State of Ohio Environmental Protection Agency

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Columbus, Ohio 43215

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Columbus, OH 43216-1049

1/14/2010

Certified Mail

No	TOXIC REVIEW
Yes	PSD
No	SYNTHETIC MINOR
Yes	CEMS
Yes	MACT
Yes	NSPS
Yes	NESHAPS
Yes	NETTING
No	MAJOR NON-ATTAINMENT
Yes	MODELING SUBMITTED

Elaine Moore
Sun Company, Inc.
P.O. Box 920
Toledo, OH 43697-0920

RE: FINAL AIR POLLUTION PERMIT-TO-INSTALL
Facility ID: 0448010246
Permit Number: P0105652
Permit Type: Administrative Modification
County: Lucas

Dear Permit Holder:

Enclosed please find a final Air Pollution Permit-to-Install (PTI) which will allow you to install or modify the described emissions unit(s) in a manner indicated in the permit. Because this permit contains several conditions and restrictions, we urge you to read it carefully. Please complete a survey at www.epa.ohio.gov/dapc/permitsurvey.aspx and give us feedback on your permitting experience. We value your opinion.

The issuance of this PTI is a final action of the Director and may be appealed to the Environmental Review Appeals Commission ("ERAC") under Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and describe the action complained of and the grounds for the appeal. The appeal must be filed with the ERAC within thirty (30) days after notice of the Director's action. A filing fee of $70.00 must be submitted to the ERAC with the appeal, although the ERAC, has discretion to reduce the amount of the filing fee if you can demonstrate (by affidavit) that payment of the full amount of the fee would cause extreme hardship. If you file an appeal of this action, you must notify Ohio EPA of the filing of the appeal (by providing a copy to the Director) within three (3) days of filing your appeal with the ERAC. Ohio EPA requests that a copy of the appeal also be provided to the Ohio Attorney General's Office, Environmental Enforcement Section. An appeal may be filed with the ERAC at the following address:

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

The Ohio EPA is encouraging companies to investigate pollution prevention and energy conservation. Not only will this reduce pollution and energy consumption, but it can also save you money. If you would like to learn ways you can save money while protecting the environment, please contact our Office of Compliance Assistance and Pollution Prevention at (614) 644-3469. If you have any questions regarding this permit, please contact the Toledo Department of Environmental Services. This permit has been posted to the Division of Air Pollution Control (DAPC) Web page http://www.epa.ohio.gov.

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*
Toledo Department of Environmental Services

State of Ohio Environmental Protection Agency
Division of Air Pollution Control

FINAL

Air Pollution Permit-to-Install
for
Sun Company, Inc.

Facility ID: 0448010246
Permit Number: P0105652
Permit Type: Administrative Modification
Issued: 1/14/2010
Effective: 1/14/2010

State of Ohio Environmental Protection Agency
Division of Air Pollution Control

Air Pollution Permit-to-Install
for
Sun Company, Inc.

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Authorization

Facility ID: 0448010246
Facility Description: Refinery
Application Number(s): M0000612
Permit Number: P0105652
Permit Description: This third modification to the original PTI 04-01447 is to change the stack testing language required to demonstrate reduction/control efficiencies for CO and PM10 for emissions unit P011, the fluid catalytic cracking unit.
Permit Type: Administrative Modification
Permit Fee: $625.00
Issue Date: 1/14/2010
Effective Date: 1/14/2010

This document constitutes issuance to:

Sun Company, Inc.
1819 Woodville Road
Oregon, OH 43616

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

Ohio EPA District Office or local air agency responsible for processing and administering your permit:

Toledo Department of Environmental Services
348 South Erie Street
Toledo, OH 43604
(419)936-3015

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

Chris Korleski
Director

Authorization (continued)

Permit Number: P0105652
Permit Description: This third modification to the original PTI 04-01447 is to change the stack testing language required to demonstrate reduction/control efficiencies for CO and PM10 for emissions unit P011, the fluid catalytic cracking unit.

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

Emissions Unit ID:	**B046**
Company Equipment ID:	H-021-03 CO Boiler
Superseded Permit Number:	P0103642
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	**B047**
Company Equipment ID:	H-021-04 CO Boiler
Superseded Permit Number:	P0103642
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	**J006**
Company Equipment ID:	LPG Railcar Loading
Superseded Permit Number:	P0103642
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	**P009**
Company Equipment ID:	PL4 Flare
Superseded Permit Number:	P0103642
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	**P011**
Company Equipment ID:	FCC Unit
Superseded Permit Number:	P0103642
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	**P012**
Company Equipment ID:	SRU
Superseded Permit Number:	P0103642
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	**P017**
Company Equipment ID:	Wastewater
Superseded Permit Number:	P0103642
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	**P040**
Company Equipment ID:	Cooling Tower - P/2
Superseded Permit Number:	P0103642
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	**P041**
Company Equipment ID:	Claus SRU No. 2
Superseded Permit Number:	P0103642
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	**P801**
Company Equipment ID:	Process Units
Superseded Permit Number:	P0103642
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 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 Toledo Department of Environmental Services.

(2) Quarterly written reports of (i) any deviations from federally enforceable emission limitations, operational restrictions, and control device operating parameter limitations, excluding deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06, that have been detected by the testing, monitoring and recordkeeping requirements specified in this permit, (ii) the probable cause of such deviations, and (iii) any corrective actions or preventive measures taken, shall be made to the Toledo Department of Environmental Services. The written reports shall be submitted (i.e., postmarked) quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. See A.15. below if no deviations occurred during the quarter.

(3) Written reports, which identify any deviations from the federally enforceable monitoring, recordkeeping, and reporting requirements contained in this permit shall be submitted (i.e., postmarked) to the Toledo Department of Environmental Services 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 Toledo Department of Environmental Services 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 Toledo Department of Environmental Services 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 Toledo Department of Environmental Services.

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 Toledo Department of Environmental Services. 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 through completion of the annual PER covering the last period of operation 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 PER 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 PER, 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 entered upon completion of construction and prior to start-up.

b) Commence operation after installation or latest modification date shall be entered within 90 days after commencing operation of the applicable emissions unit.

14. Public Disclosure

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

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

If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly (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 Toledo Department of Environmental Services must be notified in writing of any transfer of this permit.

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 units contained in this permit are subject to 40 CFR Part 63, subpart CC: P017 and P801 and contain the facility wide requirements for the leak detection and repair program (P017) and wastewater management (P801). All refinery emissions units are subject to some portion of 40 CFR Part 63, subpart CC. The complete MACT requirements, including the MACT 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 appropriate Ohio EPA District office or local air agency.

3. The following emissions units contained in this permit are subject to 40 CFR Part 63, subpart UUU: P011, P012 and P041. The complete MACT requirements, including the MACT 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 appropriate Ohio EPA District office or local air agency.

4. The permittee shall monitor the emissions of VOC that is emitted by any emissions units associated with the FCCU expansion permit to install (B046, B047, J006, P009, P011, P012, P017, P040, P041, P801, refinery fuel burning equipment, Plant 6 and Plant 8 cooling towers, storage tanks, loading racks and Naptha Simplification Project); and calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of five years following resumption of regular operations after the change, or for a period of ten years following resumption of regular operations after the change if the NSR project increases the design capacity or potential to emit of that regulated NSR pollutant at such emissions unit.

5. If the unit is an existing unit, the permittee shall submit a report to the Toledo Division of Environmental Services if the annual emissions, in tons per year, from the FCCU expansion project (PTI 04-01447), exceed the baseline actual emissions (as documented and maintained pursuant to paragraph (C)(1)(c) of OAC rule 3745-31-10, by a significant amount for that regulated NSR pollutant, and if such emissions differ from the preconstruction projection as documented and maintained pursuant to paragraph (C)(1)(c) of OAC rule 3745-31-10. The permittee's pre-construction projection is listed in Table 1 below. Such report shall be submitted to the Toledo Division of Environmental Services within 60 days after the end of such year. The report shall contain the following:

   a) The name, address and telephone number of the major stationary source;

   b) The annual emissions as calculated pursuant to 2. above; and

   c) Any other information that the permittee wishes to include in the report (e.g., an explanation as to why the emissions differ from the preconstruction projection).

Table 1 NSR for VOC - Baseline Actual Emissions vs Potential/Projected Actual Emissions

	Baseline Actual Emis. (tons/yr)	*Potential Emissions **Proj. Actual Emis. (tons/yr)	Incremental Difference (tons/yr)
	VOC	VOC	VOC
New & Modified Sources *			
FCC WGS Stack (P011)	see CO boiler	see CO boiler	0.00
CO Boiler worst case fuel combination (emitted through WGS Stack) (B046 & B047)	5.15	16.06	10.91
New SRU, including combustion (P041)	0	3.89	3.89
Plant 4 Flare (P009)	3.53	3.68	0.15
Fugitive components (P801)	375.28	385.43	10.15
Cooling Towers (P040)	0	0.37	0.37
PP Mix Railcar Loading Rack Additional Loading Arms (J006)	0.03	1.58	1.55
Emissions from Associated Units **			
Existing SRU, including combustion (P012)	0.55	0.89	0.34
Heater combustion			
H-6306 (H-64 New)	0.61	0.95	0.34
H-603 (B017)	0.38	0.44	0.00
H-604 (B018)	1.10	1.77	0.67
H-6104	1.87	2.36	0.49
H-311 (B051)	5.72	6.50	0.78
H-501-4 (B006)	3.05	3.90	0.85
H-507 (B010)	2.50	2.99	0.49
H-601A (B014)	0.50	0.95	0.45
H-601B (B015)	0.51	0.97	0.45
H-602 (B016)	0.42	0.80	0.38
H-6305 (B023) will be demolished	0.06	0.00	0.00
H-9101 (B025) not operated post exp.	5.69	0.00	0.00
H-9201 (B026)	1.38	1.74	0.36
H-9202 (B027)	0.81	1.03	0.22
H-9203 (B028)	0.10	0.13	0.03
H-9251 B029)	0.80	1.01	0.21
H-9252A&B (B030 & B031)	2.76	3.49	0.73
H-9302 (B032)	2.25	2.64	0.38
H-9301 (B033)	4.81	5.63	0.82
H-9303 (B034)	1.06	1.24	0.18
H-9304 (B035	0.40	0.47	0.07
H-1910 (#10 Boiler) not operated post exp.	3.31	0.00	0.00
H-9501	0.00	0.00	0.00
H-9502	0.00	0.00	0.00
Plant 6 Cooling Towers	3.13	3.39	0.27
Plant 8 Cooling Towers	4.99	5.36	0.38
Storage Tanks - based on storage material			
Crude	7.65	11.81	4.16
Gasoline - finished	0.94	1.41	0.47
Gasoline - components	1.42	2.13	0.71
Diesel	0.48	0.88	0.40
Jet	1.22	2.84	1.62
FCC Feed - Heavy Gas Oil*	1.67	1.74	0.07
9-2 Feed - Light Gas Oil*	0.50	0.96	0.45
Naphtha*	0.00	0.09	0.09
Benzene	0.03	0.08	0.048
Toluene	0.14	0.17	0.028
Xylene	0.06	0.09	0.023
Slurry	0.01	0.01	0.01
Loading Racks (other than PP Mix Railcar Loading)			
HARF/SLURRY/CSO, truck and rail	0.18	0.30	0.13
Benzene, rail	0.16	0.16	0.00
Toluene, rail	11.32	11.33	0.01
xylene, rail	2.20	2.20	0.00
propane, truck	9.44	10.53	1.09
Naphtha Simplification Project	2.06	5.87	3.81
Expansion Project Totals	**472.25**	**512.27**	**49.02**

C. Emissions Unit Terms and Conditions

1. B046, H-021-03 CO Boiler

Operations, Property and/or Equipment Description:

B046 - 374 million Btu/hr Babcock and Wilcox [H-021-03] CO boiler fired with refinery fuel gas, a mixture of refinery process gas, landfill gas and natural gas; residual (#6) fuel oil, and CO (from the FCC unit – P011) with ultra low NOx burners, SCR and WGS. If FCC unit is shutdown, emissions from B046 and/or B047 are not required to pass through SCR and WGS

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
While operating as a control unit for the FCCU unit, the following emission limitations apply:		
a.	OAC rule 3745-31-05(A)(3) (PTI 04-01447 issued 9/29/06 and modified on 1/23/07)	The combined filterable particulate matter (PM) emissions from the FCCU (Emissions Unit P011) and the CO Boilers (B046 and B047) shall not exceed 0.45 pound per thousand pounds of coke-burnoff; The combined sulfur dioxide (SO_2) emissions from P011, B046 and B047 shall not exceed 316 pounds per hour; The combined volatile organic compound (VOC) emissions from the FCCU (Emissions Unit P011) and the CO Boilers (Emissions Units B046 and B047) shall not exceed 3.67 pounds per hour; The combined sulfuric acid (H_2SO_4) mist emissions from the FCCU (P011) and CO Boilers (B046 and B047) shall not exceed 10 ppmvd and 215.84 tons per year, based upon a rolling, 365-day summation of the daily emissions; and See b)(2)a. and b)(2)b.
b.	OAC rule 3745-31-05(D)	The combined nitrogen oxides (NOx)

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
	(PTI 04-01447 issued 9/29/06 and modified on 1/23/07)	emissions from P011, B046 and B047 shall not exceed 198.51 tons per year, based upon a rolling, 365-day summation of the daily emissions; The combined filterable particulate matter (PM) emissions from P011, B046 and B047 shall not exceed 165.96 tons per year; The combined sulfur dioxide (SO_2) emissions from P011, B046 and B047 shall not exceed 345.71 tons per year, based upon a rolling, 365-day summation of the daily emissions; The combined volatile organic compounds (VOC) emissions from the FCCU (Emissions Unit P011) and the CO Boilers (Emissions Units B046 and B047) shall not exceed 16.07 tons per year, based upon a rolling, 365-day summation of the daily emissions; See b)(2)a., b)(2)b., b)(2)c. and b)(2)h.
c.	OAC rule 3745-31-10 through 20 (PTI 04-01447 issued 9/29/06 and modified on 1/23/07)	The combined CO emissions from P011, B046 and B047 shall be reduced by a minimum of 99% control efficiency and shall not exceed 500 parts per million by volume dry (ppmvd) at 0% oxygen as a 1-hour average, or 180 ppmvd at 0% oxygen as a rolling, 365-day average, or 1,087.28 tons per year, based upon a rolling, 365-day summation of the daily emissions; and The combined PM_{10} emissions from P011, B046 and B047 shall be controlled by a minimum of 95% and shall not exceed 0.90 pound per thousand pounds of coke-burnoff or 331.92 tons per year, based upon a rolling, 365-day summation of the daily emissions. See b)(2)a.
d.	OAC rule 3745-17-07(A)	Visible particulate emissions from any stack serving this unit shall not exceed 20% opacity, as a 6-minute average, except as provided by the rule.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
e.	OAC rule 3745-17-10(C)(1)	0.14 pound of filterable PM emissions per million Btu of actual heat input
f.	OAC rule 3745-18-54(O)(3)	The combined emissions from P011, B046 and B047 shall not exceed 3.00 pounds of SO_2 per thousand pounds of fresh feed.
g.	OAC rule 3745-21-07(B)	See b)(2)d.
h.	OAC rule 3745-21-08(B)	See b)(2)e.
i.	OAC rule 3745-21-08(E)	See b)(2)f.
j.	40 CFR 60, subpart J	See b)(2)i. and b)(2)j.
When the FCCU unit is shutdown or the CO boilers operate alone, the following emission limitations apply when emissions are vented to the existing CO boiler stack:		
k.	OAC rule 3745-31-05(A)(3) (PTI 04-01447 issued 9/29/06 and modified on 1/23/07)	Filterable plus condensable particulate matter emissions (PM) shall not exceed 2.53 pounds per hour and 11.10 tons per year as a rolling 12-month summation of the monthly emissions; Sulfur dioxide (SO_2) emissions shall not exceed 9.15 pounds per hour (based on NSPS limit of 0.027 lb SO_2/mmBtu) and 40.06 tons per year as a rolling 12-month summation of the monthly emissions; Nitrogen oxides (NOx) emissions shall not exceed 13.60 pounds per hour and 59.57 tons per year as a rolling 12-month summation of the monthly emissions; Volatile organic compounds (VOC) shall not exceed 1.83 pounds per hour and 8.03 tons per year as a rolling 12-month summation of the monthly emissions; and See b)(2)b. and b)(2)g.
l.	OAC rule 3745-31-05(D) (PTI 04-01447 issued 9/29/06 and modified on 1/23/07)	Particulate matter emissions less than 10 microns in diameter (PM_{10}) shall not exceed 2.53 pounds per hour and 11.10 tons per year as a rolling 12-month summation of the monthly emissions; Carbon monoxide (CO) emissions shall not exceed 28.00 pounds per hour and 122.64 tons per year as a rolling 12-

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		month summation of the monthly emissions; See b)(2)b.,b)(2)g. and b)(2)h.
m.	OAC rule 3745-17-07(A)	Visible particulate emissions from any stack serving this unit shall not exceed 20% opacity, as a 6-minute average, except as provided by the rule.
n.	OAC rule 3745-17-10(C)(1)	See b)(2)f.
o.	OAC rule 3745-18-06(D)	See b)(2)f.
p.	OAC rule 3745-21-07(B)	See b)(2)d.
q.	OAC rule 3745-21-08(B)	See b)(2)e.
r.	OAC rule 3745-21-08(E)	See b)(2)f.
s.	40 CFR 60, subpart J	See b)(2)i. and b)(2)j.

(2) Additional Terms and Conditions

a. The CO Boilers (Emission Units B046 and B047) operate as control for the FCCU unit (Emissions Unit P011) and have combined emission limitations when the FCCU is operating. The monitoring, recordkeeping, reporting and testing requirements for the combined emission limits for P011, B046 and B047 are included in the terms and conditions for emissions unit (P011). The combined stack emissions are from the new wet gas scrubber stack.

b. The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A)(1), 3745-17-10(C)(1), 3745-18-54(O)(3), 3745-21-08(E), 3745-21-07(B), OAC rule 3745-31-05(A), OAC rule 3745-31-05(C), and OAC rules 3745-31-10 through 20.

c. Beginning at startup after the FCCU expansion and by no later than December 31, 2009, the combined SO_2 emissions from the P011, B046 and B047 shall not exceed 25 ppmvd based on a 365-day rolling average or 50 ppmvd based on a 7-day rolling average, each at 0% oxygen.

d. The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-21-07(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in this Permit to Install.

On February 18, 2008, OAC rule 3745-21-07 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to

Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

e. The permittee shall satisfy the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology (BAT) requirements established pursuant to OAC rule 3745-31-05(A)(3) in this permit to install. The design of the emissions unit and the technology associated with the current operating practices satisfy the BAT requirements.

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

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

g. The hourly and annual emission limitations for PM, PM_{10}, NOx, CO and VOC were established for PTI purposes to reflect the potential to emit for this emissions unit if it operated for 8760 hours per year while the FCCU (P011) is in a malfunction, startup or shutdown. Therefore, it is not necessary to develop monitoring, record keeping and/or reporting requirements to ensure compliance with these limitations.

h. [CD, section G.36. & 38. - SO_2 EMISSION REDUCTIONS FROM AND NSPS APPLICABILITY FOR HEATERS AND BOILERS]

As required by the consent decree as entered on March 14, 2006, no later than December 31, 2009, this emissions unit shall become an affected facility subject to the requirements of NSPS subpart J for fuel gas combustion devices.

For those heaters and boilers that are or become an affected facility under NSPS Subpart J pursuant to the Consent Decree, entry of the Consent Decree and compliance with the relevant monitoring requirements of the Consent Decree shall satisfy the notice requirements of 40 CFR 60.7(a) and the initial performance test requirement of 40 CFR 60.8.

i. [60.104.(a)]
By no later than December 31, 2009, the permittee shall not burn in any fuel gas combustion device any fuel gas that contains hydrogen sulfide (H_2S) in excess of 230 mg/dscm (0.10 gr/dscf or 159 ppmv). The combustion in a flare of process upset gases or fuel gas that is released to the flare as a result of relief valve leakage or other emergency malfunctions is exempt from this paragraph.

j. By no later than December 31, 2009, this emissions unit is an affected facility subject to 40 CFR 60, subpart A and subpart J, Standards of Performance for Petroleum Refiners. The permittee shall comply with all the applicable

requirements of 40 CFR Part 60 Subpart J, concerning boilers and process heaters. The permittee shall also comply with all applicable requirements of 40 CFR 60, subpart A, (General Provisions), as referenced in 40 CFR 60, subpart J. The sections that apply to heaters and boilers include but are not limited to the following: 60.104(a); 60.105(a)(3) or (a)(4); 60.105(e)(3); 60.106(a) and (e); 60.107(d), (e) and (f); 60.108.

c) Operational Restrictions

(1) The permittee shall burn only the off-gases from the regeneration of the catalyst in emissions unit P011, natural gas, refinery fuel gas and/or residual fuel oil in this emissions unit.

(2) The permittee shall not burn oil in this emissions unit during periods when emissions are vented to the existing CO Boiler stack.

d) Monitoring and/or Recordkeeping Requirements

(1) For each day during which the permittee burns a fuel other than the off gases from the regeneration of the catalyst in P011, natural gas, refinery fuel gas, and/or residual fuel oil, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

(2) The permittee shall perform daily checks, when the emissions unit is in operation and emissions are vented to the existing CO Boiler stack and when the weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the color of the emissions;

b. whether the emissions are representative of normal operations;

c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;

d. the total duration of any visible emission incident; and

e. any corrective actions taken to minimize or eliminate the visible emissions.

If visible emissions are present, a visible emission incident has occurred. The observer does not have to document the exact start and end times for the visible emission incident under item (d) above or continue the daily check until the incident has ended. The observer may indicate that the visible emission incident was continuous during the observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

(3) REFINERY FUEL GAS SAMPLING:
The permittee shall collect samples of the refinery fuel gas system Monday through Friday (except holidays) for gas chromatographic analysis or other approved analytical method. Each normal sample point shall be collected at least two times per week in accordance with the schedule developed by the permittee. Each sample shall be collected in a sample bag, bomb, cylinder or similar device suitable for the designated analytical method.

(4) The permittee shall maintain daily records of the actual heating value of the refinery fuel gas. The actual heating value (H) of the refinery fuel gas shall be calculated from the results of a fuel gas compositional analysis using gas chromatography and the results maintained in units of Btu/scf.

(5) The permittee shall maintain records on the laboratory method used to conduct compositional analysis of the refinery fuel gas. The method shall be reported to the Toledo Division of Environmental Services in the periodic report. Any standard ASTM method may be used.

(6) The permittee shall maintain records of the average H_2S content (in ppmv) for the refinery fuel gas for each day, and which hydrogen sulfide continuous emissions monitoring system (H_2S CEMS) was used to obtain the data.

(7) The permittee shall maintain daily records (Monday through Friday) of the average SO_2 emission rate for the refinery fuel gas. The SO_2 emission rate shall be calculated as follows, in accordance with OAC rule 3745-18-04(F)(3):

ERG = ((14.696)*S*(32)*(1.998))/(H*(10.73)*(520))

Where:

ERG = average SO_2 emission rate, in pounds SO_2 per mmBtu for each day;

14.696 = standard pressure, psia;

S = daily average H_2S content of refinery fuel gas, ppmv;

32 = molecular weight of sulfur, lb per lb-mole;

1.998 = lb of SO_2 per lb sulfur, as calculated in accordance with OAC rule 3745-18-04(F)(3);

H = daily average heat content, Btu/scf (STP at 14.696 psia and 520 ^{o}R);

10.73 = ideal gas constant, psia-cubic feet/lb-mole ^{o}R);

520 = standard temperature, ^{o}R

(8) For each day during which the permittee burns a fuel other than off gases from the regeneration of the catalyst in P011, natural gas, refinery fuel gas, and residual fuel oil, the permittee shall maintain a record of the type, quantity, sulfur content in pound(s) of sulfur per mmdscf, and heating value in Btu/dscf of the fuel burned.

(9) The permittee shall maintain a record of the dates and times emissions from this emissions unit were vented to the existing CO Boiler stack.

e) Reporting Requirements

(1) The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than off gases from the regeneration of the catalyst in P011, refinery fuel gas and residual fuel oil was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

(2) The permittee shall submit semiannual written reports for the CO Boiler bypass stack that:

a. identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. describe any corrective actions taken to minimize or eliminate the visible particulate emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month periods.

(3) The permittee shall submit quarterly deviation (excursion) reports that identify each average SO_2 emission rate, as calculated in d) (under REFINERY FUEL GAS), that exceeded the SO_2 daily average emission limitation of 0.027 pound of SO_2 per mmBtu of actual heat input for the burning of refinery fuel gas.

(4) The permittee shall submit deviation (excursion) reports that identify each day when fuel oil was burned in this emissions unit during periods when emissions were vented to the existing CO Boiler stack. Each report shall be submitted within 30 days after the deviation occurs.

(5) The deviation reports shall be submitted in accordance with the requirements specified in Section A - Standard Terms and Conditions.

f) Testing Requirements

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

a. Emission Limitation:

20 percent opacity as a 6-minute average

Applicable Compliance Method:

Compliance shall be demonstrated based upon the visible particulate emission observations performed in accordance with the procedures specified in 40 CFR Part 60, Appendix A, Method 9 and the procedures of 40 CFR 60.11.

b. Emission Limitation:

2.53 pounds of filterable plus condensable PM per hour.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Method 5 of 40 CFR Part 60 Appendix A using the methods and procedures specified in OAC rule 3745-17-03(B)(9) to determine the filterable PM emissions. Method 202 of 40 CFR Part 51 Appendix M shall be used to determine the condensable PM emissions. Add the results of the Method 5 emission testing to the results of the Method 202 emission testing to determine the filterable and condensable PM emissions.

c. Emission Limitation:

11.10 tons of PE per year as a rolling 12-month summation of the monthly emissions.

Applicable Compliance Method:

This emission limitation was developed by multiplying the hourly allowable PM limitation (2.53 lbs/hr) by the maximum annual hours of operation (8760 hrs), and then dividing by 2000 lbs/ton and, therefore, if compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation

d. Emission Limitation:

9.15 pounds of SO_2 per hour.

Applicable Compliance Method:

This emission limitation was based on the NSPS H_2S limitation of 0.01 gr/dscf and converted to 0.027 lb SO_2/mmBtu of heat input times the maximum heat input capacity of the boiler (340 mmBtu/hr) when venting to the existing CO boiler stack. If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Method 6 of 40 CFR Part 60 Appendix A using the methods and procedures specified in OAC rule 3745-18-04.

e. Emission Limitation:

40.06 tons of SO_2 per year as a rolling 12-month summation of the monthly emissions.

Applicable Compliance Method:

This emission limitation was developed by multiplying the hourly allowable SO_2 emission limitation (9.15 lbs/hr) by the maximum annual hours of operation (8760 hrs), and then dividing by 2000 lbs/ton and, therefore, if compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

f. Emission Limitation:

13.60 pounds of NOx per hour.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Method 7 of 40 CFR Part 60 Appendix A.

g. Emission Limitation:

59.57 tons of NOx per year as a rolling 12-month summation of the monthly emissions.

Applicable Compliance Method:

This emission limitation was developed by multiplying the hourly allowable NOx emission limitation (13.60 lbs/hr) by the maximum annual hours of operation (8760 hrs), and then dividing by 2000 lbs/ton and, therefore, if compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

h. Emission Limitation:

1.83 pounds of VOC per hour.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Method 25 of 40 CFR Part 60 Appendix A using the methods and procedures specified in OAC rule 3745-21-10.

i. Emission Limitation:

8.03 tons of VOC per year as a rolling 12-month summation of the monthly emissions.

Applicable Compliance Method:

This emission limitation was developed by multiplying the hourly allowable VOC emission limitation (1.83 lbs/hr) by the maximum annual hours of operation (8760 hrs), and then dividing by 2000 lbs/ton and, therefore, if compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

j. Emission Limitation:

2.53 pounds of PM_{10} per hour.

Applicable Compliance Method:

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

k. Emission Limitation:

11.10 tons of PE per year as a rolling 12-month summation of the monthly emissions.

Applicable Compliance Method:

This emission limitation was developed by multiplying the hourly allowable PM limitation (2.53 lbs/hr) by the maximum annual hours of operation (8760 hrs), and then dividing by 2000 lbs/ton and, therefore, if compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

l. Emission Limitation:

28.00 pounds of CO per hour.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Method 10 of 40 CFR Part 60 Appendix A.

m. Emission Limitation:

122.64 tons of CO per year as a rolling 12-month summation of the monthly emissions.

Applicable Compliance Method:

This emission limitation was developed by multiplying the hourly allowable CO emission limitation (28.00 lbs/hr) by the maximum annual hours of operation (8760 hrs), and then dividing by 2000 lbs/ton and, therefore, if compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

n. Emission Limitation:

SO_2 emissions shall not exceed 0.027 lb/mmBtu of actual heat input.

Applicable Compliance Method:

Compliance with this emissions limitation shall be demonstrated by the monitoring and recordkeeping requirements of d) of these terms and conditions.

o. Emission Limitation:

The combined sulfuric acid (H_2SO_4) mist emissions from the FCCU (P011) and CO Boilers (B046 and B047) shall not exceed 10 ppmvd.

Applicable Compliance Method:

This emission limitation is based on a manufacturer's guaranteed emission rate supplied by the permittee. If required, the permittee shall demonstrate compliance with this emission limitation using Method 8 of 40 CFR Part 60, Appendix A. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

p. The combined sulfuric acid (H_2SO_4) mist emissions from the FCCU (P011) and CO Boilers (B046 and B047) shall not exceed 215.84 tons per year, based upon a rolling, 365-day summation of the daily emissions.

This emission limitation was established to reflect the potential to emit for this emissions unit. Compliance may be demonstrated by multiplying the maximum stack flow rate (317,989 dscfm) by 60 minutes per hour, multiplied by 24 hours/day, multiplied by 365 days/year, multiplied by the maximum H_2SO_4 mist concentration (10 ppmvd), divided by 1,000,000 parts, multiply by the molecular weight of (98 lb/lb-mole), and divide by the molar volume (379.43 ft^3/lb-mole), divided by 2000 pounds per ton.

g) Miscellaneous Requirements

(1) None.

2. B047, H-021-04 CO Boiler

Operations, Property and/or Equipment Description:

B047 - 374 million Btu/hr Babcock and Wilcox [H-021-04] CO boiler fired with refinery fuel gas, a mixture of refinery process gas, landfill gas and natural gas; residual (#6) fuel oil, and CO (from the FCC unit) with ultra low NOx burners, SCR and WGS. If FCC unit is shutdown, emissions from B046 and/or B047 are not required to pass through SCR and WGS.

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
While operating as a control unit for the FCCU unit, the following emission limitations apply:		
a.	OAC rule 3745-31-05(A)(3) (PTI 04-01447 issued 9/29/06 and modified on 1/23/07)	The combined filterable particulate matter (PM) emissions from the FCCU (Emissions Unit P011) and the CO Boilers (B046 and B047) shall not exceed 0.45 pound per thousand pounds of coke-burnoff; The combined sulfur dioxide (SO_2) emissions from P011, B046 and B047 shall not exceed 316 pounds per hour; The combined volatile organic compound (VOC) emissions from the FCCU (Emissions Unit P011) and the CO Boilers (Emissions Units B046 and B047) shall not exceed 3.67 pounds per hour; The combined sulfuric acid (H_2SO_4) mist emissions from the FCCU (P011) and CO Boilers (B046 and B047) shall not exceed 10 ppmvd and 215.84 tons per year, based upon a rolling, 365-day summation of the daily emissions; and See b)(2)a. and b)(2)b.
b.	OAC rule 3745-31-05(D)	The combined nitrogen oxides (NOx)

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
	(PTI 04-01447 issued 9/29/06 and modified on 1/23/07)	emissions from P011, B046 and B047 shall not exceed 198.51 tons per year, based upon a rolling, 365-day summation of the daily emissions; The combined filterable particulate matter (PM) emissions from P011, B046 and B047 shall not exceed 165.96 tons per year; The combined sulfur dioxide (SO_2) emissions from P011, B046 and B047 shall not exceed 345.71 tons per year, based upon a rolling, 365-day summation of the daily emissions; The combined volatile organic compounds (VOC) emissions from the FCCU (Emissions Unit P011) and the CO Boilers (Emissions Units B046 and B047) shall not exceed 16.07 tons per year, based upon a rolling, 365-day summation of the daily emissions; See b)(2)a., b)(2)b., b)(2)c. and b)(2)h.
c.	OAC rule 3745-31-10 through 20 (PTI 04-01447 issued 9/29/06 and modified on 1/23/07)	The combined CO emissions from P011, B046 and B047 shall be reduced by a minimum of 99% control efficiency and shall not exceed 500 parts per million by volume dry (ppmvd) at 0% oxygen as a 1-hour average, or 180 ppmvd at 0% oxygen as a rolling, 365-day average, or 1,087.28 tons per year, based upon a rolling, 365-day summation of the daily emissions; and The combined PM10 emissions from P011, B046 and B047 shall be controlled by a minimum of 95% and shall not exceed 0.90 pound per thousand pounds of coke-burnoff or 331.92 tons per year, based upon a rolling, 365-day summation of the daily emissions. See b)(2)a.
d.	OAC rule 3745-17-07(A)	Visible particulate emissions from any stack serving this unit shall not exceed 20 % opacity, as a 6-minute average, except as provided by the rule.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
e.	OAC rule 3745-17-10(C)(1)	0.14 pound of filterable PM emissions per million Btu of actual heat input
f.	OAC rule 3745-18-54(O)(3)	The combined emissions from P011, B046 and B047 shall not exceed 3.00 pounds of SO_2 per thousand pounds of fresh feed.
g.	OAC rule 3745-21-07(B)	See b)(2)d.
h.	OAC rule 3745-21-08(B)	See b)(2)e.
i.	OAC rule 3745-21-08(E)	See b)(2)f.
j.	40 CFR 60, subpart J	See b)(2)i. and b)(2)j.
When the FCCU unit is shutdown or the CO boilers operate alone, the following emission limitations apply when emissions are vented to the existing CO boiler stack:		
k.	OAC rule 3745-31-05(A)(3) (PTI 04-01447 issued 9/29/06 and modified on 1/23/07)	Filterable plus condensable particulate matter emissions (PM) shall not exceed 2.53 pounds per hour and 11.10 tons per year as a rolling 12-month summation of the monthly emissions; Sulfur dioxide (SO_2) emissions shall not exceed 9.15 pounds per hour (based on NSPS limit of 0.027 lb SO_2/mmBtu) and 40.06 tons per year as a rolling 12-month summation of the monthly emissions; Nitrogen oxides (NOx) emissions shall not exceed 13.60 pounds per hour and 59.57 tons per year as a rolling 12-month summation of the monthly emissions; Volatile organic compounds (VOC) shall not exceed 1.83 pounds per hour and 8.03 tons per year as a rolling 12-month summation of the monthly emissions; and See b)(2)b.,b)(2)g. and b)(2)h.
l.	OAC rule 3745-31-05(D) (PTI 04-01447 issued 9/29/06 and modified on 1/23/07)	Particulate matter emissions less than 10 microns in diameter (PM_{10}) shall not exceed 2.53 pounds per hour and 11.10 tons per year as a rolling 12-month summation of the monthly emissions; Carbon monoxide (CO) emissions shall not exceed 28.00 pounds per hour and 122.64 tons per year as a rolling 12-

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		month summation of the monthly emissions; See b)(2)b. and b)(2)g.
m.	OAC rule 3745-17-07(A)	Visible particulate emissions from any stack serving this unit shall not exceed 20 % opacity, as a 6-minute average, except as provided by the rule.
n.	OAC rule 3745-17-10(C)(1)	See b)(2)f.
o.	OAC rule 3745-18-06(D)	See b)(2)f.
p.	OAC rule 3745-21-07(B)	See b)(2)d.
q.	OAC rule 3745-21-08(B)	See b)(2)e.
r.	OAC rule 3745-21-08(E)	See b)(2)f.
s.	40 CFR 60, subpart J	See b)(2)i. and b)(2)j.

(2) Additional Terms and Conditions

a. The CO Boilers (Emission Units B046 and B047) operate as control for the FCCU unit (Emissions Unit P011) and have combined emission limitations when the FCCU is operating. The monitoring, recordkeeping, reporting and testing requirements for the combined emission limits for P011, B046 and B047 are included in the terms and conditions for emissions unit (P011). The combined stack emissions are from the new wet gas scrubber stack.

b. The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A)(1), 3745-17-10(C)(1), 3745-18-54(O)(3), 3745-21-08(E), 3745-21-07(B), OAC rule 3745-31-05(A), OAC rule 3745-31-05(C), and OAC rules 3745-31-10 through 20.

c. Beginning at startup after the FCCU expansion and by no later than December 31, 2009, the combined SO2 emissions from the P011, B046 and B047 shall not exceed 25 ppmvd based on a 365-day rolling average or 50 ppmvd based on a 7-day rolling average, each at 0% oxygen.

d. The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-21-07(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in this Permit to Install.

On February 18, 2008, OAC rule 3745-21-07 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to

Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

e. The permittee shall satisfy the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology (BAT) requirements established pursuant to OAC rule 3745-31-05(A)(3) in this permit to install. The design of the emissions unit and the technology associated with the current operating practices satisfy the BAT requirements.

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

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

g. The hourly and annual emission limitations for PM, PM10, NOx, CO and VOC were established for PTI purposes to reflect the potential to emit for this emissions unit if it operated for 8760 hours per year while the FCCU (P011) is in a malfunction, startup or shutdown. Therefore, it is not necessary to develop monitoring, record keeping and/or reporting requirements to ensure compliance with these limitations.

h. [CD, section G.36. & 38. - SO_2 EMISSION REDUCTIONS FROM AND NSPS APPLICABILITY FOR HEATERS AND BOILERS]

As required by the consent decree as entered on March 14, 2006, no later than December 31, 2009, this emissions unit shall become an affected facility subject to the requirements of NSPS subpart J for fuel gas combustion devices.

For those heaters and boilers that are or become an affected facility under NSPS Subpart J pursuant to the Consent Decree, entry of the Consent Decree and compliance with the relevant monitoring requirements of the Consent Decree shall satisfy the notice requirements of 40 CFR 60.7(a) and the initial performance test requirement of 40 CFR 60.8.

i. [60.104.(a)]
By no later than December 31, 2009, the permittee shall not burn in any fuel gas combustion device any fuel gas that contains hydrogen sulfide (H_2S) in excess of 230 mg/dscm (0.10 gr/dscf or 159 ppmv). The combustion in a flare of process upset gases or fuel gas that is released to the flare as a result of relief valve leakage or other emergency malfunctions is exempt from this paragraph.

j. By no later than December 31, 2009, this emissions unit is an affected facility subject to 40 CFR 60, subpart A and subpart J, Standards of Performance for Petroleum Refiners. The permittee shall comply with all the applicable

requirements of 40 CFR Part 60 Subpart J, concerning boilers and process heaters. The permittee shall also comply with all applicable requirements of 40 CFR 60, subpart A, (General Provisions), as referenced in 40 CFR 60, subpart J. The sections that apply to heaters and boilers include but are not limited to the following: 60.104(a); 60.105(a)(3) or (a)(4); 60.105(e)(3); 60.106(a) and (e); 60.107(d), (e) and (f); 60.108.

c) Operational Restrictions

(1) The permittee shall burn only the off-gases from the regeneration of the catalyst in emissions unit P011, natural gas, refinery fuel gas and/or residual fuel oil in this emissions unit.

(2) The permittee shall not burn oil in this emissions unit during periods when emissions are vented to the existing CO Boiler stack.

d) Monitoring and/or Recordkeeping Requirements

(1) For each day during which the permittee burns a fuel other than the off gases from the regeneration of the catalyst in P011, natural gas, refinery fuel gas, and/or residual fuel oil, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

(2) The permittee shall perform daily checks, when the emissions unit is in operation and emissions are vented to the existing CO Boiler stack and when the weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the color of the emissions;

b. whether the emissions are representative of normal operations;

c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;

d. the total duration of any visible emission incident; and

e. any corrective actions taken to minimize or eliminate the visible emissions.

If visible emissions are present, a visible emission incident has occurred. The observer does not have to document the exact start and end times for the visible emission incident under item (d) above or continue the daily check until the incident has ended. The observer may indicate that the visible emission incident was continuous during the observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

(3) REFINERY FUEL GAS SAMPLING:
The permittee shall collect samples of the refinery fuel gas system Monday through Friday (except holidays) for gas chromatographic analysis or other approved analytical method. Each normal sample point shall be collected at least two times per week in accordance with the schedule developed by the permittee. Each sample shall be collected in a sample bag, bomb, cylinder or similar device suitable for the designated analytical method.

(4) The permittee shall maintain daily records of the actual heating value of the refinery fuel gas. The actual heating value (H) of the refinery fuel gas shall be calculated from the results of a fuel gas compositional analysis using gas chromatography and the results maintained in units of Btu/scf.

(5) The permittee shall maintain records on the laboratory method used to conduct compositional analysis of the refinery fuel gas. The method shall be reported to the Toledo Division of Environmental Services in the periodic report. Any standard ASTM method may be used.

(6) The permittee shall maintain records of the average H_2S content (in ppmv) for the refinery fuel gas for each day, and which hydrogen sulfide continuous emissions monitoring system (H_2S CEMS) was used to obtain the data.

(7) The permittee shall maintain daily records (Monday through Friday) of the average SO_2 emission rate for the refinery fuel gas. The SO_2 emission rate shall be calculated as follows, in accordance with OAC rule 3745-18-04(F)(3):

ERG = ((14.696)*S*(32)*(1.998))/(H*(10.73)*(520))

Where:

ERG = average SO_2 emission rate, in pounds SO_2 per mmBtu for each day;

14.696 = standard pressure, psia;

S = daily average H_2S content of refinery fuel gas, ppmv;

32 = molecular weight of sulfur, lb per lb-mole;

1.998 = lb of SO_2 per lb sulfur, as calculated in accordance with OAC rule 3745-18-04(F)(3);

H = daily average heat content, Btu/scf (STP at 14.696 psia and 520 ^{o}R);

10.73 = ideal gas constant, psia-cubic feet/lb-mole ^{o}R);

520 = standard temperature, ^{o}R

(8) For each day during which the permittee burns a fuel other than off gases from the regeneration of the catalyst in P011, natural gas, refinery fuel gas, and residual fuel oil, the permittee shall maintain a record of the type, quantity, sulfur content in pound(s) of sulfur per mmdscf, and heating value in Btu/dscf of the fuel burned.

(9) The permittee shall maintain a record of the dates and times emissions from this emissions unit were vented to the existing CO Boiler stack.

e) Reporting Requirements

(1) The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than off gases from the regeneration of the catalyst in P011, refinery fuel gas and residual fuel oil was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

(2) The permittee shall submit semiannual written reports for the CO Boiler bypass stack that:

a. identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and

b. describe any corrective actions taken to minimize or eliminate the visible particulate emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month periods.

(3) The permittee shall submit quarterly deviation (excursion) reports that identify each average SO_2 emission rate, as calculated in d) (under REFINERY FUEL GAS), that exceeded the SO_2 daily average emission limitation of 0.027 pound of SO_2 per mmBtu of actual heat input for the burning of refinery fuel gas.

(4) The permittee shall submit deviation (excursion) reports that identify each day when fuel oil was burned in this emissions unit during periods when emissions were vented to the existing CO Boiler stack. Each report shall be submitted within 30 days after the deviation occurs.

(5) The deviation reports shall be submitted in accordance with the requirements specified in Section A - Standard Terms and Conditions.

f) Testing Requirements

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

a. Emission Limitation:

20 percent opacity as a 6-minute average

Applicable Compliance Method:

Compliance shall be demonstrated based upon the visible particulate emission observations performed in accordance with the procedures specified in 40 CFR Part 60, Appendix A, Method 9 and the procedures of 40 CFR 60.11.

b. Emission Limitation:

2.53 pounds of filterable plus condensable PM per hour.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Method 5 of 40 CFR Part 60 Appendix A using the methods and procedures specified in OAC rule 3745-17-03(B)(9) to determine the filterable PM emissions. Method 202 of 40 CFR Part 51 Appendix M shall be used to determine the condensable PM emissions. Add the results of the Method 5 emission testing to the results of the Method 202 emission testing to determine the filterable and condensable PM emissions.

c. Emission Limitation:

11.10 tons of PE per year as a rolling 12-month summation of the monthly emissions.

Applicable Compliance Method:

This emission limitation was developed by multiplying the hourly allowable PM limitation (2.53 lbs/hr) by the maximum annual hours of operation (8760 hrs), and then dividing by 2000 lbs/ton and, therefore, if compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation

d. Emission Limitation:

9.15 pounds of SO_2 per hour.

Applicable Compliance Method:

This emission limitation was based on the NSPS H_2S limitation of 0.01 gr/dscf and converted to 0.027 lb SO_2/mmBtu of heat input times the maximum heat input capacity of the boiler (340 mmBtu/hr) when venting to the existing CO boiler stack. If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Method 6 of 40 CFR Part 60 Appendix A using the methods and procedures specified in OAC rule 3745-18-04.

e. Emission Limitation:

40.06 tons of SO_2 per year as a rolling 12-month summation of the monthly emissions.

Applicable Compliance Method:

This emission limitation was developed by multiplying the hourly allowable SO_2 emission limitation (9.15 lbs/hr) by the maximum annual hours of operation (8760 hrs), and then dividing by 2000 lbs/ton and, therefore, if compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

f. Emission Limitation:

13.60 pounds of NOx per hour.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Method 7 of 40 CFR Part 60 Appendix A.

g. Emission Limitation:

59.57 tons of NOx per year as a rolling 12-month summation of the monthly emissions.

Applicable Compliance Method:

This emission limitation was developed by multiplying the hourly allowable NOx emission limitation (13.60 lbs/hr) by the maximum annual hours of operation (8760 hrs), and then dividing by 2000 lbs/ton and, therefore, if compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

h. Emission Limitation:

1.83 pounds of VOC per hour.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Method 25 of 40 CFR Part 60 Appendix A using the methods and procedures specified in OAC rule 3745-21-10.

i. Emission Limitation:

8.03 tons of VOC per year as a rolling 12-month summation of the monthly emissions.

Applicable Compliance Method:

This emission limitation was developed by multiplying the hourly allowable VOC emission limitation (1.83 lbs/hr) by the maximum annual hours of operation (8760 hrs), and then dividing by 2000 lbs/ton and, therefore, if compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

j. Emission Limitation:

2.53 pounds of PM_{10} per hour.

Applicable Compliance Method:

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

k. Emission Limitation:

11.10 tons of PE per year as a rolling 12-month summation of the monthly emissions.

Applicable Compliance Method:

This emission limitation was developed by multiplying the hourly allowable PM limitation (2.53 lbs/hr) by the maximum annual hours of operation (8760 hrs), and then dividing by 2000 lbs/ton and, therefore, if compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

l. Emission Limitation:

28.00 pounds of CO per hour.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Method 10 of 40 CFR Part 60 Appendix A.

m. Emission Limitation:

122.64 tons of CO per year as a rolling 12-month summation of the monthly emissions.

Applicable Compliance Method:

This emission limitation was developed by multiplying the hourly allowable CO emission limitation (28.00 lbs/hr) by the maximum annual hours of operation (8760 hrs), and then dividing by 2000 lbs/ton and, therefore, if compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

n. Emission Limitation:

SO_2 emissions shall not exceed 0.027 lb/mmBtu of actual heat input.

Applicable Compliance Method:

Compliance with this emissions limitation shall be demonstrated by the monitoring and recordkeeping requirements of d) of these terms and conditions.

o. Emission Limitation:

The combined sulfuric acid (H_2SO_4) mist emissions from the FCCU (P011) and CO Boilers (B046 and B047) shall not exceed 10 ppmvd.

Applicable Compliance Method:

This emission limitation is based on a manufacturer's guaranteed emission rate supplied by the permittee. If required, the permittee shall demonstrate compliance with this emission limitation using Method 8 of 40 CFR Part 60, Appendix A. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

p. The combined sulfuric acid (H_2SO_4) mist emissions from the FCCU (P011) and CO Boilers (B046 and B047) shall not exceed 215.84 tons per year, based upon a rolling, 365-day summation of the daily emissions.

This emission limitation was established to reflect the potential to emit for this emissions unit. Compliance may be demonstrated by multiplying the maximum stack flow rate (317,989 dscfm) by 60 minutes per hour, multiplied by 24 hours/day, multiplied by 365 days/year, multiplied by the maximum H_2SO_4 mist concentration (10 ppmvd), divided by 1,000,000 parts, multiply by the molecular weight of (98 lb/lb-mole), and divide by the molar volume (379.43 ft^3/lb-mole), divided by 2000 pounds per ton.

g) Miscellaneous Requirements

(1) None.

3. J006, LPG Railcar Loading

Operations, Property and/or Equipment Description:

a) J006 - Propylene-Propane railcar load rack with 6 loading arms using pressurized loading The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3) (PTI 04-01447 issued 9/29/06 and modified on 1/23/07)	1.60 tons per year volatile organic compounds (VOC) per rolling 12-month summation of the monthly emissions See b)(2)a. and b.
b.	OAC rule 3745-21-07(E)(1)(c)	See b)(2)g.
EQUIPMENT LEAKS		
c.	CFR 63, subpart A	See b)(2)c. and d.
d.	CFR 63, subpart CC	See b)(2)d. and e.
e.	OAC rule 3745-21-09(T)	See b)(2)f.

(2) Additional Terms and Conditions

a. The requirements of this rule also include compliance with the requirements of OAC rule 3745-21-09(T) and 40 CFR part 63 subparts A and C.

b. This emissions unit has been in operation for more than 12 months and, as such, the permittee has existing records to generate the rolling, 12-month summation of the VOC emissions, upon issuance of this permit. The emissions of VOC from this emissions unit shall not exceed 1.60 tons per year, based upon a rolling, 12-month summation of the VOC emissions.

c. 40 CFR part 63 subpart A provides applicability provisions, definitions, and other general provisions that are pertinent to emissions units affected by 40 CFR part 63.

d. Table 6 of 40 CFR part 63 subpart CC specifies the provisions of 40 CFR part 63 subpart A that apply and those that do not apply to permittees of sources subject to subpart CC of 40 CFR part 63.

e. Refer to emissions unit P801, of this permit for the applicable equipment leak provisions found in b)(2), c), d), e) and f), referencing 40 CFR part 60, subpart VV.

f. OAC rule 3745-21-09(T)

i. The monitoring, recordkeeping and reporting requirements of 40 CFR part 63, subpart CC contain a degree of compliance and control greater than this applicable regulation. Compliance with this applicable regulation may be demonstrated by maintaining compliance with 40 CFR part63, subpart CC for those components affected by both regulations.

ii. Refer to emissions unit P801, of this permit for the state requirements for equipment leaks found in b)(2), c), d), e) and f), referencing OAC 3745-21-09(T).

g. The volatile photochemically reactive material is loaded under pressure and is loaded in pressurized railroad tank cars. Under normal operating conditions, there are no vapors displaced from the tank cars during loading and, therefore, complies with this rule by design.

c) Operational Restrictions

(1) See the applicable terms and conditions in emissions unit P801, for equipment leaks in c), referencing 40 CFR part 60, subpart VV and OAC rule 3745-21-09(T).

d) Monitoring and/or Recordkeeping Requirements

(1) See the applicable terms and conditions in emissions unit P801, for equipment leaks in d) referencing 40 CFR part 60, subpart VV and OAC rule 3745-21-09(T).

(2) The permittee shall monitor and record the monthly throughput (in gallons) of this emissions unit.

(3) The permittee shall calculate and record monthly, the emissions of VOC from this emissions unit as a rolling, 12-month summation of the monthly emissions (in tons per year).

e) Reporting Requirements

(1) See the applicable terms and conditions in emissions unit P801, for equipment leaks in e), referencing 40 CFR part 60, subpart VV and OAC rule 3745-21-09(T).

(2) The permittee shall submit quarterly deviation (excursion) reports which identify all exceedances of the rolling, 12-month emission limitation for J006. These reports shall be submitted in accordance with the reporting requirements specified in Section A - Standard Terms and Conditions.

f) Testing Requirements

(1) See the applicable terms and conditions in emissions unit P801, for equipment leaks in f), referencing 40 CFR part 60, subpart VV and OAC rule 3745-21-09(T).

(2) Compliance with the emission limitation(s) of these terms and conditions shall be determined in accordance with the following methods(s):

a. Emission limitation:

1.60 tons of VOC per year, based upon a rolling, 12-month summation of the monthly emissions

Applicable compliance method:

Compliance with the annual emission limitation shall be demonstrated through the monitoring and record keeping requirements of d). While loading the propane-propylene (PP) mix, the annual emissions shall be calculated using the company supplied emission factor of 0.0935 lb VOC per 1000 gallons multiplied by the annual throughput and divide by 2000 lbs per ton. While loading number 2 fuel oil, the annual emissions shall be calculated using the company supplied emission factor of 0.01 lb VOC per 1000 gallons loaded multiplied by the annual throughput and divide by 2000 lbs per ton and added to the previous calculated emissions for the PP mix.

g) Miscellaneous Requirements

(1) The terms and conditions contained in this Permit to Install for emissions unit J006 (formerly P021) supercedes all requirements for P021 contained in PTI 04-0302 issued February 20, 1986.

4. P009, PL4 Flare

Operations, Property and/or Equipment Description:

P009 - Plant 4 Flare (198 mmBtu/hr) with new flare tips; steam assisted; used as a control device for hydrocarbon emissions to the atmosphere from process vents, malfunctions, and emergency relief.

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3)	Nitrogen oxides (NOx) emissions shall not exceed 15.23 pounds per hour and 66.71 tons per year, based upon a rolling, 365-day summation of the daily emissions; Filterable plus condensable particulate matter (PM) emissions shall not exceed 1.16 pounds per hour and 5.08 tons per year, based upon a rolling, 365-day summation of the daily emissions; Sulfur dioxide (SO_2) emissions shall not exceed 4.20 pounds per hour and 18.40 tons per year, based upon a rolling, 365-day summation of the daily emissions; Volatile organic compounds (VOC) emissions shall not exceed 0.84 pound per hour and 3.68 tons per year, based upon a rolling, 365-day summation of the daily emissions; and See b)(2)g. and b)(2)h.
b.	OAC rule 3745-31-05(D) (PTI 04-01447 issued 9/29/06 and	See b)(2)d. and b)(2)e.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
	modified on 1/23/07)	
c.	OAC rule 3745-17-11(A)(2)	See b)(2)i.
d.	OAC rule 3745-18-06(E)	See b)(2)i.
e.	OAC rule 3745-21-07(B)	See b)(2)j.
f.	OAC rule 3745-21-07(J)(3)	See b)(2)b.
g.	OAC rule 3745-21-08(B)	See b)(2)k.
h.	40 CFR Part 63, Subpart A	The flares 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. See b)(2)a.
i.	40 CFR Part 63, Subpart CC	See b)(2)c.
j.	40 CFR Part 60, Subpart A	See b)(2)c.
k.	40 CFR Part 60, Subpart J	See b)(2)f.
l.	40 CFR Part 60, Subpart GGG	See b)(2)b.
m.	OAC rule 3745-31-10 through 20	CO emissions shall not exceed 12.80 pounds per hour, 0.082 pound per million Btu of heat input, and 56.07 tons per year, based upon a rolling, 365-day summation of the daily emissions; Particulate matter emissions less than 10 microns in diameter (PM_{10}) shall not exceed 1.16 pounds per hour, 0.0074 pound per million Btu of heat input, and 5.08 tons per year, based upon a rolling, 365-day summation of the daily emissions; and See b)(2)g.

(2) Additional Terms and Conditions

a. The permittee shall comply with the flare control device requirements found in 40 CFR Part 63.11, Subpart A.

b. The requirements specified by this rule are equivalent to or less stringent than those specified by 40 CFR Part 63.11, Subpart A.

c. Pursuant to 40 CFR Part 63.640(p), because this flare is a control device for an emissions unit that is subject to 40 CFR Part 60, Subparts A and GGG, the flare will be required to comply only with the provisions of 40 CFR Part 63, Subpart CC with respect to the Control Device Requirements under 40 CFR Part 60, Subpart A, Section 60.11.

d. The permittee shall comply with the NSPS Subpart J requirements for hydrocarbon flaring devices by December 31, 2009.

e. Compliance with the emission limitation under NSPS Subpart J, 40 CFR. 60.104(a)(1).

i. Continuous or Intermittent, Routinely-Generated Refinery Fuel Gases
For continuous or intermittent, routinely-generated refinery gases that are combusted in any of the NSPS Hydrocarbon Flaring Devices, the permittee shall comply with the emission limit at 40 CFR 60.104(a)(1) by December 31, 2009.

ii. Non-Routinely Generated Gases
The combustion of gases generated by the startup, shutdown, or malfunction of a refinery process unit or released to an NSPS Flaring Device as a result of relief valve leakage or other emergency malfunction are exempt from the requirement to comply with 40 CFR 60.104(a)(1).

f. [60.104(a)(1)]
The permittee shall not burn in any fuel gas combustion device any fuel gas that contains a hydrogen sulfide (H_2S) in excess of 230 mg/dscm (0.10 gr/dscf). The combustion in a flare of process upset gases or fuel gas that is released to the flare as a result of relief valve leakage or other emergency malfunctions is exempt from this paragraph.

g. The hourly and annual emission limitations for CO, NOx, PM, PM_{10}, and VOC were established for PTI purposes to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop monitoring, record keeping and/or reporting requirements to ensure compliance with these limitations.

h. The requirements of this rule also include compliance with the requirements of OAC rules 3745-21-07(J)(3), 3745-31-10 through 20, 40 CFR Part 60, Subparts A and J, and 40 CFR Part 63, Subparts A and CC.

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

j. The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-21-07(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in this Permit to Install.

On February 18, 2008, OAC rule 3745-21-07 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

k. The permittee shall satisfy the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology (BAT) requirements established pursuant to OAC rule 3745-31-05(A)(3) in this permit to install. The design of the emissions unit and the technology associated with the current operating practices satisfy the BAT requirements.

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

c) Operational Restrictions

(1) [CD, section J.48.a.]
The permittee shall meet the NSPS Subparts A and J requirements by using one or any combination of the following methods:

a. Operating and maintaining a flare gas recovery system to prevent continuous or routine combustion in this emissions unit. Use of a flare gas recovery system on a flare obviates the need to continuously monitor emissions as otherwise required by 40 CFR 60.105(a)(4);

b. Eliminating the routes of continuous or intermittent, routinely-generated refinery fuel gases to this emissions unit and operating the flaring device such that it only receives non-routinely generated gases, process upset gases, fuel gas released as a result of relief valve leakage or gases released due to other emergency malfunctions; or

c. Operating this emissions unit as a fuel gas combustion device, monitoring it for the continuous or intermittent, routinely-generated refinery fuel gas streams put into the flare header, with:

i. a CEMS as required by 40 CFR 60.105(a)(4); or

ii. a parametric monitoring system approved by U.S. EPA under 40 CFR 60.13(i); or

iii. an alternative monitoring system approved by U.S. EPA under 40 CFR 60.13(i).

The permittee shall identify the options that were implemented for each NSPS Hydrocarbon Flaring Device in the first report due after compliance with this section is achieved.

(2) [63.11] FLARE REQUIREMENTS - 40 CFR Part 63, Subpart A

a. [63.11(a)]
Control device requirements. Applicability. 40 CFR Part 63.11 contains requirements for control devices used to comply with provisions in relevant standards. These requirements apply only to affected emissions units covered by relevant standards referring directly or indirectly to this section.

b. [63.11(b)]

i. [63.11(b)(1)]
Permittees using flares to comply with the provisions of 40 CFR Part 63, Subpart A, shall monitor these control devices to assure that they are operated and maintained in conformance with their designs.

ii. 63.11(b)(2)] and [60.18(c)(6)]
Flares shall be steam-assisted, air-assisted, or non-assisted.

iii. [63.11(b)(3)] and [60.18(e)]
Flares shall be operated at all times when emissions may be vented to them.

iv. [63.11(b)(5)] and [60.18(c)(2)]
Flares shall be operated with a flame present at all times. The presence of a flare pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame.

v. [63.11(b)(6)]
The permittee has the choice of adhering to the heat content specifications in 40 CFR Part 63.11(b)(6)(ii), and the maximum tip velocity specifications in 63.11(b)(7) or adhering to the requirements in 63.11(b)(6)(i).

(a) [63.11(b)(6)(i)]
Flares shall be used that have a diameter of 3 inches or greater, are nonassisted, have a hydrogen content of 8.0 percent (by volume) or greater, and are designed for and operated with an exit velocity less than 37.2 m/sec (122 ft/sec) and less than the velocity Vmax, as determined by the following equation:

$$V_{max}=(X_{H2}-K_1)* K_2$$

where:

V_{max} = maximum permitted velocity, m/sec;

K_1 = constant, 6.0 volume-percent hydrogen;

K_2 = constant, 3.9(m/sec)/volume-percent hydrogen; and

X_{H2} = the volume-percent of hydrogen, on a wet basis, as calculated by using the American Society for Testing and Materials (ASTM) Method D1946-77 (Incorporated by reference as specified in 40 CFR Part 63.14).

The actual exit velocity of a flare shall be determined by the method specified in 40 CFR Part 63.11(b)(7)(i).

(b) [63.11(b)(6)(ii)], [60.18(c)(3)] and [60.18(f)(3)]
Flares shall be used only with the net heating value of the gas being combusted at 11.2 MJ/scm (300 Btu/scf) or greater if the flare is steam-assisted or air-assisted; or with the net heating value of the gas being combusted at 7.45 M/scm (200 Btu/scf) or greater if the flares is non-assisted. The net heating value of the gas being combusted in a flare shall be calculated using the equation found in 40 CFR Part 63.11(b)(6)(ii).

vi. [63.11(b)(7)]

(a) 63.11(b)(7)(i)], [60.18(c)(4)(i)] and [60.18(f)(4)]
Steam-assisted and nonassisted flares shall be designed for and operated with an exit velocity less than 18.3 m/sec (60 ft/sec), except as provided in 40 CFR Part 63.11(b)(7)(ii) and (b)(7)(iii). The actual exit velocity of a flare shall be determined by dividing by the volumetric flow rate of gas being combusted (in units of emission standard temperature and pressure), as determined by Test Methods 2, 2A, 2C, or 2D in Appendix A to 40 CFR Part 60, of this chapter, as appropriate, by the unobstructed (free) cross-sectional area of the flare tip.

(b) [63.11(b)(7)(ii)] and [60.18(c)(4)(ii)]
Steam-assisted and nonassisted flares designed for and operated with an exit velocity, as determined by the method specified in 40 CFR Part 63.11(b)(7)(i), equal to or greater than 18.3 m/sec (60 ft/sec) but less than 122 m/sec (400 ft/sec), are allowed if the net heating value of the gas being combusted is greater than 37.3 MJ/scm (1,000 Btu/scf).

(c) [63.11(b)(7)(iii)] and [60.18(e)(5)]
Steam-assisted and nonassisted flares designed for and operated with an exit velocity, as determined by the method specified in 40 CFR Part 63.11(b)(7)(i) [See section A.II], less than the velocity Vmax, as determined by the method specified in this paragraph, but less than 122 m/sec (400 ft/sec) are allowed. The maximum permitted velocity, Vmax, for flares complying with this paragraph shall be determined by the following equation:

$$\mathrm{Log}_{10}(V_{max})=(H_T+28.8)/31.7$$

where:

V_{max} = maximum permitted velocity, m/sec;

28.8 = constant;

31.7 = constant; and

H_T = the net heating value as determined in 40 CFR Part 63.11(b)(6).

(3) [CD, section L.64] CONTROL OF HYDROCARBON FLARING INCIDENTS
The permittee shall at all times and to the extent practicable, including during periods of Startup, Shutdown, upset and/or Malfunction of refinery process units, implement good air pollution control practices to minimize emissions from its Hydrocarbon Flaring Devices consistent with 40 CFR 60.11(d). The permittee shall implement such good air pollution control practices to minimize Hydrocarbon Flaring Incidents by investigating, reporting and correcting all Hydrocarbon Flaring Incidents in accordance with the procedures in Paragraph 64 of the Consent Decree entered March 14, 2006.

As defined by the Consent Decree, “Hydrocarbon Flaring Incident” or “HC Flaring Incident” shall mean the continuous or intermittent Hydrocarbon Flaring, except for Acid Gas or Sour Water Stripper Gas or Tail Gas, at a Hydrocarbon Flaring Device that results in the emission of sulfur dioxide equal to, or greater than five-hundred 500 pounds in any 24-hour period; provided, however, that if 500 pounds or more of sulfur dioxide have been emitted in any 24-hour period and flaring continues into subsequent, contiguous, non-overlapping 24-hour period(s), each period of which results in emissions equal to, or in excess of 500 pounds of sulfur dioxide, then only one HC Flaring Incident shall have occurred. Subsequent, contiguous, non-overlapping periods are measured from the initial commencement of Flaring within the HC Flaring Incident.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall maintain records which provide the following information for each known relief which results in non-smokeless operation of the flare.

a. the date, time, and duration of the relief;

b. the flare involved;

c. the process unit(s) associated with the relief;

d. the cause of the relief; and

e. the corrective actions taken.

(2) The permittee shall record the following information each day:

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

b. the operating times for the flare, monitoring equipment, and the associated emissions unit.

(3) Periodic maintenance may be required for properly designed and operated flare gas recovery systems. The permittee shall take all reasonable measures to minimize emissions while such periodic maintenance on a flare gas recovery system is being performed.

(4) [CD, section J.49.] HYDROCARBON FLARING DEVICES
The permittee shall at all times and to the extent practicable, including during periods of Startup, Shutdown, upset and/or Malfunction of refinery process units, implement good air pollution control practices to minimize emissions from its Hydrocarbon Flaring Devices consistent with 40 CFR. 60.11(d). The permittee shall implement such good air pollution control practices to minimize Hydrocarbon Flaring Incidents by investigating, reporting and correcting all Hydrocarbon Flaring Incidents.

(5) The permittee shall install, calibrate, maintain, and operate continuous monitoring systems as follows:

a. an instrument for continuously monitoring and recording the concentration (dry basis) of H_2S in fuel gases before being burned in any fuel gas combustion device.

i. The span value for this instrument is 425 mg/dscm H_2S.

ii. Fuel gas combustion devices having a common source of fuel gas may be monitored at only one location, if monitoring at this location accurately represents the concentration of H_2S in the fuel gas being burned.

iii. The performance evaluations for this H_2S monitor under 40 CFR 60.13(c) shall use Performance Specification 7. Method 11, 15, 15A, or 16 shall be used for conducting the relative accuracy evaluations.

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

i. emissions of hydrogen sulfide in parts per million on an instantaneous (one-minute) basis;

ii. emissions of hydrogen sulfide, in all units of the applicable standard(s) and in the appropriate averaging period;

iii. results of quarterly cylinder gas audits;

iv. results of daily zero/span calibration checks and the magnitude of manual calibration adjustments;

v. results of required relative accuracy test audit(s), including results in units of the applicable standard(s);

vi. hours of operation of the emissions unit, continuous hydrogen sulfide monitoring system, and control equipment;

vii. the date, time, and hours of operation of the emissions unit without the control equipment and/or the continuous hydrogen sulfide monitoring system;

viii. the date, time, and hours of operation of the emissions unit during any malfunction of the control equipment and/or the continuous hydrogen sulfide monitoring system; as well as,

ix. the reason (if known) and the corrective actions taken (if any) for each such event in (vii) and (viii).

NOTE: Valid minute by minute CEMS data shall not be required during periods in which scheduled CEMS system maintenance events (such as system blow-backs) occur. Minute by minute data recorded during a scheduled maintenance event shall be flagged as invalid due to the scheduled maintenance event, and not used in future compliance determination calculations.

In lieu of installing a hydrogen sulfide continuous monitoring system specified under 40 CFR 60.105(a)(4), the permittee may request pursuant to 40 CFR 60.13(i) permission from U.S. EPA to use an alternative monitoring plan.

(6) [CD, section K] ACID GAS FLARING INCIDENTS
As defined by the Consent Decree, “Acid Gas Flaring Incident” or “AG Flaring Incident” shall mean the continuous or intermittent combustion of Acid Gas and/or Sour Water Stripper Gas that results in the emission of sulfur dioxide equal to, or in excess of, 500 pounds in any 24-hour period; provided, however, that if 500 pounds or more of sulfur dioxide have been emitted in a 24-hour period and flaring continues into subsequent, contiguous, non-overlapping 24-hour period(s), each period of which results in emissions equal to, or in excess of 500 pounds of sulfur dioxide, then only one AG Flaring Incident shall have occurred. Subsequent, contiguous, non-overlapping periods are measured from the initial commencement of flaring within the AG Flaring Incident.

a. [CD, section K.52]
The permittee shall investigate the cause of Acid Gas Flaring, take reasonable steps to correct the conditions that have caused or contributed to such Acid Gas Flaring, and minimize Acid Gas Flaring. The permittee shall follow the procedures in this section "Acid Gas Flaring Incidents" to evaluate whether Acid Gas/Sour Water Stripper Gas Flaring Incidents are due to Malfunctions.

b. [CD, section K.54. a. through d.] Corrective Action.

i. In response to any AG Flaring Incident, the permittee shall take, as expeditiously as practicable, such interim and/or long-term corrective actions, if any, as are consistent with good engineering practice to minimize the likelihood of a recurrence of the Root Cause and all significant contributing causes of that AG Flaring Incident.

As defined by the Consent Decree, “Root Cause” shall mean the primary cause(s) of an AG Flaring Incident(s), or Hydrocarbon Flaring Incident as determined through a process of investigation.

ii. If EPA does not notify the permittee in writing within 45 days of receipt of the report(s) required by e)(3) that it objects to one or more aspects of the proposed corrective action(s) and schedule(s) of implementation, if any, then that (those) action(s) and schedule(s) shall be deemed acceptable for purposes of compliance with this paragraph. EPA does not, however,

by its failure to object to any corrective action that the permittee may take in the future, warrant or aver in any manner that any corrective actions in the future shall result in compliance with the provisions of the Clean Air Act or its implementing regulations.

iii. If EPA objects, in whole or in part, to the proposed corrective action(s) and/or the schedule(s) of implementation or, where applicable, to the absence of such proposal(s) and/or schedule(s), it shall notify the permittee and explain the basis for its objection (s) in writing within 45 days following receipt of the report(s) required by e)(3). The permittee shall respond within 45 days to EPA's objection(s).

iv. Nothing in d)(6) or e)(3) shall be construed to limit the right of the permittee to take such corrective actions as it deems necessary and appropriate immediately following an Acid Gas Flaring Incident or in the period during preparation and review of any reports required under this paragraph.

c. [CD, section K.62.a. through c.] Emission Calculations

i. Calculation of the Quantity of Sulfur Dioxide Emissions Resulting from AG Flaring.

The quantity of SO_2 emissions resulting from AG Flaring Incident shall be calculated by the following formula:

Tons of SO_2 = [FR][TD][ConcH_2S][8.44×10^{-5}].

Where:

FR = Average Flow Rate to Flaring Device(s) during Flaring Incident in standard cubic feet per hour

TD = Total Duration of Flaring Incident in hours

ConcH_2S = Average Concentration of Hydrogen Sulfide in gas during Flaring Incident (or immediately prior to Flaring Incident if all gas is being flared) expressed as a volume fraction (scf H_2S/scf gas)

8.44×10^{-5} = [lb mole H_2S/379 scf H_2S][64 lbs SO_2/lb mole H_2S][Ton/2000 lbs]

The quantity of SO_2 emitted shall be rounded to one decimal point. (Thus, for example, for a calculation that results in a number equal to 10.050 tons, the quantity of SO_2 emitted shall be rounded to 10.1 tons, and less than 10.050 shall be rounded to 10.0.) For purposes of determining the occurrence of, or the total quantity of SO_2 emissions resulting from, an AG Flaring Incident that is comprised of intermittent AG Flaring, the quantity of SO_2 emitted shall be equal to the sum of the quantities of SO_2 flared during each 24-hour period starting when the Acid Gas was first flared.

ii. Calculation of the Rate of SO_2 Emissions During AG Flaring
The rate of SO_2 emissions resulting from AG Flaring Incident shall be expressed in terms of pounds per hour and shall be calculated by the following formula:

ER = [FR][ConcH_2S][0.169].

Where:

ER = Emission Rate in pounds of SO_2 per hour

0.169 = [lb mole H_2S/379 scf H_2S][1.0 lb mole SO_2/1 lb mole H_2S][64 lb SO_2/1.0 lb mole SO_2]

The emission rate shall be rounded to one decimal point. (Thus, for example, for a calculation that results in an emission rate of 19.95 pounds of SO_2 per hour, the emission rate shall be rounded to 20.0 pounds of SO_2 per hour; for a calculation that results in an emission rate of 20.05 pounds of SO_2 per hour, the emission rate shall be rounded to 20.1.)

The flow of gas to the AG Flaring Device(s) ("FR") shall be as measured by the relevant flow meter or reliable flow estimation parameters. Hydrogen sulfide concentration ("ConcH_2S") shall be determined from the Sulfur Recovery Plant feed gas analyzer, from knowledge of the sulfur content of the process gas being flared, by direct measurement by tutwiler or draeger tube analysis or by any other method approved by EPA or the Ohio EPA. In the event that any of these data points is unavailable or inaccurate, the missing data point(s) shall be estimated according to best engineering judgment. The report required under e)(3) shall include the data used in the calculation and an explanation of the basis for any estimates of missing data points.

(7) Within 180 days of installing the H_2S continuous monitoring system, the permittee shall develop and maintain a written quality assurance/quality control plan for the continuous hydrogen sulfide monitoring system, designed to ensure continuous valid and representative readings of hydrogen sulfide 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 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.

e) Reporting Requirements

(1) The permittee shall submit semiannual written reports that summarize the information in items a. through e. in d)(1) for each relief. These reports shall be submitted to the Toledo Division of Environmental Services by January 31 and July 31 of each year and shall cover the previous 6-month period.

(2) The permittee shall submit quarterly deviation (excursion) reports identifying all periods of time during which there was no pilot flame. These reports shall be submitted to the Toledo Division of Environmental Services by January 31, April 31, and July 31, and October 31 of each year and shall cover the previous calendar quarter.

(3) [CD, section K.53.] Acid Gas Flaring Incident Investigation and Reporting

No later than 45 days following the end of an Acid Gas Flaring Incident, the permittee shall submit to EPA, the Ohio EPA, and the Toledo Division of Environmental Services a report that sets forth the following:

a. The date and time that the Acid Gas Flaring Incident started and ended.

To the extent that the Acid Gas Flaring Incident involved multiple releases either within a 24-hour period or within subsequent, contiguous, non-overlapping 24-hour periods, the permittee shall set forth the starting and ending dates and times of each release;

b. An estimate of the quantity of sulfur dioxide that was emitted and the calculations that were used to determine that quantity;

c. The steps, if any, that the permittee took to limit the duration and/or quantity of sulfur dioxide emissions associated with the Acid Gas Flaring Incident;

d. A detailed analysis that sets forth the Root Cause and all significant contributing causes of that Acid Gas Flaring Incident, to the extent determinable;

e. An analysis of the measures, if any, that are available to reduce the likelihood of a recurrence of an Acid Gas Flaring Incident resulting from the same Root Cause or significant contributing causes in the future. If two or more reasonable alternatives exist to address the Root Cause, the analysis shall discuss the alternatives that are available, the probable effectiveness and cost of the alternatives, and whether or not an outside consultant should be retained to assist in the analysis. Possible design, operation and maintenance changes shall be evaluated. If the permittee concludes that corrective action(s) is (are) required under this paragraph, the report shall include a description of the action(s) and, if not already completed, a schedule for its (their) implementation, including proposed commencement and completion dates. If the permittee concludes that corrective action is not required under this paragraph, the report shall explain the basis for that conclusion;

f. To the extent that investigations of the causes and/or possible corrective actions still are underway on the due date of the report, a statement of the anticipated date by which a follow-up report fully conforming to the requirements of d. and e. of this paragraph shall be submitted. Nothing in this Paragraph shall be deemed to excuse the permittee from its investigation, reporting, and corrective action obligations under this Section for any Acid Gas Flaring Incident which occurs after an Acid Gas Flaring Incident for which the permittee has requested an extension of time under this Paragraph; and

g. To the extent that completion of the implementation of corrective action(s), if any, is not finalized at the time of the submission of the report required under this

paragraph, then, by no later than 30 days after completion of the implementation of corrective action(s), the permittee shall submit a report identifying the corrective action(s) taken and the dates of commencement and completion of implementation.

(4) The Ohio EPA, Central Office shall approve the proposed sampling site and certify that the continuous hydrogen sulfide monitoring system meets the requirements of Performance Specification 7. Once received, the letter/document of certification shall be maintained on-site and shall be made available to the director (the appropriate Ohio EPA District Office or local air agency) 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.

(5) The permittee shall comply with the following quarterly reporting requirements for the emissions unit and its continuous hydrogen sulfide monitoring system after installation of the monitoring system required in d) above:

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 hydrogen sulfide emissions in excess of any applicable limit specified in this permit, 40 CFR Part 60, 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). If there are no excess emissions during the calendar quarter, the permittee shall submit a statement to that effect.

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 hydrogen sulfide and other associated monitors;

iii. the location of the continuous hydrogen sulfide monitor;

iv. the exceedance report as detailed in a. above;

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

vi. the total operating time of the continuous hydrogen sulfide monitoring system while the emissions unit was in operation;

vii. results and dates of quarterly cylinder gas audits;

viii. results and dates of the relative accuracy test audit(s), including results in units of the applicable standard(s), (during appropriate quarter(s));

ix. the results of any relative accuracy test audit showing the continuous hydrogen sulfide monitor out-of-control and the compliant results following any corrective actions;

x. the date, time, and duration of any/each malfunction* of the continuous hydrogen sulfide monitoring system, emissions unit, and/or control equipment;

xi. the date, time, and duration of any downtime* of the continuous hydrogen sulfide monitoring system and/or control equipment while the emissions unit was in operation; and

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

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.

f) Testing Requirements

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

a. Emission Limitation:

No visible emissions, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours

Applicable Compliance Method:

If required, compliance shall be demonstrated through visible emission observations performed in accordance with Method 22 of 40 CFR Part 60, Appendix A. The observation period shall be 2 hours.

b. Emission Limitation:

Carbon monoxide (CO) emissions shall not exceed 12.80 pounds per hour.

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-1 dated 7/98, as follows: divide the emission factor of 84 pounds of CO emissions per million standard cubic feet by a heating value of 1,020 Btus per standard cubic foot and multiply the result by the maximum heat input capacity of 155.44 mmBtu per hour.

A stack emission testing compliance method is not included, since this emissions unit is an open flare that does not have a stack that can be used to conduct a standard EPA emissions test.

c. Emission Limitation:

CO emissions shall not exceed 56.07 tons per year tons per year, based upon a rolling, 365-day summation of the daily emissions.

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emissions unit. Compliance may be demonstrated through calculations based on emission factors specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-1 dated 7/98 as follows: divide the emission factor of 84 pounds of CO emissions per million standard cubic feet by a heating value of 1,020 Btus per standard cubic foot, multiply by the maximum heat input capacity of 155.44 mmBtu per hour, multiply by the maximum annual hours of operation (8,760 hrs/yr) and divide by 2,000 pounds per ton.

d. Emission Limitation:

NOx emissions shall not exceed 15.23 pounds per hour.

Applicable Compliance Method:

Compliance may be determined through calculations based on the low-NOx burner emission factor supplied by the permittee as follows: multiply the emission factor of 0.098 pound of NOx emissions per million Btu by the maximum heat input capacity of 155.44 mmBtu per hour.

A stack emission testing compliance method is not included, since this emissions unit is an open flare that does not have a stack that can be used to conduct a standard EPA emissions test.

e. Emission Limitation:

NOx emissions shall not exceed 66.71 tons per year, based upon a rolling, 365-day summation of the daily emissions.

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emissions unit. Compliance may be demonstrated through calculations performed as follows: multiply the short term emission rate of 15.23 pound of NOx per hour by 8,760 hours per year and divide by 2,000 pounds per ton.

f. Emission Limitation:

Filterable plus condensable PM emissions shall not exceed 1.16 pounds per hour.

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98, as follows: divide the emission factor of 7.6 pounds of PE per million standard cubic feet by a heating value of 1,020 Btus per standard cubic foot and multiply by the maximum heat input capacity of 155.44 mmBtu per hour.

A stack emission testing compliance method is not included, since this emissions unit is an open flare that does not have a stack that can be used to conduct a standard EPA emissions test.

g. Emission Limitation:

Filterable plus condensable PM emissions shall not exceed 5.08 tons per year, based upon a rolling, 365-day summation of the daily emissions.

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emissions unit. Compliance may be demonstrated through calculations performed as follows: multiply the short term emission rate of 1.16 pound of PM per hour by 8,760 hours per year and divide by 2,000 pounds per ton

h. Emission Limitation:

PM_{10} emissions shall not exceed 1.16 pounds per hour.

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98, as follows: divide the emission factor of 7.6 pounds of PE per million standard cubic feet by a heating value of 1,020 Btus per standard cubic foot and multiply by the maximum heat input capacity of 155.44 mmBtu per hour.

A stack emission testing compliance method is not included, since this emissions unit is an open flare that does not have a stack that can be used to conduct a standard EPA emissions test.

i. Emission Limitation:

Filterable plus condensable PM_{10} emissions shall not exceed 5.08 tons per year, based upon a rolling, 365-day summation of the daily emissions.

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emissions unit. Compliance may be demonstrated through calculations performed as follows: multiply the short term emission rate of 1.16 pounds of PE per hour by 8,760 hours per year and divide by 2,000 pounds per ton.

j. Emission Limitation:

The permittee shall not burn in any fuel gas combustion device any fuel gas that contains a hydrogen sulfide (H_2S) in excess of 230 mg/dscm (0.10 gr/dscf).

Applicable Compliance Method:

The monitoring and recordkeeping requirements in d) shall be used to demonstrate compliance. If required, the permittee shall demonstrate compliance using the methods and procedures of 40 CFR 60.106(a) and (e)(1). Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

k. Emission Limitation:

SO_2 emissions shall not exceed 4.20 pounds per hour.

Applicable Compliance Method:

This emission limitation was established by the following emission calculation using the SO_2 emission factor of 0.027 pound per million Btu of heat input derived from the NSPS H_2S limitation of 0.01 gr/dscf: multiply the emission factor of 0.027 pound of SO_2 emissions per million Btu by the maximum heat input capacity of 155.44 mmBtu per hour.

A stack emission testing compliance method is not included, since this emissions unit is an open flare that does not have a stack that can be used to conduct a standard EPA emissions test.

l. Emission Limitation:

SO_2 emissions shall not exceed 18.40 tons per year, based upon a rolling, 365-day summation of the daily emissions.

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emission limitation was established to reflect the potential to emit for this emissions unit. Compliance may be demonstrated through calculations performed as follows: multiply the short term emission rate of 4.20 pounds of SO_2 per hour by 8,760 hours per year and divide by 2,000 pounds per ton.

m. Emission Limitation:

VOC emissions shall not exceed 0.84 pound per hour.

Applicable Compliance Method:

Compliance may be determined through calculations based on emission factors specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98, as follows: divide the emission factor of 5.5 pounds of VOC emissions per million standard cubic feet

by a heating value of 1,020 Btus per standard cubic foot and multiply by the maximum heat input capacity of 155.44 mmBtu per hour.

A stack emission testing compliance method is not included, since this emissions unit is an open flare that does not have a stack that can be used to conduct a standard EPA emissions test.

n. Emission Limitation:

VOC emissions shall not exceed 3.68 tons per year, based upon a rolling, 365-day summation of the daily emissions.

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emissions unit. Compliance may be determined through calculations based on emission factors specified in USEPA reference document AP-42, Fifth Edition, Compilation of Air Pollution Emission Factors, Table 1.4-2 dated 7/98, as follows: divide the emission factor of 5.5 pounds of VOC emissions per million standard cubic feet by a heating value of 1,020 Btus per standard cubic foot, multiply by the maximum heat input capacity of 155.44 mmBtu per hour, multiply by the maximum annual hours of operation (8,760 hours/yr), and divide by 2,000 pounds per ton.

o. Emission Limitation:

PM_{10} emissions shall not exceed 0.0074 pound per million Btu of heat input

Applicable Compliance Method:

This emission limitation was established based on the emission factor contained in AP-42 Table 1.4-2 dated 7/98. A stack emission testing compliance method is not included, since this emissions unit is an open flare that does not have a stack that can be used to conduct a standard EPA emissions test

p. Emission Limitation:

CO emissions shall not exceed 0.082 pound per million Btu of heat input

Applicable Compliance Method:

This emission limitation was established based on the emission factor contained in AP-42 Table 1.4-1 dated 7/98. A stack emission testing compliance method is not included, since this emissions unit is an open flare that does not have a stack that can be used to conduct a standard EPA emissions test.

(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 90 days after bringing this emissions unit into compliance with NSPS Subparts A and J, in accord with the provisions of c)(1) above.

b. The emission testing shall be conducted to demonstrate compliance with the visible emission limitation and the operational restrictions of c)(2)b.v. and vi. for velocity and heating value.

c. The following test method(s) shall be employed to demonstrate compliance with the visible emission limitation and the operational restrictions of c)(2)b.v and vi.:

i. Compliance with the visible emission limitations shall be demonstrated through visible emission observations performed in accordance with Method 22 of 40 CFR Part 60, Appendix A. The observation period shall be 2 hours.

ii. The procedures of 40 CFR Part 63.11(b)(7)(i) shall be used to determine the exit velocity. In lieu of conducting the velocity test, the permittee may submit velocity calculations which demonstrate that the NSPS Hydrocarbon Flaring Device meets the performance specification required by c)(2)b.v. and vi.

iii. The procedures of 40 CFR Part 63.11(b)(6)(ii) shall be used to determine the heating value.

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

d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Toledo Division of Environmental Services.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Toledo Division of Environmental Services. 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 Toledo Division of Environmental Services' refusal to accept the results of the emission test(s).

f. Personnel from the Toledo Division of Environmental Services 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 Toledo Division of Environmental Services 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 Toledo Division of Environmental Services.

(3) If the permittee chooses to install the H_2S CEM in c)(1)c., then within 60 days after achieving the maximum production rate at which the affected facility will be operated, but

not later than 180 days after initial startup of such facility, the permittee shall conduct certification tests of the continuous hydrogen sulfide monitoring system in units of the applicable standard(s), to demonstrate compliance with 40 CFR Part 60, Appendix B, Performance Specification 7 and ORC section 3704.03(I).

Personnel from the Ohio EPA Central Office and the appropriate Ohio EPA District Office or local air agency 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 appropriate Ohio EPA District Office or local air agency 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 hydrogen sulfide 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 Specification 7 and ORC section 3704.03(I).

Ongoing compliance with the hydrogen sulfide emission limitation(s) 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 requirements of 40 CFR Part 60.

g) Miscellaneous Requirements

(1) [CD, section XVIII, 245] TERMINATION of the CONSENT DECREE

The Consent Decree shall be subject to termination upon motion by the United States or Sunoco under the conditions identified in Paragraphs 245 through 247 of the Consent Decree. Sunoco may seek termination of the Consent Decree upon either (A) completion and satisfaction at the relevant Refinery of all of the following requirements stated in Paragraphs 245.a-e.; or (B) anytime after the permanent shutdown of, and relinquishment of all operating permits for, such Refinery.

5. P011, FCC Unit

Operations, Property and/or Equipment Description:

P011 - Fluid Catalytic Cracking (FCC) unit (100,000 bpd) with a processing capacity of 100,000 barrels per day; emissions controls consist of two CO boilers (B046 and B047), SCR system for NOx control, and a wet gas scrubber for SO_2 and particulate control

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) Terms c)(5), d)(16),(18), (19) and (20), and f)(1)u.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3) (PTI 04-01447 issued 9/29/06 and modified on 1/23/07)	The combined filterable particulate matter (PM) emissions from the FCCU (Emissions unit P011) and the CO Boilers (B046 and B047) shall not exceed 0.45 pound per thousand pounds of coke-burnoff; The combined sulfur dioxide (SO_2) emissions from P011, B046, and B047 shall not exceed 316 pounds per hour; The combined volatile organic compound (VOC) emissions from the FCCU (Emissions Unit P011) and the CO Boilers (Emissions Units B046 and B047) shall not exceed 3.67 pounds per hour; The combined sulfuric acid (H_2SO_4) mist emissions from the FCCU (P011) and CO Boilers (B046 and B047) shall not exceed 10 ppmvd and 215.84 tons per year, based upon a rolling, 365-day summation of the daily emissions; and See b)(2)a and b)(2)m.
b.	OAC rule 3745-31-05(D) (PTI 04-01447 issued 9/29/06 and modified on 1/23/07)	The combined nitrogen oxides (NOx) emissions from P011, B046 and B047 shall not exceed 198.51 tons per year, based upon a rolling, 365-day summation

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		of the daily emissions; The combined filterable PM emissions from P011, B046 and B047 shall not exceed 165.96 tons per year; The combined SO_2 emissions from P011, B046 and B047 shall not exceed 345.71 tons per year, based upon a rolling, 365-day summation of the daily emissions; The combined VOC emissions from the FCCU (Emissions Unit P011) and the CO Boilers (Emissions Units B046 and B047) shall not exceed 16.07 tons per year, based upon a rolling, 365-day summation of the daily emissions; See b)(2)b., b)(2)d., b)(2)n. through b)(2)q. and b)(2)s.
c.	OAC rule 3745-17-07(A)	Visible emissions shall not exceed 20% opacity, unless otherwise specified by the rule.
d.	OAC rule 3745-17-11(B)(1)	See b)(2)e.
e.	OAC rule 3745-18-54(O)(3)	The combined emissions from P011, B046 and B047 shall not exceed 3.00 pounds of sulfur dioxide (SO_2) per thousand pounds of fresh feed.
f.	OAC rule 3745-21-07(B)	See b)(2)g.
g.	OAC rule 3745-21-08(B)	See b)(2)f.
h.	OAC rule 3745-21-08(E)	See b(2)e.
i.	OAC rule 3745-21-09(T)	See b(2)m.
k.	CFR Part 60, Subpart A	See b)(2)r.
l.	CFR Part 60, Subpart J	See b)(2)t.
m.	40 CFR Part 63, Subpart UUU (40 CFR 63.1560-1579) [In accordance with 40 CFR 63.1561(a)(1)(iii), this emissions unit is at an existing refinery and is used	See b)(2)h., b)(2)i., b)(2)k., and b)(2)l.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
	to crack petroleum streams.]	
n.	OAC rule 3745-31-10 through 20 (PTI 04-01447 issued 9/29/06 and modified on 1/23/07)	The combined CO emissions from P011, B046 and B047 shall be reduced by a minimum of 99% control efficiency and shall not exceed 500 parts per million by volume dry (ppmvd) at 0% oxygen as a 1-hour average, or 180 ppmvd at 0% oxygen as a rolling, 365-day average, or 1,087.28 tons per year, based upon a rolling, 365-day summation of the daily emissions; and The combined PM_{10} emissions from P011, B046 and B047 shall be controlled by a minimum of 95% and shall not exceed 0.90 pound per thousand pounds of coke-burnoff or 331.92 tons per year, based upon a rolling, 365-day summation of the daily emissions.

(2) Additional Terms and Conditions

a. The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A)(1), 3745-17-11(A)(4), 3745-18-54(O)(3), 3745-21-08(E), 3745-21-07(B), 3745-21-09(T), 3745-31-05(C), and 3745-31-10 through 20, 40 CFR Part 60, Subparts A and J, and 40 CFR Part 63, Subpart UUU.

b. Beginning at initial startup after the FCCU expansion, the permittee shall operate its FCCU so that the combined NOx emissions from P011, B046 and B047 do not exceed 20 ppmvd based on a 365-day rolling average or 40 ppmvd based on a 7-day rolling average, each at 0% oxygen.

c. The permittee's FCCU Regenerators shall be affected facilities subject to the requirements of NSPS Subparts A and J for each relevant pollutant by the dates specified below:

CO	3/14/2008
Opacity	12/31/2009
PM	3/14/2006
SO_2	12/31/2009

d. Beginning at startup after the FCCU expansion and by no later than December 31, 2009, the combined SO_2 emissions from the P011, B046 and B047 shall not exceed 25 ppmvd based on a 365-day rolling average or 50 ppmvd based on a 7-day rolling average, each at 0% oxygen.

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

f. The permittee shall satisfy the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology (BAT) requirements established pursuant to OAC rule 3745-31-05(A)(3) in this permit to install. The design of the emissions unit and the technology associated with the current operating practices satisfy the BAT requirements.

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

g. The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-21-07(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in this Permit to Install.

On February 18, 2008, OAC rule 3745-21-07 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio..

h. [63.1564(a)(1)] METAL HAP EMISSIONS
The permittee must meet each emission limitation in Table 1 of 40 CFR Part 63, Subpart UUU that applies to this emissions unit. The permittee can choose from the four following options:

i. [63.1564(a)(1)(i)]
The permittee can elect to comply with the NSPS requirements (Option 1);

ii. 63.1564(a)(1)(ii)]
The permittee can elect to comply with the PM emission limit (Option 2);

iii. [63.1564(a)(1)(iii)]
The permittee can elect to comply with the Nickel (Ni) lb/hr emission limit (Option 3); or

iv. [63.1564(a)(1)(iv)]
The permittee can elect to comply with the Ni lb/1,000 lbs of coke burn-off emission limit (Option 4).

i. [63.1565(a)(1)] ORGANIC HAP EMISSIONS

The permittee shall meet each emission limitation in Table 8 of 40 CFR Part 63, Subpart UUU that applies to this emissions unit for organic HAP emissions. The permittee can choose from the following two options:

i. [63.1565(a)(1)(i)]
The permittee can elect to comply with the NSPS requirements (Option 1); or

ii. [63.1565(a)(1)(ii)]
The permittee can elect to comply with the CO emission limit (Option 2).

j. Table 44 of 40 CFR Part 63, Subpart UUU shows which parts of the General Provisions in 40 CFR Part 63.1 through 63.15 apply to this emissions unit.

k. [63.1569(a)(1)] HAP EMISSIONS FROM BYPASS LINES
The permittee must meet each work practice standard in Table 36 of 40 CFR Part 63, Subpart UUU that applies to this emissions unit. The permittee can choose from the four following options:

i. [63.1569(a)(1)(i)]
The permittee can elect to install an automated system (Option 1);

ii. [63.1569(a)(1)(ii)]
The permittee can elect to use a manual lock system (Option 2);

iii. [63.1569(a)(1)(iii)]
The permittee can elect to seal the line (Option 3); or

iv. [63.1569(a)(1)(iv)]
The permittee can elect to vent to a control device (Option 4).

l. [63.1569(a)(2)]
As provided in 40 CFR Part 63.6(g), the EPA, may choose to grant the permittee permission to use an alternative to the work practice standard in 40 CFR Part 63.1569(a)(1).

m. Refer to Emissions Unit P801 in Section C. of this permit for the terms and conditions associated with equipment leaks. The VOC emissions from equipment leaks from this emissions unit are contained in the total refinery equipment leak emissions contained in P801.

n. Within 180 days of March 14, 2008, the permittee shall develop and maintain a written quality assurance/quality control plan for the continuous CO monitoring system, designed to ensure continuous valid and representative readings of CO 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 CO 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.

o. Within 180 days after initial startup after the FCCU expansion, the permittee shall develop and 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.

p. The permittee shall develop and maintain a written quality assurance/quality control plan for the continuous opacity monitoring system, designed to ensure continuous valid and representative readings of opacity and compliance with 40 CFR Part 60. The plan shall include, at a minimum, procedures for conducting and recording daily automatic zero/span checks, provisions for conducting a quarterly audit of the continuous opacity monitoring system, and a description of preventive maintenance activities. The plan shall describe step by step procedures for ensuring accurate operation of the continuous opacity monitoring system on a continuous basis. The quality assurance/quality control plan and a logbook dedicated to the continuous opacity monitoring system must be kept on site and available for inspection during regular office hours.

q. Within 180 days after initial startup after the FCCU expansion, the permittee shall develop and maintain a written quality assurance/quality control plan for the continuous SO_2 monitoring system, designed to ensure continuous valid and representative readings of SO_2 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 SO_2 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.

r. 40 CFR Part 60, Subpart A provides applicability provisions, definitions, and other general provisions that are pertinent to emissions units affected by 40 CFR Part 60.

s. Pursuant to 40 CFR 60.13(i)(1), the permittee has applied to the U.S. EPA for use of the following alternative monitoring plan instead of using a continuous opacity monitor as specified by 40 CFR 60.105(a)(1). U.S. EPA approved the alternative monitoring plan, the permittee does not have to comply with the continuous opacity monitoring, recordkeeping and reporting requirements of b),

d), e) and f) beginning with the date of approval of the alternative monitoring plan by the U.S. EPA.

t. The opacity limitation specified by this rule is less stringent than the limitation specified by OAC rule 3745-17-07(A). The SO_2 emission limitation specified by this rule is less stringent than the limitation established pursuant to OAC rule 3745-31-05(C). The PM limitation specified by this rule is less stringent than the limitation established pursuant to OAC rule 3745-31-05(A)(3). The ppm CO emission limitation specified by this rule is equivalent to the emission limitation established pursuant to OAC rules 3745-31-10 through 20.

c) Operational Restrictions

(1) [40 CFR 63, subpart UUU]] NATIONAL EMISSION STANDARDS FOR HAPS FOR PETROLEUM REFINERIES: CATALYTIC CRACKING UNITS

The permittee shall comply with the applicable restrictions of this subpart, including the following sections:

63.1564(a)(2)	Must comply with the operating limit in Table 2 (option 1) by installing a continuous opacity monitor system.
63.1565(a)(2)	Must comply with each applicable site-specific operating limit in Table 9: Option 1 – install a continuous emission monitoring system for carbon monoxide (CO) with no required control device.
Table 44, 40 CFR 63.8(f)	Alternative Monitoring Plan is allowed except that subpart UUU specifies procedures for requesting alternative monitoring systems and alternative parameters.

(2) The combined emissions of CO, NOx, PM_{10}, SO_2, and VOC from P011, B046 and B047 shall not exceed 1,087.28, 198.51, 332.95, 345.71, and 16.07 tons per year respectively, based upon a rolling, 365-day summation of the daily emissions.

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 emission levels specified in the following table:

Month(s)	Maximum Allowable Cumulative Emissions of CO (tons)	Maximum Allowable Cumulative Emissions of NOx (tons)	Maximum Allowable Cumulative Emissions of PM_{10} (tons)	Maximum Allowable Cumulative Emissions of SO_2 (tons)	Maximum Allowable Cumulative Emissions of VOC (tons)
1	250	30	28	58	1.4
1-2	500	60	56	116	2.8
1-3	750	90	84	174	4.2
1-4	1000	120	112	232	5.3

1-5	1087.28	150	140	290	7.0
1-6	1087.28	180	168	345.71	8.4
1-7	1087.28	198.51	196	345.71	9.8
1-8	1087.28	198.51	224	345.71	11.2
1-9	1087.28	198.51	252	345.71	12.6
1-10	1087.28	198.51	280	345.71	14
1-11	1087.28	198.51	308	345.71	15.4
1-12	1087.28	198.51	331.92	345.71	16.07

After the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, compliance with the annual emission limitation for CO, NOx, PM_{10}, SO_2, and VOC shall be based upon a 365-day summation of the daily emissions.

(3) Prior to the initial test demonstrating compliance with the 0.45 lb filterable PM per thousand pounds of coke-burnoff emission limitation:

a. the pressure of the water supplied at the discharge of the recirculation pumps supplying water to the Agglo-Filtering modules shall be continuously maintained at a value of not less than that suggested by the manufacturer as appropriate for the design control efficiency at all times while the FCCU is in operation;

b. the flue gas static pressure drop across the Agglo-Filtering modules shall be continuously maintained at a value of not less than that suggested by the manufacturer as appropriate for the design control efficiency at all times while the FCCU is in operation.

Within 30 days prior to startup of the wet gas scrubber, the permittee shall report in writing to the Toledo Division of Environmental Services the minimum values for the pressure of the water supplied at the discharge of the recirculation pumps supplying water to the Agglo-Filtering modules, and the flue gas static pressure drop across the Agglo-Filtering modules.

(4) After the initial test demonstrating compliance with the 0.45 lb filterable PM per thousand pounds of coke-burnoff emission limitation:

a. the permittee shall maintain the pressure of the water supplied at the discharge of the recirculation pumps supplying water to the Agglo-Filtering modules at a value of not less than the pressure as determined during the initial compliance test demonstrating compliance at all times while the FCCU is in operation.

b. the flue gas static pressure drop across the Agglo-Filtering modules shall be continuously maintained at a value of not less than that determined during the initial compliance test demonstrating compliance at all times while the FCCU is in operation.

(5) The permittee shall maintain an ammonia slip rate from the SCR unit of less than 5 ppmv.

d) Monitoring and/or Recordkeeping Requirements

(1) Prior to conducting performance tests for CO under f)(2), the permittee shall install a continuous CO emissions monitoring system.

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.

(2) Prior to conducting performance tests for CO under f)(2), the permittee shall operate and maintain equipment to continuously monitor and record CO 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 Parts 60. The span value for this instrument shall be 1,000 ppm CO.

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

a. emissions of CO in parts per million on an instantaneous (one-minute) basis*;

b. emissions of CO in all units of the applicable standard(s) in the appropriate averaging period (ppmvd at 0% O_2 1-hr average and ppmvd at 0% O_2 as a rolling, 365-day average);

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 CO 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 CO 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 CO 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. above.

NOTE: Valid minute by minute CEMS data shall not be required during periods in which scheduled CEMS system maintenance events (such as system blow-backs) occur. Minute by minute data recorded during a scheduled maintenance event shall be flagged

as invalid due to the scheduled maintenance event, and not used in future compliance determination calculations.

(3) Prior to conducting performance tests for NOx under f)(2), the permittee shall install a continuous NOx emissions monitoring system.

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

(4) Prior to conducting performance tests for NOx under f)(2), the permittee shall 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 data obtained by the continuous NOx monitoring system including, but not limited to:

a. emissions of NOx in parts per million on an instantaneous (one-minute) basis*;

b. emissions of NOx in all units of the applicable standard(s) in the appropriate averaging period (ppmvd at 0% O_2 as a 7-day, rolling average and ppmvd at 0% O_2 as a rolling, 365-day summation of the daily emissions);

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. above.

NOTE: Valid minute by minute CEMS data shall not be required during periods in which scheduled CEMS system maintenance events (such as system blow-backs) occur. Minute by minute data recorded during a scheduled maintenance event shall be flagged as invalid due to the scheduled maintenance event, and not used in future compliance determination calculations.

(5) Pursuant to 40 CFR 60.13(i)(1), the permittee has applied to the U.S. EPA for use of the following alternative monitoring plan instead of using a continuous opacity monitor as specified by 40 CFR 60.105(a)(1). U.S. EPA approved the alternative monitoring plan in a letter dated November 2, 2006. Therefore, the permittee shall comply with the monitoring and recordkeeping requirements of this term and condition.

a. The permittee shall continuously monitor and record the pressure of the water supplied to at the discharge of the recirculation pumps supplying water to the EDV-6000 Agglo-Filtering modules. Pressure below the specified range will indicate a decrease in the filtering module efficiency.

b. The permittee shall continuously monitor and record the flue gas pressure drop across the Agglo-Filtering modules. A pressure differential below the specified range will indicate a decrease in the filtering module efficiency.

The above monitoring plan may be may be implemented in lieu of installing and operating a continuous opacity monitoring system as specified in 40 CFR 60.105(a)(1).

(6) The permittee shall maintain on-site documentation from the U.S. EPA or the Ohio EPA's Central Office verifying that the continuous opacity monitoring system has been certified to meet the requirements of 40 CFR Part 60, Appendix B, Performance Specification 1. The letter/document of certification shall be made available to the Director (the appropriate Ohio EPA District Office or local air agency) 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.

NOTE: This term is not required if the permittee implements the approved alternative opacity monitoring plans specified in d).

(7) The permittee shall operate and maintain the continuous opacity monitoring system to continuously monitor and record the opacity of the particulate emissions from this emissions unit. The continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60. The continuous opacity monitoring system shall be spanned at 60, 70, or 80 percent opacity.

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

a. percent opacity on an instantaneous (one-minute) and 6-minute block average basis;

b. results of daily zero/span calibration checks and the magnitude of manual calibration adjustments;

c. hours of operation of the emissions unit, continuous opacity monitoring system, and control equipment;

d. the date, time, and hours of operation of the emissions unit without the control equipment and/or the continuous opacity monitoring system;

e. the date, time, and hours of operation of the emissions unit during any malfunction of the control equipment and/or the continuous opacity monitoring system; as well as,

f. the reason (if known) and the corrective actions taken (if any) for each such event in d. and e.

NOTE: This term is not required if the permittee implements the approved alternative opacity monitoring plans specified in d).

(8) Prior to the installation of the SO_2 CEM, the permittee shall obtain a daily (Monday through Friday, except for holidays) sample of the FCC fresh feed and have it analyzed for density and sulfur content in accordance with the applicable ASTM methods. The permittee may assume that the fraction emitted (FE) is the same as was determined in the most recent stack test performed on the unit. (In the stack test performed September 12, 2002, the FE was 0.175.) Using this method, the SO_2 emission rate from the FCC regenerator shall be calculated as follows:

F * d * 2 * S * FE * 8.33 lb/gal * 42 gal/bbl = SO_2 emission rate from FCC regenerator, lb/day

where:

F = daily average feed rate to the FCC, bbl/day;

d = specific gravity of the FCC fresh feed; and

S = sulfur weight fraction in the feed of the FCC unit, in pounds of sulfur per pound of feed.

2 = (64 lb SO_2/lb. mole) / (32 lb S/lb. mole)

After the installation of the SO_2 CEM, the permittee shall calculate the emission limit in pound(s) of SO_2 per 1000 pounds of the FCC fresh feed using the process operating data from the FCCU and the daily emissions in pounds of SO_2 calculated from the SO_2 CEM data.

(9) The permittee shall maintain daily records of the calculated SO_2 emission rate in pounds of sulfur dioxide per 1000 pounds of fresh feed. The SO_2 emission rate shall be calculated as follows:

(SO_2 emission rate from the FCC regenerator + the SO_2 emission rate from B046 + the SO_2 emission rate from B047)/ FCC fresh feed rate in thousands of pounds of fresh feed per day

(10) Prior to the installation of the SO_2 CEM, if on any day the calculated SO_2 emission rate exceeds 3.00 lb SO_2 per 1000 lbs fresh feed, the permittee shall immediately take another FCC fresh feed sample and retest the feed sulfur and density. If the second sample results show a value above 3.00 lb SO_2 per 1000 lbs fresh feed, the permittee shall immediately take steps to reduce the amount of sulfur in the FCC fresh feed. These steps include, but are not limited to: crude diet changes, feed composition changes, or other appropriate methods to stay below 3.00 lb SO_2 per 1000 lbs fresh feed.

(11) Prior to conducting performance tests for SO_2 under f)(2), the permittee shall install a continuous SO_2 emissions monitoring system. The span value of the monitor shall be set at 50 percent of the maximum estimated hourly potential sulfur dioxide emission concentration of the control device.

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.

(12) Prior to conducting performance tests for SO_2 under f)(2), the permittee shall operate, and maintain equipment to continuously monitor and record SO_2 emissions from this emissions unit in units of the applicable standard(s). The continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.

The permittee shall maintain records of data obtained by the continuous SO_2 monitoring system including, but not limited to:

a. emissions of SO_2 in parts per million on an instantaneous (one-minute) basis*;

b. emissions of SO_2 in all units of the applicable standard(s) in the appropriate averaging period (pounds per thousand barrels of fresh feed, ppmvd at 0% O_2 as a 7-day, rolling average and ppmvd at 0% O_2 as a rolling, 365-day summation of the daily emissions);

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 SO_2 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 SO_2 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. above.

*NOTE: Valid minute by minute CEMS data shall not be required during periods in which scheduled CEMS system maintenance events (such as system blow-backs) occur. Minute by minute data recorded during a scheduled maintenance event shall be flagged as invalid due to the scheduled maintenance event, and not used in future compliance determination calculations.

(13) When SO_2 emission data are not obtained because of continuous monitoring system breakdowns, repairs, calibration checks and zero and span adjustments, emission data will be obtained by using one of the following methods to provide emission data for a minimum of 18 hours a day in at least 22 out of 30 rolling consecutive calendar days.

a. The test methods as described in 40 CFR 60.106(k);

b. A spare continuous monitoring system; or

c. Other monitoring systems as approved by the Administrator of U.S. EPA.

(14) The permittee shall record daily the average coke burn-off rate (Mg (tons) per hour) using the procedures of 40 CFR 60.106(b)(3) and the hours of operation. The Federal Register of September 21, 2006 change to the equation contained in 40 CFR 60.106(b)(3) as listed below:

$$Rc = K_1Q_r\ (\%CO_2 + \%CO) + K_2Q_a - K_3Q_r(\%CO/2 + \%CO_2 + \%O_2)$$

(15) The permittee shall record daily the rate of combustion of liquid fossil-fuels and the hours of operation during which liquid fossil-fuels are combusted in the CO Boilers (Emissions Units B046 and B047) and exhaust gases from the catalyst regenerator are combusted in the CO Boilers.

(16) The permittee shall monitor the ammonia slip emissions from the SCR system by an emission calculation using the inlet ammonia injection concentration and the inlet NOx concentration upstream of the SCR and the outlet NOx out of the stack to calculate an ammonia slip concentration.

NH_3 (ppmv @ 0% O_2) = ((a-b*(c/1E6))*1E6/b)*d

Where:

a = NH3 injection rate(lb/hr)/17(lb/lbmol),

b = dry exhaust gas flow rate (lb/hr)/(29(lb/lbmol), or

b = dry exhaust flow rate (scf/hr) / 379 (scf/lbmol at 60oF),

c = change in measured NOx concentration ppmv corrected to 0% O_2 across catalyst, and

d = correction factor.

The correction factor shall be derived through compliance testing by comparing the measured and calculated ammonia slip.

(17) [40 CFR 63, subpart UUU] NATIONAL EMISSION STANDARDS FOR HAPS FOR PETROLEUM REFINERIES: CATALYTIC CRACKING UNITS

The permittee shall comply with the applicable monitoring and record keeping requirements required under 40 CFR Part 63, subpart UUU, including the following sections:

63.1564	Requirements for metal HAP emissions from catalytic cracking units such as prepare an operation, maintenance and monitoring plan.
63.1565	Requirements for organic HAP emissions from catalytic cracking units such as prepare an operation, maintenance and monitoring plan.
63.1569(a)	Requirements for HAP emissions from bypass lines such as prepare an operation, maintenance and monitoring plan
63.1570	General requirements for complying with this subpart such as compliance with opacity and emission standards. Must also maintain a startup, shutdown and malfunction plan.
63.1572	Monitoring installation, operation, and maintenance requirements such as maintain the CEMs and/or COMs according to Table 40 of this subpart. Also, maintain any continuous parameter monitoring system according to Table 41 of this subpart.
63.1573	Approved monitoring alternatives for exhaust gas flow rate for the FCCU unit. May request approval from the permitting authority to use an automated data compression system or to monitor parameters other than those required in this subpart.
63.1576	Records that must be kept, in what form, and for how long; also pertains to reports, testing and monitoring plans. Maintain records as required in Tables 6, 7, 13, 14 and 39.

(18) AIR TOXICS POLICY

The permit to install for this emissions unit [P011] was evaluated based on the actual materials and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's “Review of New Sources of Air Toxic Emissions” policy ("Air Toxic Policy") was applied to this emissions unit for each toxic pollutant, using data from the permit to install application, and modeling was performed for the toxic pollutant(s) emitted at over a ton per year using the SCREEN 3.0 model or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the use of the SCREEN 3.0 (or other approved) model, was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC), calculated as required in Engineering Guide #70. The following summarizes the results of the modeling for the “worst case” pollutant(s):

Pollutant: ammonia
TLV (mg/m3): 17.41
Maximum Hourly Emission Rate (lbs/hr): 4.05
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 1.587
MAGLC (ug/m3): 414.5

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

a. changes in the composition of the materials used or the use of new materials, that would result in the emission of a compound or chemical with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled, as documented in the most current version of the American Conference of Governmental Industrial Hygienists' (ACGIH's) handbook entitled "TLVs and BEIs" ("Threshold Limit Values for Chemical Substances and Physical Agents, Biological Exposure Indices");

b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and

c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

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

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

a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);

b. documentation of the evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and

c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

[PTI-04-01447]

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports which identify all exceedances of the rolling, 365-day emission limitations for CO, NOx, PM_{10}, SO_2, and VOC and, for the first 12 calendar months of operation after the FCCU expansion, all exceedances of the maximum allowable cumulative emission levels. These quarterly reports shall be submitted to the Toledo Division of Environmental Services (TDES) by January 30, April 30, July 30, and October 30 of each year.

(2) Beginning with the calendar quarter occurring during initial startup after the FCCU expansion, the permittee shall comply with the following quarterly reporting requirements for the emissions unit and its continuous CO 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 TDES, documenting all instances of CO emissions in excess of any applicable limit specified in this permit, 40 CFR Part 60, OAC Chapter 3745-21, 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). If there are no excess emissions during the calendar quarter, the permittee shall submit a statement to that effect.

b. These quarterly reports shall be submitted to the TDES 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 CO and other associated monitors;

iii. the location of the continuous CO monitor;

iv. the exceedance report as detailed in a. above;

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

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

vii. results and dates of quarterly cylinder gas audits;

viii. results and dates of the relative accuracy test audit(s), including results in units of the applicable standard(s), (during appropriate quarter(s));

ix. the results of any relative accuracy test audit showing the continuous CO monitor out-of-control and the compliant results following any corrective actions;

x. the date, time, and duration of any/each malfunction* of the continuous CO monitoring system, emissions unit, and/or control equipment;

xi. the date, time, and duration of any downtime* of the continuous CO monitoring system and/or control equipment while the emissions unit was in operation; and

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

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) Beginning with the calendar quarter occurring during initial startup after the FCCU expansion, 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). If there are no excess emissions during the calendar quarter, the permittee shall submit a statement to that effect.

b. These quarterly reports shall be submitted to the TDES 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. the location of the continuous NOx monitor;

iv. the exceedance report as detailed in a. above;

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

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

vii. results and dates of quarterly cylinder gas audits;

viii. results and dates of the relative accuracy test audit(s), including results in units of the applicable standard(s), (during appropriate quarter(s));

ix. the results of any relative accuracy test audit showing the continuous NOx monitor out-of-control and the compliant results following any corrective actions;

x. the date, time, and duration of any/each malfunction* of the continuous NOx monitoring system, emissions unit, and/or control equipment;

xi. the date, time, and duration of any downtime* of the continuous NOx monitoring system and/or control equipment while the emissions unit was in operation; and

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

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

(4) The permittee shall submit written quarterly deviation (excursion) reports to the TDES that identify each deviation from the:

a. minimum pressure drop requirement for the water supplied at the discharge of the recirculation pumps supplying water to the Agglo-Filtering modules specified in c);

b. the minimum flue gas static pressure drop across the Agglo-Filtering modules specified in c);

c. the maximum ammonia slip limitation specified in c); and

d. combined emission limitation of 3.00 pounds SO_2 per thousand pounds of fresh feed for P011, B046 and B047.

For each instance where either the water pressure or the flue gas static pressure falls outside the enforceable range must satisfy the reporting requirements of 40 CFR 60.7 and must include, among other things: the date(s) and time the pressure was outside the range, the recorded pressure value (or differential pressure) at the time it was outside the range, the cause of the pressure falling outside the range and the corrective action taken to bring the pressure back into the enforceable range. If no deviations occurred during a calendar quarter, then a statement shall be submitted to that effect.

(5) The permittee shall comply with the following quarterly reporting requirements for the emissions unit and its continuous opacity 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 appropriate Ohio

EPA District Office or local air agency, documenting all instances of opacity values in excess of any limitation specified in this permit, 40 CFR Part 60, OAC rule 3745-17-07, and any other applicable rules or regulations. The report shall document the date, commencement and completion times, duration, and magnitude (percent opacity) of each 6-minute block average exceeding the applicable opacity limitation(s), as well as, the reason (if known) and the corrective actions taken (if any) for each exceedance. If there are no exceedances during the calendar quarter, the permittee shall submit a statement to that effect.

b. These quarterly reports shall be submitted to the Toledo Division of Environmental Services 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 opacity monitor;

iii. the location of the continuous opacity monitor;

iv. the exceedance report as detailed in a. above;

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

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

vii. the date, time, and duration of any/each malfunction* of the continuous opacity monitoring system, emissions unit, and/or control equipment;

viii. the date, time, and duration of any downtime* of the continuous opacity monitoring system and/or control equipment while the emissions unit was in operation; and

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

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 the opacity limit.

NOTE: This term is not required if the permittee implements the approved alternative opacity monitoring plans specified in d).

(6) Beginning with the calendar quarter occurring during initial startup after the FCCU expansion, the permittee shall comply with the following quarterly reporting requirements for the emissions unit and its continuous SO_2 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 appropriate Ohio EPA District Office or local air agency, documenting all instances of SO_2 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). If there are no excess emissions during the calendar quarter, the permittee shall submit a statement to that effect.

b. These quarterly reports shall be submitted to the Toledo Division of Environmental Services 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 SO_2 and other associated monitors;

iii. the location of the continuous SO_2 monitor;

iv. the exceedance report as detailed in a. above;

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

vi. the total operating time of the continuous SO_2 monitoring system while the emissions unit was in operation;

vii. results and dates of quarterly cylinder gas audits;

viii. results and dates of the relative accuracy test audit(s), including results in units of the applicable standard(s), (during appropriate quarter(s));

ix. the results of any relative accuracy test audit showing the continuous SO_2 monitor out-of-control and the compliant results following any corrective actions;

x. the date, time, and duration of any/each malfunction* of the continuous SO_2 monitoring system, emissions unit, and/or control equipment;

xi. the date, time, and duration of any downtime* of the continuous SO_2 monitoring system and/or control equipment while the emissions unit was in operation;

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

xiii. the dates for which and brief explanations as to why fewer than 18 valid hours of data were obtained for the continuous monitoring system;

xiv. identification of times when hourly averages have been obtained based on manual sampling methods;

xv. identification of the times when the pollutant concentration exceeded the full span of the continuous monitoring system; and

xvi. description of any modifications to the continuous monitoring system that could affect the ability of the continuous monitoring system to comply with Performance Specifications 2 or 3.

Each report shall address the operations conducted and data obtained during the previous calendar quarter. For any periods for which sulfur dioxide or oxides emissions data are not available, the permittee shall submit a signed statement indicating if any changes were made in operation of the emission control system during the period of data unavailability which could affect the ability of the system to meet the applicable emission limit. Operations of the control system and affected facility during periods of data unavailability are to be compared with operation of the control system and affected facility before and following the period of data unavailability.

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

(7) [40 CFR Part 63, subpart UUU] NATIONAL EMISSION STANDARDS FOR HAPS FOR PETROLEUM REFINERIES: CATALYTIC CRACKING UNITS

The permittee shall submit semiannual reports and such other notifications and reports to the appropriate Ohio EPA District Office or local air agency as required, per the following sections:

63.1574	Any notification(s) not previously submitted
63.1575	Semi-annual compliance, deviation, CEM or COM reports
63.1563(f)	Notification requirements of this subpart and those in Part 63, subpart A.

f) Testing Requirements

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

a. Emission Limitation:

20 percent opacity as a 6-minute average

Applicable Compliance Method:

Compliance shall be demonstrated based upon the visible particulate emission observations performed in accordance with the procedures specified in 40 CFR Part 60, Appendix A, Method 9 and the procedures of 40 CFR 60.11. Alternative U.S. EPA approved test methods may be used with prior approval from Ohio EPA.

b. Emission Limitation:

The combined CO emissions from P011, B046 and B047 shall be reduced by a minimum of a 99% control efficiency

Applicable Compliance Method:

The control efficiency is demonstrated through engineering calculations. Use the data from analyzers to measure percent O_2, percent CO and the percent CO_2 exiting the FCCU directly. Measure the air flow to the FCCU. Through a nitrogen (N_2) balance, the flow rate of the flue gas and the CO can be calculated using the following (7) input parameters:

Total air flow rate (FA) mmscf/hr

Bypass air flow rate (BPA) mscf/hr

Ambient air temperature (AMBT) °F

Moisture in air (M) mole H_2O/mole air

CO flue gas analysis (%CO) vol%=mol%

CO_2 flue gas analysis (%CO_2) vol%=mol%

O_2 flue gas analysis (%O_2) vol%=mol%

The calculation is as follows:

Air flow to the Regenerator (RGA):	(FA*1000000-BPA*1000) ÷(10.73*520/14.696) moles/hr
Dry Air Flow Rate (DAF):	RGA*(1-M) moles/hr
Nitrogen Conc. in Regen gas (%N):	100-%CO-%CO_2-%O_2
Total dry Regen Gas Flow (DRF):	DAF*79.1/%N moles/hr
CO2 Flow Rate (RGCO_2):	DRF*%CO_2/100 moles/hr
CO Flow Rate (RGCO):	DRF*%CO/100 moles/hr
O2 Flow Rate (RGO_2):	DRF*%O_2/100 moles/hr
N2 Flow Rate (RGN_2):	DRF*%N/100 moles/hr
CO Mass Flow Rate:	RGCO*28 lb/lb-mole lbs/hr

Compare the calculated inlet CO flow rate (lbs/hr) to the outlet CO flow rate (lbs/hr) measured during a performance test to determine the control efficiency (i.e., (inlet CO – outlet CO) divided by the inlet CO and multiply by 100 for percent control efficiency).

.Emission Limitation:

The combined CO emissions from P011, B046 and B047 shall not exceed 1,087.28 tons per year, based upon a rolling, 365-day summation of the daily emissions.

Applicable Compliance Method:

The annual emission limitation was developed by multiplying the maximum oxygen free stack flow rate (311,470 dscfm) by 60 minutes per hour, multiplied by 24 hours/day, multiplied by 365 days/year, multiplied by the allowable annual CO concentration (180 parts CO by volume dry at 0% O_2), divided by 1,000,000 parts, multiply by the molecular weight of CO (28 lb/lb-mole), and divide by the molar volume (379.43 ft^3/lb-mole), divided by 2000 pounds per ton. The monitoring and recordkeeping requirements of d) shall be used to demonstrate compliance with this emission limitation.

c. Emission Limitation:

The combined CO emissions from P011, B046 and B047 shall not exceed 500 ppmvd at 0% O_2 on a 1-hour average basis

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance using the methods and procedures of 40 CFR 60.106(d). Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

d. Emission Limitation:

The combined CO emissions from P011, B046 and B047 shall not exceed 180 ppmvd at 0% O_2 based upon a rolling, 365-day average

Applicable Compliance Method:

Compliance with this emission limitation shall be demonstrated by the monitoring and recordkeeping requirements for the continuous CO emissions monitoring system and continuous flow monitoring system required in d).

e. Emission Limitation:

The combined NOx emissions from P011, B046 and B047 shall not exceed 198.51 tons per year, based upon a rolling, 365-day summation of the daily emissions.

Applicable Compliance Method:

The annual emission limitation was developed by multiplying the maximum oxygen free stack flow rate (311,470 dscfm) by 60 minutes per hour, multiplied by 24 hours/day, multiplied by 365 days/year, multiplied by the annual average NOx concentration (20 parts NOx by volume dry at 0% O_2), divided by 1,000,000 parts, multiply by the molecular weight of NO2 (46.01 lb/lb-mole), and divide by the molar volume (379.43 ft3/lb-mole), divided by 2000 pounds per ton. The monitoring and recordkeeping requirements of d) shall be used to demonstrate compliance with this emission limitation.

f. Emission Limitation:

The combined NOx emissions from P011, B046 and B047 shall not exceed 40 ppmvd based on a 7-day rolling average, at 0% oxygen

Applicable Compliance Method:

The following calculation procedure shall be used along with the monitoring and recordkeeping requirements in d) for determining compliance.

i. Calculate each 1-hour average concentration (dry, zero percent oxygen, ppmv) of NOx at the outlet to the add-on control device as specified in 40 CFR 60.13(h). These calculations are made using the emission data collected by the NOx CEMS required in d).

ii. Calculate a 7-day average (arithmetic mean) concentration of NOx for the outlet to the add-on control device using all of the 1-hour average concentration values obtained during 7 successive 24-hour periods.

iii. If supplemental sampling data are used for determining the 7-day averages under this section and such data are not hourly averages, then the value obtained for each supplemental sample shall be assumed to represent the hourly average for each hour over which the sample was obtained.

iv. For the purpose of adjusting pollutant concentrations to zero percent oxygen, the following equation shall be used:

$C_{adj}=C_{meas}[20.9c/(20.9- \%O_2)]$

where:

C_{adj}=pollutant concentration adjusted to zero percent oxygen, ppm or g/dscm

C_{meas}=pollutant concentration measured on a dry basis, ppm or g/dscm

20.9c=20.9 percent oxygen - 0.0 percent oxygen (defined oxygen correction basis), percent

20.9=oxygen concentration in air, percent

$\%O_2$=oxygen concentration measured on a dry basis, percent

g. Emission Limitation:

The combined NOx emissions from P011, B046 and B047 shall not exceed 20 ppmvd based on a 365-day rolling average, at 0% oxygen

Applicable Compliance Method:

The following calculation procedure shall be used along with the monitoring and recordkeeping requirements d) for determining compliance.

i. Calculate each 1-hour average concentration (dry, zero percent oxygen, ppmv) of NOx at the outlet to the add-on control device as specified in 40 CFR 60.13(h). These calculations are made using the emission data collected by the NOx CEMS required in d).

ii. Calculate a 365-day average (arithmetic mean) concentration of NOx for the outlet to the add-on control device using all of the 1-hour average concentration values obtained during 365 successive 24-hour periods.

iii. If supplemental sampling data are used for determining the 365-day averages under this section and such data are not hourly averages, then the value obtained for each supplemental sample shall be assumed to represent the hourly average for each hour over which the sample was obtained.

iv. For the purpose of adjusting pollutant concentrations to zero percent oxygen, the following equation shall be used:

$C_{adj}=C_{meas}[20.9c/(20.9- \%O_2)]$

where:

C_{adj}=pollutant concentration adjusted to zero percent oxygen, ppm or g/dscm

C_{meas}=pollutant concentration measured on a dry basis, ppm or g/dscm

20.9c=20.9 percent oxygen - 0.0 percent oxygen (defined oxygen correction basis), percent

20.9=oxygen concentration in air, percent

$\%O_2$=oxygen concentration measured on a dry basis, percent

h. Emission Limitation:

The combined filterable PM emissions from P011, B046 and B047 shall not exceed 0.45 pound per thousand pounds of coke burn-off

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance using the methods and procedures of 40 CFR 60.106(a) and (b). Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

i. Emission Limitation:

The combined filterable PM emissions from P011, B046 and B047 shall not exceed 165.96 tons per year

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emissions unit. Compliance may be demonstrated by multiplying the short term filterable PM emission limitation (0.45 pound per 1,000 pounds of coke burn-off) by the maximum coke burn-off rate (84,200 pounds of coke burnoff per hour) multiplied by the maximum annual hours of operation (8,760 hours/year) and divided by 2,000 pounds per ton.

j. Emission Limitation:

The combined PM_{10} emissions from P011, B046 and B047 shall not exceed 0.90 pound per thousand pounds of coke burn-off.

Applicable Compliance Method:

This emission limitation was based on an emission factor submitted by the permittee based on the permittee's best available information. If required, the permittee shall demonstrate compliance through emissions testing performed in accordance with Methods 201 or 5B and 202 of 40 CFR Part 51, Appendix M. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

k. Emission Limitation:

The combined PM_{10} emissions from P011, B046 and B047 shall not exceed 331.92 tons per year, based upon a rolling, 365-day summation of the daily emissions.

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emissions unit. Compliance may be demonstrated by multiplying the allowable PM_{10} emission rate (0.90 lb/1,000 pounds of coke burn-off) by the maximum coke burn-off rate(84,200 pounds of coke burn-off per hour) multiplied by the maximum annual hours of operation (8760 hrs/yr), and then dividing by 2000 pounds per ton.

l. Emission Limitation:

The combined emissions from P011, B046, and B047 shall not exceed 3.00 pounds of sulfur dioxide (SO_2) per thousand pounds of fresh feed.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance using Methods 1 through 4 and 6 or 6C of 40 CFR Part 60, Appendix A. Alternative U.S. EPA Approved test methods may be used with prior approval from the Ohio EPA.

m. Emission Limitation:

The combined SO_2 emissions from P011, B046 and B047 shall not exceed 316 pounds per hour.

Applicable Compliance Method:

This emission limitation is based on the following calculation using the permittee-supplied emission factor of 100 ppmvd SO_2 at 0% oxygen. Multiply the maximum oxygen free stack flow rate (311,470 dscfm) by 60 minutes per hour, multiply by the maximum SO_2 concentration (100 parts SO_2 by volume dry at 0% O_2), divided by 1,000,000 parts, multiply by the molecular weight of SO_2 (64.1 lb/lb-mole), and divide by the molar volume (379.43 ft3/lb-mole).

If required, compliance shall be demonstrated using the methods and procedures of OAC rule 3745-18-04(E)(1). Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio the EPA.

n. Emission Limitation:

The combined SO_2 emissions from P011, B046 and B047 shall not exceed 345.71 tons per year, based upon a rolling, 365-day summation of the daily emissions.

Applicable Compliance Method:

The annual emission limitation was developed by multiplying the maximum oxygen free stack flow rate (311,470 dscfm) by 60 minutes per hour, multiplied by 24 hours/day, multiplied by 365 days/year, multiplied by the annual average SO_2 concentration (25 parts SO_2 by volume dry at 0% O_2), divided by 1,000,000 parts, multiply by the molecular weight of SO_2 (64.1 lb/lb-mole), and divide by the molar volume (379.43 ft3/lb-mole), divided by 2000 pounds per ton. The monitoring and recordkeeping requirements of d) shall be used to demonstrate compliance with this emission limitation.

o. Emission Limitation:

The combined SO_2 emissions from P011, B046 and B047 shall not exceed 25 ppmvd, based upon a rolling, 365-day summation of the daily emissions, at 0% oxygen

Applicable Compliance Method:

The following calculation procedure shall be used for determining compliance.

i. Calculate each 1-hour average concentration (dry, zero percent oxygen, ppmv) of sulfur dioxide at the outlet to the add-on control device as

specified in 40 CFR 60.13(h). These calculations are made using the emission data collected under 40 CFR 60.105(a).

ii. Calculate a 365-day average (arithmetic mean) concentration of sulfur dioxide for the outlet to the add-on control device using all of the 1-hour average concentration values obtained during 365 successive 24-hour periods.

iii. If supplemental sampling data are used for determining the 365-day averages under this section and such data are not hourly averages, then the value obtained for each supplemental sample shall be assumed to represent the hourly average for each hour over which the sample was obtained.

iv. For the purpose of adjusting pollutant concentrations to zero percent oxygen, the following equation shall be used:

$C_{adj}=C_{meas}[20.9c/(20.9- \%O_2)]$

where:

C_{adj}=pollutant concentration adjusted to zero percent oxygen, ppm or g/dscm

C_{meas}=pollutant concentration measured on a dry basis, ppm or g/dscm

20.9c=20.9 percent oxygen - 0.0 percent oxygen (defined oxygen correction basis), percent

20.9=oxygen concentration in air, percent

$\%O_2$=oxygen concentration measured on a dry basis, percent

p. Emission Limitation:

The combined SO_2 emissions from P011, B046 and B047 shall not exceed 50 ppmvd based on a 7-day rolling average, at 0% oxygen

Applicable Compliance Method:

The permittee shall demonstrate compliance with this emissions limitation using the methods and procedures of 40 CFR 60.106(h).

q. Emission Limitation:

The combined PM_{10} emissions from P011, B046 and B047 shall be controlled by a minimum of 95%

Applicable compliance method:

If required, the permittee shall demonstrate compliance through emissions testing performed in accordance with Methods 201 and 202 of 40 CFR Part 51, Appendix M at both the inlet to and the outlet of the wet gas scrubber.

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

r. Emission Limitation:

The combined VOC emissions from P011, B046 and B047 shall not exceed 3.67 pounds per hour

Applicable Compliance Method:

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

s. Emission Limitation:

The combined VOC emissions from P011, B046 and B047 shall not exceed 16.07 tons per year, based upon a rolling, 365-day summation of the daily emissions

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emissions unit. Compliance may be demonstrated by multiplying the short term VOC emission limitation (3.67 pounds per hour) by the maximum annual hours of operation (8,760 hours/year) and divided by 2,000 pounds per ton.

t. Emission Limitation:

Ammonia slip emissions shall not exceed 5 ppmv

Applicable Compliance Method:

The monitoring and recordkeeping requirements of d) shall serve as demonstration of compliance.

If required, the permittee shall demonstrate compliance using U.S. EPA Conditional Test Method (CTM) 027. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

u. Emission Limitation:

The combined sulfuric acid (H_2SO_4) mist emissions from the FCCU (P011) and CO Boilers (B046 and B047) shall not exceed 10 ppmv.

Applicable Compliance Method:

This emission limitation is based on a manufacturer's guaranteed emission rate supplied by the permittee. If required, the permittee shall demonstrate compliance with this emission limitation using Method 8 of 40 CFR Part 60,

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

v. Emission Limitation:

The combined sulfuric acid (H_2SO_4) mist emissions from the FCCU (P011) and CO Boilers (B046 and B047) shall not exceed 215.84 tons per year, based upon a rolling, 365-day summation of the daily emissions.

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emissions unit. Compliance may be demonstrated by multiplying the maximum stack flow rate (317,989 dscfm) by 60 minutes per hour, multiplied by 24 hours/day, multiplied by 365 days/year, multiplied by the maximum H_2SO_4 mist concentration (10 ppmvd), divided by 1,000,000 parts, multiply by the molecular weight of (98 lb/lb-mole), and divide by the molar volume (379.43 ft3/lb-mole), divided by 2000 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 emissions testing shall be conducted within 60 days of achieving the maximum production rate after initial startup after the FCCU expansion, but no later than 180 days after initial startup after the FCCU expansion to demonstrate compliance with the allowable:

i. concentrations: ammonia (1-hr average); CO (1-hour average); NOx and SO_2 (7-day rolling average); H_2SO_4 (1-hr average);

ii. mass emissions rates for filterable PM (lb/1000 pounds of coke burn-off), PM_{10} (lb/hr and lb/1000 pounds of coke burnoff), SO_2 (lb/hr), and VOC (lb/hr) and

iii. CO control efficiency (testing shall include a determination of the calculated uncontrolled and controlled CO emissions to determine the control efficiency)-.

b. The following test method(s) or other test methods as approved by Ohio EPA shall be employed to demonstrate compliance with the allowable concentrations, mass emission rate(s) and control efficiency:

i. Methods 1 through 4 of 40 CFR Part 60, Appendix A and the methods and procedures of 40 CFR 60.106(d) for CO (uncontrolled and controlled emissions);

ii. See f)(1) for determining the 7-day rolling average NOx concentrations;

iii. 40 CFR 60.106(a) and (b) for filterable PM (lb/ton of coke burnoff);

iv. Methods 5B and 202 of 40 CFR Part 51, Appendix M for lb/hr PM_{10} (uncontrolled and controlled emissions);

v. Methods 1-4 and 6 or 6C of 40 CFR Part 60, Appendix A for determining lb/hr SO_2 emissions;

vi. 40 CFR 60.106(h) for 7-day rolling average SO_2 concentrations;

vii. Methods 1 through 4 and 25 or 25A, as appropriate, of 40 CFR Part 60, Appendix A. Use of Method 25 or 25A is to be selected based on the results of pre-survey stack sampling and U.S. EPA guidance documents;

viii. U.S. EPA Conditional Test Method (CTM) 027 for ammonia emissions; and

ix. Method 8 of 40 CFR Part 60, Appendix A for H_2SO_4 emissions.

c. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the TDES for all emission tests. 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 TDES refusal to accept the results of the emission test.

Personnel from the TDES 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.

A comprehensive written report on the results of any emissions tests shall be signed by the person or persons responsible for the tests and submitted to the TDES within 30 days following completion of the tests.

(3) Within 60 days of achieving the maximum production rate after initial startup after the FCCU expansion, but no later than 180 days after initial startup after the FCCU expansion, the permittee shall conduct certification tests of the continuous CO monitoring system in units of the applicable standard(s), to demonstrate compliance with 40 CFR Part 60, Appendix B, Performance Specification 4 or 4a (as appropriate); and ORC section 3704.03(I).

Personnel from the Ohio EPA Central Office and the appropriate Ohio EPA District Office or local air agency 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 appropriate Ohio EPA District Office or local air agency 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 CO 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 4 or 4a (as appropriate) and ORC section 3704.03(I). The letter/document of certification of the continuous CO monitoring system, issued by the Ohio EPA, shall be maintained on file upon receipt and made available to the Director (the appropriate Ohio EPA District Office or local air agency) upon request.

Ongoing compliance with the CO 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 requirements of 40 CFR Part 60.

(4) Within 60 days of achieving the maximum production rate after initial startup after the FCCU expansion, but no later than 180 days after initial startup after the FCCU expansion, 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 appropriate Ohio EPA District Office or local air agency 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 appropriate Ohio EPA District Office or local air agency 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). The letter/document of certification of the continuous NOx monitoring system, issued by the Ohio EPA, shall be maintained on file upon receipt and made available to the Director (the appropriate Ohio EPA District Office or local air agency) upon request.

Ongoing compliance with the NOx emissions 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 requirements of 40 CFR Part 60.

(5) Ongoing compliance with the opacity limitation 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 requirements of 40 CFR Part 60.

(6) Within 60 days of achieving the maximum production rate after initial startup after the FCCU expansion, but no later than 180 days after initial startup after the FCCU expansion, the permittee shall conduct certification tests of the continuous SO_2 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 appropriate Ohio EPA District Office or local air agency 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 appropriate Ohio EPA District Office or local air agency 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 SO_2 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). The letter/document of certification of the continuous SO_2 monitoring system, issued by the Ohio EPA, shall be maintained on file upon receipt and made available to the Director (the appropriate Ohio EPA District Office or local air agency) upon request.

Ongoing compliance with the SO_2 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 requirements of 40 CFR Part 60.

(7) [40 CFR 63, subpart UUU] NATIONAL EMISSION STANDARDS FOR HAPS FOR PETROLEUM REFINERIES: CATALYTIC CRACKING UNITS

The permittee shall comply with the applicable testing requirements required under 40 CFR Part 63, subpart UUU, including the following sections:

63.1564(b)	Required to install a COM according to the requirements in 63.1572 and Table 3 of this subpart, conduct a performance test for PM according to the requirements in 63.1571 and Table 4 of this subpart for initial compliance.
63.1564(c)	Demonstrate continuous compliance with emission limitations in Tables 1 and 2 and work practice standards.
63.1565(b)	Required to install a CEM for CO emissions and demonstate initial compliance with the emission limit and work practice standards.
63.1565(c)	Demonstrate continuous compliance with applicable emission limitations in Tables 8 and 9 and with the work practice standards. The CO emissions shall not exceed 500 ppmv (dry basis).

63.1569(b)	Demonstrate initial compliance with work practice standards for bypass lines.
63.1569(c)	Demonstrate continuous compliance with the work practice standards for bypass lines in Table 36.
63.1571	Must conduct initial compliance tests or performance tests as applicable.

g) Miscellaneous Requirements

(1) The following tables from 40 CFR Part 63 subpart UUU are applicable to this emissions unit:
Tables 1; 2; 3; 4; 5; 6; 7; 8; 9; 10; 11; 12; 13; 14; 36; 37; 38; 39; 40; 41; 42; 43 and 44.

6. P012, SRU

Operations, Property and/or Equipment Description:

P012 - Claus sulfur recovery unit No. 1 and sulfur pit with tail gas unit and incinerator. Emissions from the Claus sulfur recovery unit will be vented to the number 1 tail gas treater with incinerator with 7 mmBtu/hr incinerator.

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) Terms d)(7), (8) and (9).

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(C) (PTI 04-01447 issued 9/29/06 and modified on 1/23/07)	See b)(2)a., (2)f. and (2)g.
b.	OAC rule 3745-18-54(O)(9)	0.07 pounds of sulfur dioxide (SO_2) per pound of sulfur (S) processed
c.	OAC rule 3745-21-09(T)	See b)(2)h.
d.	40 CFR Part 60, Subpart A	See b)(2)a. and (2)c.
e.	40 CFR Part 60, Subpart J	See b)(2)a. and (2)b.
f.	40 CFR Part 63, Subpart A (40 CFR 63.1577)	See b)(2)d.
g.	40 CFR Part 63, Subpart UUU [In accordance with 40 CFR 63.1561(a)(1)(iii), this emissions unit is a SRU at an existing petroleum refinery subject to the emission limitations/control measures specified in this section.]	See b)(2)e.

(2) Additional Terms and Conditions

a. Effective March 14, 2006, this emissions unit shall be an affected facility under NSPS, 40 CFR Part 60, Subparts A and J. Terms c)(1) through (4) [below] set forth a compliance plan and interim compliance requirements for this emissions unit to comply with 40 CFR Part 60, Subpart J. The permittee shall comply with the requirements of 40 CFR Part 60, Subparts A and J applicable to this emissions unit by no later than December 31, 2009. If during the interim period between the issuance date of this Permit to Install and the date the permittee comes into compliance with the requirements of 40 CFR Part 60, Subparts A and J the permittee complies with the requirements of c)(1) through (4) [below], the U.S. EPA and Ohio EPA will consider this emissions unit to be in compliance with the requirements of 40 CFR Part 60, Subparts A and J.

Compliance with c)(1) through (4) [below] shall satisfy the notice requirements of 40 CFR 60.7(a) and the initial performance test requirements of 40 CFR 60.8.

b. The permittee shall not discharge or cause the discharge of any gases into the atmosphere from any Claus sulfur recovery plant containing in excess of 250 ppm by volume (dry basis) of sulfur dioxide (SO_2) at zero percent excess air as a rolling, 12-hour average. The permittee shall comply with this emission limitation by no later than December 31, 2009.

c. 40 CFR Part 60, Subpart A provides applicability provisions, definitions, and other general provisions that are pertinent to emissions units affected by 40 CFR Part 60.

d. 40 CFR Part 63, Subpart A provides applicability provisions, definitions, and other general provisions that are pertinent to emissions units affected by 40 CFR Part 63. Table 44 of 40 CFR Part 63, Subpart UUU shows which parts of the General Provision in 40 CFR Part 63.1 through 63.15 apply to this emissions unit.

e. The permittee shall comply with the applicable emission limitations and work practice standards for existing emissions units in 40 CFR Part 63, Subpart UUU.

f. The permittee shall maintain a Preventive Maintenance and Malfunction plan (PMMAP) as described in the Consent Decree dated May 2, 1995. The permittee shall follow the control plan to minimize air quality impacts during SRU turnarounds and malfunctions.

g. Within 180 days of the effective date of this permit, the permittee shall develop and maintain a written quality assurance/quality control plan for the continuous SO_2 monitoring systems, designed to ensure continuous valid and representative readings of SO_2 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 SO_2 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 Subparts A and J.

h. The permittee shall comply with the applicable equipment leak monitoring requirements in the terms and conditions for emissions unit P801, sections b), c), d), e) and f), referencing OAC rule 3745-21-09(T).

c) Operational Restrictions

(1) [CD, section I.43.b.] NSPS Compliance - Interim Controls
The permittee shall implement the following interim control measures at this emissions unit:

a. The permittee shall maintain and operate an SO_2 continuous emissions monitoring system (CEMS) for monitoring the emissions from the sulfur recovery plant (SRP) in accordance with 40 CFR Part 60, Subpart A and 40 CFR 60.13, and shall comply, during the interim period, with the specific monitoring and reporting provisions established c)(1)c. below.

b. By 180 days after March 14, 2006, the permittee shall complete or shall have completed an optimization study to minimize emissions and to maximize sulfur recovery efficiencies and shall submit a copy of that study to the U.S. EPA, Ohio EPA Central Office, and the Toledo Division of Environmental Services (TDOES). The permittee shall implement the results of the optimization study that could reasonably optimize the performance of the sulfur recovery plant by no later than March 14, 2007.

c. By no later than March 14, 2007, the permittee shall submit a report to U.S. EPA, Ohio EPA Central Office, and TDES that proposes an appropriate interim performance standard (a range of percent recovery or other performance standard), appropriate monitoring and reporting requirements for the proposed interim performance standard and, if necessary, a schedule for implementing additional optimization study recommendations that would ensure that the SRP comply with the permittee's proposed standard. Beginning with the date of such submission, the permittee shall comply with its proposed interim performance standard and, if necessary, implement its proposed schedule for additional optimization study recommendations.

d. If EPA determines, based on the results of the study and other available and relevant information, that a more stringent interim performance standard and/or a different implementation schedule is appropriate and can be achieved with a reasonable certainty of compliance, after an opportunity for consultation with Ohio EPA, EPA shall so notify the permittee.

Unless the permittee disputes EPA's determination(s) within 90 days of its receipt of that notice, it shall comply with such new standard within 90 days or, if necessary, such other period as may be established by EPA consistent with any implementation schedule for additional optimization study recommendations proposed by the permittee. The permittee shall continue to comply with the appropriate interim performance standard until such time as the permittee completes installation of the tail gas units (TGUs) in accord with the schedules

under c)(1) through (4) and operates the Toledo SRP in compliance with NSPS Subpart J.

(2) [CD, section I.44.] NSPS Optimization Study
The sulfur recovery plant optimization study shall meet the following requirements:

a. a detailed evaluation of the Claus plant design and capacity, of the operating parameters and of the conversion and recovery efficiencies across the reaction furnace, waste heat boiler and each catalytic converter – including assessment of catalytic activity and determinations of material balances;

b. an analysis of the composition and variability of the acid gas and sour water stripper gas resulting from the processing of the crude slate actually used, or expected to be used, in those Claus train(s);

c. a review of each critical piece of process equipment and instrumentation within the Claus train to correct problems that have prevented the Claus train from achieving its optimal sulfur recovery efficiency;

d. establishment of baseline data through testing and measurement of key parameters throughout the Claus train;

e. establishment of a thermodynamic process model of the Claus train;

f. for any key parameters that have been determined to be at less than optimal levels, initiation of logical, sequential, or stepwise changes designed to move such parameters toward their optimal values;

g. verification through testing, analysis of continuous emission monitoring data or other means, of incremental and cumulative improvements in sulfur recovery efficiency, if any;

h. establishment of new operating procedures for long-term efficient operation; and

i. the study shall be conducted to optimize the performance of the Claus train in light of the actual characteristics of the feeds to the train.

(3) [CD, section I.45.] Sulfur Pit Emissions
The permittee shall route all sulfur pit emissions so that they are eliminated, controlled, or included and monitored as part of the sulfur recovery plant's emissions subject to the 40 CFR Part 60, Subpart J limitation for SO2, 40 CFR 60.104(a)(2), by no later than the first turnaround of the Claus train that occurs on or after March 14, 2007 or by December 31, 2008 (whichever first occurs).

(4) [CD, section I.47.a] Good Operation and Maintenance
By no later than 180 days from March 14, 2006, the permittee shall submit or shall have submitted to the U.S. EPA, Ohio EPA, and the Toledo Division of Environmental Services a summary of the plans, implemented or to be implemented, at the Toledo Refinery for enhanced maintenance and operation of the sulfur recovery plant (SRP), and tail gas units (TGUs), including any supplemental control devices, and the appropriate upstream process units. This plan shall be termed a Preventive Maintenance and Operation Plan (PMOP). The PMOP shall be a compilation of the permittee's

approaches for exercising good air pollution control practices and for minimizing SO_2 emissions (including the PMOP described under b)(2)f. at the Toledo Refinery. The PMOP shall have as its goal the elimination of Acid Gas Flaring and the continuous operation of the SRP, between scheduled maintenance turnarounds, with a minimization of emissions. The PMOP shall include, but not be limited to, sulfur shedding procedures, startup and shutdown procedures, emergency procedures and schedules to coordinate maintenance turnarounds of the SRP Claus trains and associated TGUs to coincide, if necessary to minimize emissions, with scheduled turnarounds of major Upstream Process Units. The permittee shall operate consistent with the PMOP at all times, including periods of startup, shutdown and malfunction of its SRP. Changes to a PMOP related to minimizing acid gas flaring and/or SO_2 emissions shall be summarized and reported by the permittee to U.S. EPA, Ohio EPA and the Toledo Division of Environmental Services on an annual basis.

(5) [CD, section I.47.b.] Good Operation and Maintenance
U.S. EPA, Ohio EPA and the Toledo Division of Environmental Services do not, by their review of a PMOP and/or by their failure to comment on a PMOP, warrant or aver in any manner that any of the actions that the permittee may take pursuant to such PMOP will result in compliance with the provisions of the Clean Air Act or any other applicable federal, state, or local law or regulation. Notwithstanding the review by EPA or any state agency of a PMOP, the permittee shall remain solely responsible for compliance with the Clean Air Act and such other laws and regulations.

(6) [40 CFR 63, subpart UUU] NATIONAL EMISSION STANDARDS FOR HAPS FOR PETROLEUM REFINERIES: SULFUR RECOVERY UNIT

The permittee shall comply with the applicable restrictions in 63.1568, including the following sections:

63.1568(a)(2)	Must meet the emission limitation in Table 29 (option 3) until the new tail gas unit is installed, then (option 1).
63.1568(a)(3)	Must prepare an operation, maintenance, and monitoring plan according to the requirements in 63.1574(f) and operate accordingly.

d) Monitoring and/or Recordkeeping Requirements

(1) SO_2 CEMS RECORDKEEPING
The permittee shall maintain on-site documentation from the U.S. EPA or the Ohio EPA's Central Office documenting that the continuous SO_2 monitoring system has been certified to meet the requirements of 40 CFR Part 60, Appendix B, Performance Specifications 2. The letter/document of certification shall be made available to the Director (the appropriate Ohio EPA District Office or local air agency) 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.

(2) The permittee shall operate, and maintain equipment to continuously monitor and record SO_2 emissions from this emissions unit in units of the applicable standard(s). The

continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.

The permittee shall maintain records of data obtained by the continuous SO_2 monitoring system including, but not limited to:

a. emissions of SO_2 in parts per million on an instantaneous (one-minute) basis*;

b. emissions of SO_2 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 SO_2 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 SO_2 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.

NOTE: Valid minute by minute CEMS data shall not be required during periods in which scheduled CEMS system maintenance events (such as system blow-backs) occur. Minute by minute data recorded during a scheduled maintenance event shall be flagged as invalid due to the scheduled maintenance event, and not used in future compliance determination calculations.

(3) SO_2 RECORDKEEPING

a. The permittee shall maintain daily records of the following information, while the emissions unit is in operation:

i. the total amount of sulfur processed;

ii. the total SO_2 emissions, in pounds, from the Claus unit and the flare(s); and

iii. the average SO_2 emission rate, in pound of SO_2 per pound of sulfur processed.

b. For a specific period of time, the amount of sulfur processed is equal to the amount of sulfur entering the Claus unit plus the amount of any sulfur bypassed to the flare(s) from the amine unit and/or the sour water stripper.

(4) [40 CFR 63, subpart UUU] NATIONAL EMISSION STANDARDS FOR HAPS FOR PETROLEUM REFINERIES: SULFUR RECOVERY UNIT

The permittee shall comply with the applicable monitoring and recordkeeping requirements under this subpart, including the following sections:

63.1570	Must be in compliance with the non-opacity standards except during startup, shutdown and malfunctions. Must develop a written startup, shutdown and malfunction plan and operate accordingly.
63.1572	Must install and operate an SO_2 CEM according to Table 40; if applicable, the permittee must maintain a continuous parameter monitoring system according to Table 41 (for option 3, a combustion zone temperature; for option 2, not applicable)
63.1576(a)	Records of notifications submitted; records related to startup, shutdown and malfunctions and records of performance tests.
63.1576(b)	Monitoring data for the CEMs and records of deviations
63.1576(c)	Records for visible emission observations as required by 40 CFR 63.6(h).
63.1576(d)	Records as required by Tables 34 and 35 for the SRU and Table 39 for bypass lines.
63.1576(e)	A current copy of the operation, maintenance and monitoring plan and records showing continuous compliance with the plan.

e) Reporting Requirements

(1) The permittee shall comply with the following quarterly reporting requirements for the emissions unit and its continuous SO_2 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 Toledo Division of Environmental Services, 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). If there are no excess emissions during the calendar quarter, the permittee shall submit a statement to that effect.

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 SO_2 and other associated monitors;

iii. the location of the continuous SO_2 monitor;

iv. the exceedance report as detailed in a. above;

v. the total SO_2 emissions for the calendar quarter (tons);

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

vii. the total operating time of the continuous SO_2 monitoring system while the emissions unit was in operation;

viii. results and dates of quarterly cylinder gas audits;

ix. results and dates of the relative accuracy test audit(s), including results in units of the applicable standard(s), (during appropriate quarter(s));

x. the results of any relative accuracy test audit showing the continuous SO_2 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 SO_2 monitoring system, emissions unit, and/or control equipment;

xii. the date, time, and duration of any downtime* of the continuous SO_2 monitoring system and/or control equipment while the emissions unit was in operation;

xiii. the reason (if known) and the corrective actions taken (if any) for each event in (b)(xi) and (xii);

xiv. percent availability of the SRU;

xv. amounts (tons), and points of emission of excess sulfur dioxide emissions that are caused by malfunctions or shutdowns of the amine unit, sour water stripper, or the SRU;

xvi. an analysis of the cause of and corrective action taken for each malfunction (including any bypassing of the amine-claus SRU to the refinery flare system) or shutdown; and

xvii. the date, time, and duration of any/each malfunction* of the emissions unit(including any bypassing of the amine-claus SRU to the refinery flare system) or shutdown.

Each report shall address the operations conducted and data obtained during the previous calendar quarter. For any periods for which sulfur dioxide or oxides emissions data are not available, the permittee shall submit a signed statement indicating if any changes were made in operation of the emission control system during the period of data unavailability which could affect the ability of the system to meet the applicable emission limit. Operations of the control system and affected facility during periods of data unavailability are to be compared with operation of the control system and affected facility before and following the period of data unavailability.

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

(2) [40 CFR Part 63, Subpart UUU] NATIONAL EMISSION STANDARDS FOR HAPS FOR PETROLEUM REFINERIES: SULFUR RECOVERY UNIT

The permittee shall sumbit semiannual reports and such other notifications and reports to the appropriate Ohio EPA District office or local air agency as are required pursuant to this subpart, including the following sections:

63.1574	Initial notifications stated in 63.1574(a) were previously sent by the permittee. Must send the notification of compliance and include the information in Table 42. Must prepare and implement an operation, maintenance, and monitoring plan for each control system and continuous monitoring system as stated in 63.1574(f).
63.1575(a) through (c)	Must submit each semiannual report in Table 43 that applies to this emissions unit regarding emission limitations and work practice deviations.
6.11575(e)	Reports for CEMs.
63.1575(h)	Reporting requirements regarding startups, shutdowns and malfunctions

f) Testing Requirements

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

a. Emission Limitation:

250 ppmvd SO_2 at 0% O_2 as a rolling, 12-hr average

Applicable Compliance Method:

The monitoring and recordkeeping requirements of d) shall be used to demonstrate compliance. If required, the permittee shall demonstrate compliance using the methods and procedures of 40 CFR 60.106(f)(1).

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

b. Emission Limitation:

0.07 pounds of sulfur dioxide per pound of sulfur processed

Applicable Compliance Method:

The test methods and procedures used for determining compliance with this emission limit are those specified in OAC rule 3745-18-04(B), which refers to 40 CFR 60.46.

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

(2) Ongoing compliance with the SO_2 emission limitations contained in this permit, 40 CFR Parts 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 a quality assurance/quality control plan which meets the requirements of 40 CFR Part 60.

g) Miscellaneous Requirements

(1) The following tables from 40 CFR 63 subpart UUU are applicable to this emissions unit: Tables 29; 30; 31; 32; 33; 34; 35; 36; 37; 38; 39; 40; 41; 42; 43 and 44.

(2) [CD, section XVIII, 245] TERMINATION of the CONSENT DECREE
The Consent Decree shall be subject to termination upon motion by the United States or Sunoco under the conditions identified in Paragraphs 245 through 247 of the Consent Decree. Sunoco may seek termination of the Consent Decree upon either (A) completion and satisfaction at the relevant Refinery of all of the following requirements stated in Paragraphs 245.a-e.; or (B) anytime after the permanent shutdown of, and relinquishment of all operating permits for, such Refinery.

7. P017, Wastewater

Operations, Property and/or Equipment Description:

P017 - All wastewater streams; non-permitted cooling towers; wastewater tanks and storm water systems within the refinery.

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3) (PTI 04-01447 issued 9/29/06 and modified on 1/23/07)	volatile organic compounds (VOC) emissions shall not exceed 91.19 tons per year See b)(2)a. and (2)b.
b.	40 CFR Part 63, Subpart CC [In accordance with 40 CFR 63.640(a), this emissions unit represents the facility-wide waste-water program at an existing petroleum refinery subject to the emission limitations/control mea-sures specified in this section.]	See b)(2)c. and (2)d.
c.	40 CFR Part 63, Subpart A	See b)(2)e.
d.	40 CFR Part 61, Subpart FF [In accordance with 40 CFR 63.647(a), this emissions unit represents the facility-wide waste-water program at an existing petroleum refinery subject to the emission limitations/control mea-sures specified in this section for Group 1 and Group 2 wastewater streams.]	See b)(2)c.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
Enhanced BWON Program		
e.	OAC rule 3745-31-05(D) (PTI 04-01447 issued 9/29/06 and modified on 1/23/07)	See b)(2)h. and (2)i.
f.	40 CFR 60, subpart QQQ [In accordance with 40 CFR 60.690, this emissions unit represents the facility-wide wastewater program at an existing petroleum refinery subject to the emission limitations/control measures specified in this section for Group 2 wastewater streams not subject to 40 CFR 63, subpart CC.]	See b)(2)d. and (2)j.
Equipment Leaks		
g.	40 CFR Part 63, Subpart CC	See b)(2)e. and (2)f.
h.	OAC rule 3745-21-09(T)	See b)(2)g.

(2) Additional Terms and Conditions

a. Modifications of the equipment at this facility shall not require a PTI modification that results solely in increases in fugitive equipment leaks unless and until the calculated facility-wide potential to emit (PTE) for fugitive emissions equals or exceeds the allowable fugitive emission limit stated in b)(1)a.

b. The permittee shall consider only those fugitive emissions from the equipment being installed or modified (i.e., not the facility-wide fugitive equipment limit) when determining applicability under OAC rule 3745-31-11 through OAC rule 3745-31-20.

c. Pursuant to 40 CFR Part 63.647(a), the permittees of Group 1 wastewater streams shall comply with the requirements of 40 CFR Part 61.340 through 61.355 of 40 CFR Part 61, Subpart FF for each stream that meets the definition for Group 1 wastewater streams as stated in 63.641 (stated below).

A *Group 1 wastewater stream* means a wastewater stream at a petroleum refinery with a total annual benzene loading of 10 megagrams per year or greater

as calculated according to the procedures in 40.CFR 61.342 of Subpart FF that has a flow rate of 0.02 liters per minute or greater, a benzene concentration of 10 parts per million by weight or greater, and is not exempt from control requirements under the provisions of 40 CFR Part 61, Subpart FF. A *Group 2 wastewater stream* means a wastewater stream that does not meet the definition of Group 1 wastewater stream.

d. Pursuant to 40 CFR Part 63.640(o), Group 1 wastewater streams that were subject to 40 CFR Part 60, Subpart QQQ shall comply only with the provisions of 40 CFR Part 63, Subpart CC. Also, Group 1 or Group 2 wastewater streams that were subject to 40 CFR Part 63, Subpart G, shall comply with 40 CFR Part 63, Subpart CC. Group 2 wastewater streams are subject to 40 CFR 60, Subpart QQQ as necessary.

e. Table 6 of 40 CFR 63, subpart CC specifies the provisions of subpart A that apply and those that do not apply to owners and operators of sources subject to 40 CFR 63, subpart CC.

f. Refer to emissions unit P801 of this permit for the applicable equipment leak provisions referencing 40 CFR Part 60, Subpart VV.

g. Refer to emissions unit P801 of this permit for the state requirements for equipment leaks referencing OAC rule 3745-21-09(T).

h. An enhanced Benzene Waste Operations NESHAP (BWON) program is required by the consent decree as entered on March 14, 2006. The requirements established by the consent decree are as stringent or more stringent than the requirements of 40 CFR 63, subpart CC and OAC rule 3745-21-09(T).

i. [Consent Decree (CD), section M.] - BENZENE WASTE NESHAP PROGRAM ENHANCEMENTS
In addition to continuing to comply with all applicable requirements of 40 CFR Part 61, Subpart FF (the “Benzene Waste Operations NESHAP,” “BWON,” or “Subpart FF”), Sunoco agrees to undertake, at the Covered Refinery, the measures set forth in Section M. of the Consent Decree to ensure enhanced compliance with Subpart FF and to minimize or eliminate fugitive benzene waste emissions. For purposes of this Section (“Benzene Waste NESHAP Program Enhancements”), “Covered Refinery” means the Toledo Refinery.

j. Group 2 wastewater streams are subject to 40 CFR Part 60, Subpart QQQ and shall comply with the requirements of 40 CFR 60, Subpart QQQ as follows:

i. [60.690(a)(1)]
The provisions of this subpart apply to affected facilities located in petroleum refineries for which construction, modification, or reconstruction commenced after May 4, 1987.

ii. [60.690(a)(2)]
An individual drain system is a separate affected facility. Individual drain system means all process drains connected to the first common downstream junction box. The term includes all such drains and common

junction box, together with their associated sewer lines and other junction boxes, down to the receiving oil-water separator.

iii. [60.690(a)(3)]
An oil-water separator is a separate affected facility. Oil-water separator means wastewater treatment equipment used to separate oil from water consisting of a separation tank, which also includes the forebay and other separator basins, skimmers, weirs, grit chambers, and sludge hoppers. Slop oil facilities, including tanks, are included in this term along with storage vessels and auxiliary equipment located between individual drain systems and the oil-water separator. This term does not include storage vessels or auxiliary equipment which do not come in contact with or store oily wastewater.

iv. [60.690(a)(4)]
An aggregate facility is a separate affected facility. Aggregate facility means an individual drain system together with ancillary downstream sewer lines and oil-water separators, down to and including the secondary oil-water separator, as applicable.

c) Operational Restrictions

(1) [40 CFR 63, subpart CC] NESHAP FROM PETROLEUM REFINERIES

The permittee shall comply with the applicable restrictions required under 40 CFR Part 63, subpart CC, including the following sections:

63.642(k)	The permittee shall comply with the wastewater provisions of 63.647 of subpart CC.
63.647(a) and (b)	The permittee is required to comply with the requirements of 40 CFR Part 61.340 through 61.355 of 40 CFR 62, subpart FF for each process wastewater stream that meets the definition in 40 CFR Part 63.641.
63.647(c)	Required under subpart FF to perform periodic measurement of benzene concentration in wastewater. Failure to perform required leak monitoring for closed vent systems and control devices or failure to repair leaks within the time period specified in 40 CFR Part 61, Subpart FF, shall constitute a violation of this standard.

(2) [40 CFR 61, subpart FF] NATIONAL EMISSION STANDARD FOR BENZENE WASTE OPERATIONS

The permittee shall comply with the applicable restrictions required under 40 CFR Part 61, subpart FF, including the following sections:

61.342(a) and (c)	General Standards for facilities at which the total annual benzene quantity from facility waste is equal to or greater than 10 Mg/yr. The wastestreams with less than 10% water, the owner shall remove or destroy the benzene in the waste

according to 61.348. Some streams may be exempt as stated in 61.342(c)(2) if less than 10 ppmv. Exempt streams cannot exceed 2.0 Mg/yr.

61.343 Standards for Tanks: The permittee shall install, operate and maintain a fixed roof tank with a closed vent system to route the vapors. Covers and all openings are designed with no detectable emissions.

61.345 Standards for Containers: All containers are to be covered and all openings in a closed, sealed position. Submerged fill pipe is used when waste is transferred.

61.351 Alternative Standards for Tanks: As an alternative, the permittee may elect to comply with the requirements of 60.112b(a)(1), (a)(2) or 60.114b.

ENHANCED BWON PROGRAM AS REQUIRED BY CONSENT DECREE(CD) - Date of Entry, March 14, 2006

(3) [CD, section M.65] CURRENT COMPLIANCE STATUS
As of Date of Entry of the Consent Decree, Sunoco shall comply with the compliance option set forth at 40 CFR 61.342(c), utilizing the exemptions set forth in 40 CFR 61.342(c)(2) and (c)(3)(ii) (hereinafter referred to as the “2 Mg Compliance Option”).

(4) [CD, section M.66.] REFINERY COMPLIANCE STATUS CHANGES
Commencing on Date of Entry of the Consent Decree and continuing through the Date of Termination, to the extent applicable, Sunoco shall not change the compliance status of any Covered Refinery from the 6 BQ Compliance Option to the 2 Mg Compliance Option. Sunoco shall consult with the EPA, the appropriate EPA Region, and the appropriate state agency (“Relevant Government Agencies”) before making any change in compliance strategy not expressly prohibited by this Paragraph. All changes must be undertaken in accordance with Subpart FF.

d) Monitoring and/or Recordkeeping Requirements

(1) [40 CFR 63, subpart CC] NESHAP FROM PETROLEUM REFINERIES

The permittee shall comply with the applicable monitoring and record keeping requirements under 40 CFR Part 63, subpart CC, including the following sections:

63.654(a) The permittee shall comply with the recordkeeping provisions of 40 CFR 61.356 of subpart FF unless the permittee is complying with the wastewater provisions in 40 CFR 63.640(o)(2)(ii).

(2) [40 CFR 61, subpart FF] NATIONAL EMISSION STANDARD FOR BENZENE WASTE OPERATIONS

The permittee shall comply with the applicable monitoring and record keeping requirements under 40 CFR Part 61, subpart FF, including the following sections:

61.343 The tanks are to be monitored annually for leaks. Those greater

	than 500 ppmv above background are considered leaking. First effort at repair is within 15 days. Visual inspections are performed quarterly.
61.345	The containers are monitored annually for leaks. Those greater than 500 ppmv above background are considered leaking. First effort at repair is within 15 days. Visual inspections are performed quarterly.
61.346	Drains are to have a cover and closed vent system. Monitored annually; those greater than 500 ppmv above background are considered leaking. First effort at repair is within 15 days. Visual inspections are performed quarterly. Alternatives are listed in 61.346(b)
61.348	Treat waste streams to remove benzene to less than 10 ppmw. NOTE: SUNOCO, Inc. contracts the treatment of the wastewater to TWO LLC (0448020080). TWO LLC is responsible for the final treatment of the water as defined in 40 CFR Part 61.348.
61.349	Closed-vent systems and control devices are monitored annually for leaks. Those greater than 500 ppmv above background are considered leaking. First effort at repair is within 15 days. Visual inspections are performed quarterly.
61.350	Delay of Repair is allowed if the repair is technically impossible without a partial or complete unit shutdown.
61.354	Monitoring of Operations: NOTE: : SUNOCO, Inc. contracts the treatment of the wastewater to TWO LLC (0448020080). TWO LLC is responsible for the final treatment of the water as defined in 40 CFR Part 61.348
61.356(b)	Recordkeeping Requirments: Maintain records that identify each waste stream at the facility and indicate whether or not the waste stream is controlled for benzene emissions in accordance with this subpart. Maintain a list of exempt waste streams along with calculations and documentations.
61.356(d) and (f)	Maintain engineering design documentation for all control equipment and the closed vent system. Information is retained for the life of the equipment. The design analysis of the carbon adsorption system.
61.356(g) and (h)	Maintain records of all visual inspections and the records for all tests of no detectable emissions required by 61.343 through 61.347 and 61.349, along with information regarding repairs.
61.356(j)	Maintain documentation regarding the closed vent system and control device (carbon adsorbers); dates and times when breakthrough is measured, when carbon is replaced. Record

times when the above is not operated as designed; startups and shutdown of the units.

(3) [40 CFR 60, subpart QQQ] STANDARDS OF PERFORMANCE FOR VOC EMISSIONS FROM PETROLEUM REFINERY WASTEWATER SYSTEMS

The permittee shall comply with the applicable monitoring and record keeping requirements under 40 CFR Part 60, subpart QQQ, including the following sections:

60.692-1	If subject to this subpart, the provisions do not apply during periods of startup, shutdown or malfunctions. Compliance with 60.692-1 to 60.629-5 is by review of records, reports and performance tests.
60.692-2	Standards for Individual Drain Systems: Each drain is equipped with water seal controls. Checked by visual or physical inspection monthly. If drain is out of active service, then visual and physical inspections will be weekly for indications of low water levels.
60.692-5	Standards for Closed Vent Systems and Control Devices: Vapor recovery systems are designed to recover VOC emissions with 95% efficiency or greater. Any closed vent systems subject to this subpart are designed and operated with no detectable emissions (<500 ppm above background), monitored semiannually by methods in 60.696, repairs made within 30 days.
60.692-6	Delay of repair is allowed if the repair is technically impossible without a complete or partial process unit shutdown. Repair must occur before the end of the next refinery/process unit shutdown.
60.692-7	Delay of compliance of modified drain systems with ancillary downstream components is allowed if compliance cannot be achieved without a refinery/process unit shutdown.
60.693-1	Alternative standards for individual drain systems.
60.695	Monitoring of Operations: Install, maintain and operate the carbon adsorber according to 60.695(a)(3) by monitoring the VOC concentration level in the exhaust gases of the control device outlet gas stream. For systems that do not regenerate the carbon bed directly onsite, the carbon canisters are monitored on a daily basis or at intervals no greater than 20% of the design carbon replacement interval, whichever is greater.
60.697(b) and (d)	Recordkeeping Requirements: Record the date, location and corrective action taken for drains when the water seal is dry; for junction boxes when a seal, gap or other problem is identified;

for sewer lines when a problem is identified and for closed vent systems when detectable emissions are measure or problem is identified.

60.697(e) Recordkeeping Requirements of repairs if it cannot be corrected without a process unit shutdown.

60.697(f) Keep copies of all design specifications of the equipment used to comply with this subpart, kept for the life of the source.

60.697(g) If an out of active service drain with a sealed cap or plug over the drain, then the permittee must keep plans or specifications on the location of such drains.

60.697(h) Keep plans or specs on the stormwater sewer system to demonstrate that no wastewater from any process units or equipment is directly discharged to the stormwater sewer system.

60.697(j) For non-contact cooling water systems subject to this subpart, keep plans and specs to demonstrate that the cooling water does not contact hydrocarbons or oily wastewater and is not recirculated through a cooling tower.

ENHANCED BWON PROGRAM AS REQUIRED BY CONSENT DECREE(CD) - Date of Entry, March 14, 2006

(4) [CD, section M.67.] REVIEW and VERIFICATION of EACH COVERED REFINERY and COMPLIANCE STATUS

a. Phase One of the Review and Verification Process. By no later than 240days after Date of Entry of the Consent Decree (Nov. 9, 2006), Sunoco shall complete a review and verification of the TAB and the BWON compliance status and shall complete a review of the Covered Refinery within 365 days. For each Covered Refinery, the review and verification process shall include, but shall not be limited to:

i. An identification of each waste stream that is required to be included in the Covered Refinery's TAB (e.g., slop oil, tank water draws, spent caustic, spent caustic hydrocarbon layer, desalter rag layer undercarry, desalter vessel process sampling points, other sample wastes, maintenance wastes, and turnaround wastes);

ii. A review and identification of the calculations and/or measurements used to determine the flows of each waste stream for the purpose of ensuring the accuracy of the annual waste quantity for each waste stream;

iii. An identification of the benzene concentration in each waste stream, including sampling for benzene concentration at no less than ten (10)waste streams per refinery consistent with the requirements of 40

CFR 61.355(c)(1) and (3); provided, however, that previous analytical data or documented knowledge of waste streams may be used, as per 40 CFR 61.355(c)(2), for streams not sampled; and

iv. An indication whether or not the stream is controlled consistent with the requirements of Subpart FF.

By no later than 30 days following the completion of Phase One of the review and verification process, Sunoco shall submit to EPA a BWON Compliance Review and Verification Report ("Phase One BWON Compliance Review and Verification Report")that sets forth the results of Phase One, including the items identified in subparagraphs 67.a.i-iv. Sunoco shall submit one Phase One BWON Compliance Review and Verification Report for the Covered Refinery.

b. Phase Two of the Review and Verification Process. Based on EPA's review of the Phase One BWON Compliance Review and Verification Reports, no later than 45 days from the submittal of the Phase One BWON Compliance Review and Verification Report, EPA may select up to twenty (20) additional waste streams at the Covered Refinery for sampling for benzene concentration. As long as waste is being or is scheduled to be generated at the waste steams identified by EPA within 30 days of the request, Sunoco shall conduct the required sampling and submit the results to EPA within 90 days of receipt of EPA's additional sampling request. Sunoco shall use the results of this additional sampling to recalculate the TAB, to re-assess the Covered Refinery's BWON compliance status, and to amend the Phase One BWON Compliance Review and Verification Reports to create a Phase Two BWON Compliance Review and Verification Report, as needed. To the extent that EPA requires Sunoco to re-sample a Phase One waste stream that was sampled as part of this Phase Two review, Sunoco may average the results of the two sampling events. Sunoco shall submit the Phase Two BWON Compliance Review and Verification Report no later than 150 days after receipt of EPA's request for Phase Two sampling, if Phase Two sampling is required by EPA.

c. Amended TAB Reports. Sunoco shall submit, by no later than 60 days after submission of the later of the Phase One or Phase Two BWON Compliance Review and Verification Report(s), an amended TAB report to the Relevant Government Agencies.

(5) [CD, section M.69.] CARBON CANISTERS
Sunoco shall comply with the requirements of this Paragraph M.69. of the consent decree at the Covered Refinery where any carbon canister system is used as a control device under Subpart FF.

a. Limitations on Use of Single Carbon Canister Systems

i. New Units or Installations. Except as expressly provided by subparagraphs iii and iv below, commencing on Date of Entry of the Consent Decree (March 14, 2006) and continuing through the Date of Termination, Sunoco shall not use a single carbon canister system for any new unit or installation that requires control pursuant to Subpart FF at the Covered Refinery.

ii. Existing Units or Installations. Except as expressly provided by subparagraphs iii and iv below, commencing 270 days after Date of Entry of the Consent Decree (December 9, 2006) and continuing through the Date of Termination, Sunoco shall not use a single carbon canister system for any existing unit or installation that requires control pursuant to Subpart FF at the Covered Refinery.

iii. Temporary Applications. Sunoco may operate a properly-sized single canister system to control benzene emissions from a short-term operation, such as a temporary storage tank. For any canister operated as part of a single canister system, benzene "breakthrough" shall be defined for the purposes of the Consent Decree as any benzene reading above background as measured at the outlet of the canister. Sunoco shall monitor for breakthrough from a single carbon canister system at least once every 24 hours. Sunoco shall replace any single carbon canister with a fresh carbon canister immediately after a benzene reading above background is detected at the outlet of the canister, unless Sunoco chooses to discontinue flow to the carbon canister or route the stream to an alternative control device. For the purpose of this subparagraph, "immediately" shall mean within 24 hours.

iv. Permanent Applications. Sunoco may continue to operate a properly-sized single canister system on those applications that exist on the Date of Lodging of this Consent Decree where data over the past five (5) years demonstrate that breakthrough has not occurred in less than six (6) months. Sunoco shall monitor for "breakthrough" by monitoring for benzene on a bi-weekly basis at the outlet of the canister. "Breakthrough" shall be defined for the purpose of this Consent Decree as any reading equal to or greater than one (1) ppm benzene. Sunoco shall replace any single carbon canister with a fresh carbon canister immediately after breakthrough is detected. For the purpose of this subparagraph, "immediately" shall mean within 24 hours.

b. Installation and Use of Dual Canisters Operated in Series. Except as provided in Paragraph 69.a.iii and a.iv of the consent decree, by no later than 270 days after Date of Entry of the Consent Decree (December 9, 2006), Sunoco shall add a secondary carbon canister to each single carbon canister system on an existing unit or installation to convert the single canister system to a dual carbon canister system with the dual canisters operated in series, and shall at each location utilize the dual canister system to control benzene emissions pursuant to Subpart FF. By no later than 30 days following completion of the installation of the dual canisters, for each Refinery, Sunoco shall submit a report certifying the completion of the installation. The report shall include a list of all locations within each Refinery where secondary carbon canisters were installed, the installation date of each secondary canister, and the date that each secondary canister was put into operation.

c. Breakthrough Monitoring With Dual Canisters. By no later seven (7) days after the installation of each secondary carbon canister, Sunoco shall start to monitor for breakthrough between the primary and secondary carbon canisters at times when there is actual flow to the carbon canister, in accordance with the

frequency specified in 40 CFR 61.354(d). At each Covered Refinery, Sunoco shall monitor for "breakthrough" by monitoring for benzene. For a dual carbon canister system, "breakthrough" shall be defined for the purpose of this Consent Decree as any reading equal to or greater than 5 ppm benzene measured between the primary and secondary canister. In lieu of replacing the primary canister immediately, Sunoco may elect to monitor the secondary canister the day breakthrough between the primary and secondary canister is identified and each calendar day thereafter. This daily monitoring shall continue until the primary canister is replaced. If either benzene or VOC is detected at the outlet of the secondary canister during this period of daily monitoring, the primary canister must be replaced within 24 hours. The original secondary carbon canister will become the new primary carbon canister and a fresh carbon canister will become the secondary canister.

d. Canister Replacement With Dual Canister System. Except as otherwise provided in Paragraph 69.c above, immediately when breakthrough is detected, Sunoco shall replace the original primary carbon canister with the secondary canister, and shall use a fresh canister as the new secondary canister. For the purpose of this Paragraph, "immediately" shall mean within 24 hours.

e. Sunoco shall maintain a supply of fresh carbon canisters at each the refinery at all times.

f. Records for the requirements of this Paragraph 69 shall be maintained in accordance with 40 CFR 61.356(j)(10).

(6) [CD, section M.70.] ANNUAL REVIEW
By no later than 180 days from Date of Entry of the Consent Decree (September 10, 2006), Sunoco shall modify (or establish) its existing management of change procedures or shall develop and implement new written procedures to provide for performance of an annual review of process information for each Covered Refinery, including construction projects, to ensure that all new benzene waste streams are included in the Covered Refinery's waste stream inventory. Sunoco shall conduct such reviews on an annual basis until the Date of Termination.

(7) [CD, section M.71.] LABORATORY AUDITS
Sunoco shall conduct audits of all laboratories that perform analyses of Sunoco's Benzene Waste Operations NESHAP samples to ensure that proper analytical and quality assurance/quality control procedures are followed. Sunoco may elect to submit the results from laboratory audits conducted by other refineries under the global consent decrees, provided the audits meet Sunoco's audit criteria.

a. Sunoco shall complete audits of at least half of the laboratories used by the Covered Refinery within 180 days after Date of Entry of the Consent Decree (September 10, 2006), and shall complete the remaining audits within 365 days after Date of Entry of the Consent Decree (March 14, 2007). In addition, Sunoco shall audit any new laboratory used for analyses of benzene samples prior to use of the new laboratory.

b. Until the Date of Termination, Sunoco shall conduct subsequent laboratory audits, such that each laboratory is audited every two (2) years.

(8) [CD, section M.72.] BENZENE SPILLS
For each spill at the Refinery after Date of Entry of the Consent Decree (March 14, 2006), Sunoco shall review the spill to determine if benzene waste, as defined by Subpart FF, was generated. For each spill involving the release of more than 10 pounds of benzene in a 24-hour period, Sunoco: (i) shall include benzene waste generated by the spill in the relevant Covered Refinery's TAB, as required by 40 CFR 61.342; and (ii) shall account for such benzene waste in accordance with the applicable compliance option calculations, as appropriate under Subpart FF, unless the benzene waste is properly managed in controlled waste management units at the Refinery.

(9) [CD, section M.73.] TRAINING
By no later than 90 days from Date of Entry of the Consent Decree (June 12, 2006), Sunoco shall develop and begin implementation of annual (i.e., once each calendar year) training for all employees assigned to draw benzene waste samples at each Covered Refinery.

a. For each Covered Refinery, by no later than 180 days from Date of Entry of the Consent Decree (September 10, 2006), Sunoco shall complete the development of standard operating procedures for all control equipment used to comply with the Benzene Waste Operations NESHAP at the Refinery. By no later than 180 days thereafter, Sunoco shall complete an initial training program regarding these procedures for all operators assigned to this equipment. Comparable training shall also be provided to any persons who subsequently become operators, prior to their assumption of this duty. Until the Date of Termination, "refresher" training in these procedures shall be performed on a three (3) year cycle.

b. As part of Sunoco's training program, Sunoco must require that the employees of any contractors hired to perform the requirements of Section M. of the Consent Decree are properly trained to implement all provisions of this Section at the Refinery.

(10) [CD, section M.74.] WASTE/SLOP/OFF-SPEC OIL MANAGEMENT

a. No later than 60 days after Date of Entry (May 13, 2006), Sunoco shall submit to EPA, for the Refinery, schematics that: (i) depict the waste management units (including sewers) that handle, store, and transfer waste/slop/off-spec oil streams; (ii) identify the control status of each waste management unit; and (iii) show how such oil is transferred within the Refinery. If requested by EPA, Sunoco shall submit to EPA, within 90 days of EPA's request, a set of revised schematics reflecting the characterization of oil streams and the appropriate control standards. These schematics will be used in preparing the end-of-line sampling plans.

b. Organic Benzene Waste Streams. For the Covered Refinery from Date of Entry of this Consent Decree (March 14, 2006); if and when that Refinery's TAB reaches 10 Mg/yr and a compliance strategy is approved, all waste management units handling "organic" benzene wastes, as defined in Subpart FF, shall meet the applicable control standards of Subpart FF. If controls not already in place are necessary on any waste management unit handling organic benzene wastes, Sunoco shall submit to EPA, within 90 days, a written plan and schedule, not to

exceed 180 days from the date of EPA approval, for installation and operation of necessary controls. Sunoco shall complete the installation and commence operation of the necessary controls in accordance with the EPA-approved plan and schedule.

c. Aqueous Benzene Waste Streams. For purposes of complying with the 2Mg or 6BQ Compliance Option, all waste management units handling aqueous benzene waste streams shall either meet the applicable control standards of Subpart FF or shall have their uncontrolled benzene quantity count toward the 2 or 6 Mg limit.

(11) [CD, section M.75.] SAMPLING

a. BWON Sampling Plans: General

i. Requirement to Submit Plan. Sunoco shall submit to EPA for approval a separate BWON Sampling Plan designed to determine the benzene quantity in uncontrolled waste streams at the Refinery. Each BWON Sampling Plan shall include the information required in Paragraph 75.b. of the Consent Decree. Upon approval by EPA, Sunoco shall implement within the first full Calendar Quarter each EPA-approved BWON Sampling Plan. Delays in the approval of a BWON Sampling Plan for one Refinery shall not constitute grounds for delays in implementing an EPA-approved BWON Sampling Plan for another Refinery.

ii. Timing for Submittal. If, as to the Covered Refinery that is the subject of the proposed BWON Sampling Plan, EPA has not requested Phase Two sampling, then Sunoco shall submit to EPA a proposed BWON Sampling Plan for that Covered Refinery by no later than 60 days after the time for EPA to request Phase Two sampling has expired. If, as to the Covered Refinery that is the subject of the proposed BWON Sampling Plan, EPA has requested Phase Two sampling, then Sunoco shall submit to EPA a proposed BWON Sampling Plan for that Covered Refinery by no later than 120 days after submitting its Phase Two BWON Compliance Review and Verification Report.

iii. Plan Revisions. If, before the Date of Termination, changes in processes, operations, or other factors lead Sunoco or EPA to conclude that the approved sampling locations, approved methods for determining flow calculations, and/or assumed volatilization rates no longer provide an accurate measure of the Refinery's uncontrolled benzene quantity, Sunoco shall submit a revised BWON Sampling Plan to EPA for approval. If, after two (2) years in which Sunoco has implemented monthly and quarterly sampling requirements pursuant to an EPA-approved BWON Sampling Plan, Sunoco determines that a less stringent sampling plan will provide an accurate determination of a Covered Refinery's uncontrolled benzene quantity, Sunoco may request a modification to the EPA-approved BWON Sampling Plan for any Covered Refinery; provided, however, that Sunoco may not implement any modifications if EPA disapproves the plan within 90 days of its submission to EPA.

iv. Plan Implementation. Sunoco shall commence monthly, quarterly, and annual sampling required under an EPA-approved BWON Sampling Plan in the first full calendar month after Sunoco receives EPA's approval of the Plan, and shall continue monthly and quarterly sampling as required by the EPA-approved Plan through the Date of Termination.

b. BWON Sampling Plan Content.
Sunoco's BWON Sampling Plan for the Covered Refinery subject to the 2 Mg Compliance Option shall include: (i) a plan for conducting end-of-line ("EOL") sampling pursuant to Paragraph 75.c of the Consent Decree on a monthly basis (three (3) samples in the quarter, one (1) each month); (ii) a plan for conducting non-EOL sampling pursuant to Paragraph 75.d.ii of the Consent Decree on a quarterly basis; (iii) an identification of all proposed sampling locations; and (iv) a description of the proposed flow calculation method to be used in making quarterly benzene determinations under Paragraph 75.e of the Consent Decree. At the Covered Refinery, EOL sampling means sampling at the last practicable point before the waste stream enters a controlled waste management unit, if, based on engineering judgment, EOL sampling would provide a result different than would be provided at the point of waste generation. EOL sampling is not required once the stream has entered a controlled waste management unit, as long as the waste stream remains controlled until either final discharge or discharge to an activated sludge treatment unit.

c. EOL Sampling. Sunoco shall take, and have analyzed, no less than three (3) representative samples from each EOL sampling location identified in an approved BWON Sampling Plan. Sunoco shall use the average of these three samples as the benzene concentration for the stream at the approved sampling location. All sampling results under this Paragraph shall be reported to EPA in the reports due under either Section IX of the Consent Decree or pursuant to 40 CFR 61.357.

d. Non-EOL (Point of Generation) Sampling.

i. [CD, section N.75.d.ii.] Sunoco's BWON Sampling Plan shall include a plan for sampling: (i) each uncontrolled waste stream that contributes greater than 0.05 Mg benzene per year toward the 2 Mg annual exempt waste total; and (ii) each uncontrolled waste stream that contains greater than 0.1 Mg benzene per year and that qualifies for the 10 ppmw benzene exemption.

ii. [CD, section N.75.d.iii.] Sunoco shall conduct all sampling under Paragraph 75.d. of the Consent Decree in compliance with the requirements of 40 CFR 61.355(c)(1) and (3). All sampling results under this Paragraph shall be reported to EPA in the reports due under either Section IX of the Consent Decree or pursuant to 40 CFR 61.357.

e. Calculation of Quarterly and Projected Calendar Year Benzene Quantities. At the end of each Calendar Quarter and based on the EOL sampling results and non-EOL sampling results and the approved flow calculations for the Refinery, Sunoco shall calculate a quarterly benzene quantity and shall estimate a projected calendar year benzene quantity for the Refinery. Sunoco shall submit the benzene quantity calculations in the reports due under Section IX of the

Consent Decree, and explain any anomalies or abnormalities. Sunoco may exclude explainable anomalies or abnormalities that are not expected to recur in the calendar year from estimations of the projected benzene quantity.

f. Corrective Measures. Based on the calculations in Paragraph 75.e., Sunoco shall determine if the projected calendar year benzene quantity equals or exceeds: 10.0 Megagrams at the Tulsa Refinery; or 2.0 Megagrams (uncontrolled) at the Covered Refinery.

If either of the conditions in Paragraph 75.f. of the Consent Decree exist then, Sunoco shall submit for EPA approval a compliance-assurance plan that identifies all corrective actions that Sunoco has taken or plans to take to ensure that noncompliance will not occur. If Sunoco cannot ensure that noncompliance will not occur, Sunoco shall make a statement to that effect in the report required by Paragraph 75.e. of the Consent Decree. Sunoco shall submit the compliance-assurance plan by no later than 60 days after the end of the Calendar Quarter in which one or more of the conditions in this Paragraph 75.f. of the Consent Decree are met. Sunoco shall implement the compliance assurance plan in accordance with the schedule included in the approved plan. If EPA disapproves the compliance-assurance plan, Sunoco shall confer with EPA to develop a mutually acceptable compliance-assurance plan.

g. Third-Party TAB Study and Compliance Review. If, after two (2) consecutive Calendar Quarters it appears likely based on best engineering judgment that, at the end of the calendar year Sunoco will not be in compliance with the 2 Mg Option at the Refinery, then, in the third Calendar Quarter, Sunoco shall retain a third party contractor to undertake a comprehensive TAB study and compliance review ("Third-Party TAB Study and Compliance Review") at that Refinery. By no later than the last day of the third Calendar Quarter, Sunoco shall submit a proposal to EPA that identifies the contractor, the contractor's scope of work, and the contractor's schedule for the Third-Party TAB Study and Compliance Review. Unless, within 30 days after EPA receives this proposal, EPA disapproves it or seeks modifications, Sunoco shall authorize the contractor to commence work, and Sunoco shall ensure that the work is completed in accordance with the approved schedule. By no later than 30 days after Sunoco receives the results of the Third-Party TAB Study and Compliance Review, Sunoco shall submit the results to EPA. After the report is submitted to EPA, Sunoco and EPA shall discuss informally the results of the Third-Party TAB Study and Compliance Review. By no later than 90 days after Sunoco receives the results of the Third-Party TAB Study and Compliance Review, or at such other time as Sunoco and EPA may agree, Sunoco shall submit to EPA for approval a plan and schedule for remedying any deficiencies identified in the Third-Party TAB Study and Compliance Review and any deficiencies that EPA brought to Sunoco's attention as a result of the Third-Party TAB Study and Compliance Review. Sunoco shall implement the EPA-approved remedial plan in accordance with the schedule included in the approved plan.

(12) [CD, section M.76.] MISCELLANEOUS MEASURES

a. Sunoco, as and to the extent applicable, shall comply with the Benzene Waste Operations NESHAP provisions applicable to groundwater remediation conveyance systems at the Refinery.

b. The provisions of Paragraph 76 of the Consent Decree shall apply to the Refinery as of Date of Entry of the Consent Decree (March 14, 2006). The provisions shall continue to apply until the Date of Termination.

i. Sunoco shall conduct monthly visual inspections of all water traps within the Refinery's individual drain systems.

ii. On a weekly basis, visually inspect all conservation vent indicators or other leak or flow indicators on junction boxes or on process sewers for detectable leaks; if necessary, reset any vents where leaks are detected; and record the results of the inspections. After two (2) years of weekly inspections, and based upon an evaluation of the recorded results, Sunoco may submit a request to the appropriate EPA Region to modify the frequency of the inspections. Nothing in Paragraph 76 of the Consent Decree shall require Sunoco to monitor conservation vents on fixed roof tanks.

iii. On a quarterly basis, Sunoco shall conduct monitoring of controlled oil-water separators in accordance with applicable BWON standards.

c. By no later than 60 days after Date of Entry (May 13, 2006) and continuing until Date of Termination, Sunoco shall identify and mark all area drains that are segregated stormwater drains.

e) Reporting Requirements

(1) REPORTS FOR 40 CFR Part 63, Subpart CC

a. [63.654(a)]
Each permittee subject to the wastewater provisions in 40 CFR Part 63.647 shall comply with the reporting provisions in 40 CFR Part 61.357 of 40 CFR Part 61, Subpart FF unless they are complying with the wastewater provisions specified in paragraph (o)(2)(ii) of 40 CFR Part 63. There are no additional reporting requirements for wastewater under this subpart unless a wastewater stream is included in an emissions average.

b. [63.642(f)]
All reports required under 40 CFR Part 63, subpart CC, shall be sent to the Administrator at the addresses listed in 40 CFR Part 63.13 of subpart A and copied to Toledo Division of Environmental Services. If acceptable to both the Administrator and the permittee of a source, reports may be submitted on electronic media

(2) [40 CFR 61, subpart FF] NATIONAL EMISSION STANDARD FOR BENZENE WASTE OPERATIONS

The permittee shall submit semiannual reports and such other notifications and reports to the appropriate Ohio EPA District office or local air agency as required by 40 CFR 61, subpart FF, including the following sections:

61.357(d)(2)	(d)(2) Submit annually a report that updates the waste stream characteristics based on the information submitted as an initial notification in 61.357(a).
61.357(d)(6)	Submit quarterly a report that the equipment necessary to comply with these standards has been certified in accordance with 61.357(d)(1) and that the required inspections were carried out.
61.357(d)(8)	Submit annually a report that summarizes all inspections required by 61.342 through 61.354 during which detectable emissions are measured or a problem that resulted in benzene emissions is identified, including information about the repairs and corrective actions.

(3) [40 CFR 60, subpart QQQ] STANDARDS OF PERFORMANCE FOR VOC EMISSIONS FROM PETROLEUM REFINERY WASTEWATER SYSTEMS

The permittee shall submit semiannual reports and such other notifications and reports to the appropriate Ohio EPA District office or local air agency as required by 40 CFR 60, subpart QQQ, including the following sections:

60.698(b)	Submit semiannual reports that all inspections were carried out in accordance with these standards.
60.698(c)	Submit semiannual reports that summarizes all inspections when a water seal was dry or breached, when drain caps or plugs were missing or when cracks, gaps or other problems were identified that resulted in VOC emissions. Include the repairs and corrective actions.
60.698(d)	Submit semiannual deviation reports when the carbon in the carbon adsorber (for those not regenerated onsite) was not replaced in a timely manner.

ENHANCED BWON PROGRAM AS REQUIRED BY CONSENT DECREE(CD) - Date of Entry, March 14, 2006

(4) [CD, section M.68.] IMPLEMENTATION of ACTIONS NECESSARY to CORRECT NONCOMPLIANCE

a. BWON Corrective Action Plans

i. If the results of the later of the Phase One or Phase Two BWON Compliance Review and Verification Report indicate that Sunoco is not in

compliance with the 2 Mg Compliance Option, then, for each such Covered Refinery not in compliance, Sunoco shall submit to EPA, by no later than 90 days after completion of the later of the Phase One or Phase Two BWON Compliance Review and Verification Report, a BWON Corrective Action Plan that identifies with specificity the compliance strategy and schedule that Sunoco shall implement to ensure that the Covered Refinery complies with the 2 Mg Compliance Option as soon as practicable, but no later than 180 days after submission of the BWON Corrective Action Plan.

ii. Plan Implementation. Sunoco shall implement any EPA-approved BWON Corrective Action Plan under this Paragraph 68 of the consent decree in accordance with the schedule included in the approved Plan.

b. Certification of Compliance with the 2 Mg Compliance Option. By no later than 30 days after completion of the implementation of all actions, if any, required pursuant to Paragraphs 68 or 75.f. of the consent decree to come into compliance with the applicable compliance option, Sunoco shall submit a report to the Relevant Government Agencies that the Refinery complies with the Benzene Waste Operations NESHAP.

(5) [CD, section M.77.] REPORTING REQUIREMENTS of THE CONSENT DECREE

a. Outside of the Reports required under 40 CFR 61.357 and under the progress report procedures of Section IX of the Consent Decree, to the extent required by the Consent Decree, and at the times specified by Section V.M. of the Consent Decree, Sunoco shall submit the following reports to EPA:

i. Phase One BWON Compliance Review and Verification Report(s) (Paragraph 67.a);

ii. Phase Two BWON Compliance Review and Verification Report(s), as amended, if necessary (Paragraph 67.b);

iii. Amended TAB Report(s), if necessary (Paragraph 67.c);

iv. Any BWON Corrective Action Plans required if the BWON Compliance Review and Verification Reports indicate non-compliance (Paragraph 68.a.i.);

v. A BWON Corrective Action Plan for the Tulsa Refinery if the Refinery's TAB is found to equal or exceed 10 Mg/yr (Paragraph 68.a.ii.);

vi. Certification of compliance, if necessary (Paragraph 68.b);

vii. A report certifying the completion of the installation of dual carbon canisters (Paragraph 69.b);

viii. Schematics of waste/slop/off-spec oil movements, as revised, if necessary (Paragraph 74.a);

ix. A plan and schedule for installing and operating necessary controls on waste management units handling organic benzene waste, if necessary (Paragraph 74.b);

x. A plan to quantify uncontrolled waste/slop/off-spec oil movements (Paragraph 75.a.i);

xi. BWON Sampling Plans and revised BWON Sampling Plans, if necessary (Paragraph 75);

xii. A Corrective Measures Plan (Paragraph 75.f);

xiii. A proposal for a Third-Party TAB Study and Compliance Review, if necessary (Paragraph 75.g);

xiv. A Third-Party TAB Study and Compliance Review, if necessary (Paragraph 75.g); and

xv. A plan to implement the results of the Third-Party TAB Study and Compliance Review, if necessary (Paragraph 75.g).

b. As part of either the Reports Required under 40 CFR 61.357 or the progress report procedures of Section IX of the Consent Decree, to the extent required by the Decree, and at the times specified by Section V.M. of the Consent Decree, Sunoco shall submit the following reports to EPA:

i. Covered Refinery. In addition to the information submitted in the reports required pursuant to 40 CFR 61.357(d)(6) and (7) ("Section 61.357 Reports"), each Covered Refinery shall include the following information in those reports or in the reports due under Section IX of the Consent Decree:

(a) Laboratory Audits. In the first Section 61.357 Report or first Section IX report due after Sunoco has completed the requirements of Paragraph 71.a. of the Consent Decree, Sunoco shall identify all laboratory audits that Sunoco completed, including, at a minimum, the identification of each laboratory audited, a description of the methods used in the audit, and the results of the audit. In each subsequent 61.357 Report or Section IX report, Sunoco shall identify all laboratory audits that were completed pursuant to the provisions of Paragraph 71.b. of the Consent Decree during the Calendar Quarter, including in each such Report, at a minimum, the identification of each laboratory audited, a description of the methods used in the audit, and the results of the audit;

(b) Training. In the first Section 61.357 Report or Section IX report due after entry of the Consent Decree, Sunoco shall describe the measures that it took to comply with the training provisions of Paragraph 73 starting from Date of Entry of the Consent Decree (March 14, 2006) and continuing through the Calendar Quarter for which the first report is due. In each subsequent Section 61.357

Report or Section IX report, Sunoco shall describe the measures that Sunoco took to comply with the training provisions of Paragraph 73 during the Calendar Quarter;

(c) Sampling Results. Once EOL sampling and non-EOL sampling is required under this Section, Sunoco shall report, in each Section 61.357 Report or each Section IX report, the results of the monthly EOL sampling and quarterly non-EOL sampling undertaken pursuant to Paragraph 75. For each Covered Refinery, the report shall include a list of all waste streams sampled, the results of the benzene analysis for each sample, and the computation of the quarterly benzene quantity and the projected calendar year benzene quantity.

f) Testing Requirements

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

a. Emission limitation:

VOC emissions from the facility-wide benzene wastewater NESHAP program shall not exceed 91.19 tons per year.

Applicable compliance method:

Compliance for those components subject to 40 CFR Part 61, subpart FF, shall be demonstrated through the "Test methods, Procedures and Compliance Provisions" of 40 CFR Part 61.355 of subpart FF.

Compliance for those components subject to 40 CFR Part 60, subpart QQQ, shall be demonstrated using the fugitive emission factors contained in “VOC Emissions from Petroleum Refinery Wastewater Systems-Background Information for Proposed Standards”, EPA-450/3-85-001a, Feb. 1985, Table 4-1 (drains) and section 3.2.1.6 (junction boxes).

drains, with 50% control (water seal) 0.012 tons VOC/year/drain

junction boxes with 50% control (water seal)0.31 tons VOC/year/box

Multiply the stated emission factor times the number of respective components (in tons VOC per year) and add them to the tons VOC per year determined for those components subject to 40 CFR Part 61, subpart FF as calculated according to section 61.355

(2) [40 CFR 61, subpart FF] NATIONAL EMISSION STANDARD FOR BENZENE WASTE OPERATIONS

The permittee shall comply with the applicable testing requirements required under 40 CFR 61, subpart FF, including the following sections:

61.342(g)	Compliance will be determined by review of facility records and results from tests and inspections using methods and procedures in 61.355.
61.355(a), (b) and (c)	Use the procedure in 61.355(b) to determine the annual waste quantity for each waste stream. Use the procedure in 61.355(c) to determine the flow-weighted annual average benzene concentration of each waste stream. Calculate the annual benzene quantity for each waste stream as stated in 61.355(a)(1)(iii).
61.355(h)	The permittee shall test equipment for compliance with no detectable emissions as required in 40 CFR Part 61.343 through 61.347 and 61 by using Method 21 of Appendix A.

(3) [40 CFR 60, subpart QQQ] STANDARDS OF PERFORMANCE FOR VOC EMISSIONS FROM PETROLEUM REFINERY WASTEWATER SYSTEMS

The permittee shall comply with the applicable testing requirements required under 40 CFR 60, subpart QQQ, including the following sections:

60.696(a)	Before using any equipment installed in compliance with this subpart, shall inspect the equipment for potential emissions, defects or other problems.
60.696(b)	If source is equipped with a closed vent system and control device; use Method 21 to measure for no detectable emissions equal to or less than 500 ppm. The instrument is calibrated each day using the calibration gases stated in 60.696(b)(1) and (2).

g) Miscellaneous Requirements

(1) [CD, section XVIII, 245] TERMINATION of the CONSENT DECREE
The Consent Decree shall be subject to termination upon motion by the United States or Sunoco under the conditions identified in Paragraphs 245 through 247 of the Consent Decree. Sunoco may seek termination of the Consent Decree upon either (A) completion and satisfaction at the relevant Refinery of all of the following requirements stated in Paragraphs 245.a-e.; or (B) anytime after the permanent shutdown of, and relinquishment of all operating permits for, such Refinery.

8. P040, Cooling Tower - P/2

Operations, Property and/or Equipment Description:

P040 - Cooling Tower, west of the polypropylene truck loading area, capacity of 2,000 gallons per minute, non-contact, induced draft, with drift elimination package

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3)	Particulate emissions (PE) shall not exceed 0.12 pounds per hour and 0.52 tons per year as a rolling 12-month summation of the monthly emissions See b)(2)a. Volatile organic compounds (VOC) shall not exceed 0.084 pounds per hour and 0.37 tons per year. See section b)(2)b. Visible emissions from this emissions unit shall not exceed 10% opacity as a six-minute average. It shall not be deemed a violation of this rule where the presence of uncombined water is the only reason for failure of a stack emission to meet the requirements of this rule.
b.	OAC rule 3745-17-07(A)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
c.	OAC rule 3745-17-11(B)	The emission limitation specified by this rule is less stringent than the emission limitations established pursuant to OAC

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		rule 3745-31-05(A)(3).
d.	OAC rule 3745-31-10 through 20	Particulate matter less than 10 microns (PM_{10}) shall not exceed 0.12 pounds per hour and 0.52 tons per year as a rolling 12-month summation of the monthly emissions. The drift eliminator shall provide 75% reduction in PM_{10}. See b)(2)a.
e.	40 CFR 63, subpart Q	Exempt, see b)(2)c.

(2) Additional Terms and Conditions

a. The total dissolved solids (TDS) present in cooling water drift is directly responsible for the formation of particulate emissions when the drift is discharged from a cooling tower.

b. The hourly and annual emission limitations were established for PTI purposes to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop monitoring, record keeping and/or reporting requirements to ensure compliance with these limitations.

c. The permittee does not use chromium based water treatment chemicals.

c) Operational Restrictions

(1) The permittee shall operate the drift eliminator at all times when the emissions unit is in operation.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall keep the following weekly records:

a. The permittee shall collect, test and record the TDS content, in ppm, of the cooling water at least once per week. The TDS content shall be measured using test procedures that conform to regulation 40 CFR 136, "Test Procedures For The Analysis of Pollutants" or an equivalent method approved by the Ohio EPA.

b. The weekly flow rate of the cooling tower circulating water in gallons per week.

c. The hours of operation in hours per week.

(2) Each week, the permittee shall calculate and record the average particulate matter (PM_{10}) emissions in pounds per hour as follows, using the emission factor for PE/PM_{10} from AP-42, Table 13.4-1 (January, 1995):

PM_{10}, in lbs/hr = [(Q gallons/min) x (0.019 lb PM10/1000 gal) x (TDS ppm/12,000 ppm) x (0.25) x (60 min/hr)

where:

Q = the average cooling tower circulating water flow rate (gallons/min), calculated from d)(1).

0.019 lb PM_{10}/1000 gallons = AP-42 emission factor, Table 13.4-1 for induced cooling towers;

TDS ppm = the tested TDS level in ppm;

12,000 ppm = the baseline TDS level, see AP-42, Table 13.4-1;

0.25 = (0.00005/0.0002) the maximum drift loss fraction compared to the baseline; and

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

A calculated exceedance of the allowable hourly emission limitation using the procedures of this section does not indicate a violation of the allowable hourly emission limitation. Rather, it serves as a trigger level at which corrective action needs to be taken in order to lower the TDS concentration of the cooling water to a level acceptable to comply with the hourly emission limitation.

(3) Each month, the permittee shall use the information in d)(2) to calculate the rolling, 12-month PM_{10} emissions.

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation reports that identify all exceedances of the hourly and annual allowable particulate emission and particulate matter less than 10 microns limitation. The quarterly deviation reports shall be submitted in accordance with the general terms and conditions of this permit.

f) Testing Requirements

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

a. Emission Limitation:

0.12 lbs/hr of PE/PM_{10}

Applicable Compliance Method:

This emission limitation was developed by the calculation in section d)(2) using a maximum flow rate of 2,000 gallons per minute, a total dissolved solids (TDS) value of 2500 ppm and assuming a drift loss of 0.005%. Compliance with the hourly emission rate shall be shown through the monitoring and recordkeeping in d).

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", c), June, 1994 (or the most recent edition) from the Cooling Technology Institute.

b. Emission Limitation:

0.52 ton per year of PE/PM_{10} as a rolling, 12-month summation of the monthly emissions

Applicable Compliance Method:

Provided the permittee demonstrates compliance with the pound per hour emission limit as calculated in the monitoring and recordkeeping in d), compliance with the annual limitation will be assumed.

c. Emission Limitation:

0.084 lb/hr of VOC

Applicable Compliance Method:

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

d. Emission Limitation:

0.37 ton per year of VOC as a rolling, 12-month summation of the monthly emissions

Applicable Compliance Method:

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

e. Emission Limitation:

Visible particulate emissions shall not exceed 10% opacity as a 6-minute average, except as provided by the rule.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with the visible particulate emission limitation above in accordance with the methods and procedures specified in 40 CFR 60, Appendix A, Method 9 and the requirements of OAC rule 3745-17-03(B)(1). Alternative U.S. EPA approved test methods may be used with prior approval from Ohio EPA.

f. Emission Limitation:

75% reduction of PM_{10} for the cooling tower using the Drift Eliminator package as control

Applicable Compliance Method:

The permittee shall demonstrate compliance by maintaining records of the manufacturer's performance guarantee for the drift elimination package.

g) Miscellaneous Requirements

(1) [CD, section XVIII, 245] TERMINATION of the CONSENT DECREE
The Consent Decree shall be subject to termination upon motion by the United States or Sunoco under the conditions identified in Paragraphs 245 through 247 of the Consent Decree. Sunoco may seek termination of the Consent Decree upon either (A) completion and satisfaction at the relevant Refinery of all of the following requirements stated in Paragraphs 245.a-e.; or (B) anytime after the permanent shutdown of, and relinquishment of all operating permits for, such Refinery.

9. P041, Claus SRU No. 2

Operations, Property and/or Equipment Description:

P041 - Claus sulfur recovery unit No. 2 and sulfur pit with tail gas unit and incinerator. Emissions from the Claus sulfur recovery unit will be vented to the number 2 tail gas treater with 17 mmBtu/hr incinerator.

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3)	Hydrogen sulfide (H_2S) emissions shall not exceed 10 parts per million by volume dry (ppmvd) and 0.95 tons per year, based upon a rolling, 365-day summation of the daily emissions; Nitrogen oxides (NOx) emissions shall not exceed 2.55 pound per hour and 11.17 tons per year, based upon a rolling, 365-day summation of the daily emissions; Filterable plus condensable particulate matter (PM) emissions shall not exceed 1.36 pound per hour and 5.96 ton per year, based upon a rolling, 365-day summation of the daily emissions; Sulfur dioxide (SO_2) emissions shall not exceed 9.88 pounds per hour and 43.28 tons per year, based upon a rolling, 365-day summation of the daily emissions; Volatile organic compounds (VOC) emissions shall not exceed 0.89 pound per hour and 3.89 ton per year, based upon a rolling, 365-day summation of the daily emissions;

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		Visible emissions shall not exceed 10% opacity as a 6-minute average; and See b)(2)a. and b)(2)k.
b.	OAC rule 3745-31-05(D)	See b)(2)f.
c.	OAC rule 3745-17-07(A)(1)	See b)(2)g.
d.	OAC rule 3745-17-11(A)(2)	See b)(2)g.
e.	OAC rule 3745-18-06(E)	See b)(2)g.
f.	OAC rule 3745-21-07(B)	See b)(2)h.
g.	OAC rule 3745-21-08(B)	See b)(2)i.
h.	OAC rule 3745-21-09(T)	See b)(2)i.
i.	40 CFR Part 60, Subpart A	See b)(2)c.
j.	40 CFR Part 60, Subpart J	See b)(2)b.
k.	40 CFR Part 63, Subpart A	See b)(2)d.
l.	40 CFR Part 63, Subpart UUU [In accordance with 40 CFR 63.1561(a)(1)(iii), this emissions unit is a new SRU at an existing petroleum refinery subject to the emission limitations/control measures specified in this section.]	See b)(2)e.
m.	OAC rule 3745-31-10 through 20	CO emissions shall not exceed 2.59 pound per hour, 0.15 pound per million Btu of heat input (incinerator), and 11.34 tons per year, based upon a rolling, 365-day summation of the daily emissions; Particulate matter emissions less than 10 microns in diameter (PM_{10}) shall not exceed 1.36 pound per hour, 0.08 pound per million Btu of heat input, and 5.96 ton per year, based upon a rolling, 365-day summation of the daily emissions; and

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		See b)(2)j.

(2) Additional Terms and Conditions

a. The requirements of this rule also include compliance with the requirements of 40 CFR Part 60, Subpart J and 40 CFR Part 63, Subpart UUU.

b. The permittee shall not discharge or cause the discharge of any gases into the atmosphere from any Claus sulfur recovery plant containing in excess of 250 ppm by volume (dry basis) of SO_2 at zero percent excess air, as a rolling, 12-hour average.

c. 40 CFR Part 60, Subpart A provides applicability provisions, definitions, and other general provisions that are pertinent to emissions units affected by 40 CFR Part 60.

d. 40 CFR Part 63, Subpart A provides applicability provisions, definitions, and other general provisions that are pertinent to emissions units affected by 40 CFR Part 63.

Table 44 of 40 CFR Part 63, Subpart UUU shows which parts of the General Provision in 40 CFR Part 63.1 through 63.15 apply to this emissions unit.

e. The permittee shall comply with the applicable emission limitations and work practice standards for existing emissions units in 40 CFR Part 63, Subpart UUU.

f. Within 180 days of startup of this emissions unit, the permittee shall develop and maintain a written quality assurance/quality control plan for the continuous SO_2 monitoring system, designed to ensure continuous valid and representative readings of SO_2 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 SO_2 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.

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

h. The permittee has satisfied the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-21-07(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in this Permit to Install.

On February 18, 2008, OAC rule 3745-21-07 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

i. The permittee shall satisfy the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology (BAT) requirements established pursuant to OAC rule 3745-31-05(A)(3) in this permit to install. The design of the emissions unit and the technology associated with the current operating practices satisfy the BAT requirements.

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

The hourly and annual emission limitations for CO, H_2S, NOx, PM, PM_{10} and VOC were established for PTI purposes to reflect the potential to emit for this emissions unit. Therefore, it is not necessary to develop monitoring, record keeping and/or reporting requirements to ensure compliance with these limitations.

j. The permittee shall comply with the applicable equipment leak monitoring requirements in the terms and conditions for emissions unit P801, sections b), c), d), e) and f), referencing OAC rule 3745-21-09(T).

c) Operational Restrictions

(1) The permittee shall burn only natural gas or refinery fuel gas as fuel in this emissions unit. [There are 2 sources of particulate emissions from this process: sulfur-containing process emissions and particulate emissions from the combustion of fuel at the incinerator. This term and condition is to assure compliance with opacity emission limitation for the particulate emissions resulting from combustion of fuel gas and to make daily VE readings unnecessary. Compliance with the visible emission limitation for opacity caused by the sulfur portion of particulate emissions will be assured by the continuous SO_2 emissions monitoring system.]

(2) [CD, section I.45.] Sulfur Pit Emissions
The permittee shall route all sulfur pit emissions so that they are eliminated, controlled, or included and monitored as part of the sulfur recovery plant's emissions subject to the 40 CFR Part 60, Subpart J limitation for SO_2, 40 CFR 60.104(a)(2), upon date of startup of this emissions unit.

(3) [CD, section I.47a.] Good Operation and Maintenance
By no later than 180 days from March 14, 2006, the permittee shall submit or shall have submitted to the U.S. EPA, Ohio EPA, and the Toledo Division of Environmental

Services a summary of the plans, implemented or to be implemented, at the Toledo Refinery for enhanced maintenance and operation of the sulfur recovery plant (SRP), and tail gas units (TGUs), including any supplemental control devices, and the appropriate upstream process units. This plan shall be termed a Preventive Maintenance and Operation Plan (PMOP). The PMOP shall be a compilation of the permittee's approaches for exercising good air pollution control practices and for minimizing SO_2 emissions at the Toledo Refinery. The PMOP shall have as its goal the elimination of Acid Gas Flaring and the continuous operation of the SRP, between scheduled maintenance turnarounds, with a minimization of emissions. The PMOP shall include, but not be limited to, sulfur shedding procedures, startup and shutdown procedures, emergency procedures and schedules to coordinate maintenance turnarounds of the SRP Claus trains and associated TGUs to coincide, if necessary to minimize emissions, with scheduled turnarounds of major Upstream Process Units. The permittee shall operate consistent with the PMOP at all times, including periods of startup, shutdown and malfunction of its SRP. Changes to a PMOP related to minimizing acid gas flaring and/or SO2 emissions shall be summarized and reported by the permittee to U.S. EPA, Ohio EPA and the Toledo Division of Environmental Services on an annual basis.

NOTE: The PMOP will initially address the existing sulfur recovery plant. After the new SRP is built, the PMOP will be modified to address both SRP's.

(4) [CD, section I.47b.] Good Operation and Maintenance
U.S. EPA, Ohio EPA and the Toledo Division of Environmental Services do not, by their review of a PMOP and/or by their failure to comment on a PMOP, warrant or aver in any manner that any of the actions that the permittee may take pursuant to such PMOP will result in compliance with the provisions of the Clean Air Act or any other applicable federal, state, or local law or regulation. Notwithstanding the review by EPA or any state agency of a PMOP, the permittee shall remain solely responsible for compliance with the Clean Air Act and such other laws and regulations.

(5) [40 CFR 63, subpart UUU] NATIONAL EMISSION STANDARDS FOR HAPS FOR PETROLEUM REFINERIES: SULFUR RECOVERY UNIT

The permittee shall comply with the applicable restrictions in 63.1568, including the following sections:

63.1568(a)(2)	Must meet the emission limitation in Table 29 (option 3) until the new tail gas unit is installed, then (option 1).
63.1568(a)(3)	Must prepare an operation, maintenance, and monitoring plan according to the requirements in 63.1574(f) and operate accordingly.

d) Monitoring and/or Recordkeeping Requirements

(1) For each day during which the permittee burns a fuel other than natural gas or refinery fuel gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

(2) Prior to the installation of the continuous SO_2 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. Once received, the letter/document of certification shall be maintained on-site and shall be made available to the director (the appropriate Ohio EPA District Office or local air agency) 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.

(3) The permittee shall install, operate, and maintain equipment to continuously monitor and record SO_2 emissions from this emissions unit in units of the applicable standard(s). The continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.

The permittee shall maintain records of data obtained by the continuous SO_2 monitoring system including, but not limited to:

a. emissions of SO_2 in parts per million on an instantaneous (one-minute) basis*;

b. emissions of SO_2 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 SO_2 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 SO_2 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.

NOTE: Valid minute by minute CEMS data shall not be required during periods in which scheduled CEMS system maintenance events (such as system blow-backs) occur. Minute by minute data recorded during a scheduled maintenance event shall be flagged as invalid due to the scheduled maintenance event, and not used in future compliance determination calculations.

(4) [40 CFR 63, subpart UUU] NATIONAL EMISSION STANDARDS FOR HAPS FOR PETROLEUM REFINERIES: SULFUR RECOVERY UNIT

The permittee shall comply with the applicable monitoring and recordkeeping requirements under this subpart, including the following sections:

63.1570	Must be in compliance with the non-opacity standards except during startup, shutdown and malfunctions. Must develop a written startup, shutdown and malfunction plan and operate accordingly.
63.1572	Must install and operate an SO_2 CEM according to Table 40; if applicable, the permittee must maintain a continuous parameter monitoring system according to Table 41 (for option 3, a combustion zone temperature; for option 2, not applicable)
63.1576(a)	Records of notifications submitted; records related to startup, shutdown and malfunctions and records of performance tests.
63.1576(b)	Monitoring data for the CEMs and records of deviations
63.1576(c)	Records for visible emission observations as required by 40 CFR 63.6(h).
63.1576(d)	Records as required by Tables 34 and 35 for the SRU and Table 39 for bypass lines.
63.1576(e)	A current copy of the operation, maintenance and monitoring plan and records showing continuous compliance with the plan.
63.1576(f) through (i)	Record retention for 5 years and readily available.

e) Reporting Requirements

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

(2) The permittee shall comply with the following quarterly reporting requirements for the emissions unit and its continuous SO_2 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 appropriate Ohio EPA District Office or local air agency, documenting all instances of SO_2 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). If there are no excess emissions during the calendar quarter, the permittee shall submit a statement to that effect.

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 SO_2 and other associated monitors;

iii. the location of the continuous SO_2 monitor;

iv. the exceedance report as detailed in (a) above;

v. the total SO_2 emissions for the calendar quarter (tons);

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

vii. the total operating time of the continuous SO_2 monitoring system while the emissions unit was in operation;

viii. results and dates of quarterly cylinder gas audits;

ix. results and dates of the relative accuracy test audit(s), including results in units of the applicable standard(s), (during appropriate quarter(s));

x. the results of any relative accuracy test audit showing the continuous SO_2 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 SO_2 monitoring system, emissions unit, and/or control equipment;

xii. the date, time, and duration of any downtime* of the continuous SO_2 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 b.xii.

Each report shall address the operations conducted and data obtained during the previous calendar quarter. For any periods for which sulfur dioxide or oxides emissions data are not available, the permittee shall submit a signed statement indicating if any changes were made in operation of the emission control system during the period of data unavailability which could affect the ability of the system to meet the applicable emission limit. Operations of the control system and affected facility during periods of data unavailability are to be compared with operation of the control system and affected facility before and following the period of data unavailability.

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

(3) This emissions unit is subject to the applicable provisions of Subpart J of the New Source Performance Standards (NSPS) as promulgated by the United States

Environmental Protection Agency, 40 CFR Part 60. The application and enforcement of these standards are delegated to the Ohio EPA. The requirements of 40 CFR Part 60 are also federally enforceable.

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).

Reports are to be sent to:

Ohio Environmental Protection Agency
DAPC - Permit Management Unit
P. O. Box 163669
Columbus, Ohio 43216-3669

and

Toledo Division of Environmental Services
348 South Erie Street
Toledo, Ohio 43604

(4) [40 CFR Part 63, Subpart UUU] NATIONAL EMISSION STANDARDS FOR HAPS FOR PETROLEUM REFINERIES: SULFUR RECOVERY UNIT - REPORTS AND NOTIFICATIONS

The permittee shall submit semiannual reports and such other notifications and reports to the appropriate Ohio EPA District office or local air agency as are required pursuant to this subpart, including the following sections:

63.1574	Initial notifications stated in 63.1574(a) were previously sent by the permittee. Must send the notification of compliance and include the information in Table 42. Must prepare and implement an operation, maintenance, and monitoring plan for each control system and continuous monitoring system as stated in 63.1574(f).
63.1575(a) through (c)	Must submit each semiannual report in Table 43 that applies to this emissions unit regarding emission limitations and work practice deviations.
6.11575(e)	Reports for CEMs.
63.1575(h)	Reporting requirements regarding startups, shutdowns and malfunctions

f) Testing Requirements

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

a. Emission Limitation;

Visible emissions shall not exceed 10% opacity, as a six-minute average.

Applicable Compliance Method:

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

b. Emission Limitation:

CO emissions shall not exceed 2.59 pound per hour.

Applicable Compliance Method:

This emission limitation was established by the following emission calculation using the permittee-supplied one-hour average emission factor of 150 ppmvd CO at 0% oxygen: multiply the maximum stack gas flow rate (3,899 dscfm at 0% O_2) by 60 minutes per hour, multiply by 150 parts, divide by 1,000,000 parts, multiply by the molecular weight of CO (28 lb/lb-mole), and divide by 379.43 cubic feet per pound mole.

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with 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.

c. Emission Limitation:

CO emissions shall not exceed 11.34 tons per year tons per year, based upon a rolling, 365-day summation of the daily emissions.

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emissions unit by the following emission calculation using the allowable emission limitation of 150 ppmvd at 0% O_2: multiply the maximum stack gas flow rate (3,899 dscfm at 0% O_2) by 60 minutes per hr, multiply by 24 hours per day, multiply by 365 days per year, multiply by 150 parts, divide by 1,000,000 parts, multiply by the molecular weight of CO (28 lb/lb-mole), divide by 379.43 cubic feet per pound mole, and divide by 2,000 pounds per ton.

d. Emission Limitation:

H_2S emissions shall not exceed 10 ppmvd.

Emission Limitation:

This emission limitation is based on emission testing conducted by the permittee on a similar emissions unit. If required, the permittee shall demonstrate compliance using the methods and procedures of 40 CFR 60.106(f)(2).

e. Emission Limitation:

H_2S emissions shall not exceed 0.95 tons per year, based upon a rolling, 365-day summation of the daily emissions.

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emissions unit. Compliance may be demonstrated through calculations performed as follows: multiply the maximum stack gas flow rate (4,020 dscfm) by the maximum annual minutes of operation (60 minutes/hr x 24 hrs/day x 365 days/yr), multiply by 10 parts divided by 1,000,000 parts, multiply by the molecular weight of H_2S (34.1 lb/lb-mole), divide by 379.43 cubic feet per pound mole, and divide by 2000 lbs/ton.

f. Emission Limitation:

NOx emissions shall not exceed 2.55 pounds per hour.

Applicable Compliance Method:

Compliance may be determined through calculations based on the low-NOx burner emission factor supplied by the permittee as follows: multiply the manufacturer's guaranteed emission factor of 0.15 pound of NOx emissions per million Btu by the maximum heat input capacity of 17 mmBtu per hour.

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Method 7 of 40 CFR Part 60 Appendix A. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

g. Emission Limitation:

NOx emissions shall not exceed 11.17 tons per year, based upon a rolling, 365-day summation of the daily emissions.

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emissions unit. Compliance may be demonstrated through calculations performed as follows: multiply the short term emission rate of 2.55 pounds of NOx per hour by 8,760 hours per year and divide by 2,000 pounds per ton.

h. Emission Limitation:

Filterable plus condensable PM emissions shall not exceed 1.36 pounds per hour.

Applicable Compliance Method:

Compliance may be determined through calculations based on the manufacturer's guaranteed emission factor as follows: multiply the emission factor of 0.08 pound of PM per million Btu by the maximum heat input capacity of 17 mmBtu per hour.

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Method 5 of 40 CFR Part 60 Appendix A using the methods and procedures specified in OAC rule 3745-17-03(B)(9) to determine the filterable PM emissions. Method 202 of 40 CFR Part 51, Appendix M shall be used to determine the condensable PM emissions. Add the results of the Method 5 emission testing to the results of the Method 202 emission testing to determine the filterable plus condensable PM emissions. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

i. Emission Limitation:

Filterable plus condensable PM emissions shall not exceed 5.96 tons per year, based upon a rolling, 365-day summation of the daily emissions.

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emissions unit. Compliance may be demonstrated through calculations performed as follows: multiply the short term emission rate of 1.36 pounds of PE per hour by 8,760 hours per year and divide by 2,000 pounds per ton.

j. Emission Limitation:

PM_{10} emissions shall not exceed 1.36 pounds per hour.

Applicable Compliance Method:

Compliance may be determined through calculations based on the manufacturer's guaranteed emission factor, as follows: multiply the emission factor of 0.08 pound of PM per million Btu by the maximum heat input capacity of 17 mmBtu per hour.

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

k. Emission Limitation:

PM_{10} emissions shall not exceed 5.96 tons per year, based upon a rolling, 365-day summation of the daily emissions.

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emissions unit. Compliance may be demonstrated through calculations performed as follows: multiply the short term emission rate of 1.36 pounds of PM_{10} per hour by 8,760 hours per year and divide by 2,000 pounds per ton.

l. Emission Limitation:

SO_2 emissions shall not exceed 250 ppmvd at 0% O2 as a rolling, 12-hr average.

Applicable Compliance Method:

The monitoring and recordkeeping requirements of d) shall be used to demonstrate compliance. If required, the permittee shall demonstrate compliance using the methods and procedures of 40 CFR 60.106(f)(1).

m. Emission Limitation:

SO_2 emissions shall not exceed 9.88 pounds per hour.

Applicable Compliance Method:

This emission limitation was established by the following emission calculation using the permittee-supplied one-hour average emission factor of 300 ppmvd SO_2 at 0% oxygen: multiply the maximum stack gas flow rate (3,899 dscfm at 0% O_2) by 60 minutes per hour, multiply by 300 parts, divide by 1,000,000 parts, multiply by the molecular weight of SO2 (64.1 lb/lb-mole), and divide by 379.43 cubic feet per pound mole.

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 6 of 40 CFR Part 60 Appendix A using the methods and procedures specified in OAC rule 3745-18-04. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

n. Emission Limitation:

SO_2 emissions shall not exceed 43.28 tons per year, based upon a rolling, 365-day summation of the daily emissions.

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emissions unit by the following emission calculation using the allowable emission limitation of 250 ppmvd at 0% O_2: multiply the maximum stack gas flow rate (3,899 dscfm at 0% O_2) by 60 minutes per hr, multiply by 24 hours per day, multiply by 365 days per year, multiply by 250 parts, divide by 1,000,000 parts, multiply by the molecular weight of SO_2 (64.1 lb/lb-mole), divide by 379.43 cubic feet per pound mole, and divide by 2,000 pounds per ton.

o. Emission Limitation:

VOC emissions shall not exceed 0.89 pound per hour.

Applicable Compliance Method:

This emission limitation was established by the following emission calculation using the permittee-supplied one-hour average emission factor of 60 ppmv VOC : multiply the maximum stack gas flow rate (3,899 dscfm at 0% oxygen) by 60 minutes per hour, multiply by 60 parts, divide by 1,000,000 parts, multiply by an average molecular weight of 24 lb/lb-mole and divide by 379.43 cubic feet per pound mole. If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Method 25 of 40 CFR Part 60 Appendix A using the methods and procedures specified in OAC rule 3745-21-10. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

p. Emission Limitation:

VOC emissions shall not exceed 3.89 tons per year, based upon a rolling, 365-day summation of the daily emissions.

Applicable Compliance Method:

This emission limitation was established to reflect the potential to emit for this emissions unit by the following emission calculation using the allowable emission limitation of 60 ppmvd at 0% O_2: multiply the maximum stack gas flow rate (3,899 dscfm at 0% O_2) by 60 minutes per hr, multiply by 24 hours per day, multiply by 365 days per year, multiply by 60 parts, divide by 1,000,000 parts, multiply by the average molecular weight of VOC (24 lb/lb-mole), divide by 379.43 cubic feet per pound mole, and divide by 2,000 pounds per ton.

q. Emission Limitation:

PM_{10} emissions shall not exceed 0.08 pound per million Btu of heat input

Applicable Compliance Method:

This emission limitation was established based on the manufacturer's guarantee for the incinerator, supplied by Sunoco, Inc. If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 201 and 202 of 40 CFR Part 51, Appendix M. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

r. Emission Limitation:

CO emissions shall not exceed 0.15 pound per million Btu of heat input

Applicable Compliance Method:

This emission limitation was established based on the manufacturer's guarantee for the incinerator, supplied by Sunoco, Inc. If required, the permittee shall

demonstrate compliance with this emission limitation through emission testing performed in accordance with 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.

(2) Ongoing compliance with the SO_2 emission limitations contained in this permit, 40 CFR Parts 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 a quality assurance/quality control plan which meets the requirements of 40 CFR Part 60.

g) Miscellaneous Requirements

(1) The following tables from 40 CFR 63 subpart UUU are applicable to this emissions unit: Tables 29; 30; 31; 32; 33; 34; 35; 36; 37; 38; 39; 40; 41; 42; 43 and 44.

(2) [CD, section XVIII, 245] TERMINATION of the CONSENT DECREE
The Consent Decree shall be subject to termination upon motion by the United States or Sunoco under the conditions identified in Paragraphs 245 through 247 of the Consent Decree. Sunoco may seek termination of the Consent Decree upon either (A) completion and satisfaction at the relevant Refinery of all of the following requirements stated in Paragraphs 245.a-e.; or (B) anytime after the permanent shutdown of, and relinquishment of all operating permits for, such Refinery.

10. P801, Process Units

Operations, Property and/or Equipment Description:

P801 -Facility-wide Leak Detection and Repair (LDAR) program subject to refinery MACT and OAC rule 3745-21-09(T)

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(C) (PTI 04-01447 issued 9/29/06 and modified on 1/23/07) [In accordance with 40 CFR 63.640 this emissions unit is an existing facilty-wide LDAR program at an existing petroleum refinery subject to the emission limitations and control measures specified in this subpart.]	385.43 tons per year volatile organic compounds (VOC) per rolling 12-month summation of the monthly emissions see b)(2)a. and (2)b.
b.	40 CFR Part 63, Subpart CC	see b)(2)c. through (2)e.
c.	40 CFR Part 60, Subpart VV [In accordance with 40 CFR 63.648(a) this emissions unit is an existing facilty-wide LDAR program at an existing petroleum refinery subject to the emission limitations and control measures specified in 40 CFR 63, subpart CC and this subpart.]	see b)(2)c. and (2)d.
d.	40 CFR Part 60, Subpart GGG	see b)(2)c., (2)d. and (2)j.
e.	OAC rule 3745-21-09(T)	see b)(2)g.
f.	*Enhanced LDAR Program*	

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
	OAC rule 3745-31-05(D) (PTI 04-01447 issued 9/29/06 and modified on 1/23/07)	see b)(2)h. and (2)i.

(2) Additional Terms and Conditions

a. Modifications of the equipment at this facility shall not require a PTI modification that results solely in increases in fugitive equipment leaks unless and until the calculated facility-wide potential to emit (PTE) for fugitive emissions equals or exceeds the allowable fugitive emission limit stated in b)(1).

b. The permittee shall consider only those fugitive emissions from the equipment being installed or modified (i.e., not the facility-wide fugitive equipment limit) when determining applicability under OAC rule 3745-31-11 through OAC rule 3745-31-20.

c. [63.648(a)] - Equipment Leaks
In accordance with 40 CFR Part 63, Subpart CC, the permittee shall comply with the applicable provisions of 40 CFR Part 60, Subpart VV and paragraph (b) of 40 CFR Part 63.648 except as provided in 63.648(a)(1), and (c) through (i) of 40 CFR Part 63.648.

i. [63.648(a)(1)]
For purposes of compliance with 40 CFR Part 63.648, the provisions of 40 CFR Part 60, Subpart VV apply only to equipment in organic HAP service, as defined in 40 CFR Part 63.641, Subpart CC:

"In organic hazardous air pollutant service means that a piece of equipment either contains or contacts a fluid (liquid or gas) that is at least 5 percent by weight of total organic HAP's as determined according to the provisions of 40 CFR 63.180(d) of subpart H of this part and table 1 of this subpart. The provisions of 63.180(d) of subpart H also specify how to determine that a piece of equipment is not in organic HAP service."

ii. [63.648(a)(2)]
Calculation of percentage leaking equipment components for Subpart VV of 40 CFR Part 60 may be done on a source wide basis. All subsequent calculations shall be on the same basis unless a permit change is made.

d. [63.640(p)] - Equipment Leaks
If there is an overlap of 40 CFR Part 63, Subpart CC with other regulations for equipment leaks, after the compliance dates, that are also subject to the provisions of 40 CFR Part 60 and 61, the permittee is required to comply only with the provisions specified in 40 CFR Part 63, Subpart CC.

e. [63.640(q)] - Equipment Leaks
For overlap of 40 CFR Part 63, Subpart CC with local or State regulations, the permitting authority for the affected source may allow consolidation of the monitoring, record keeping, and reporting requirements under Subpart CC with the monitoring, record keeping, and reporting requirements under other applicable requirements in 40 CFR Part 60, 61, or 63, and in any 40 CFR part 52 approved State implementation plan provided the implementation plan allows for approval of alternative monitoring, reporting, or record keeping requirements and provided that the permit contains an equivalent degree of compliance and control.

f. [63.640(l)]
If an additional petroleum refining process unit is added to a plant site that meets the criteria in 40 CFR Part 63.640(c)(3) of Subpart CC is added to an existing petroleum refinery and if the addition or process change is not subject to the new source requirements as determined according to 40 CFR Part 63.640(i) or (j) of Subpart CC, the requirements in 63.640(l)(1) through (3) shall apply. Examples of process changes include, but are not limited to, changes in production capacity, or feed or raw material where the change requires construction or physical alteration of the existing equipment or catalyst type, or whenever there is replacement, removal, or addition of recovery equipment. For purposes of this paragraph and 63.640(m), process changes do not include: process upsets, unintentional temporary process changes, and changes that are within the equipment configuration and operating conditions documented in the Notification of Compliance Status report required by 40 CFR Part 63.654(f).

i. [63.640(l)(1)]
The added emission point(s) and any emission point(s) within the added or changed petroleum refining process unit are subject to the requirements for an existing source.

ii. [63.640(l)(2)]
The added emission point(s) and any emission point(s) within the added or changed petroleum refining process unit shall be in compliance with 40 CFR Part 63, Subpart CC, by the dates specified in paragraphs ii.(a) or ii.(b) of this section, as applicable.

(a) If a petroleum refining process unit is added to a plant site or an emission point(s) is added to any existing petroleum refining process unit, the added emission point(s) shall be in compliance upon initial startup of any added petroleum refining process unit or emission point(s).

(b) If a deliberate operational process change to an existing petroleum refining process unit causes a Group 2 emission point to become a Group 1 emission point (as defined in 40 CFR Part 63.641), the permittee shall be in compliance upon initial startup, unless the permittee demonstrates to the Director and Administrator that achieving compliance will take longer than making the change. If this demonstration is made to the Director's and Administrator's satisfaction, the permittee shall follow the

procedures in 63.640(m)(1) through (m)(3) to establish a compliance date.

iii. [63.640(l)(3)]
The permittee of a petroleum refining process unit meeting the criteria in 40 CFR Part 63.640(c)(3) of Subpart CC, that is added to a plant site and is subject to the requirements for existing emissions units shall comply with the reporting and record keeping requirements that are applicable to existing emissions units including, but not limited to, the reports listed in paragraphs (a) through (f) of this section. A process change to an existing petroleum refining process unit shall be subject to the reporting requirements for existing emissions units including, but not limited to, the reports listed below. The applicable reports include, but are not limited to:

(a) the Notification of Compliance Status report as required by 40 CFR Part 63.654(f) for the emission points that were added or changed;

(b) Periodic Reports and other reports as required by 40 CFR Part 63.654(g) and (h);

(c) reports and notifications required by sections of Subpart A of 40 CFR Part 63 that are applicable to this subpart, as identified in table 6 of Subpart CC; and

(d) reports and notifications required by 40 CFR Part 60.487.

iv. [63.640(l)(4)]
If pumps, compressors, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, or instrumentation systems are added to an existing source, they are subject to the equipment leak standards for existing emissions units in 40 CFR Part 63.648. A notification of compliance status report shall not be required for such added equipment.

g. [OAC 3745-21-09(T)]

i. This regulation applies to petroleum refinery equipment leaks of volatile organic compounds from pump seals, pipeline valves, process drains, compressor seals and pressure relief devices.

ii. Except as otherwise provided in paragraphs (2)g.iii. of this section and OAC 3745-21-09(T)(1)(c), the permittee shall establish a leak detection and repair program for the emissions units identified in paragraph (2)g.i. of this section, in compliance with the monitoring, record keeping and reporting requirements of this permit.

iii. [OAC 3745-21-09(T)(1)(b)] Pressure relief devices which are connected to an operating flare header, vapor recovery devices, valves which are located in pipelines containing kerosene or heavier liquids, storage tank valves and valves which are not externally regulated are exempt from the monitoring requirements contained in d).

iv. ALTERNATIVE MONITORING, RECORDKEEPING AND REPORTING FOR OAC rule 3745-21-09(T)(4)
The director may accept an alternative monitoring, recordkeeping and reporting program for that required by paragraph (T)(1) of this rule if the permittee of a petroleum refinery can demonstrate to the satisfaction of the director that the alternative program is at least as effective in identifying, documenting and reporting leaks from petroleum refinery equipment as the program outlined in paragraph (T)(1) of this rule. For purposes of this paragraph, any proposed alternative program which the director finds comparable to the requirements of paragraph (DD)(12) or (DD)(13) of this rule shall be acceptable to the director.

h. An enhanced LDAR program is required by the consent decree as entered on March 14, 2006. Most of the requirements established by the consent decree are more stringent than the requirements of 40 CFR 63, subpart CC and OAC rule 3745-21-09(T).

i. [CD, section N. - LEAK DETECTION AND REPAIR PROGRAM ENHANCEMENTS]
In order to minimize or eliminate fugitive emissions of volatile organic compounds (“VOCs”), benzene, volatile hazardous air pollutants (“VHAPs”), and organic hazardous air pollutants (“HAPs”) from equipment in light liquid and/or in gas/vapor service, the permittee shall implement the measures required by the Consent Decree entered March 14, 2006 [Date of Entry], to enhance the Refinery’s LDAR program under Title 40 of the Code of Federal Regulations, Part 60, Subpart GGG; Part 63, Subparts F, H, and CC; and applicable state LDAR requirements. The terms “equipment”, “in light liquid service” and “in gas/vapor service” shall have the definitions set forth in the applicable provisions of Title 40 of the Code of Federal Regulations, Part 60, Subpart GGG; Part 63, Subparts F, H and CC; and applicable state LDAR regulation.

j. [40 CFR 60, subpart GGG]
For those pieces of equipment not subject to 40 CFR 63, subpart CC for equipment leaks as defined by the definition for "in organic hazardous air pollutant" may be subject to 40 CFR 60, subpart GGG.

i. [60.590(a)(1-3)] Applicability and designation of affected facility

(a) The provisions of this subpart apply to affected facilities in petroleum refineries.

(b) A compressor is an affected facility.

(c) The group of all the equipment (defined in 40 CFR 60.591) within a process unit is an affected facility.

ii. [60.590(d)] Facilities subject to subpart VV or subpart KKK of 40 CFR part 60 are excluded from this subpart.

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) [40 CFR 63, subpart CC] NESHAP FROM PETROLEUM REFINERIES

The permittee shall comply with the applicable monitoring and record keeping requirements required under 40 CFR 63, subpart CC, including the following sections:

63.648 Equipment Leak Standards allows the permittee to comply with 40 CFR 60, subpart VV for existing equipment. Monitoring data and test methods must meet the procedures specified in 60.485(b).

(2) [40 CFR 60, subpart VV] NSPS FOR EQUIPMENT LEAKS OF VOC IN THE SYNTHETIC ORGANIC CHEMICALS MANUFACTURING INDUSTRY

The permittee shall comply with the applicable monitoring and record keeping requirements required under 40 CFR 60, subpart VV, including the following sections briefly summarized:

60.482-1 Standards-General: Compliance is determined by review of records, reports, review of performance test results and inspections.

60.482-2 Standards-Pumps in Light Liquid Service: Pumps are checked visually on a weekly basis for indications of leaks. Monitored monthly with readings of 10,000 ppm or greater indicating a leak. First attempt at repair shall be made within 5 days and repaired no later than 15 days.

60.482-3 Standards-Compressors: Each barrier fluid system (see 60.482-3(a)) shall be equipped with a sensor, checked daily or equipped with an audible alarm. If sensor indicates failure of the seal system, barrier system or both, a leak is detected. First attempt at repair shall be made within 5 days and repaired no later than 15 days.

60.482-4 Standards-Pressure Relief Devices in Gas/Vapor Service: They shall be operated with no detectable emissions (<500 ppm above background). Within 5 days after a pressure release, the device must be remonitored. First attempt at repair shall be made within 5 days and repaired no later than 15 days.

60.482-5 Standards-Sampling Connection Systems: each sampling connection system shall be equipped with a closed- purged, closed-loop or closed-vent system and shall comply with the requirements of 40.682-5(b). In situ sampling without purges are exempt from the above.

60.482-6 Standards-Open-Ended Valves or Lines: Open-ended valves or lines are to be equipped with cap, blind flange, plug or second valve.

60.482-7	Standards-Valves in Gas/Vapor Service in Light Liquid Service: Valves are monitored monthly to detect leaks (>10,000 ppm). First attempt at repair shall be made within 5 days and repaired no later than 15 days. If a leak is detected, the valve is monitored monthly until a leak is not detected for 2 successive months. See 60.482-7(f)-(h) for information regarding valves with no detectable emissions, unsafe-to-monitor or difficult-to-monitor valves.
60.482-8	Standards-Pumps and Valves in Heavy Liquid Service, Pressure Relief Devices in Light Liquid or Heavy Liquid Service, and Connectors: Evidence of a leak is found by visual, audible, olfactory or other detection methods. The equipment shall be monitored within 5 days using Method 21 for leaks (>10,000 ppm). First attempt at repair shall be made within 5 days and repaired no later than 15 days.
60.482-9	Standards-Delay of Repair: Delay of repair (DOR) of equipment with leaks is allowed if repair within 15 days is infeasible without a process shutdown. Repair shall then occur before the end of the next process unit shutdown. DOR is allowed if the equipment is isolated from the process and not in VOC service.
60.482-10	Standards-Closed Vent Systems and Control Devices: Vapor recovery stems shall have an efficiency of 95% or greater, or to an exit concentration of 20 ppmv; combustion devices shall have an efficiency of 95% or greater, or to an exit concentration of 20 ppmv, dry basis, corrected to 3% oxygen or provide a minimum residence time of 0.75 seconds at minimum temperature of 816ºC. Flares will comply with requirements of 60.18. Leaks (>500 ppmv above background) shall have a first attempt at repair made within 5 days and repaired no later than 15 days.
60.483-1 and 60.483-2	Alternative Standards for Valves- Allowable Percentage of Valves Leaking and for Valves-Skip Period Leak Detection and Repair
60.486	Recordkeeping Requirements: Records that identify all equipment subject to this subpart along with records of the all monitoring performed along with the leaks and repair information. Keep design requirements for closed vent systems and control devices. Keep separate lists of those pieces of equipment designated for no detectable emissions, unsafe to monitor and difficult to monitor.

(3) [OAC rule 3745-21-09(T)] STANDARDS FOR PETROLEUM REFINERY EQUIPMENT LEAKS OF VOCs FROM PUMP SEALS, PIPELINE VALVES, PROCESS DRAINS, COMPRESSOR SEALS AND PRESSURE RELIEF DEVICES

a. [OAC rule 3745-21-09(T)(1)(d)]
All pipeline valves in gas service and pressure relief valves in gas service shall be clearly marked and identified in such a manner that they will be obvious to both refinery personnel performing monitoring and to the Director.

b. If a leak is identified as a result of the monitoring program required by paragraph a. of this section and the concentration of volatile organic compounds exceeds ten thousand parts per million by volume, a tag shall immediately be placed on the leaking component. The tag shall be readily visible and weatherproof; it shall bear an identification number; and it shall clearly indicate the date the leak was detected. The tag shall remain in place until the leaking component is repaired.

c. [OAC rule 3745-21-09(T)(2)]
Any permittee of a petroleum refinery shall repair and retest any leaking component, which is tagged and identified in accordance with paragraph b. of this section, as soon as possible but no later than fifteen days after the leak is found unless the leaking component cannot be repaired until a process unit turnaround occurs.

d. [OAC rule 3745-21-09(T)(3)]
The Toledo Division of Environmental Services may require a process unit turnaround to occur earlier than the normally scheduled date if the number and severity of leaking components awaiting a turnaround warrant such action. Any such process unit turnaround shall be required by means of an order issued by the Director to the permittee of the petroleum refinery pursuant to division (R) of section 3704.03 of the Ohio Revised Code.

e. [OAC rule 3745-21-09(T)(4)] ALTERNATIVE MONITORING, RECORDKEEPING AND REPORTING
The Toledo Division of Environmental Services may accept an alternative monitoring, recordkeeping and reporting program for that required by paragraph (T)(1) of this rule if the permittee of a petroleum refinery can demonstrate to the satisfaction of the Director that the alternative program is at least as effective in identifying, documenting and reporting leaks from petroleum refinery equipment as the program outlined in this permit. For purposes of this paragraph, any proposed alternative program which the Director finds comparable to the requirements of paragraph (DD)(12) or (DD)(13) of OAC rule 3745-21-09 shall be acceptable to the Director.

The proposed alternative monitoring plan is as follows:

i. Affected Sources:
Pipeline valves in gas service and pressure relief valves in gas service that are not designated as difficult, inaccessible, or unsafe to monitor under OAC rule 3745-21-09(T)(1)(c).

ii. Alternative Program:
The permittee shall monitor the affected sources quarterly and repair leaks that are recorded to be in excess of 10,000 ppm as measured by the method specified in OAC rule 3745-21-10 within 5 days. Once two quarters are recorded in which leak percentage is below 2%, the permittee may skip one quarterly monitoring period. Once five

consecutive quarters are recorded in which the percentage leaking is below 2%, the permittee may skip up to three quarterly monitoring periods. If the percentage leaking goes above 2%, the permittee will return to the monitoring specified in OAC rule 3745-21-09(T)(1)(a)(ii), but may again return to the alternative program when the leak percentage falls below 2%.

iii. Notification
The permittee may begin implementation of the alternative program upon written notification to the Toledo Division of Environmental Services.

iv. Calculation of Percent Leaking
The percentage leaking shall be conducted on a refinery-wide basis by comparing the total number of affected sources monitored with the sum of the affected sources leaking and the affected sources that have been placed on shutdown.

v. Recordkeeping and Reporting
The permittee shall submit reports as specified in OAC rule 3745-21-09(T)(1)(i). The permittee shall maintain records on site which show the percentage of valves leaking. These records will be made available to the Director upon request.

vi. Equivalency with OAC rule 3745-21-09(T)(1)(a)(ii)
This program is equivalent to OAC rule 3745-21-09(DD)(12), which has been determine to be acceptable to the Director as stated in OAC rule 3745-21-09(T)(4).

(4) [OAC 3745-21-09(T)] MONITORING AND RECORDKEEPING REQUIREMENTS FOR PETROLEUM REFINERY EQUIPMENT LEAKS OF VOCs FROM PUMP SEALS, PIPELINE VALVES, PROCESS DRAINS, COMPRESSOR SEALS AND PRESSURE RELIEF DEVICES

a. [OAC 3745-21-09(T)(1)(a)]
Except as otherwise indicated in b)(2), a monitoring program shall be developed and implemented which incorporates the following provisions:

i. Yearly monitoring of all pump seals, pipeline valves in liquid service and process drains in accordance with the method specified in paragraph (F) of rule 3745-21-10 of the Administrative Code;

ii. Quarterly monitoring of all compressor seals, pipeline valves in gas service and pressure relief valves in gas service in accordance with the method specified in paragraph (F) of rule 3745-21-10 of the Administrative Code;

iii. Monthly monitoring of all pump seals by visual methods;

iv. Monitoring of any pump seal in accordance with the method specified in paragraph (F) of rule 3745-21-10 of the Administrative Code within five working days after any liquids are observed dripping from the seal;

v. Monitoring of any relief valve in accordance with the method specified in paragraph (F) of rule 3745-21-10 of the Administrative Code within five working days after the valve has vented to the atmosphere; and

vi. Monitoring of any component in accordance with the method specified in paragraph (F) of rule 3745-21-10 of the Administrative Code within five working days after the repair of a leak.

b. [OAC 3745-21-09(T)(1)(c)]
For any pipeline or pressure relief valves in gas or liquid service, an alternative monitoring schedule may be employed in lieu of the monitoring schedule specified in paragraph (T)(1)(a) of this rule, as follows:

i. The valve is designated as difficult to monitor and is monitored each calendar year, provided the following conditions are met:

(a) Construction of the process unit commenced prior to March 27, 1981;

(b) The permittee of the valve demonstrates that the valve cannot be monitored without elevating the monitoring personnel more than six feet above a support surface; and

(c) The permittee of the valve has a written plan that requires monitoring of the valve at least once per year.

ii. The valve is designated as unsafe to monitor and is monitored as frequently as practical during safe to monitor times, provided the following conditions are met:

(a) The permittee of the valve demonstrates that the valve is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of monitoring on a quarterly or yearly basis as specified in paragraph a. of this section; and

(b) The permittee of the valve adheres to a written plan that requires monitoring of the valve as frequently as practical during process unit turnarounds and other safe to monitor times.

c. [OAC 3745-21-09(T)(f)]
A monitoring log shall be maintained for all leaking components which are tagged in accordance with paragraph (T)(1)(e) of this rule. The monitoring log shall contain, at a minimum, the following data:

i. The name of the process unit where the leaking component is located;

ii. The type of leaking component (such as valve, seal, or other component);

iii. The tag number of the leaking component;

iv. The date on which the leaking component was detected;

v. The date on which the leaking component was repaired;

vi. The date and results of the monitoring performed within five working days after the leaking component was repaired;

vii. A record of the calibration of the monitoring instrument;

viii. A list of those leaking components which cannot be repaired until the next process unit turnaround; and

ix. The total number of components monitored and the total number of components found leaking during the calendar year.

d. [OAC 3745-21-09(T)(1)(g)]
A copy of any monitoring log shall be retained by the permittee for a minimum of two years after the date on which the record was made or the report was prepared.

e. [OAC 3745-21-09(T)(1)(h)]
A copy of any monitoring log shall immediately be made available to the Director or an authorized representative of the Director, upon verbal or written request, at any reasonable time.

ENHANCED LDAR PROGRAM AS REQUIRED BY CONSENT DECREE(CD) - Date of Entry, March 14, 2006

(5) [CD, section N.78.] WRITTEN REFINERY-WIDE LDAR PROGRAM and COMPLIANCE CERTIFICATION.
Enhanced LDAR Program Description. By no later than 180 days (9/10/06) after Date of Entry of the Consent Decree, The permittee shall develop a written description of a refinery-wide program designed to achieve and maintain compliance with all applicable federal and state LDAR regulations, as well as all requirements imposed by Section N. The permittee shall update each Refinery's program description as necessary to ensure continuing compliance. By no later than 180 days (9/10/06) after Date of Entry of the Consent Decree, The permittee shall submit copies of its enhanced LDAR program descriptions to U.S. EPA, Ohio EPA, and the Toledo Division of Environmental Services, and shall maintain an updated version of that Refinery's program description. Until the Date of Termination, the permittee shall use the enhanced LDAR program descriptions prepared pursuant to this Paragraph to implement an enhanced LDAR program at each Refinery, as required by this Section V.N. The Refinery's program description shall include at a minimum:

a. A set of refinery-specific leak rate goals that will be a target for achievement on process-unit-by-process-unit basis;

b. An identification of all equipment in light liquid and/or in gas/vapor service that has the potential to leak VOCs, HAPs, VHAPs, and benzene within process units that are owned and maintained at each Refinery;

c. Procedures for identifying leaking equipment within process units that are owned and maintained at each Refinery;

d. Procedures for repairing and keeping track of leaking equipment;

e. Procedures for identifying and including in the LDAR program new equipment;

f. A process for evaluating new and replacement equipment to promote consideration and installation of equipment that will minimize leaks and/or eliminate chronic leakers;

g. A designation of the "LDAR Personnel" and the "LDAR Coordinator" who are responsible for implementing the enhanced LDAR program at the Refinery; and

h. Procedures designed to ensure that components subject to LDAR requirements that are added to the Refinery during scheduled maintenance and construction activities are integrated into the enhanced LDAR program.

(6) [CD, section N.79.] TRAINING
By no later than one (1) year from Date of Entry of the Consent Decree (March 14, 2007), the Permittee shall implement a training program that includes the following features:

a. Any person assigned LDAR program responsibilities at a Refinery shall be given initial training as described by this Paragraph 79 before performing any LDAR work;

b. For any of the permittee's employees assigned LDAR responsibilities as a primary job function (such as monitoring technicians, database users, QA/QC personnel, and the LDAR Coordinator), the Permittee shall provide and require completion of annual LDAR training (on an initial and recurrent basis);

c. For all other of the permittee's operations and maintenance personnel, the permittee shall provide and require completion of annual training (on an initial and recurrent basis) on aspects of LDAR that are relevant to the person's duties; and

d. For contract employees who perform LDAR work, the permittee shall either provide those personnel annual training (on an initial and recurrent basis) as described by this Paragraph 79, or shall require that the contractor provides annual training (on an initial and recurrent basis) as described by this Paragraph.

(7) [CD, section N.80.] LDAR AUDITS

a. Initial Compliance Audit. By no later than 270 days (12/9/06) after Date of Entry of the Consent Decree, a third-party contractor retained by the permittee shall complete a refinery-wide initial audit of its compliance with all applicable LDAR requirements, which shall include, at a minimum:

i. performing comparative monitoring;

ii. reviewing records to ensure that monitoring and repairs have been completed in the required time frames;

iii. reviewing component identification procedures and data management procedures;

iv. observing LDAR technicians' calibration and monitoring techniques; and

v. an applicability review for regulations potentially applicable to the permittee's process units.

Within 90 days after completing the Initial Compliance Audit, the permittee shall submit to EPA an Initial Compliance Audit Report which shall describe the results of the audit, disclose all areas of identified noncompliance, identify all steps taken to remedy the identified non-compliance, and certify the permittee's full compliance with all applicable LDAR requirements as of the date of the Report.

b. Commencing on Date of Entry of the Consent Decree (March 14, 2006), the permittee shall implement, the refinery-wide audits set forth in Paragraphs 80.c and 80.d (of the consent decree) to ensure the Refinery's compliance with all applicable LDAR requirements. The permittee's LDAR audits shall include, at a minimum:

i. performing comparative monitoring;

ii. reviewing records to ensure that monitoring and repairs have been completed in the required time frames;

iii. reviewing component identification procedures and data management procedures; and

iv. observing LDAR technicians' calibration and monitoring techniques.

To ensure that an audit at the Refinery occurs every two years, third-party audits required by Paragraph 80.c and the internal audits required by Paragraph 80.d (of the consent decree) shall be separated by two (2) years. As an alternative to the internal audits required by Paragraph 80.d. of the consent decree, the permittee may elect to retain third-parties to undertake these audits, provided that an audit of the Refinery occurs every two (2) years. For each audit conducted under Paragraph 80.c. or d. of the consent decree, the permittee shall require the auditors to prepare a written audit report describing the audit's scope and findings.

c. Third-Party Audits.
The permittee shall retain a contractor(s) to perform a third-party audit of the Refinery's LDAR program at least once every four (4) years.

d. Internal Audits.
The permittee shall conduct internal audits of the Refinery's LDAR program by sending personnel familiar with the LDAR program and its requirements from one or more of the permittee's refineries or locations to audit another Sunoco Refinery. The permittee shall complete the first round of these internal LDAR audits by no later than two (2) years from the date of the completion of the initial third-party audit required in Paragraph 80.a. of the consent decree. Internal audits at the Refinery shall be held every four (4) years thereafter until the Date of Termination unless the permittee elects to retain third parties to conduct these audits pursuant to Paragraph 80.c. of the consent decree.

(8) [CD, section N.81.] ACTIONS NECESSARY TO CORRECT NONCOMPLIANCE.
If the results of any of the audits conducted pursuant to Paragraph 80 of the consent decree at the Refinery identifies any areas of noncompliance, The permittee shall implement, as soon as practicable, all steps necessary to correct the area(s) of noncompliance, and to prevent, to the extent practicable, a recurrence of the cause of the noncompliance. Until the Date of Termination, the permittee shall retain the audit reports for all audits conducted pursuant to Paragraphs 80.c. and d. of the consent decree and shall maintain a written record of the corrective actions that the permittee takes at each Refinery in response to any deficiencies identified in any audits. In the semiannual report submitted pursuant to the provisions of Section IX of this Consent Decree ("Reporting and Recordkeeping") for the first semiannual period of each calendar year, the permittee shall submit the audit reports and corrective action records for audits performed and actions taken during the previous calendar year.

(9) [CD, section N.82.] INTERNAL LEAK DEFINITION FOR VALVES and PUMPS
By no later than two (2) years after Date of Entry of the Consent Decree (March 14, 2008), the permittee shall utilize the following internal leak definitions for valves and pumps in light liquid and/or gas/vapor service, unless other permit(s), regulations, or laws require the use of lower leak definitions.

a. Leak Definition for Valves.
The permittee shall utilize an internal leak definition of 500 ppm VOCs for all the Refineries' valves, excluding pressure relief devices.

b. Leak Definition for Pumps.
The permittee shall utilize an internal leak definition of 2000 ppm for its Refineries' pumps.

(10) [CD, section N.83.] REPORTING, RECORDING, TRACKING, REPAIRING and REMONITORING LEAKS of VALVES and PUMPS BASE on the INTERNAL LEAK DEFINITIONS

a. Reporting.
For regulatory reporting purposes, the permittee may continue to report leak rates in valves and pumps against the applicable regulatory leak definition, or may use the lower, internal leak definitions specified in Paragraph 82. of the consent decree.

b. Recording, Tracking, Repairing and Remonitoring Leaks.
The permittee shall record, track, repair, and remonitor all leaks above the internal leak definitions specified by Paragraph 82. of the consent decree (at such time as those definitions become applicable). For any component leaking above the applicable regulatory leak rate, the permittee shall repair and remonitor the component or place the component on a "delay of repair" list as required by the applicable regulations and Paragraph 90. For any component leaking above the internal leak definitions specified by Paragraph 82 of the consent decree but below the applicable regulatory leak rate, the permittee shall make an initial attempt at repair and remonitor the component within five (5) calendar days, and shall complete repairs and remonitor the component or place the component on a "delay of repair" list according to Paragraph 90 of the consent decree within 30 calendar days.

(11) [CD, section N.84.] LDAR MONITORING FREQUENCY

a. Pumps.
By no later than the date the internal leak definitions under Paragraph 82 of the consent decree become effective, the permittee shall monitor pumps at the lower leak definition established by Paragraph 82.b. on a monthly basis, unless more frequent monitoring is required by a federal, state, or local regulation.

b. Valves.
By no later than the date the internal leak definitions under Paragraph 82 of the consent decree become effective, the permittee shall implement a program to monitor valves at the lower leak definition established by Paragraph 82.a. of the consent decree on a quarterly basis, unless more frequent monitoring is required by a federal, state, or local regulation.

(12) [CD, section N.85.] FIRST ATTEMPT AT REPAIRS ON VALVES
Commencing no later than 90 days (6/12/06) after Date of Entry of the Consent Decree, The permittee shall make a "first attempt at repair" within one (1) calendar day on any valve that has a reading greater than 200 ppm of VOCs and that LDAR personnel are authorized to repair. The permittee or its designated contractor shall remonitor all valves no later than the next calendar day at that Refinery where LDAR personnel made a "first attempt at repair." If the re-monitored leak reading is greater than the applicable leak definition, the permittee may delay further repairs up to five (5) days after initial identification in order to assess the persistence of the leak by re-monitoring again. If the re-monitored leak reading is below the applicable leak definition, no further action will be necessary. If the re-monitored leak reading is greater than the applicable leak definition, the permittee shall repair the valve according to the requirements of Paragraph 83.b. of the consent decree, except that no first repair attempt requirement shall apply.

(13) [CD, section N.86.] ELECTRONIC MONITORING, STORING, and REPORTING of LDAR DATA

a. Electronic Storing and Reporting of LDAR Data.
At the Refinery, The permittee will develop or continue to maintain an electronic database for storing and reporting LDAR data.

b. Electronic Data Collection During LDAR Monitoring and Transfer Thereafter.
By no later than 180 days (9/10/06) after Date of Entry of the Consent Decree, The permittee shall make maximum possible use of data loggers and/or other electronic data collection devices for all data collection during all LDAR monitoring. The permittee shall ensure that the responsible employees or contractor personnel shall transfer, on a daily basis, electronic data from electronic data logging devices to the electronic database required by Paragraph 86.a. of the consent decree. For all monitoring events in which an electronic data collection device is used, the collected monitoring data shall include an accurate time and date stamp for each monitoring event, the monitoring reading, and identifying information on the operator and the instrument used in the monitored event. The permittee may use paper logs where necessary or more feasible (e.g., small rounds, remonitoring, or when data loggers are not available or broken), and shall record, at a minimum, the identification of the technician undertaking the monitoring, the date, daily start and end times for the monitoring conducted, each monitoring reading, and the identification of the monitoring

equipment. The permittee shall transfer any manually recorded monitoring data to the electronic database required by Paragraph 86.a. of the consent decree within seven (7) days of monitoring.

(14) [CD, section N.87.] QA/QC of LDAR DATA

a. By no later than 120 days (7/18/06) after Date of Entry of the Consent Decree, the permittee, or a third-party contractor retained by the permittee, shall develop and implement a procedure at the Refinery to ensure a quality assurance/quality control ("QA/QC") review of all data generated by LDAR monitoring technicians.

i. The permittee shall ensure that monitoring data provided to the permittee by its contractors is reviewed for QA/QC before the contractor submits the data to the permittee.

ii. At least once per calendar quarter, the permittee shall perform QA/QC of any contractor's monitoring data which shall include, but not be limited to: number of components monitored per technician, time between monitoring events, and abnormal data patterns.

iii. The permittee shall implement a system for daily reporting of monitored activity and for periodically reviewing the daily results by appropriate operating supervisors.

(15) [CD, section N.88.] LDAR PERSONNEL
By no later than 180 days (9/10/06) after Date of Entry of the Consent Decree, the permittee shall establish a program that will hold LDAR personnel accountable for LDAR performance. The permittee shall establish and maintain an LDAR Coordinator position within each Refinery, responsible for LDAR management, with the authority to implement improvements.

(16) [CD, section N.89.] CALIBRATION/CALIBRATION DRIFT ASSESSMENT

a. Calibration.
Commencing on Date of Entry of the Consent Decree, the permittee shall conduct all calibrations of LDAR monitoring equipment at each Refinery in accordance with 40 C.F.R. Part 60, EPA Reference Test Method 21.

b. Calibration Drift Assessment.
Commencing on Date of Entry of the Consent Decree, at each Refinery, the permittee shall conduct calibration drift assessments of LDAR monitoring equipment at the end of each monitoring shift, at a minimum. The permittee shall conduct the calibration drift assessment using, at a minimum, a calibration gas corresponding to the applicable leak threshold. If any calibration drift assessment after the initial calibration shows a negative drift of more than 10% from the previous calibration, the permittee shall remonitor all valves that were monitored since the last calibration that had a reading greater than 100 ppm and shall remonitor all pumps that were monitored since the last calibration that had a reading greater than 500 ppm

c. The permittee shall maintain records of all instrument calibrations for a period of one year after performing the calibrations.

(17) [CD, section N.90.] DELAY of REPAIR and REQUIRED REPAIRS

a. Within 30 days of submittal of the enhanced LDAR program description described in Paragraph 78 of the consent decree, the permittee shall comply with the provisions of Paragraph 90 of the consent decree at the Refinery.

b. Delay of Repair.
For any equipment that the permittee is allowed under the applicable regulations to place on the "delay of repair" list for repair, the permittee shall:

i. Require sign-off by the appropriate operating supervisor (which position will be identified in the Refinery's written enhanced LDAR program description) that the valve or pump is eligible for inclusion on the "delay of repair" list; and

ii. Include any valve or pump that is placed on the "delay of repair" list in the permittee's regular LDAR monitoring.

c. Required Repairs on Leaking Valves

i. Within 30 days of the implementation of the enhanced LDAR program, for valves, other than control valves, leaking at a rate of 10,000 ppm or greater and which cannot be repaired using traditional techniques, the permittee shall use the "drill and tap" or similarly effective method to repair the leaking valve, rather than placing the valve on the "delay of repair" list, unless the permittee can demonstrate that there is a safety, mechanical, or major environmental concern posed by repairing the leak in that manner. If not repaired within fifteen (15) days by other means, the permittee shall make the first "drill and tap" or similarly effective repair attempt within fifteen (15) days after the leak was identified, and shall have 45 days after the leak was identified to complete the repair attempts.

ii. Within 30 days of the implementation of the enhanced LDAR program, for valves other than control valves or pressure relief valves leaking at a rate of 50,000 ppm or greater, the permittee shall use the "drill and tap" or similarly effective method to repair the leaking valve, rather than placing the valve on the "delay of repair" list, unless the permittee can demonstrate that there is a safety, mechanical, or major environmental concern posed by repairing the leak in that manner. If not repaired within fifteen (15) days by other means, the permittee shall make the first "drill and tap" or similarly effective repair attempt within fifteen (15) days after the leak was identified, and shall have 21 days after the leak was identified to complete the repair attempts.

iii. After two unsuccessful attempts to repair a leaking valve through the "drill and tap" or similarly effective repair method, the permittee may place the leaking valve on its "delay of repair" list. The permittee shall inform EPA of any similarly effective repair methods (alternate repair methods to "drill and tap") used to comply with Paragraphs 90.c.i or 90.c.ii of this consent decree.

(18) [CD, section N.91.] CHRONIC LEAKER PROGRAM
The permittee shall replace, repack, or perform similarly effective repairs on all "chronic leaker" non-control valves during the next process unit turnaround. A component shall be classified as a "chronic leaker" under Paragraph 91 if it leaks above 5000 ppm twice in any consecutive four (4) calendar quarters, unless the component has not leaked in the six (6) consecutive calendar quarters prior to the relevant process unit turnaround.

(19) [CD, section N.92.] RECORDKEEPING and REPORTING REQUIREMENTS OF THIS SECTION

a. Outside of the reports required under 40 C.F.R. 63.654 and the progress report procedures of Section IX of the consent decree, no later than 30 days after completion of the development of the written refinery-wide enhanced LDAR program descriptions that the permittee develops pursuant to Paragraph 78 of the consent decree, the permittee shall submit a copy of each Covered Refinery's program description to the Relevant Government Agencies.

b. Consistent with the requirements of Section IX of the consent decree, at the later of: (i) the first progress report due under the consent decree; or (ii) the first progress report in which the requirement becomes due, the permittee shall include the following:

i. A certification of the implementation of the "first attempt at repair" program under Paragraph 85 of the consent decree;

ii. A certification of the implementation of QA/QC procedures for review of data generated by LDAR technicians as required by Paragraph 87 of the consent decree;

iii. An identification of the LDAR Coordinator at each Refinery responsible for LDAR performance as required by Paragraph 88 of the consent decree;

iv. A certification of the implementation of the calibration drift assessment procedures of Paragraph 89 of the consent decree;

v. A certification of the implementation of the "delay of repair" procedures of Paragraph 90 of the consent decree; and

vi. A certification of the implementation of the internal leak definition and monitoring frequency procedures under Paragraphs 82 and 84 of the consent decree.

(20) [60.592 - STANDARDS - 40 CFR 60, subpart GGG]

a. The permittee shall comply with the requirements of 40 CFR 60.482-1 to 60.482-10 of subpart VV as soon as practicable.

b. The permittee may elect to comply with the requirements of 40 CFR 60.483-1 and 60.483-2 of subpart VV.

c. The permittee may apply to the Administrator for a determination of equivalency for any means of emission limitation that achieves a reduction in emissions of

VOC at least equivalent to the reduction in emissions of VOC achieved by the controls required in this subpart. In doing so, the permittee shall comply with requirements of 40 CFR 60.484.

d. The permittee shall comply with the provisions of 40 CFR 60.485 except as provided in 60.593 of subpart GGG.

e. The permittee shall comply with the provisions of 40 CFR 60.486 and 60.487.

(21) [60.593] Exceptions for 40 CFR 60, subpart GGG

a. [60.593(a)]
The permittee subject to the provisions of this subpart may comply with the following exceptions to the provisions of subpart VV.

b. [60.593(b)]

i. [60.593(b)(1)]
Compressors in hydrogen service are exempt from the requirements of 60.592 if an owner or operator demonstrates that a compressor is in hydrogen service. "In hydrogen service" means that a compressor contains a process fluid that meets the conditions specified in §60.593(b).

ii. [60.593(b)(2)]
Each compressor is presumed not be be in hydrogen service unless the permittee demonstrates that the piece of equipment is in hydrogen service. For a piece of equipment to be considered in hydrogen service, it must be determined that the percent hydrogen content can be reasonably expected always to exceed 50 percent by volume. For purposes of determining the percent hydrogen content in the process fluid that is contained in or contacts a compressor, procedures that conform to the general method described in ASTM E260-73, 91, or 96, E168-67, 77, or 92, or E169-63, 77, or 93 (incorporated by reference as specified in 40 CFR 60.17) shall be used.

iii. [60.593(b)(3)(i) and (ii)]

(a) The permittee may use engineering judgment rather than procedures in 60.593(b)(2) of this section to demonstrate that the percent content exceeds 50 percent by volume, provided the engineering judgment demonstrates that the content clearly exceeds 50 percent by volume. When an owner or operator and the Administrator do not agree on whether a piece of equipment is in hydrogen service, however, the procedures in 60.593(b)(2) shall be used to resolve the disagreement.

(b) If the permittee determines that a piece of equipment is in hydrogen service, the determination can be revised only after following the procedures in 60.593(b)(2).

c. [60.593(c)]
Any existing reciprocating compressor that becomes an affected facility under provisions of 40 CFR 60.14 or 60.15 is exempt from 40 CFR 60.482(a), (b), (c), (d), (e), and (h) provided the permittee demonstrates that recasting the distance piece or replacing the compressor are the only options available to bring the compressor into compliance with the provisions of 40 CFR 60.482(a), (b), (c), (d), (e), and (h) of subpart VV.

d. [60.593(d)]
The permittee may use the following provision in addition to 40 CFR 60.485(e): Equipment is in light liquid service if the percent evaporated is greater than 10 percent at 150°C as determined by ASTM Method D86-78, 82, 90, 95, or 96 (incorporated by reference as specified in 40 CFR 60.18).

e) Reporting Requirements

(1) [40 CFR 63, subpart CC] NESHAP FROM PETROLEUM REFINERIES

The permittee shall submit semiannual reports and such other notifications and reports to the appropriate Ohio EPA District office or local air agency as are required pursuant to 40 CFR 63, subpart CC, per the following sections:

63.654(d)	Submit reports as required by 40 CFR 60.487 of subpart VV.
63.654(f)	Any changes to the initial content of Notification of Compliance Status report as required in 63.654(f)(1)(v)

(2) [40 CFR 60, subpart VV] NSPS FOR EQUIPMENT LEAKS OF VOC IN THE SYNTHETIC ORGANIC CHEMICALS MANUFACTURING INDUSTRY

The permittee shall submit semiannual reports and such other notifications and reports to the appropriate Ohio EPA District office or local air agency as are required pursuant to 40 CFR 60, subpart VV, per the following sections:

60.487	Submit semiannual reports that includes the content of 60.487(c). Submit the results of all performance tests in accordance with 60.8, if applicable.

(3) [OAC 3745-21-09(T)] REPORTING REQUIREMENTS FOR PETROLEUM REFINERY EQUIPMENT LEAKS OF VOCs FROM PUMP SEALS, PIPELINE VALVES, PROCESS DRAINS, COMPRESSOR SEALS AND PRESSURE RELIEF DEVICES

[OAC 3745-21-09(T)(1)(i)] A report shall be submitted to the Director by the fifteenth day of January, April, July and October that gives the total number of components monitored during the previous three calendar months, gives the total number of components found leaking during the previous three calendar months, identifies all components which were found leaking during the previous three calendar months but which were not repaired within fifteen days and identifies all leaking components which cannot be repaired until the next process unit turnaround.

(4) [CD, section N.92.c.] REPORTING REQUIREMENTS OF THIS SECTION of the CONSENT DECREE

a. Semiannual reports due under 40 CFR 63.654. In the first semiannual report of each calendar year required under 40 CFR 63.654, The permittee shall identify each audit that was conducted pursuant to the requirements of Paragraph 80 of the consent decree in the previous calendar year including, an identification of the auditors, a summary of the audit results, and a summary of the actions that the permittee took or intend to take to correct all deficiencies identified in the audits. In each semiannual report due under 40 CFR 63.654, the permittee shall include:

i. Training.
Information identifying the measures that the permittee took to comply with the provisions of Paragraph 79 of the consent decree; and

ii. Monitoring.
The following information on LDAR monitoring:

(a) a list of the process units monitored during the quarter;

(b) the number of valves and pumps monitored in each process unit;

(c) the number of valves and pumps found leaking;

(d) the number of components not fixed within 30 days or placed on the delay of repair list;

(e) the number of first repair attempts not completed within five (5) days;

(f) the number of first attempts not performed within one (1) day according to Paragraph 85 of the consent decree;

(g) the number of “difficult to monitor” pieces of equipment monitored;

(h) number of all chronic leakers not repaired during the prior turnaround; and

(i) a list of all equipment currently on the “delay of repair” list and the date each component was placed on the list; and the number of repair attempts not completed according to the time frames in Paragraph 90 of the consent decree.

f) Testing Requirements

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

a. Emission Limitation:

VOC emissions from facility-wide fugitive equipment leaks shall not exceed 385.43 tons per year per rolling 12-month summation of the monthly emissions.

Applicable Compliance Method:

The facility-wide potential to emit (PTE) fugitive emissions are based upon the sum of PTE fugitive emissions from components in each emissions unit at the facility. These components include all valves, pumps, pressure relief valves, connectors, open-ended lines and sampling connections in regulated service at the facility. The fugitive emissions are calculated using the facility component count, component service type, and the petroleum industry screening value correlations.

Fugitive emission rates are calculated utilizing Tables 2-10 "Petroleum Industry Leak Rate/Screening Value Correlations"; 2-12 "Default-Zero Values: Petroleum Industry" and 2-14 "10,000 ppmv and 100,000 ppmv Screening Value Pegged Emission Rates for the Petroleum Industry" as listed in "Protocol for Equipment Leak Emission Estimates" (EPA-453/R-95-017). Use of "Default Zero Values" can only be used for non-detectable screening values as measured by a portable monitoring device having a minimum detection limit of greater than 1 ppmv.

The equipment service/type (gas/vapor, light liquid and heavy liquid service) for each component is determined according to the definitions contained in 40 CFR Part 63, Subpart CC for equipment in organic HAP service. For equipment not in organic HAP service, the equipment service/type (gas/vapor, light liquid and heavy liquid service) is determined according to the following definitions.

In gas/vapor service means that the piece of equipment contains or contacts process fluid that is in the gaseous state at the operating conditions.

In heavy liquid service means that the piece of equipment is not in gas/vapor service or in light liquid service.

In light liquid service means that the piece of equipment contains or contacts process fluid that meets the conditions specified in paragraph (O)(3) of OAC rule 3745-21-10.

The fugitive emissions shall be calculated by multiplying all components in a given service type by the respective leak emission rates as listed in the tables of "Protocol for Equipment Leak Emission Estimates" (EPA-453/R-95-017) and then converted to tons per year. The total facility-wide VOC emissions from fugitive equipment leaks is the sum of emissions from all components at the facility.

(2) [40 CFR 60, subpart VV] NSPS FOR EQUIPMENT LEAKS OF VOC IN THE SYNTHETIC ORGANIC CHEMICALS MANUFACTURING INDUSTRY

The permittee shall comply with the applicable testing requirements required under 40 CFR Part 60, subpart VV, including the following sections:

60.485(a)	For tests, use the reference methods and procedures in Appendix A of this part.
60.485(b)	To determine compliance with the standards in 60.482, 60.483, and 60.484 by using Method 21.

60.485(c)	Determining compliance with the no detectable emission standards in 60.482-2(e), 60.482-3(i), 60.482-4, 60.482-7(f) and 60.482-10(e).
60.485(d)	Methods used to test each piece of equipment to demonstrates that the VOC content would never be reasonably expected to exceed 10 percent by weight.
60.485(e)	How to demonstrate that equipment is in light liquid service.
60.485(g)	The permittee shall determine compliance with the standards of flares using the methods and procedures of 60.485(g).

(3) [OAC 3745-21-09(T)] METHOD FOR THE DETECTION OF LEAKS OF VOC COMPOUNDS FROM PETROLEUM REFINERY EQUIPMENT

a. [OAC 3745-21-10(F)(1)]
This method is applicable to the detection of leaks of volatile organic compounds into the ambient air from petroleum refinery equipment and any chemical manufacturing equipment subject to paragraph (T) or (DD) of OAC rule 3745-21-09 of the Ohio Administrative Code.

b. [OAC 3745-21-10(F)(2)]
The detection of leaks shall be determined in accordance with the test procedure set forth in "Method 21, 40 CFR, Part 60, Appendix A."

c. [OAC 3745-21-10(F)(3)]
The calibration gases shall be:

i. Zero air, which consists of less than ten ppmv of hydrocarbon in air; and

ii. A mixture of air and methane or n-hexane at a concentration of approximately, but less than, ten thousand ppmv of methane or n-hexane.

d. [OAC 3745-21-10(F)(4)]
The leak detection instrument shall be calibrated before use on each day of its use.

g) Miscellaneous Requirements

(1) The terms and conditions contained in Permit to Install 04-01447 (issued 9/29/2006) for emissions unit P801 supercedes all requirements for the following emissions units:

Emissions Unit	PTI Number
P019	04-0255
P020	04-0255
P023	04-0303
P024	04-0365

P025	04-0382
P027	04-0405
P028	04-0419
P034	04-01199

(2) [CD, section XVIII, 245] TERMINATION of the CONSENT DECREE
The Consent Decree shall be subject to termination upon motion by the United States or Sunoco under the conditions identified in Paragraphs 245 through 247 of the Consent Decree. Sunoco may seek termination of the Consent Decree upon either (A) completion and satisfaction at the relevant Refinery of all of the following requirements stated in Paragraphs 245.a-e.; or (B) anytime after the permanent shutdown of, and relinquishment of all operating permits for, such Refinery.