



Environmental Protection Agency

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

4/11/2012

Certified Mail

Charles Gasperetti  
ISP  
1220 South Metcalf Street  
Lima, OH 45804

RE: FINALAIR POLLUTION PERMIT-TO-INSTALL  
Facility ID: 0302020343  
Permit Number: P0109627  
Permit Type: Administrative Modification  
County: Allen

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

Dear Permit Holder:

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

Environmental Review Appeals Commission  
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 Ohio EPA DAPC, Northwest District Office. This permit can be accessed electronically on the Division of Air Pollution Control (DAPC) Web page, [www.epa.ohio.gov/dapc](http://www.epa.ohio.gov/dapc) by clicking the "Issued Air Pollution Control Permits" link.

Sincerely,

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

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





**FINAL**

**Division of Air Pollution Control  
Permit-to-Install  
for  
ISP**

Facility ID: 0302020343  
Permit Number: P0109627  
Permit Type: Administrative Modification  
Issued: 4/11/2012  
Effective: 4/11/2012





**Division of Air Pollution Control**  
**Permit-to-Install**  
for  
ISP

**Table of Contents**

Authorization .....	1
A. Standard Terms and Conditions .....	3
1. Federally Enforceable Standard Terms and Conditions .....	4
2. Severability Clause .....	4
3. General Requirements .....	4
4. Monitoring and Related Record Keeping and Reporting Requirements.....	5
5. Scheduled Maintenance/Malfunction Reporting .....	6
6. Compliance Requirements .....	6
7. Best Available Technology .....	7
8. Air Pollution Nuisance .....	7
9. Reporting Requirements .....	7
10. Applicability .....	8
11. Construction of New Sources(s) and Authorization to Install .....	8
12. Permit-To-Operate Application .....	9
13. Construction Compliance Certification .....	9
14. Public Disclosure .....	9
15. Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations .....	10
16. Fees.....	10
17. Permit Transfers .....	10
18. Risk Management Plans .....	10
19. Title IV Provisions .....	10
B. Facility-Wide Terms and Conditions.....	11
C. Emissions Unit Terms and Conditions .....	13
1. N006, Scrubber Offgas Boiler .....	14





## Authorization

Facility ID: 0302020343  
Facility Description: Industrial Organic Chemicals, n.e.c.  
Application Number(s): M0001580  
Permit Number: P0109627  
Permit Description: Administrative Modification to PTI No. P0107710 (issued on 4/27/2011) to revise the monitoring language for the NOx CEM required for N006 to match the permit terms and conditions library, and to clarify that there is only one waste stream combusted in N006.  
Permit Type: Administrative Modification  
Permit Fee: \$500.00  
Issue Date: 4/11/2012  
Effective Date: 4/11/2012

This document constitutes issuance to:

ISP  
1220 South Metcalf Street  
Lima, OH 45804

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

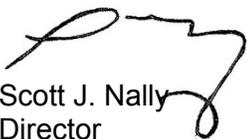
Ohio EPA District Office or local air agency responsible for processing and administering your permit:

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

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

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency



Scott J. Nally  
Director



## Authorization (continued)

Permit Number: P0109627

Permit Description: Administrative Modification to PTI No. P0107710 (issued on 4/27/2011) to revise the monitoring language for the NOx CEM required for N006 to match the permit terms and conditions library, and to clarify that there is only one waste stream combusted in N006.

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

<b>Emissions Unit ID:</b>	<b>N006</b>
Company Equipment ID:	SOGB
Superseded Permit Number:	P0107710
General Permit Category and Type:	Not Applicable

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

## 1. Federally Enforceable Standard Terms and Conditions

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

## 2. Severability Clause

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

## 3. General Requirements

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

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

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

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

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

## 5. Scheduled Maintenance/Malfunction Reporting

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

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

## 6. Compliance Requirements

- a) The emissions unit(s) identified in this Permit shall remain in full compliance with all applicable State laws and regulations and the terms and conditions of this permit.
- b) Any document (including reports) required to be submitted and required by a federally applicable requirement in this permit shall include a certification by a responsible official that, based on information and belief formed after reasonable inquiry, the statements in the document are true, accurate, and complete.

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

## 7. Best Available Technology

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

## 8. Air Pollution Nuisance

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

## 9. Reporting Requirements

The permittee shall submit required reports in the following manner:

- a) Reports of any required monitoring and/or recordkeeping of state-only enforceable information shall be submitted to the Ohio EPA DAPC, Northwest District Office.
- b) Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviations (excursions) from state-only required emission limitations, operational restrictions, and control device operating parameter limitations that have

been detected by the testing, monitoring, and recordkeeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the Ohio EPA DAPC, Northwest District Office. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted (i.e., postmarked) quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

## 10. Applicability

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

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

- a) This permit does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. This permit does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the application and terms and conditions of this permit. The action of beginning and/or completing construction prior to obtaining the Director's approval constitutes a violation of OAC rule 3745-31-02. Furthermore, issuance of this permit does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Issuance of this permit is not to be construed as a waiver of any rights that the Ohio Environmental Protection Agency (or other persons) may have against the applicant for starting construction prior to the effective date of the permit. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed facilities cannot meet the requirements of this permit or cannot meet applicable standards.
- b) If applicable, authorization to install any new emissions unit included in this permit shall terminate within eighteen months of the effective date of the permit if the owner or operator has not undertaken a continuing program of installation or has not entered into a binding contractual obligation to undertake and complete within a reasonable time a continuing program of installation. This deadline may be extended by up to 12 months if application is made to the Director within a reasonable time before the termination date and the party shows good cause for any such extension.
- c) The permittee may notify Ohio EPA of any emissions unit that is permanently shut down (i.e., the emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31) by submitting a certification from the authorized official that identifies the date on which the emissions unit was permanently shut down. Authorization to operate the affected emissions unit shall cease upon the date certified by the authorized official that the emissions unit was permanently shut down. At a minimum, notification of permanent shut down shall be made or confirmed by marking the affected emissions unit(s) as "permanently shut down" in Ohio EPA's "Air Services" along with the date the emissions unit(s) was permanently removed and/or disabled. Submitting the facility profile update will constitute notifying of the permanent shutdown of the affected emissions unit(s).

- d) The provisions of this permit shall cease to be enforceable for each affected emissions unit after the date on which an emissions unit is permanently shut down (i.e., emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31). All records relating to any permanently shutdown emissions unit, generated while the emissions unit was in operation, must be maintained in accordance with law. All reports required by this permit must be submitted for any period an affected emissions unit operated prior to permanent shut down. At a minimum, the permit requirements must be evaluated as part of the reporting requirements identified in this permit covering the last period the emissions unit operated.

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

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

## 12. Permit-To-Operate Application

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

## 13. Construction Compliance Certification

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

- a) Completion of initial installation date shall be 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 new owner must update and submit the ownership information via the "Owner/Contact Change" functionality in Air Services once the transfer is legally completed. The change must be submitted through Air Services within thirty days of the ownership transfer date.

**18. Risk Management Plans**

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

**19. Title IV Provisions**

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

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

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

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



1. N006, Scrubber Offgas Boiler

Operations, Property and/or Equipment Description:

Butanediol manufacturing plant No. 1 scrubber offgas boiler (SOGB)

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) d)(11), d)(12) and d)(13)

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(D)	<p>63.0 lbs of volatile organic compounds (VOC)/hr and 276.0 tons VOC/yr</p> <p>205.4 lbs of carbon monoxide (CO)/hr and 900.0 tons CO/yr</p> <p>25.4 lbs of nitrogen oxides (NOx)/hr, based upon a rolling, 24-hour average and 111.3 tons NOx/yr</p> <p>5.5 lbs of sulfur dioxide (SO2)/hr, based upon a 30-day rolling average and 24.2 tons SO2/yr</p> <p>6.4 lbs of particulate emissions (PE)/hr and 28.0 tons PE/yr</p> <p>Visible PE shall not exceed 10% opacity as a 6-minute average.</p> <p>The permittee shall not burn in this emissions unit any fuel gas that contains hydrogen sulfide (H2S) in excess of 162 ppm, as a rolling, 3-hour average. This concentration is equivalent to 230 mg H2S/dscm.</p> <p>See b)(2)a. and c)(1)</p>

b.	ORC 3704.03(T)	See b)(2)b.
c.	OAC rule 3745-17-07(A)	See b)(2)c.
d.	OAC rule 3745-17-09	See b)(2)c.
e.	OAC rule 3745-18-06	See b)(2)c.
f.	OAC rule 3745-21-07(M)(2)	See b)(2)d.
g.	OAC rule 3745-21-09(DD)	See b)(2)e.
h.	40 CFR, Part 60, Subpart Db (40 CFR 60.40b – 60.49b)	See b)(2)f., c)(5), d)(9), d)(14), e)(9) and f)(4)
i.	40 CFR, Part 60, Subpart VV (40 CFR 60.48 – 60.489)	See b)(2)e.
j.	40 CFR, Part 63, Subpart F (40 CFR 63.100 – 63.107)	See c)(6), d)(15), e)(10) and f)(5)
k.	40 CFR, Part 63, Subpart G (40 CFR 63.110 – 63.153)	See b)(2)g., b)(2)h., c)(7), d)(16), e)(11) and f)(6)
l.	40 CFR, Part 63, Subpart H (40 CFR 63.160 – 63.183)	See b)(2)e., c)(8), d)(17), e)(12) and f)(7)
m.	40 CFR, Part 60, Subpart A (40 CFR 60.1 – 60.19)	See 40 CFR 60.1 through 60.19
n.	40 CFR, Part 63, Subpart A (40 CFR 63.1 – 63.15)	<p>Table 3 of Subpart F of 40 CFR, Part 63 – Applicability of General Provisions to Subpart F shows which parts of the General Provisions in 40 CFR 63.1 – 15 apply.</p> <p>Table 1A of Subpart G of 40 CFR, Part 63 – Applicability of General Provisions to Subpart G shows which parts of the General Provisions in 40 CFR 63.1 – 15 apply.</p> <p>Table 4 of Subpart H of 40 CFR, Part 63 – Applicability of General Provisions to Subpart H shows which parts of the General Provisions in 40 CFR 63.1 – 15 apply.</p>

(2) Additional Terms and Conditions

- a. PTI No. P0107710, previously issued for this emissions unit, established the following federally enforceable emission limitations for the purpose of limiting potential to emit (PTE) to avoid Prevention of Significant Deterioration (PSD) requirements. The federally enforceable emission limitations are based on the operational restrictions contained in c)(1):
- i. 63.0 lbs VOC/hr and 276.0 tons VOC/yr;
  - ii. 205.4 lbs CO/hr and 900.0 tons CO/yr;

- iii. 25.4 lbsNO<sub>x</sub>/hr, based upon a rolling, 24-hour average and 111.3 tons NO<sub>x</sub>/yr;
  - iv. 5.5 lbs SO<sub>2</sub>/hr, based upon a 30-day rolling average and 24.2 tons SO<sub>2</sub>/yr;
  - v. 6.4 lbs PE/hr and 28.0 tons PE/yr;
  - vi. Visible PE shall not exceed 10% opacity as a 6-minute average; and
  - vii. The permittee shall not burn in this emissions unit any fuel gas that contains hydrogen sulfide (H<sub>2</sub>S) in excess of 162 ppm, as a rolling, 3-hour average. This concentration is equivalent to 230 mg H<sub>2</sub>S/dscm.
- b. The requirements of this rule are equivalent to the requirements established pursuant to OAC rule 3745-31-05(D); therefore, the permittee has satisfied the Best Available Technology (BAT) requirements pursuant to ORC 3704.03(T) in this permit.
  - c. The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(D).
  - d. This emissions unit is not subject to OAC rule 3745-21-07(M), pursuant to OAC rule 3745-21-07(M)(3)(c)(iii) because this emissions unit has a Best Available Technology (BAT) requirement pursuant to OAC rule 3745-31-05 that specified an overall control efficiency for organic compounds or VOC emissions that is greater than 85 percent by weight.
  - e. 40 CFR, Part 60, Subpart VV regulations overlap with those of 40 CFR, Part 63, Subpart H. 40 CFR 63.160(b) and (c) address this overlap and state that equipment subject to 40 CFR, Part 60, Subpart VV is required to comply only with the provisions of 40 CFR, Part 63, Subpart H.

The requirements of the applicable standards in OAC rule 3745-21-09(DD), are equivalent to or less stringent than the alternative leak detection and repair (LDAR) monitoring plan submitted by the permittee, pursuant to 40 CFR, Part 63, Subpart H.

The permittee shall include the appropriate process equipment and regulated components for emissions unit N006 in the current site fugitive leak detection and repair (LDAR) program. The LDAR program shall comply with the appropriate provisions (including operational restrictions, monitoring and record keeping, reporting, and testing) 40 CFR, Part 63, Subpart H (National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks).

- f. NO<sub>x</sub> emissions from the combustion of fuel and waste stream in the SOGB shall not exceed 0.10 lb/mmBtu total heat input.

- g. This emissions unit is a group 1 process vent as defined in 40 CFR 63.111.
- h. Pursuant to 40 CFR 63.113(h), the permittee is not required to make a group determination as described in 40 CFR 63.115 because it complies with 40 CFR 63.113(a)(1) or (a)(2).
- i. The permittee shall maintain a written quality assurance/quality control plan for the continuous NOx monitoring system, designed to ensure continuous valid and representative readings of NOx emissions in units of the applicable standard(s). The plan shall follow the requirements of 40 CFR, Part 60, Appendix F. The quality assurance/quality control plan and a logbook dedicated to the continuous NOx monitoring system must be kept on site and available for inspection during regular office hours.

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

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

c) Operational Restrictions

- (1) The following operational restrictions have been included in this permit for the purpose of establishing federally enforceable requirements which limit the PTE for VOC emissions [See b)(2)a.]:
  - a. The boiler shall achieve a destruction efficiency greater than or equal to 99% for gaseous VOC.
  - b. The boiler shall achieve a reduction efficiency of greater than or equal to 99% for liquid organics.
- (2) The permittee shall only burn a liquid organic waste stream that meet the requirements of 40 CFR 261.38, whether or not it is hazardous, in this emissions unit which meet the following requirements for hazardous waste:
  - a. the liquid organic waste stream has been classified as a hazardous waste solely because it possesses the characteristic of ignitability as described by the test for characteristics of hazardous waste under Chapter 3745-51 of the Administrative Code, or have been exempted by the Director from hazardous waste incineration requirements in accordance with OAC rule 3745-57-40(C); and
  - b. the liquid organic waste stream is not applicable to 40 CFR, Part 63, Subpart EEE - National Emission Standards for Hazardous Waste Combustors in accordance with the comparable fuels exclusion.

- (3) The permittee shall establish a range of operating parameters for the SOGB that meet the requirements of 40 CFR, Part 63, Subpart G.
  - (4) At all times, including periods of startup, shutdown and malfunction as defined by a plan developed in accordance with 63.103(c)(2), the thermal oxidizer shall be operated in accordance with good air pollution practices.
  - (5) See 40 CFR, Part 60, Subpart Db (40 CFR 60.40b – 60.49b)
  - (6) See 40 CFR, Part 63, Subpart F (40 CFR 63.100 – 63.107)
  - (7) See 40 CFR, Part 63, Subpart G (40 CFR 63.110 – 63.153)
  - (8) See 40 CFR, Part 63, Subpart H (40 CFR 63.160 – 63.183)
- d) Monitoring and/or Recordkeeping Requirements
- (1) In order to demonstrate compliance with the requirement not to burn any fuel gas that contains an H<sub>2</sub>S concentration in excess of 230 mg/dscm (0.1 gr/dscf) (equivalent to 162 ppm) based on a 3-hour, rolling average in this emissions unit, the permittee shall calculate and record the H<sub>2</sub>S concentration, in ppm, for each rolling, 3-hour average, based on the data generated from the continuous monitoring system currently required for on the Lima Refining Company (premise #0302020012) fuel gas system which also serves this emissions unit. The monitoring to show ongoing compliance with the H<sub>2</sub>S limitation will also be adequate to ensure ongoing compliance with the SO<sub>2</sub> emission limitation.  
  
Sulfur monitoring for raw material butane shall be conducted by the appropriate ASTM methods. For butane supplied by Lima Refining Company, weekly analyses shall be required at a minimum.
  - (2) The permittee shall perform weekly checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the SOGB 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 eliminate the visible emissions.

- (3) 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 all data obtained by the continuous NOx monitoring system including, but not limited to:

- a. emissions of NOx in parts per million for each cycle time of the analyzer, with no resolution less than one data point per minute required;
- b. emissions of NOx in lb/million Btu of actual heat input and lbs/hr based upon a rolling, 24-hour 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 NOx monitoring system, and control equipment;
- g. the date, time, and hours of operation of the emissions unit without the control equipment and/or the continuous NOx monitoring system;
- h. the date, time, and hours of operation of the emissions unit during any malfunction of the control equipment and/or the continuous NOx monitoring system; as well as,
- i. the reason (if known) and the corrective actions taken (if any) for each such event in (g) and (h).

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

- (4) The permittee shall maintain on-site, the document of certification received from the U.S. EPA or the Ohio EPA's Central Office documenting that the continuous NOx monitoring system has been certified to meet the requirements of 40 CFR, Part 60, Appendix B, Performance Specification 2 and 6. The letter/document of certification shall be made available to the Director (the Ohio EPA, Northwest District Office) upon request.
- (5) The permittee shall operate the SOGB in order to meet the requirements of 40 CFR, Part 63, Subpart G. The permittee shall operate continuous temperature monitoring and recording devices in the firebox of the thermal oxidizer. This parameter monitoring for temperature compliance with the requirements of 63.114(a)(1) provides parametric monitoring as an indicator of ongoing compliance with the applicable VOC and CO emission limitations.

- (6) The following information shall be recorded for this emissions unit and kept in a readily accessible location:
  - a. detailed schematics, design specifications, and piping and instrumentation diagrams;
  - b. the dates and descriptions of any changes in the design specification;
  - c. description of the parameter and or parameters monitored to ensure that the thermal oxidizer is operated and maintained in conformance with design, and an explanation of the reason for selecting such a parameter or parameters;
  - d. periods when the SOGB is not operated as designed; and
  - e. dates of start-ups and shutdowns of the SOGB.
- (7) The permittee shall maintain records that document the operating times for the SOGB and the monitoring equipment. The information shall be retained for a period of five years.
- (8) The permittee shall keep the following up-to-date and readily accessible records for a period of 5 years:
  - a. continuous records of SOGB firebox temperature [40 CFR 63.118(a) and 40 CFR 63.152(f)];
  - b. records of all periods when the closed vent stream is diverted from the SOGB [40 CFR 63.118(c)(3)]; and
  - c. records of the daily average SOGB firebox temperature for each operating day [40 CFR 63.118(a) and 40 CFR 63.152(f)]
- (9) The permittee shall comply with the applicable monitoring and record keeping requirements for emissions unit N006 contained in 40 CFR, Part 60, Subpart Db.
- (10) 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 unless otherwise specified in this permit and/or required by either State or federal applicable regulations in accordance with the general terms and conditions of this permit. Support information shall include, but not be limited to, all calibration and maintenance records and all original strip-chart recordings, if a strip-chart recorder is employed, for continuous monitoring instrumentation, and copies of all reports required by the permit. Such records may be maintained in computerized form.
- (11) The permit to install for this emissions unit (N006) 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 for each pollutant emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was

compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutants:

Pollutant: Methanol

TLV ( $\mu\text{g}/\text{m}^3$ ): 262,000

Maximum Hourly Emission Rate (lbs/hr): 0.15

Predicted 1-Hour Maximum Ground-Level Concentration ( $\mu\text{g}/\text{m}^3$ ): 174

MAGLC ( $\mu\text{g}/\text{m}^3$ ): 6,238

Pollutant: Tetrahydrofuran

TLV ( $\mu\text{g}/\text{m}^3$ ): 590,000

Maximum Hourly Emission Rate (lbs/hr): 5.20

Predicted 1-Hour Maximum Ground-Level Concentration ( $\mu\text{g}/\text{m}^3$ ): 358

MAGLC ( $\mu\text{g}/\text{m}^3$ ): 14,048

Pollutant: Ethanol

TLV ( $\mu\text{g}/\text{m}^3$ ): 1,880,000

Maximum Hourly Emission Rate (lbs/hr): 2.2

Predicted 1-Hour Maximum Ground-Level Concentration ( $\mu\text{g}/\text{m}^3$ ): 151

MAGLC ( $\mu\text{g}/\text{m}^3$ ): 44,762

Pollutant: Propanol

TLV ( $\mu\text{g}/\text{m}^3$ ): 492,000

Maximum Hourly Emission Rate (lbs/hr): 1.90

Predicted 1-Hour Maximum Ground-Level Concentration ( $\mu\text{g}/\text{m}^3$ ): 131

MAGLC ( $\mu\text{g}/\text{m}^3$ ): 11,714

Pollutant: Butanol

TLV ( $\mu\text{g}/\text{m}^3$ ): 152,000

Maximum Hourly Emission Rate (lbs/hr): 4.35

Predicted 1-Hour Maximum Ground-Level Concentration ( $\mu\text{g}/\text{m}^3$ ): 299

MAGLC ( $\mu\text{g}/\text{m}^3$ ): 2,670

Pollutant: Formic Acid

TLV ( $\mu\text{g}/\text{m}^3$ ): 9,400

Maximum Hourly Emission Rate (lbs/hr): 0.02

Predicted 1-Hour Maximum Ground-Level Concentration ( $\mu\text{g}/\text{m}^3$ ): 1.38

MAGLC ( $\mu\text{g}/\text{m}^3$ ): 224

Pollutant: Acrylic Acid

TLV ( $\mu\text{g}/\text{m}^3$ ): 5,900

Maximum Hourly Emission Rate (lbs/hr): 0.02

Predicted 1-Hour Maximum Ground-Level Concentration ( $\mu\text{g}/\text{m}^3$ ): 1.38

MAGLC ( $\mu\text{g}/\text{m}^3$ ): 141

Pollutant: Acetic Acid

TLV ( $\mu\text{g}/\text{m}^3$ ): 25,000

Maximum Hourly Emission Rate (lbs/hr): 0.05

Predicted 1-Hour Maximum Ground-Level Concentration ( $\mu\text{g}/\text{m}^3$ ): 3.44

MAGLC ( $\mu\text{g}/\text{m}^3$ ): 595

- (12) Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:
- a. changes in the composition of the materials used, or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value previously modeled;
  - b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and

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

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) is (are) defined as a modification under other provisions of the modification definition, then the permittee shall obtain a final permit to install prior to the change.

- (13) The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy:"
  - a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);
  - b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and
  - c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.
- (14) See 40 CFR, Part 60, Subpart Db (40 CFR 60.40b – 60.49b)
- (15) See 40 CFR, Part 63, Subpart F (40 CFR 63.100 – 63.107)
- (16) See 40 CFR, Part 63, Subpart G (40 CFR 63.110 – 63.153)
- (17) See 40 CFR, Part 63, Subpart H (40 CFR 63.160 – 63.183)

e) Reporting Requirements

- (1) The permittee shall submit quarterly deviation (excursion) reports that identify all exceedances of the fuel content restriction of 230 mg H<sub>2</sub>S/dscm (equivalent to 162 ppm of H<sub>2</sub>S). These reports shall be submitted in accordance with the Standard Terms and Conditions of this permit.
- (2) The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the SOGB stack serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Director (the Ohio EPA, Northwest District Office) by January 31 and July 31 of each year and shall cover the previous 6-month period.

- (3) The permittee shall submit the following semiannual reports:
- a. exceedances of all monitored parameters;
  - b. a log of the operating time for the thermal oxidizer;
  - c. periods of time when the closed vent system is diverted from the thermal oxidizer;
  - d. all periods of time when the thermal oxidizer was not operational;
  - e. all periods of time when required monitoring data was not collected; and
  - f. daily average values of thermal oxidizer firebox temperature for both excused and un-excused excursions when the daily average temperature values were outside the ranges established in the Notification of Compliance or the operating permit. For excursions caused by lack of monitoring data, the duration of periods when monitoring data were not collected shall be specified [40 CFR 63.152(c) and 40 CFR 63.118(f)]

The time periods or deadlines specified in 40 CFR 63.152(c) may be changed by mutual agreement between the permittee and the Ohio EPA in accordance with 40 CFR 63.9(i).

- (4) The permittee shall comply with the record keeping and reporting requirements outlined in 40 CFR 60.49b. The reporting requirements include the submission of quarterly excess emission reports to the Ohio EPA, Northwest District Office in accordance with the Standard Terms and Conditions of this permit.
- (5) The permittee shall comply with the following quarterly reporting requirements for the emissions unit and its continuous NO<sub>x</sub> monitoring system:
- a. Pursuant to the monitoring, record keeping, and reporting requirements for continuous monitoring systems contained in 40 CFR 60.7 and 60.13(h) and the requirements established in this permit, the permittee shall submit reports within 30 days following the end of each calendar quarter to the appropriate Ohio EPA District Office or local air agency, documenting all instances of NO<sub>x</sub> emissions in excess of any applicable limit specified in this permit, 40 CFR Part 60, OAC Chapters 3745-14 and 3745-23, and any other applicable rules or regulations. The report shall document the date, commencement and completion times, duration, and magnitude of each exceedance, as well as the reason (if known) and the corrective actions taken (if any) for each exceedance. Excess emissions shall be reported in units of the applicable standard(s).
  - b. These quarterly reports shall be submitted by January 30, April 30, July 30, and October 30 of each year and shall include the following:
    - i. the facility name and address;
    - ii. the manufacturer and model number of the continuous NO<sub>x</sub> and other associated monitors;

- iii. a description of any change in the equipment that comprises the continuous emission monitoring system (CEMS), including any change to the hardware, changes to the software that may affect CEMS readings, and/or changes in the location of the CEMS sample probe;
- iv. the excess emissions report (EER)\*, i.e., a summary of any exceedances during the calendar quarter, as specified above;
- v. the total NOx emissions for the calendar quarter (tons);
- vi. the total operating time (hours) of the emissions unit;
- vii. the total operating time of the continuous NOx monitoring system while the emissions unit was in operation;
- viii. results and dates of quarterly cylinder gas audits;
- ix. unless previously submitted, results and dates of the relative accuracy test audit(s), including results in units of the applicable standard(s), (during appropriate quarter(s));
- x. unless previously submitted, the results of any relative accuracy test audit showing the continuous NOx monitor out-of-control and the compliant results following any corrective actions;
- xi. the date, time, and duration of any/each malfunction\*\* of the continuous NOx monitoring system, emissions unit, and/or control equipment;
- xii. the date, time, and duration of any downtime\*\* of the continuous NOx monitoring system and/or control equipment while the emissions unit was in operation; and
- xiii. the reason (if known) and the corrective actions taken (if any) for each event in (b)(xi) and (xii).

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

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

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

- (6) Pursuant to OAC rules 3745-15-04, and ORC sections 3704.03(I) and 3704.031 and 40 CFR Parts 60.7 and 60.13(H), the permittee shall submit reports within 30 days following the end of each calendar quarter to the Ohio EPA, Northwest District Office documenting the date, commencement and completion times, duration, magnitude, reason (if known), and corrective actions taken (if any) of all instances of NOx values in excess of any applicable limitations specified in the terms and conditions of this permit, in units of the

standards. These reports shall also contain the total NOx emissions for the calendar quarter (in tons.)

The permittee shall submit reports within 30 days following the end of each calendar quarter to the Ohio EPA, Northwest District Office documenting any continuous NOx monitoring system downtime while the emissions unit was on line (date, time, duration, and reason) along with any corrective action(s) taken. The permittee shall provide the emissions unit operating time during the reporting period and the date, time, reason and corrective action(s) taken for each time period of emissions unit and control equipment functions. The total operating time of the emissions unit and the total operating time of the analyzer while the emissions unit was on line shall also be included in the quarterly report.

If there are no excess emissions during the calendar quarter, the permittee shall submit a statement to that effect along with the emissions unit operating time during the reporting period and the date, time, reason, and corrective action(s) taken for each time period of emissions unit, control equipment, and/or monitoring system malfunctions. The total operating time of the emissions unit and the total operating time of the analyzer while the emissions unit was on line shall also be included in the quarterly report. These quarterly excess emission reports shall be submitted by January 30, April 30, July 30, and October 30 of each year and shall address the data obtained during the previous quarter in accordance with the general terms and conditions of this permit.

The time periods or deadlines specified in this provision may be changed by mutual agreement between the permittee and the Ohio EPA in accordance with 40 CFR 63.19(f).

- (7) The quality assurance/quality control plans and logbooks dedicated to the continuous NOx monitoring systems, developed in accordance with 40 CFR, Part 60, Appendix F, shall be kept on site and available for inspection during regular hours.
  - (8) The permittee will submit start-up, shutdown, and malfunction reports in accordance with 40 CFR 63.10(d)(5); except that reports shall be submitted at the times specified in 40 CFR 63.152(d) of Subpart G and 40 CFR 63.182(d) of Subpart H.
  - (9) See 40 CFR, Part 60, Subpart Db (40 CFR 60.40b – 60.49b)
  - (10) See 40 CFR, Part 63, Subpart F (40 CFR 63.100 – 63.107)
  - (11) See 40 CFR, Part 63, Subpart G (40 CFR 63.110 – 63.153)
  - (12) See 40 CFR, Part 63, Subpart H (40 CFR 63.160 – 63.183)
- f) Testing Requirements
- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:

- a. Emission Limitations: 63.0 lbs VOC/hr, 205.4 lbs CO/hr, 25.4 lbs NO<sub>x</sub>/hr, based upon a rolling, 24-hour average, 5.5 lbs SO<sub>2</sub>/hr, based upon a 30-day rolling average; 6.4 lbs of particulate emissions (PE)/hr

Applicable Compliance Method: If required, compliance with the hourly allowable PE limitation shall be based on the results of stack testing conducted in accordance with 40 CFR, Part 60, Appendix A - Test Methods 1 - 5.

If required, compliance with the hourly allowable SO<sub>2</sub> emission limitation shall be based on the results of stack testing conducted in accordance with 40 CFR, Part 60, Appendix A - Test Methods 1 - 4 and 6.

[Compliance with the hourly, based upon a 30-day rolling average, SO<sub>2</sub> emission limitation shall be based upon H<sub>2</sub>S monitoring for refinery fuel gas and sulfur monitoring for input butane using ASTM test methods. For butane, supplied by Lima Refining Company, sulfur monitoring shall be performed weekly at a minimum. For butane purchased from other commercial sources, sulfur monitoring shall be performed on a per shipment basis.]

Compliance with the hourly allowable VOC emission limitation was demonstrated by previous stack testing conducted on July 28, 2010, in accordance with 40 CFR, Part 60, Appendix A - Test Methods 1 - 4 and 18, 25, or 25A, as appropriate.

Compliance with the hourly allowable NO<sub>x</sub> emission limitation shall be based on the continuous NO<sub>x</sub> emissions monitor and the results of stack testing conducted in accordance with 40 CFR, Part 60, Appendix A - Test Methods 1 - 4 and 7.

Compliance with the hourly allowable CO emission limitation was demonstrated by previous stack testing conducted on July 28, 2010, in accordance with 40 CFR, Part 60, Appendix A - Test Methods 1 - 4 and 10.

- b. Emission Limitations: 276.0 tons VOC/yr, 900.0 tons CO, 111.3 tons NO<sub>x</sub>/yr, 24.2 tons SO<sub>2</sub>/yr, 28.0 tons PE/yr

Applicable Compliance Method: The annual emission limitation for each pollutant above was developed by multiplying the hourly emission limitation for each pollutant by 8,760; and then dividing by 2,000. Therefore, as long as compliance with the hourly allowable emission limitation for each pollutant is maintained, compliance with the annual emission limitation for the pollutant shall be ensured.

- c. Emission Limitation: 0.10 lb NO<sub>x</sub>/mmBtu total heat input

Applicable Compliance Method: Compliance with the NO<sub>x</sub> standard of 0.10 lb/mmBtu heat input shall be demonstrated through a 30-day rolling average of all the calculated hourly NO<sub>x</sub> emission rates for the previous 30 operating days based on the results of the continuous emission monitor (CEM).

The permittee shall also monitor and record fuel gas and off-gas flow rates to the SOGB. The above information will be applied to the following equation for calculating lbsNO<sub>x</sub> per mmBtu heat input:

lbsNO<sub>x</sub>/mmBtu heat input = lbsNO<sub>x</sub> emitted/mmBtu heat input

$$\text{lbsNO}_x = \text{ppmv}/10^6 \times \text{MW}_{\text{corr}} \times \text{Stack (lb/hr)} \times \text{Moisture}$$

Where:

Ppmv = concentration of NO<sub>x</sub> measured by CEM on SOGI outlet

MW<sub>corr</sub> = molecular weight correction factor, NO<sub>x</sub> (46.01 lb/lb-mole) to stack gas (~29.7 lb/lb-mole)

Stack = stack flow, lb/hr

Moisture = moisture correction factor, dry NO<sub>x</sub> CEM, wet stack flowmeter

$$\text{mmBtu/hr} = [\text{Fuel} * \text{DH}_{\text{cf}}/ 10^6] + [\text{Offgaslb} * \text{DH}_{\text{co}}/ 10^6]$$

Where:

Fuel = Fuel flow rate (natural gas or refinery fuel gas), average lb/hr

Offgas = Scrubber offgas flow rate, average lbs/hr

DH<sub>cf</sub> = Heat of combustion for fuel, Btu/lb (for natural gas, 23,000 Btu/lb and refinery fuel gas, 20,482 Btu/lb)

DH<sub>co</sub> = Heat of combustion for off gas =  $\sum_{i=1}^n C_i \text{Btu}_i$

where:

C<sub>i</sub> = offgas concentration of component i, in lb/hr

Btu<sub>i</sub> = Btu/lb of component i from published values or measured values of the heats of combustion determined using ASTM D2382-76 or 88 or D4809-95

10<sup>6</sup> = conversion to MM

The permittee shall demonstrate compliance with the 0.10 lbNO<sub>x</sub> per mmBtu limit through a 30-day, rolling average of all the calculated hourly NO<sub>x</sub> emission rates for the preceding 30 operating days. The monitoring equipment shall be installed and operated in accordance with the applicable portions of 40 CFR 60.48b.

- d. Emission Limitation: Visible PE shall not exceed 10% opacity as a 6-minute average

Applicable Compliance Method: If required, the permittee shall demonstrate compliance with this emission limitation pursuant to Method 9 of 40 CFR, Part 60, Appendix A.

- e. Emission Limitation: The permittee shall not burn in this emissions unit any fuel gas that contains hydrogen sulfide (H<sub>2</sub>S) in excess of 162 ppm, as a rolling, 3-hour average. This concentration is equivalent to 230 mg H<sub>2</sub>S/dscm.

Applicable Compliance Method: Compliance with the emission limitation above shall be based upon the record keeping requirements as specified in section d)(1) of this permit.

- (2) Performance testing requirements for emissions from emissions unit P801 to the SOGB are detailed in the terms and conditions for emissions unit N006 due to the fact that this incinerator also serves as a control device for emissions unit P801. All operational restrictions, monitoring, record keeping, reporting, and testing requirements for other emissions sources from P801, including but not limited to emissions from the butanediol plant No. 1 flare, are established in emissions unit P801.
- (3) Ongoing compliance with the NO<sub>x</sub> emission limitations contained in this permit, 40 CFR, Part 60 and any other applicable standard(s) shall be demonstrated through the data collected as required in the Monitoring and Record keeping Section of this permit; and through demonstration of compliance with the quality assurance/quality control plan, which shall meet the testing and recertification requirements of 40 CFR, Part 60.
- (4) See 40 CFR, Part 60, Subpart Db (40 CFR 60.40b – 60.49b)
- (5) See 40 CFR, Part 63, Subpart F (40 CFR 63.100 – 63.107)
- (6) See 40 CFR, Part 63, Subpart G (40 CFR 63.110 – 63.153)
- (7) See 40 CFR, Part 63, Subpart H (40 CFR 63.160 – 63.183)
- g) Miscellaneous Requirements
- (1) None.