFR 63.1 - 63.15 apply. Table 44 to 40 CFR, Part 63, Subpart UUU – Applicability of General Provisions to Subpart UUU shows which parts of the General Provisions in 40 CFR 63.1 - 63.15 apply.
u.	40 CFR, Part 60, Subpart J [In accordance with 40 CFR 60.101(g), the tail gas incinerator is considered a fuel gas combustion device due to the combustion of the BB Treater spent air stream, Ohio EPA emissions unit P041.]	See 40 CFR 60.104(a)(1), 60.105(a)(4)(iv) and 60.105(b) See b)(2)q.

(2) Additional Terms and Conditions

a. Federal consent decree addendum, civil action No. SA07CA0683RF which became effective on November 20, 2007, requires the reduction of SO2 at the Lima Refining Company by requiring that all heaters and boilers be affected facilities and subject to the applicable fuel gas combustion requirements of 40 CFR, Part 60, Subpart J.

Emissions unit P040 consists of two sulfur recovery units (Claus Unit 1 and Claus Unit 2) which operate in a parallel configuration with the tail gas from each unit being routed to a common tail gas treating unit and incinerator. Claus Units 1 and 2 receive acid gas from the "Lima Integrated Unit" (LIU) amine treatment system, historical Ohio EPA emissions unit P002.

The LIU amine treatment system treats the sour gas generated by various LIU process units and provides this treated fuel gas to heaters located on the LIU units. In order for heaters and boilers served by the LIU fuel gas system to meet the fuel gas combustion requirements of 40 CFR, Part 60, Subpart J, the LIU amine treatment system must be upgraded. The upgrade to the amine treatment system does not constitute a modification as defined in OAC rule 3745-31-01 based on PTI No. 03-13794, issued on 5/29/08 [see b)(2)b. for additional details].

This permit action is being issued as requested by the permittee to address any activities associated with the upgrade to the LIU amine treatment system that could be considered applicable to new source review requirements. It should be noted that this permit is virtually identical in requirements to those contained in PTI No. 03-13794 issued on 5/29/08.

b. Emissions unit P040 was established in PTI No. 03-13794, issued on 5/29/08, as a consolidation of three existing emissions units (P002, P011, and P015) whichcomprised an existing sulfur recovery unit/system at the facility.

Theconsolidation was granted by Ohio EPA as requested by the permittee due tomodifications which resulted in the sulfur recovery unit/system having onecommon egress point of emissions, the exhaust stack for the tail gas incinerator.It should be noted that the consolidation resulting in the establishment of P040 does not remove the applicability of OAC rule 3745-18-08. Because P040 is simply a grouping of P002, P011 and P015, it will continue to be subject to OACrule 3745-18-08. In addition, this common egress point will include a spent airstream from the new Butane-Butylene Treater (emissions unit P041) which isrouted to the oxidation chamber of the tail gas incinerator. Therefore, all theabove emission limits are combined for these emissions units (P040 and P041).Requirements for Emissions unit P041 were established in PTI No. 03-13794, issued 5/29/08.

c. It is assumed that all PE are equivalent to both PM_{10} and $PM_{2.5.}$

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

i. 0.14 lb of PE/PM_{10}/$PM_{2.5}$/hr and 0.61 ton of PE/PM_{10}/$PM_{2.5}$/yr; and

ii. 0.10 lb of VOC/hr and 0.44 ton of VOC/yr.

e. Best Available Technology (BAT) requirements for SO2 emissions under ORC 3704.03(T) have been determined to be compliance with OAC rule 3745-31-10 through 3745-31-20.

f. Best Available Technology (BAT) requirements for PM_{10}, VOC, NOx and CO under OAC rule 3745-31-05(A)(3), as effective 11/30/01 have been determined to be compliance with OAC rule 3745-31-05(D) and OAC rule 3745-31-10 through 3745-31-20, and compliance with the terms and conditions of this permit.

g. The permittee has satisfied the BAT requirements pursuant to OAC rule 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to ORC changes effective August 3, 2006 (S.B. 265 changes), such that BAT is no longer required by State regulation for NAAQS pollutant emissions less than 10 tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revision to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then these emission limits and control measures no longer apply.

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

The BAT requirements under OAC rule 3745-31-05(A)(3)(a) do not apply to the emissions of PM_{10}, VOC, NOx and CO since the potential to emit is less than 10 tons per year.

i. The permittee shall employ Best Available Control Technology (BACT) for this emissions unit. BACT has been determined to be the following:

Pollutant	BACT Requirements
NOx	1.84 lbs of nitrogen oxides (NOx)/hr; and Use of good combustion practices.
SO2	Compliance with 40 CFR, Part 60, Subpart Ja; 19.18 lbs of sulfur dioxide (SO2)/hr, as a 12-hr average; 250 parts per million by volume (drybasis) of SO2 at 0% excess air as a 12-hour average; and Use of a tail gas treatment unit and tail gas incinerator.
CO	1.55 lbs of CO/hr; and Use of good combustion practices.
CO_2 as a surrogate for GHG	Use of low-carbon gaseous fuel (natural gas)

j. The uncontrolled mass rate of PE* from this emissions unit is less than 10 pounds/hour. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure IIof OAC rule 3745-17-11 does not apply. In addition, Table I of OAC rule 3745-17-11 does not apply because the process weight rate is equal to zero. "Processweight" is defined in OAC rule 3745-17-01(B)(14).

* The burning of gaseous fuels is the only source of PE from this emissions unit

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

l. Pursuant to the Group 1 miscellaneous process vent requirements in 40 CFR 63.641, the permittee shall reduce emissions of organic HAP's using a flare(s) that meets the requirements of 40 CFR 63.11(b) of subpart A.

m. MACT requirements in 40 CFR, Part 63, Subpart CC are applicable for each Group 1 process vent that is part of this emissions unit, and is routed to either emissions unit P006 and/or P007, the FCC/Coker flare or LIU flare, respectively.

The permittee shall comply with the applicable control requirements, emission limit and compliance demonstration methods under 40 CFR, Part 63, Subpart CC, including the following sections:

63.643(a)(1)	Required Use of Flare to Reduce Organic Hazardous Air Pollutants

n. The permittee shall comply with the applicable control requirements, operating limits, emission limits and work practice standards under 40 CFR, Part 63, Subpart UUU, including the following sections:

63.1568(a)(1) and Table 29	Sulfur Dioxide (SO2) Emission Limit for New Source Performance Standard Units: Meet Option A – 250 parts per million by volume (dry basis) of SO2 at 0% excess air (use of oxidation or reduction control system followed by incineration)
63.1568(a)(3)	Prepare Operation, Maintenance and Monitoring Plan
63.1570(a)	Compliance with Non-opacity Standards
63.1570(g)	Deviations during Startup, Shutdown or Malfunction

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

The requirements of these rules are equivalent to or less stringent than the alternative leak detection and repair (LDAR) monitoring plan submitted by the permittee, pursuant to OAC rule 3745-21-09(T)(4) and 40 CFR, Part 63, Subpart CC. Terms and conditions for the alternative LDAR plan are listed in section B.2 of the Facility-Wide Terms and Conditions of the Title V renewal permit.

p. The permittee shall include the SRU in the current site benzene waste operations program.

q. NSPS requirements for fuel gas combustion devices at 40 CFR 60.104(a)(1) are applicable to the tail gas incinerator. The tail gas incinerator is considered a fuel gas combustion device per 40 CFR 60.101(h) due to the combustion of the BB treater spent air stream (Ohio EPA emissions unit P041.)

As this stream has been previously demonstrated to be inherently low in sulfur content, this stream is exempt from the monitoring requirements of 60.105(a)(4),

per 60.105(a)(4)(iv)(d). Details are provided in the written application submitted to Ohio EPA on 11/3/2009, company file #A14-09-46, in accordance with 60.105(b).

A fuel gas stream that is determined to be low-sulfur is exempt from the monitoring requirements of 60.105(a)(3) and (4) until there are changes in the operating conditions or stream composition.

No further action is required outside of the written application request in accordance with 40 CFR Part 60.105(b)(3) unless refinery operating conditions change in a way that would affect the composition of the exempt fuel gas stream.

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall operate and maintain equipment to continuously monitor and record SO2from this emissions unitin units of the applicable standard. The span value of the continuous emissionmonitoring system (CEMS) shall be 500 ppm SO2. Such continuous monitoring and recordingequipment shall comply with the requirements specified in 40 CFR, Part 60.13.

The permittee shall maintain records of all data obtained by the continuous SO2monitoring system including, but not limited to, parts per million of SO2for each cycle time of the analyzer, with no resolution less than one data point per minute required, and lbs/hr of SO2, as a 12-hr average; results of daily zero/span calibration checks, and the magnitudes of manual calibration adjustments.

The permittee shall maintain a written quality assurance/quality control (QA/QC) plan for the SO2CEMS that follows the requirements of 40 CFR, Part 60, Appendix F. The QA/QC plan and logbook for the SO2CEMS must be kept on site and available for inspection during regular office hours.

(2) The permittee shall operate and maintain equipment to continuously monitor and record the oxygen (O2) from this emissions unit in percent O2. The span value of the CEMS shall be 25 percent O2. Such continuous monitoring and recordingequipment shall comply with the requirements specified in 40 CFR, Part 60.13 or asapproved by the Ohio EPA, Central Office.

The permittee shall maintain records of all data obtained by the continuous O2monitoring system including, but not limited to percent O2for each cycle time of the analyzer, with no resolution less than one data point per minute required, results of daily zero/span calibration checks, and magnitude of manual calibration adjustments.

The permittee shall maintain a quality assurance/quality control plan for the continuous O2monitoring system designed to ensurecontinuous valid and representative readings. The plan shall follow the requirements of40 CFR, Part 60, Appendix F. The quality

assurance/quality control plan and a logbookdedicated to the continuous O2system must be kept on site and available for inspection during regular office hours.

(3) The permittee shall maintain daily records of the following information for this emissions unit:

i. the total amount of sulfur processed;

j. the total SO2emissions, in lbs; and

k. the average SO2 emission rate, in lb of SO2per 1,000 lbs of sulfur processed.

For a specific period of time, the amount of sulfur processed is equal to the amount of sulfur entering the Claus units plus the amount of any sulfur bypassed to the flare(s) from the amine units and/or the sour water stripper, except for periods of start-up, shutdown, or malfunction as defined in 40 CFR 60.2.

(4) The permittee shall include the SRU fugitive emissions and associated components in the current site fugitive leak detection and repair (LDAR) program. The LDAR program shall be conducted in accordance with the alternative monitoring plan submitted by the permittee. Applicable requirements are listed in section B.2 of the Facility-Wide Terms and Conditions of the facility's renewal Title V with effective date of 3/26/13.

(5) The permittee shall comply with the applicable monitoring and recordkeeping requirements under 40 CFR, Part 63, Subpart UUU, including the following sections:

63.1568(b)(1) and Table 31	Install, Operate and Maintain Sulfur Dioxide Continuous Emission Monitor
63.1568(c)(1), Table 34 and Table 35	Continuous Compliance - Sulfur Dioxide Continuous Emission Monitor
63.1568(c)(2)	Continuous Compliance with Operation, Maintenance and Monitoring Plan
63.1570(c)	General Duty – Log Prior to Continuous Monitoring System Validation
63.1572(a)(1), 63.1572(a)(3), 63.1572(a)(4), 63.1572(d)(1), 63.1572(d)(2) and Table 40	Sulfur Dioxide Continuous Emission Monitor Requirements
63.1574(f)(2)(i), 63.1574(f)(2)(ii), and 63.1574(f)(2)(viii) through 63.1574(f)(2)(x)	Operation, Maintenance and Monitoring Plan Requirements
63.1576(a)(1), 63.1576(a)(2), 63.1576(b)(1) through 63.1576(b)(5),	Recordkeeping Requirements

63.1576(d) through 63.1576(i), Table 34 and Table 35	

(6) 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 SO2 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 (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.

e) Reporting Requirements

(1) Pursuant to OAC rule 3745-15-04 and ORC sections 3704.03(I) and 3704.031 and 40CFR, Parts 60.7 and 60.13(h), the permittee shall submit reports within 30 days followingthe end of each calendar quarter to the Ohio EPA, Northwest District Office documenting the date, commencement and completion times, duration,magnitude, reason (if known), and corrective actions taken (if any), of all 12 hour periods of SO2 values in excess of the applicable lbs/hr and NSPS limitations for SO2.

Thesereports also shall identify all instances of daily SO2 emission values in excess of thelimitation specified in OAC rule 3745-18-08 (including those instances due to thebypassing of the Claus unit(s)) and shall specify the total SO2 emissions for the calendarquarter (in tons).

The permittee shall submit reports within 30 days following the end of each calendarquarter to the Ohio EPA, Northwest District Office documenting anycontinuous SO2 monitoring system downtime while the emissions unit was on line (date,time, duration and reason) along with any corrective action(s) taken.

The permittee shallprovide the emissions unit operating time during the reporting period and the date, time,reason and corrective action(s) taken for each time period of emissions unit and controlequipment 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 also be included in the quarterly report.

If there are no excess emissions during the calendar quarter, the permittee shall submit a statement to that effect along with the emissions unit operating time during the reporting period and the date, time, reason, and corrective action(s) taken for each time period of emissions unit, control equipment, and/or monitoring system malfunctions.

The total operating time of the emissions unit and the total operating time of the analyzer while the emissions unit was on line also shall be included in the quarterly report. These quarterly excess emission 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 quarter.

Pursuant to OAC rule 3745-15-04 and ORC sections 3704.03(I) and 3704.031, the permittee shall submit a summary of the excess emission report pursuant to 40 CFR, Part 60.7. The summary shall be submitted to the Ohio EPA, Northwest District Office within 30 days following the end of each calendar quarter in a manner prescribed by the Director.

(2) Pursuant to 40 CFR, Parts 60.7 and 60.13(h), the permittee shall submit reports within 30 days following the end of each calendar quarter to the Ohio EPA, Northwest DistrictOffice documenting any continuous O2system downtime while theemissions unit was on line (date, time, duration and reason) along with any correctiveaction(s) taken.

The permittee shall provide the emissions unit operating time during thereporting period and the date, time, reason and corrective action(s) taken for each timeperiod of emissions unit and control equipment malfunctions.

The total operating time ofthe emissions unit and the total operating time of the analyzer while the emissions unit was on line shall also be included in the quarterly report.

(3) All quarterly reports and deviation reports shall be submitted in accordance with the Standard Terms and Conditions of this permit.

(4) The permittee shall comply with the reporting requirements under 40 CFR, Part 63, Subpart CC, including the following sections:

63.655(f)(1)(ii)	Notification of Compliance Status – Identification of Miscellaneous Process Vents
63.655(g)	Semi-annual Deviation Report for Group 1 Miscellaneous Process Vents
63.655(g)(6)	Semi-annual Deviation Report for Group 1 Miscellaneous Process Vents – Excess Emissions Reporting

(5) The permittee shall comply with the applicable reporting requirements under 40 CFR, Part 63, Subpart UUU, including the following sections:

63.1563(e)	Notification Requirements
63.1568(b)(6) and 63.1658(b)(7)	Submit Notice of Compliance Status, including Operation, Maintenance and Monitoring Plan
63.1570(f)	Report Deviations

63.1574(a), 63.1574(a)(3), 63.1574(b), 63.1574(d), 63.1574(f)(1), Table 42.1, Table 42.2 and Table 42.3	Notice of Compliance Status – Identify Affected Sources, Emission Limits and Monitoring Options
63.1575(a), 63.1575(b)(1) through 63.1575(b)(5), 63.1575(c), 63.1575(e)(1) through 63.1575(e)(13), 63.1575(f)(1), 63.1575(f)(2), 63.1575(g) and Table 43	Compliance Report Requirements
63.1575(h)(1) and 63.1575(h)(2)	Startup, Shutdown and Malfunction Reporting Requirements

f) Testing Requirements

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

a. Emission Limitations:

0.14 lb of PE/PM_{10}/$PM_{2.5}$/hr and 0.61 ton of PE/PM_{10}/$PM_{2.5}$/yr, combustion emissions from the tail gas incinerator

Applicable Compliance Method:

The permittee may demonstrate compliance with the hourly limitation by multiplying the appropriate particulate emission factor of 7.6 pounds per million standard cubic feet, from AP-42 Chapter 1.4 (7/98), by the maximum fuel flow rate of 18,431 standard cubic feet/hr. 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.

The annual emission limitation was derived by multiplying the hourly emission limitation times 8,760 hrs/yr, and then dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the hourly emission limitation, compliance with the annual emission limitation shall also be demonstrated.

b. Emission Limitations:

0.10 lb of VOC/hr, 0.44 ton of VOC/yr, combustion emissions from the tail gas incinerator

Applicable Compliance Method:

The permittee may demonstrate compliance with the hourly limitation by multiplying the appropriate VOC emission factor of 5.5 pounds per million standard cubic feet, from AP-42 Chapter 1.4 (7/98), by the maximum fuel flow rate of 18,431 standard cubic feet/hr. If required, the permittee shall demonstrate

compliance with the hourly emission limitation by conducting emission testing in accordance with Methods 1 through 4, and 18, 25, or 25A, as appropriate, 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 then dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the hourly emission limitation, compliance with the annual emission limitation shall also be demonstrated.

c. Emission Limitation:

Visible PE shall not exceed 20% opacity, as a six-minute average [combustion emissions from the tail gas incinerator]

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.

d. Emission Limitations:

1.84 lbs of NOx/hr and 8.06 tons of NOx/rolling, 12-month period [combustion emissions from the tail gas incinerator]

Applicable Compliance Method:

The permittee may demonstrate compliance with the hourly limitation by multiplying the appropriate NOx emission factor of 100 pounds per million standard cubic feet, from AP-42 Chapter 1.4 (7/98), by the maximum fuel flow rate of 18,431 standard cubic feet/hr.

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 7 of 40 CFR, Part 60, Appendix A.

The rolling, 12-month emission limitation was established by multiplying the hourly emission limitation times the maximum operating schedule of 8,760 hrs/yr, and then dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the hourly emission limitation, compliance with the rolling, 12-month period emission limitation shall also be demonstrated.

e. Emission Limitation:

1.55 lbs of CO/hr and 6.77 tons of CO/rolling, 12-month period, combustion emissions from the tail gas incinerator

Applicable Compliance Method:

The permittee may demonstrate compliance with the hourly limitation by multiplying the appropriate CO emission factor of 84 pounds per million standard

cubic feet, from AP-42 Chapter 1.4 (7/98), by the maximum fuel flow rate of 18,431 standard cubic feet/hr.

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 rolling, 12-month emission limitation was established by multiplying the hourly emission limitation by the maximum operating schedule of 8,760 hrs/yr, and then dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the hourly emission limitation, compliance with the rolling, 12-month period emission limitation shall also be demonstrated.

f. Emission Limitation:

CO_2 as a surrogate for GHG emissions shall not exceed 33,241 tons per rolling, 12-month period

Applicable Compliance Method:

The rolling, 12-month limitation represents the potential to emit [see b)(2)d.] based on an average flow rate during four stack tests between 2006 and 2008 of 17,311 standard cubic feet per minute (scfm) multiplied by 60 min/hrby6.3 percent (the average fraction of GHG to total emissions during four stack tests) by 44 lb/lb mole conversion divided by 379 scf/lb mole conversion, multiplied by the maximum operating schedule of 8,760 hrs/yr, and then dividing by 2,000 lbs/ton.

g. Emission Limitations:

19.18 lbs of SO2/hr, as a 12-hr average and 84.02 tons of SO2/rolling, 12-month period [process emissions from the tail gas incinerator]

Applicable Compliance Method:

Ongoing compliance with the SO2 emission limitations contained in this permit; 40 CFR, Part 60 and any other applicable standard(s) shall be demonstrated through the data collected as required in the monitoring and record keeping in d)(1) and d)(2), and through demonstration of compliance with the quality assurance/quality control plan which shall meet the testing and recertification requirements of 40 CFR, Part 60.

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.

The rolling, 12-month emission limitation was established by multiplying the hourly emission limitation times the maximum operating schedule of 8,760 hrs/yr, and then dividing by 2,000 lbs/ton. Therefore, provided compliance is shown

with the hourly emission limitation, compliance with the rolling, 12-month period emission limitation shall also be demonstrated.

h. Emission Limitation:

250 parts per million by volume (dry basis) of SO2 at 0% excess air, process emissions from the tail gas incinerator

Applicable Compliance Method:

Ongoing compliance with the SO2 emission limitations contained in this permit; 40 CFR, Part 60 and any other applicable standard(s) shall be demonstrated through the data collected as required in the monitoring and record keeping in d)(1) and d)(2), and through demonstration of compliance with the quality assurance/quality control plan which shall meet the testing and recertification requirements of 40 CFR, Part 60.

If required, the permittee shall demonstrate compliance with the SO2 emission limitation above based on the results of emission testing conducted in accordance with the requirements specified in Methods 1 through 4, and 6 of 40 CFR, Part 60, Appendix A.

i. Emission Limitation:

100 lbs of SO2/1,000 lbs of sulfur processed, process emissions from the tail gas incinerator

Applicable Compliance Method:

Ongoing compliance with the SO2 emission limitations contained in this permit; 40 CFR, Part 60 and any other applicable standard(s) shall be demonstrated through the data collected as required in the monitoring and record keeping in d)(1) and d)(2), and through demonstration of compliance with the quality assurance/quality control plan which shall meet the testing and recertification requirements of 40 CFR, Part 60.

If required, the permittee shall demonstrate compliance with the SO2 emission limitation based on the results of emission testing conducting in accordance with the requirements specified in Methods 1 through 4, and 6 of 40 CFR, Part 60, Appendix A.

(2) The permittee shall comply with the applicable testing requirements under 40 CFR, Part 63, Subpart UUU, including the following sections:

63.1568(b)(5) and Table 33	Initial Compliance – New Source Performance Standard Test

g) Miscellaneous Requirements

(1) None.

7. P049, Sulfur Recovery Unit 3

Operations, Property and/or Equipment Description:

Sulfur Recovery Unit - Claus 3 with tail gas treatment unit, oxygen enrichment, and natural gas fired tail gas incinerator, capacity of 195 long tons per day

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(D)	Combustion emissions from the tail gas incinerator shall not exceed the following: 0.16 lb of particulate emissions/ particulate matter less than or equal to 10 microns in diameter/particulate matter less than or equal to 2.5 microns in diameter ($PE/PM_{10}/PM_{2.5}$)/hr and 0.72 ton of $PE/PM_{10}/PM_{2.5}$/yr 0.12 lb of volatile organic compounds (VOC)/hr and 0.52 ton of VOC/yr Visible PE shall not exceed 20% opacity, as a six-minute average The requirements of this rule also include compliance with 40 CFR, Part 63, Subpart CC; 40 CFR 60.104(a); and OAC rule 3745-18-08(C)(3) See b)(2)a. and b)(2)b.
b.	OAC rule 3745-31-05(A), as effective 11/30/01	See b)(2)c. and b)(2)d.
c.	OAC rule 3745-31-05(A)(3), as effective 12/1/06	See b)(2)e.
d.	ORC 3704.03(T)	See b)(2)f.

e.	OAC rule 3745-31-10 through 3745-31-20	Combustion emissions from the tail gas incinerator shall not exceed the following: 2.17 lbs of nitrogen oxides (NOx)/hr and 9.52 tons of NOx/rolling, 12-month period 1.83 lbs of carbon monoxide (CO)/hr and 8.00 tons of CO/rolling, 12-month period Carbon dioxide(CO_2) as a surrogate for greenhouse gas (GHG) emissions shall not exceed 40,512 tons per rolling, 12-month period Process emissions from the tail gas incinerator shall not exceed the following: 22.67 lbs of sulfur dioxide (SO2)/hr, as a 12-hr average; 99.30 tons of SO2/rolling, 12-month period; and 250 parts per million by volume (dry basis) of SO2 at 0% excess air as a 12-hour average See b)(2)g.
f.	40 CFR, Part 63, Subpart CC [40 CFR 63.640 – 63.656]	See b)(2)n.
g.	40 CFR, Part 63, Subpart UUU [40 CFR 63.1560 – 63.1579] [In accordance with 40 CFR 63.1562, this emissions unit is an affected source consisting of a process vent or group of process vents on the Claus 3 sulfur recovery plant unit and the tail gas treatment unit serving the Claus 3 sulfur recovery plant, that are associated with sulfur recovery, including any bypass line(s), subject to the emission limitations/control measures specified in this section.]	See b)(2)m., d)(6) , e)(4) , and f)(2)
h.	40 CFR, Part 60, Subpart Ja 40 CFR 60.102a(f)(1)(i)	250 parts per million by volume (dry basis) of SO2 at 0% excess air as a 12-hour average See b)(2)f.
i.	OAC rule 3745-21-09(T)	leaks from petroleum refinery equipment [See b)(2)n.]
j.	OAC rule 3745-21-09(DD)	leaks from petroleum refinery equipment

		[See b)(2)n.]
k.	40 CFR, Part 60, Subpart VVa	leaks from petroleum refinery equipment [See b)(2)n.]
l.	40 CFR, Part 60, Subpart GGGa [40 CFR 60.640a through 60.679a]	leaks from petroleum refinery equipment [See b)(2)n.]
m.	40 CFR, Part 60, Subpart A	See 40 CFR 60.1 through 60.19
n.	40 CFR, Part 61, Subpart V	leaks from petroleum refinery equipment [See b)(2)n.]
o.	OAC rule 3745-17-11(B)(1)	None [See b)(2)k.]
p.	OAC rule 3745-17-07(A)	None [See b)(2)l.]
q.	40 CFR, Part 61, Subpart FF [40 CFR 61.340 – 61.358] [In accordance with 40 CFR 61.340, this emissions unit is an affected source since processing of wastewater containing benzene occurs.]	See b)(2)o.
r.	40 CFR, Part 61, Subpart A	See 40 CFR 61.01 through 61.19
s.	40 CFR 63.1 through 63.15	Table 6 to 40 CFR, Part 63, Subpart CC – Applicability of General Provisions to Subpart CC shows which parts of the General Provisions in 40 CFR 63.1 - 63.15 apply. Table 44 to 40 CFR, Part 63, Subpart UUU – Applicability of General Provisions to Subpart UUU shows which parts of the General Provisions in 40 CFR 63.1 - 63.15 apply.

(2) Additional Terms and Conditions

a. It is assumed that all PE are equivalent to both PM_{10} and $PM_{2.5.}$

b. This permit establishes the following federally enforceable emission limitations for the purpose of representing the potential to emit of the emissions unit:

i. 0.16 lb of PE/PM_{10}/$PM_{2.5}$/hr and 0.72 ton of PE/PM_{10}/$PM_{2.5}$/yr; and

ii. 0.12 lb of VOC/hr and 0.52 ton of VOC/yr.

c. Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3), as effective 11/30/01 for PM_{10}, VOC, NOx and CO have been determined to be compliance with OAC rule 3745-31-05(D) and OAC rule 3745-31-10 through 3745-31-20 and compliance with the terms and conditions of this permit.

d. The permittee has satisfied the BAT requirements pursuant to OAC rule 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to ORC changes effective August 3, 2006 (S.B. 265 changes), such that BAT is no longer required by State regulation for NAAQS pollutant emissions less than 10 tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revision to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio.

Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then these emission limits and control measures no longer apply.

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

The BAT requirements under OAC rule 3745-31-05(A)(3)(a) do not apply to the emissions of PM_{10}, VOC, NOx and CO since the potential to emit is less than 10 tons per year, taking into account the federally enforceable restrictions established under OAC rule 3745-31-05(D) and OAC rule 3745-31-10 through 3745-20 in this permit.

f. The BAT requirements under ORC 3704.03(T) for SO2 have been determined to be compliance with OAC rule 3745-31-10 through 3745-31-20.

g. The permittee shall employ Best Available Control Technology (BACT) for this emissions unit. BACT has been determined to be the following:

Pollutant	BACT Requirements
NOx	2.17 lbs of NOx/hr; and Use of good combustion practices.
SO2	Use of tail gas treatment unit and tail gas incinerator; Compliance with 40 CFR, Part 60, Subpart Ja; 22.67 lbs of SO2/hr, as a 12-hr average; and 250 parts per million by volume (dry basis) of SO2 at 0% excess air as a 12-hour average.
CO	1.83 lbs of CO/hr; and Use of good combustion practices.
CO_2 as a surrogate for GHG	Use of low-carbon gaseous fuel (natural gas)

h. Each continuous SO2 monitoring system shall be certified to meet the requirements of 40 CFR, Part 60, Appendix B, Performance Specifications 2 and 6. At least 45 days before commencing certification testing of the continuous SO2 monitoring system(s), the permittee shall develop and maintain a written quality assurance/quality control plan designed to ensure continuous valid and representative readings of SO2 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 SO2 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.

i. Each continuous O2 monitoring system shall be certified to meet the requirements of 40 CFR Part 60, Appendix B, Performance Specification 3. At least 45 days before commencing certification testing of the continuous O2 monitoring system(s), the permittee shall develop and maintain a written quality assurance/quality control plan designed to ensure continuous valid and representative readings of O2 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 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.

j. The continuous SO2 and O2 emission monitoring systems 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.

k. The uncontrolled mass rate of PE* from this emissions unit is less than 10 pounds/hour. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure IIof OAC rule 3745-17-11 does not apply. In addition, Table I of OAC rule 3745-17-11 does not apply because the process weight rate is equal to zero. "Processweight" is defined in OAC rule 3745-17-01(B)(14).

* The burning of gaseous fuels is the only source of PE from this emissions unit

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

m. The permittee shall comply with the applicable control requirements, operating limits, emission limits and work practice standards under 40 CFR, Part 63, Subpart UUU, including the following sections:

63.1568(a)(1) and Table 29	Sulfur Dioxide (SO2) Emission Limit for New Source Performance Standard Units: Meet Option A – 250 parts per million by volume (dry basis) of SO2 at 0% excess air (use of oxidation or reduction control system followed by incineration)
63.1568(a)(3)	Prepare Operation, Maintenance and Monitoring Plan
63.1570(a)	Compliance with Non-opacity Standards
63.1570(g)	Deviations during Startup, Shutdown or Malfunction

n. This emissions unit is subject to the appropriate provisions (including operational restrictions, monitoring and record keeping, reporting, and testing) of OAC rule 3745-21-09(T) – Leaks from petroleum refinery equipment, OAC rule 3745-21-09(DD) – Leaks from process units that produce organic chemicals, 40 CFR, Part 60, Subpart VVa (Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for Which Construction, Reconstruction or Modification Commenced after November 7, 2006), 40 CFR, Part 60, Subpart GGGa (Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries for Which Construction, Reconstruction or Modification Commenced after November 7, 2006), 40 CFR, Part 63, Subpart CC (Petroleum Refinery MACT Standards), and 40 CFR, Part 61, Subpart V (National Emission Standard for Equipment Leaks – Fugitive Emission Sources).

The requirements of these rules are equivalent to or less stringent than the alternative leak detection and repair (LDAR) monitoring plan submitted by the permittee, pursuant to OAC rule 3745-21-09(T)(4) and 40 CFR, Part 63, Subpart CC. Terms and conditions for the alternative LDAR plan are listed in section B.2 of the Facility-Wide Terms and Conditions of the facility's renewal Title V with effective date of 3/26/13.

o. The permittee shall include the Claus 3 sulfur recovery unit in the current site benzene waste operations program.

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall install, operate, and maintain equipment to continuously monitor and record SO2 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 all data obtained by the continuous SO2 monitoring system including, but not limited to:

a. emissions of SO2 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 SO2 in pounds per hour and in 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 SO2 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 SO2 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 SO_2 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).

All valid data points generated and recorded by the continuous emission monitoring and data acquisition and handling system shall be used in the calculation of the pollutant concentration and/or emission rate over the appropriate averaging period.

(2) Prior to the installation of the continuous SO2 monitoring system, the permittee shall submit information detailing the proposed location of the sampling site in accordance with the siting requirements in 40 CFR, Part 60, Appendix B, Performance Specification 2. The Ohio EPA, Central Office shall approve the proposed sampling site and certify that the continuous SO2 monitoring system meets the requirements of Performance Specifications 2 and 6. Once received, the letter(s)/document(s) of certification shall be maintained on-site and shall be made available to the Director (the Ohio EPA, Northwest District Office) upon request.

(3) The permittee shall install, operate and maintain equipment to continuously monitor and record O_2 emitted from this emissions unit in 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 all data obtained by the continuous O2 monitoring system including, but not limited to:

a. the percent O2with 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 (f) and (g).

All valid data points generated and recorded by the continuous emission monitoring and data acquisition and handling system shall be used in the calculation of the pollutant concentration and/or emission rate over the appropriate averaging period.

(4) Prior to the installation of the continuous O2 monitoring system, the permittee shall submit information detailing the proposed location of the sampling site in accordance with the siting requirements in 40 CFR, Part 60, Appendix B, Performance Specification 3. The Ohio EPA, Central Office shall approve the proposed sampling site and certify that the continuous O2 monitoring system meets the requirements of Performance Specification 3. Once received, the letter/document of certification shall be maintained on-site and shall be made available to the Director (the Ohio EPA, Northwest District Office) upon request.

(5) The permittee shall include the SRU fugitive emissions and associated components in the current site fugitive leak detection and repair (LDAR) program. The LDAR program shall be conducted in accordance with the alternative monitoring plan submitted by the permittee. Applicable requirements are listed in section B.2 of the Facility-Wide Terms and Conditions of the facility's renewal Title V with effective date of 3/26/13.

(6) The permittee shall comply with the applicable monitoring and recordkeeping requirements under 40 CFR, Part 63, Subpart UUU, including the following sections:

63.1568(b)(1) and Table 31	Install, Operate and Maintain Sulfur Dioxide Continuous Emission Monitor
63.1568(c)(1), Table 34 and Table 35	Continuous Compliance - Sulfur Dioxide Continuous Emission Monitor
63.1568(c)(2)	Continuous Compliance with Operation, Maintenance and Monitoring Plan
63.1570(c)	General Duty – Log Prior to Continuous Monitoring System Validation
63.1572(a)(1), 63.1572(a)(3), 63.1572(a)(4), 63.1572(d)(1), 63.1572(d)(2) and Table 40	Sulfur Dioxide Continuous Emission Monitor Requirements
63.1574(f)(2)(i), 63.1574(f)(2)(ii), and 63.1574(f)(2)(viii) through 63.1574(f)(2)(x)	Operation, Maintenance and Monitoring Plan Requirements
63.1576(a)(1), 63.1576(a)(2), 63.1576(b)(1) through 63.1576(b)(5), 63.1576(d) through 63.1576(i), Table 34 and Table 35	Recordkeeping Requirements

(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 SO2 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 (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.

e) Reporting Requirements

(1) The permittee shall comply with the following quarterly reporting requirements for the emissions unit and its continuous SO2 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 Ohio EPA, Northwest District Office, documenting all instances of SO2 emissions in excess

of any applicable limit specified in this permit, 40 CFR, Part 60, OAC Chapter 3745-18, 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 SO2 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 SO2 emissions for the calendar quarter (tons);

vi. the total operating time (hours) of the emissions unit;

vii. the total operating time of the continuous SO2 monitoring system while the emissions unit was in operation;

viii. results and date of quarterly cylinder gas audits;

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 SO2 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 SO2 monitoring system, emissions unit, and/or control equipment;

xii. the date, time, and duration of any downtime** of the continuous SO2 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

(2) The permittee shall comply with the following quarterly reporting requirements for the emissions unit and its continuous O2 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 Ohio EPA, Northwest District Office, documenting all instances of continuous O2 monitoring system downtime and malfunction while the emissions unit was on line.

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 O2 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 total operating time (hours) of the emissions unit;

v. the total operating time of the continuous O2 monitoring system while the emissions unit was in operation;

vi. results and dates of quarterly cylinder gas audits;

vii. unless previously submitted, results and dates of the relative accuracy test audit(s) (during appropriate quarter(s));

viii. unless previously submitted, the results of any relative accuracy test audit showing the continuous O2 monitor out-of-control and the compliant results following any corrective actions;

ix. the date, time, and duration of any/each malfunction* of the continuous O2 monitoring system while the emissions unit was in operation;

x. the date, time, and duration of any downtime* of the continuous O2 monitoring system while the emissions unit was in operation; and

xi. the reason (if known) and the corrective actions taken (if any) for each event in (b)(ix) and (x).

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

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

(3) All quarterly reports and deviation reports shall be submitted in accordance with the Standard Terms and Conditions of this permit.

(4) The permittee shall comply with the applicable reporting requirements under 40 CFR, Part 63, Subpart UUU, including the following sections:

63.1563(e)	Notification Requirements
63.1568(b)(6) and 63.1658(b)(7)	Submit Notice of Compliance Status, including Operation, Maintenance and Monitoring Plan
63.1570(f)	Report Deviations
63.1574(a), 63.1574(a)(3), 63.1574(b), 63.1574(d), 63.1574(f)(1), Table 42.1, Table 42.2 and Table 42.3	Notice of Compliance Status – Identify Affected Sources, Emission Limits and Monitoring Options
63.1575(a), 63.1575(b)(1) through 63.1575(b)(5), 63.1575(c), 63.1575(e)(1) through 63.1575(e)(13), 63.1575(f)(1), 63.1575(f)(2), 63.1575(g) and Table 43	Compliance Report Requirements
63.1575(h)(1) and 63.1575(h)(2)	Startup, Shutdown and Malfunction Reporting Requirements

f) Testing Requirements

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

a. Emission Limitations:

0.16 lb of PE/PM_{10}/$PM_{2.5}$/hr and 0.72 ton of PE/PM_{10}/$PM_{2.5}$/yr, combustion emissions from the tail gas incinerator

Applicable Compliance Method:

The permittee may demonstrate compliance with the hourly limitation by multiplying the appropriate particulate emission factor of 1.9 pounds per million standard cubic feet, from AP-42 Chapter 1.4 (7/98), by the maximum fuel flow rate of 22,000 standard cubic feet/hr. 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.

The annual emission limitation was derived by multiplying the hourly emission limitation times 8,760 hrs/yr and then dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the hourly emission limitation, compliance with the annual emission limitation shall also be demonstrated.

b. Emission Limitations:

0.12 lb of VOC/hr, 0.52 ton of VOC/yr, combustion emissions from the tail gas incinerator

Applicable Compliance Method:

The permittee may demonstrate compliance with the hourly limitation by multiplying the appropriate VOC emission factor of 5.5 pounds per million standard cubic feet, from AP-42 Chapter 1.4 (7/98), by the maximum fuel flow rate of 22,000 standard cubic feet/hr. If required, the permittee shall demonstrate compliance with the hourly emission limitation by conducting emission testing in accordance with Methods 1 through 4, and 18, 25, or 25A, as appropriate, 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 then dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the hourly emission limitation, compliance with the annual emission limitation shall also be demonstrated.

c. Emission Limitation:

Visible PE shall not exceed 20% opacity, as a six-minute average [combustion emissions from the tail gas incinerator]

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.

d. Emission Limitations:

2.17 lbs of NOx/hr and 9.52 tons of NOx/rolling, 12-month period, combustion emissions from the tail gas incinerator

Applicable Compliance Method:

The permittee may demonstrate compliance with the hourly limitation by multiplying the appropriate NOx emission factor of 100 pounds per million standard cubic feet, from AP-42 Chapter 1.4 (7/98), by the maximum fuel flow rate of 22,000 standard cubic feet/hr.

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 7 of 40 CFR, Part 60, Appendix A.

The rolling, 12-month emission limitation was established by multiplying the hourly emission limitation by the maximum operating schedule of 8,760 hrs/yr, and then dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the hourly emission limitation, compliance with the rolling, 12-month period emission limitation shall also be demonstrated.

e. Emission Limitations:

1.83 lbs of CO/hr and 8.00 tons of CO/rolling, 12-month period, combustion emissions from the tail gas incinerator

Applicable Compliance Method:

The permittee may demonstrate compliance with the hourly limitation by multiplying the appropriate CO emission factor of 84 pounds per million standard cubic feet, from AP-42 Chapter 1.4 (7/98), by the maximum fuel flow rate of 22,000 standard cubic feet/hr.

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 rolling, 12-month emission limitation was established by multiplying the hourly emission limitation by the maximum operating schedule of 8,760 hrs/yr, and then dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the hourly emission limitation, compliance with the rolling, 12-month period emission limitation shall also be demonstrated.

f. Emission Limitation:

CO_2 as a surrogate for GHG emissions shall not exceed 40,512 tons per rolling, 12-month period

Applicable Compliance Method:

The rolling, 12-month limitation represents the potential to emit [see b)(2)f.] based on a ratio of 195 long tons per day to 160 long tons per day (21.875 percent higher operating rate for emissions unit P049 compared to P040). Thus, the calculated GHG emissions are 40,512 tons per rolling, 12-month period.

Compliance shall be demonstrated by maintaining the fuel flow rate at less than or equal to 22,000 standard cubic feet per hour.

g. Emission Limitation:

22.67 lbs of SO2/hr, as a 12-hr average and 99.30 tons of SO2/rolling, 12-month period [process emissions from the tail gas incinerator]

Applicable Compliance Method:

Ongoing compliance with the SO2 emission limitations contained in this permit; 40 CFR, Part 60 and any other applicable standard(s) shall be demonstrated through the data collected as required in the monitoring and record keeping in d)(1), and through demonstration of compliance with the quality assurance/quality control plan which shall meet the testing and recertification requirements of 40 CFR, Part 60.

If required, the permittee shall demonstrate compliance with the SO2 emission limitation above based on the results of emission testing conducted in accordance with the requirements specified in Methods 1 through 4, and 6 of 40 CFR, Part 60, Appendix A.

The rolling, 12-month emission limitation was established by multiplying the hourly emission limitation by the maximum operating schedule of 8,760 hrs/yr, and then dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the hourly emission limitation, compliance with the rolling, 12-month period emission limitation shall also be demonstrated.

h. Emission Limitation:

250 parts per million by volume (dry basis) of SO2 at 0% excess air, process emissions from the tail gas incinerator

Applicable Compliance Method:

Ongoing compliance with the SO2 emission limitations contained in this permit; 40 CFR, Part 60 and any other applicable standard(s) shall be demonstrated through the data collected as required in the monitoring and record keeping in d)(1), and through demonstration of compliance with the quality assurance/quality control plan which shall meet the testing and recertification requirements of 40 CFR, Part 60. If required, the permittee shall demonstrate compliance with the SO2 emission limitation above based on the results of emission testing conducted in accordance with the requirements specified in Methods 1 through 4, and 6 of 40 CFR, Part 60, Appendix A.

(2) The permittee shall comply with the applicable testing requirements under 40 CFR, Part 63, Subpart UUU, including the following sections:

63.1568(b)(5) and Table 33	Initial Compliance – New Source Performance Standard Test

(3) Within 60 days of achieving the maximum production rate at which the emissions unit(s) will be operated, but not later than 180 days after initial startup, the permittee shall conduct certification tests of the continuous SO2 monitoring system in units of the applicable standard(s) to demonstrate compliance with 40 CFR, Part 60, Appendix B, Performance Specifications 2 and 6; and ORC section 3704.03(I).

Personnel from the Ohio EPA Central Office and the Ohio EPA, Northwest District Office shall be notified 30 days prior to initiation of the applicable tests and shall be permitted to examine equipment and witness the certification tests. Two copies of the test results shall be submitted to Ohio EPA, one copy to the Ohio EPA, Northwest District Office and one copy to Ohio EPA Central Office, and pursuant to OAC rule 3745-15-04, within 30 days after the test is completed.

Certification of the continuous SO2 monitoring system shall be granted upon determination by the Ohio EPA, Central Office that the system meets the requirements of 40 CFR Part 60, Appendix B, Performance Specifications 2 and 6; and ORC section 3704.03(I).

Ongoing compliance with the SO2 emission limitations contained in this permit, 40 CFR, Part 60, and any other applicable standard(s) shall be demonstrated through the data collected as required in the Monitoring and Record keeping Section of this permit; and through demonstration of compliance with the quality assurance/quality control plan, which shall meet the testing and recertification requirements of 40 CFR, Part 60.

(4) Within 60 days of achieving the maximum production rate at which the emissions unit(s) will be operated, but not later than 180 days after initial startup, the permittee shall conduct certification tests of the continuous O2 monitoring system to demonstrate compliance with 40 CFR, Part 60, Appendix B, Performance Specification 3 and ORC section 3704.03(I).

Personnel from the Ohio EPA Central Office and the Ohio EPA, Northwest District Office shall be notified 30 days prior to initiation of the applicable tests and shall be permitted to examine equipment and witness the certification tests. Two copies of the test results shall be submitted to Ohio EPA, one copy to the Ohio EPA, Northwest District Officeand one copy to Ohio EPA Central Office, and pursuant to OAC rule 3745-15-04, within 30 days after the test is completed.

Certification of the continuous O2 monitoring system shall be granted upon determination by the Ohio EPA, Central Office that the system meets the requirements of 40 CFR, Part 60, Appendix B, Performance Specifications 3 and ORC section 3704.03(I).

Ongoing compliance with the O2 monitoring requirements contained in this permit, 40 CFR, Part 60, and any other applicable standard(s) shall be demonstrated through the data collected as required in the Monitoring and Record keeping Section of this permit; and demonstration of compliance with the quality assurance/quality control plan, which shall meet all of the testing and recertification requirements of 40 CFR, Part 60.

g) Miscellaneous Requirements

(1) None.

8. P050, Acid Gas Flare

Operations, Property and/or Equipment Description:

Sulfur Recovery Units Acid Gas Flare, non-assisted

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(D)	0.02 ton particulate emissions/ particulate matter less than or equal to 10 microns in diameter/particulate matter less than or equal to 2.5 microns in diameter ($PE/PM_{10}/PM_{2.5}$)/yr 0.32 ton volatile organic compounds (VOC)/yr 1.00 ton of NOx/yr during periods of processunit start-up and shutdown 100.00 tons of SO2/yr during periods of processunit start-up and shutdown See b)(2)a. and b)(2)b.
b.	OAC rule 3745-31-05(A)(3), as effective 11/30/01	See b)(2)c. and b)(2)d.
c.	OAC rule 3745-31-05(A)(3), as effective 12/1/06	See b)(2)e.
d.	ORC 3704.03(T)	See b)(2)f.

e.	40 CFR, Part 63, Subpart UUU [40 CFR 63.1560 – 63.1579] [In accordance with 40 CFR 63.1562, this emissions unit is an affected source due to its use for process vents associated with the sulfur recovery units, subject to the emissionlimitations/controlmeasures specified in this section.]	See b)(2)g.
f.	40 CFR 63.1 through 63.15	Table 44 to 40 CFR, Part 63, Subpart UUU – Applicability of General Provisions to Subpart UUU shows which parts of the General Provisions in 40 CFR 63.1 - 63.15 apply.
g.	40 CFR, Part 60.18	See b)(2)h.
h.	40 CFR, Part 60, Subpart Ja	See b)(2)i.
i.	40 CFR, Part 60, Subpart A	See 40 CFR 60.1 through 60.19
j.	OAC rules 3745-31-10 through 3745-31-20	0.15 ton nitrogen oxides (NOx)/rolling, 12-month period 0.001 ton sulfur dioxide (SO2)/rolling, 12-month period 0.84 ton carbon monoxide (CO)/rolling, 12-month period Carbon dioxide(CO_2) as a surrogate for greenhouse gas (GHG) emissions shall not exceed 266 tons per rolling, 12-month period See b)(2)j.

(2) Additional Terms and Conditions

a. It is assumed that all PE are equivalent to both PM_{10} and $PM_{2.5}$.

b. This permit establishes the following federally enforceable emission limitations for the purposeof representing the potential to emit of the emissions unit:

i. 0.02 ton PE/PM_{10}/$PM_{2.5}$/rolling, 12-month period;

ii. 0.32 ton VOC/rolling, 12-month period;

iii. 1.00 ton of NOx/yr during periods of processunit start-up and shutdown; and

iv. 100.00 tons of SO2/yr during periods of process unit start-up and shutdown.

The emission limitations were established to alleviate reporting requirements associated with reportable quantities (RQ) under the Superfund Amendments and Reauthorization Act (SARA). The allowable limitations above do not apply to emissions associated with malfunctions and/or process upsets of the process unit. Any SO2 emissions associated with the start-up and shutdown of the sulfur recovery units at the facility (emissions units P040 and P049) that are routed to this flare must still be applied to the emissions limitation of 100 lbs SO2/1,000 lbs of sulfur processed contained in OAC rule 3745-18-08(C)(3).

c. Best Available Technology (BAT) requirements for PM_{10}, VOC, NOx and CO under OAC rule 3745-31-05(A)(3), as effective 11/30/01 have been determined to be compliance with OAC rule 3745-31-05(D) and OAC rule 3745-31-10 through 3745-31-20, use of inherently clean gaseous fuel (refinery fuel gas or natural gas), good combustion practices, and compliance with the terms and conditions of this permit.

d. The permittee has satisfied the BAT requirements pursuant to OAC rule 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to ORC changes effective August 3, 2006 (S.B. 265 changes), such that BAT is no longer required by State regulation for NAAQS pollutant emissions less than 10 tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revision to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then these emission limits and control measures no longer apply.

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

The BAT requirements under OAC rule 3745-31-05(A)(3)(a) do not apply to the emissions of PM_{10}, VOC, NOx and CO since the potential to emit is less than 10 tons per year.

f. BAT requirements under ORC 3704.03(T) have been determined to be compliance with OAC rule 3745-31-05(D).

g. This flare will be used to control emissions from each sulfur recovery unit (Claus 1, Claus 2 and Claus 3 units) emissions units P040 and P049, during periods of start-up, shutdown and malfunction of those emissions units and associated equipment. The sulfur recovery units are subject to MACT standards in 40 CFR, Part 63, SubpartUUU.

Applicable rules for the sulfur recovery units are detailed in 40 CFR 63.1560 through63.1563, and 63.1568 through 63.1579, and these specific requirements can be found in the terms and conditions for P040 and P049. MACT Subpart

UUU does not list any specific requirements for flares used as a control device for sulfur recovery units.

Table 44 of 40 CFR, Part 63, Subpart UUU details the applicable requirements of the General Provisions in 40 CFR 63.1 – 63.15 to this emissions unit.

h. This emissions unit shall be designed for and operated with no visible emissions except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.

i. The permittee shall comply with the following requirements in 40 CFR, Part 60, Subpart Ja for new flares:

i. Develop and implement a written flare management plan;

ii. Conduct a root cause analysis and corrective action plan whenever the discharge to the flare exceeds 500,000 standard cubic feet above the baseline in any 24-hour period;

iii. Any fuel gas burned shall not exceed a maximum of 162 parts per million by volume hydrogen sulfide content, as determined hourly on a 3-hour rolling average basis. This limit does not apply to process upset gases, fuel gas that is released to the flare as a result of relief valve leakage, or other emergency malfunctions; and

iv. Install, operate, calibrate and maintain a monitor to continuously measure and record the flow rate of gas discharged to the flare.

j. The permittee shall employ Best Available Control Technology (BACT) for this emissions unit. BACT has been determined to be the following:

Pollutant	BACT Requirements
NOx	Use of good combustion practices
SO2	Use of natural gas or refinery fuel gas for the flare pilot flame and sweep gases, and implementation of a load shedding plan to minimize periods of gas release from the sulfur recovery units (Claus 1, Claus 2 and Claus 3 units) to the acid gas flare
CO	Use of good combustion practices
CO_2 as a surrogate for GHG	Use of low-carbon gaseous fuels (refinery fuel gas or natural gas)

c) Operational Restrictions

(1) The flare shall be operated at all times when emissions are being vented to it.

(2) The flare shall be operated with a pilot flame present at all times.

(3) Only gases with a net heating value of 7.45 MJ/scm (200 Btu/scf) or greater shall be burned in this emissions unit. Net heating value shall be calculated as specified in 40 CFR Part 60.18(f)(3).

The flare shall be operated with an exit velocity less than 18.3 m/sec (60 ft/sec) exceptas specified in sections c)(4) and c)(5).

(4) If the net heating value of the gas being combusted is greater than 37.3 MJ/scm (1,000Btu/scf), the permittee may operate the flare at an exit velocity equal to or greater than18.3 m/sec (60 ft/sec), but less than122 m/sec (400 ft/sec).

(5) Non-assisted flares may be operated with an exit velocity less than the maximumpermitted velocity, but not greater than 122 m/sec (400 ft/sec). The maximumpermitted velocity shall be determined in accordance with 40 CFR, Part60.18(f)(5).

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall collect and record the following information during periods ofstart-up and shut-down:

a. the flare flow rate, in scf per hour;

b. the high heating value, in Btu/scf, as determined from the flare gas molecularweight and source of the gas;

c. the concentration of hydrogen sulfide in the flare gas, in weight fraction;

d. an indication of which process is undergoing start-up/shut-down mode;

e. the number of hours the process operated in start-up/shut-down mode;

f. the calculated NOx emissions using the following equation:

E = (FR) x (HV) x (T) x (EF)/1,000,000

Where:

E = NOx emissions in tons for each individual start-up and shut-downevent;

FR = flare flow rate in scf per hour;

HV = high heating value, in Btu/scf;

T = time duration for each start-up/shut down event, in hours; and

EF = NOx emission factor of 0.068 lb of NOx/mmBtu (AP-42 Section 13.5,Industrial Flares [9/91])

g. the annual NOx emission rate calculated as follows:

ET = E1 + E2 + E3 +... +En

Where:

ET =Annual NOx emissions, in tons, as summed for the calendar year fromJanuary to December; and

En = NOx emissions, in tons, for each individual start-up/shut-down event duringthe calendar year

h. the calculated SO2 emissions using the following equation:

E = {(FR) x (H2S)]/379.7} x (0.98) x (64) x (T)

where:

E = SO2 emissions in tons for each individual start-up and shut-downevent;

FR = flare flow rate in scf per hour;

H2S = volume fraction of hydrogen sulfide in flare gas;

379.7 = the volume, in ft3, of one lb mole of gas at standardconditions (60 degrees F & 1 atm) from the ideal gas law;

0.98 = efficiency of the flare for converting a lb mole of H2S into a lb moleof SO2;

64 = molecular weight of SO2 in lb/lb mole; and

T = time duration for each start-up/shut down event, in hours

i. the annual SO2 emission rate calculated as follows:

ET = E1 + E2 + E3 +... +En

Where:

ET =Annual SO2 emissions, in tons, as summed for the calendar year fromJanuary to December; and

En = SO2 emissions, in tons, for each individual start-up/shut-down event duringthe calendar year

(2) The permittee shall operate and maintain a device to continuously monitor the pilotflame when the emissions unit is in operation. The monitoring device and any recordershall be calibrated, operated, and maintained in accordance with the manufacturer'srecommendations, instructions, and operating manuals. The monitoring device must complete a minimum of one cycle of operation for each successive 15-minute period.

The permittee shall record the following information each day:

a. all periods during which there was no pilot flame; and

b. the downtime for the flare and monitoring equipment.

(3) The permittee shall continuously monitor either visually and/or by camera whether or notthere are visible emissions from the flare. Whenever the permittee observes visibleemissions from the flare, the permittee shall record the start-time and end-time of visible emissions in an operations log.

e) Reporting Requirements

(1) The permittee shall submit deviation (excursion) reports that identify all periods duringwhich the flare pilot flame was not functioning properly. The reports shall include thedate, time, and duration of each such period.The quarterly deviation reports shall be submitted by January 30, April 30, July 30, andOctober 30 of each year and shall address the data obtained during the previouscalendar quarter.

(2) The permittee shall submit quarterly deviation reports that include the start-time and end-time of visible emissions observed from theflare that exceed a total time of five minutes during any consecutive two hour period.The quarterly deviation reports shall be submitted by January 30, April 30, July 30, andOctober 30 of each year and shall address the data obtained during the previouscalendar quarter.

(3) The permittee shall submit annual reports that summarize the total annual actualemissions of NOx and SO2 during periods of process unit start-up and shutdown. Thereport shall be submitted by January 31 of each year and shall cover the previouscalendar year.

f) Testing Requirements

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

a. Emission Limitation:

0.02 ton PE/PM_{10}/$PM_{2.5}$/yr

Applicable Compliance Method:

The annual emission limitation above represents the potential to emit [see b)(2)b.] based on an emission factor of 0.0075 lb of PE/PM_{10}/$PM_{2.5}$/million Btu*

multiplied by a maximum heat input of 0.519 million Btu/hr, multiplied by themaximum operating schedule of 8,760 hrs/yr, and then dividing by 2,000 lbs/ton.

*The emission factor was determined in accordance with AP-42, Table 1.4-2 (7/98).

b. Emission Limitation:

0.32 ton VOC/yr

Applicable Compliance Method:

The annual emission limitation above represents the potential to emit [see b)(2)b.] based on an emission factor of 0.14 lb of VOC/million Btu* multiplied by a maximum heat input of 0.519 million Btu/hr, multiplied by themaximum operating schedule of 8,760 hrs/yr, and then dividing by 2,000 lbs/ton.

*The emission factor was determined in accordance with AP-42, Table 13.5-1 (9/91).

c. Emission Limitation:

1.00 ton of NOx/yr during periods of process unit start-upand shutdown

Applicable Compliance Method:

Compliance with the annual NOx emission limitation shall be demonstratedthrough recordkeeping requirements in section d)(1).

d. Emission Limitation:

100.00 tons of SO2/yr during periods of process unit start-upand shutdown

Applicable Compliance Method:

Compliance with the annual SO2 emission limitation shall be demonstratedthrough record keeping requirements in section d)(1).

e. Emission Limitation:

No visible emissions except for periods not to exceed a total of five minutes during any two consecutive hours

Applicable Compliance Method:

If required, compliance with the no VE limitation above shall be demonstrated based upon the procedures specifiedin Method 22 of 40 CFR, Part 60, Appendix A.

f. Emission Limitation:

0.15 ton NOx/rolling, 12-month period

Applicable Compliance Method:

The rolling, 12-month limitation above represents the potential to emit [see b)(2)j.] based on an emission factor of 0.068 lb of NOx/million Btu* multiplied by a maximum heat input of 0.519 million Btu/hr, multiplied by themaximum operating schedule of 8,760 hrs/yr, and then dividing by 2,000 lbs/ton.

*The emission factor was determined in accordance with AP-42, Table 13.5-1 (9/91).

g. Emission Limitation:

0.001 ton SO2/rolling, 12-month period

Applicable Compliance Method:

The rolling, 12-month limitation above represents the potential to emit [see b)(2)j.] based on an emission factor of 0.0006 lb of SO2/million Btu* multiplied by a maximum heat inputof 0.519 million Btu/hr, multiplied by themaximum operating schedule of 8,760 hrs/yr, and then dividing by 2,000 lbs/ton.

*The emission factor was determined in accordance with AP-42, Table 1.4-2 (7/98).

h. Emission Limitation:

0.84 ton CO/rolling, 12-month period

Applicable Compliance Method:

The rolling, 12-month limitation above represents the potential to emit [see b)(2)j.] based on an emission factor of 0.37 lb of CO/million Btu* multiplied by a maximum heat inputof 0.519 million Btu/hr, multiplied by themaximum operating schedule of 8,760 hrs/yr, and then dividing by 2,000 lbs/ton.

*The emission factor was determined in accordance with AP-42, Table 13.5-1 (9/91).

i. Emission Limitation:

CO_2 as a surrogate for GHG emissions shall not exceed 266 tons per rolling, 12-month period

Applicable Compliance Method:

The rolling, 12-month limitation above represents the potential to emit [see b)(2)j.] based on an emission factor of 53.02 kg of CO_2/million Btu* multiplied by

a conversion factor of 2.204 lbs/kg, times the maximum heat inputof 0.519 million Btu/hr, multiplied by themaximum operating schedule of 8,760 hrs/yr and dividing by 2,000 lbs/ton.

*The emission factor was determined in accordance with 40 CFR, Part 98, Table C-1, natural gas, global warming potential (GWP) from Table A-1.

g) Miscellaneous Requirements

(1) None.