Ohio Environmental Protection Agency
John R. Kasich, Governor
Mary Taylor, Lt. Governor
Scott J. Nally, Director

7/18/2012

Certified Mail

Facility ID: 0302020343
Permit Number: P0105167
County: Allen

Charles Gasperetti
ISP
1220 South Metcalf Street
Lima, OH 45804

RE: PRELIMINARY PROPOSED AIR POLLUTION TITLE V
Permit Type: Renewal

Dear Permit Holder:

Enclosed is the Ohio EPA Preliminary Proposed Title V permit that was issued in draft form on 10/21/2011. The comment period for the Draft permit has ended. We are now ready to submit this permit to U.S. EPA for approval.

We are submitting this for your review and comment. If you do not agree with the Preliminary Proposed Title V permit as written, you now have the opportunity to raise your concerns. This permit can be accessed electronically on the Division of Air Pollution Control (DAPC) Web page, www.epa.ohio.gov/dapc by clicking the "Issued Air Pollution Control Permits" link. Comments will be accepted as a marked-up copy of the permit or in narrative format. Any comments must be sent to the following within 14 days of your receipt of this letter:

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

and

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

If you believe that it is necessary to have an informal conference with us, then, as part of your written comments, you should request a conference concerning the written comments.

If comments are not submitted within 14 days of your receipt of this letter, we will forward the proposed permit to U.S. EPA for approval. All comments received will be carefully considered before proceeding with the proposed permit.

Sincerely,

Michael W. Ahern

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

Cc: Ohio EPA DAPC, Northwest District Office

Response to Comments

Facility ID:	0302020343
Facility Name:	ISP Lima, LLC
Facility Description:	Industrial Organic Chemicals, n.e.c.
Facility Address:	1220 South Metcalf Street Lima, OH 45804 Allen County
Permit:	P0105167, Title V Permit - Renewal
A public notice for the draft permit issuance was published in the Ohio EPA Weekly Review and appeared in the The Lima News on 10/26/2011. The comment period ended on 11/25/2011.	
Hearing date (if held)	
Hearing Public Notice Date (if different from draft public notice)	

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

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

1. Topic: Standard Terms and Conditions - A.2.c)(2), A.2.c)(3), A.13.d)(1), A.24.b) and A.21

a. Comment #1: *ISP supports the option of mailing these submissions. We suggest that there also be an option (but not the mandate) to submit the referenced reports through Air Services. When reports are submitted through Air Services, the Standard Terms and Conditions should specify that such reports are deemed to have been submitted to all appropriate Ohio EPA offices (the Central Office and the District Office). The Standard Terms and Conditions should also state that reports submitted through Air Services are deemed to be simultaneously submitted to U.S. EPA.*

Comment #2: *In paragraph A.2.c)(3), on page 6 of the draft permit, the phrase "federally enforceable requirement" (that appears twice in the first two full paragraphs on p. 6) should have the word "applicable" inserted after "enforceable" and before "requirement," in order to match the Title V defined term "applicable requirement."*

Comment #3: *Paragraph A.21 of the draft permit should be specifically designated as State-only enforceable (and not be included in the federally enforceable Standard Terms and Conditions). OAC rule 3745-15-07 does not meet the definition of a Title V "applicable requirement."*

b. Response: The Standard Terms and Conditions are the same for each Title V permit issued, and are not customized for individual facilities. Thus, no changes can be made.

2. Topic: Facility-Wide Terms and Conditions – 2.a), 2.b), 2.g) and 2.l) – emissions units not constructed

a. Comment #1 through #4: J003, J004, T098 and T103 - *This emission point was never constructed. ISP requests removal from the Title V permit.*

b. Response: These four emissions units have not been constructed, with no plans to construct at this time. Thus, all four emissions units were deleted from the permit.

3. Topic: Facility-Wide Terms and Conditions – 5.

a. Comment #5: J003, J004, T098 and T103 - *ISP requests deleting the following emissions units: J003, J004, T098, ant T103*

b. Response: These four emissions units have not been constructed, with no plans to construct at this time. Thus, all four emissions units were deleted from the permit.

4. Topic: Facility-Wide Terms and Conditions – add emissions unit for 40 CFR, Part 63, Subpart A applicability

a. Comment #6: *This section does not currently include a reference to 40 CFR 63 Subpart A. ISP request adding "The following emissions units contained in this permit are subject to 40 CFR, Part 63, Subpart A: J001, J002, N006, and P801…"*

b. Response: All emissions units subject to a standard in 40 CFR, Part 63, were added to the Subpart A, Facility-Wide Term and Condition #3, and included in each rules table in section 2 for these emissions units.

5. Topic: Emissions Unit Terms and Conditions – J001: term 1.b)(1) and 1.b)(2)a.; J002: term 2.b)(1) and 2.b)(2)a.; and N006: term 3.b)(2)d.

a. Comment #1, #6 and #12: *Pursuant to 21-07 (A)(3).. The requirements of OAC 3745-21-07 do not apply to VOC emissions from any source or operation that is regulated by rule 3745-21-09. Since OAC-3745-21-09(DD) applies to this source, the requirements of 21-07 are not applicable. ISP requests that this condition be replaced with the following language "Since this source is subject to the requirements of 21-09(DD), pursuant to the exemption under 21-07(A)(3) the requirements of 21-07 do not apply.*

b. Response: Disagree with company, since OAC rule 3745-31-05 has a BAT requirement to control VOC by 85%. Thus, the 21-07(M) exemption was left in the permit with no revisions.

6. Topic: Emissions Unit Terms and Conditions – J001 and J002, term 1.b)(1), 1.b)(2)c., 2.b)(1) and 2.b)(2)c.

a. Comment #2 and #7: *This loading rack is exempt from the requirements of 40 CFR 63 Subparts A, F, and H according to 63.100(f)(9), which says "The source includes the emission points listed in paragraphs (f)(1) through (f)(11) of this section, but those emission points are not subject to the requirements of this subpart F and subparts G and H of this part. This subpart does not require emission points that are listed in paragraphs (f)(1) through (f)(11) of this*

section to comply with the provisions of subpart A of this part…(f)(9) Loading racks, loading arms, or loading hoses that only transfer liquids containing organic hazardous air pollutants as impurities." The BDO Loading rack transfers Butanediol (BDO), which is not an organic hazardous air pollutants. Any organic hazardous air pollutant contained in the liquids transferred are impurities. Therefore, this emission unit is not subject to the requirements of 40 CFR 63 Subparts A, F, or G, and is neither a group 1 nor Group 2 transfer rack. The permit condition should be corrected to state "This transfer rack transfers liquids containing organic HAP as impurities only. Under 40 CFR 63.100(f)(9) this transfer rack is not subject to the requirements of 40 CFR 63 Subparts A, F, or G."

b. Response: Agree with company. Deleted all the transfer rack language, since it is neither a Group 1 nor Group 2 transfer rack. Also added clarifying language for 40 CFR 63.100(f)(9) to state that 40 CFR, Part 63, Subparts F, G and H are not applicable. 40 CFR, Part 63, Subpart A did not have to be mentioned, since there are no applicable requirements for Subpart F, G and H.

7. Topic: Emissions Unit Terms and Conditions – J001 and J002, term 1.b)(1), 1.b)(2)b., 2.b)(1) and 2.b)(2)b.

a. Comment #3 and #8: *ISP agrees that 40 CFR 60 Subpart VV is applicable to the "equipment" (as defined in 40 CFR 60.481) in the J001 emissions unit ; however, as explained in Comment #2, this loading rack is not subject to the requirements of 40 CFR 63 Subpart F, Subpart G, or Subpart H; therefore, ISP requests that this permit condition be revised as follows:*

The equipment included in this process unit as defined in 40 CFR 60.481 is subject to the requirements of 40 CFR 60 Subpart VV. The equipment is exempt from the requirements of 40 CFR 63 Subparts A, F, and H according to 63.100(f)(9). The requirements of the applicable standards in 40 CFR 60 Subpart VV and 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.

The permittee shall include the 40 CFR 60 Subpart VV and OAC rule 3745-21-09(DD) regulated components for emissions unit J001 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 recordkeeping, reporting, and testing) of 40 CFR, Part 63, Subpart H (National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks).

b. Response: Agree with company, and deleted the references to 40 CFR, Part 63, Subpart H.

8. Topic: Emissions Unit Terms and Conditions – J001, term 1.b)(1) and 1.b)(2)d.

a. Comment #4: *ISP would like to clarify that this loading rack does not vent to a flare. There are no underlying regulatory requirements that require this source be vented to a flare. For these reasons, ISP requests that the description of this source be changed to "Butanediol product loading facilities (1 truck and 2 railcar loading racks). Uses flare for loading of non-photochemically reactive material. Product contains HAPs as impurities." In addition, ISP requests that permit condition 1(b)(2)d be deleted because this source does not vent to the flare.*

b. Response: Administrative PTI modification was issued and process description was changed accordingly.

9. Topic: Emissions Unit Terms and Conditions – N006, term 3.b)(1)a. and 3.b)(2)a.

a. Comment #9: *The modification of this source was authorized by permit P0107710 issued on April 27, 2011. ISP-Lima has not completed this project to date and therefore the permit terms and conditions should not be incorporated into the Title V Renewal permit until after this project is completed, begins to operate, and has demonstrated compliance. In our letter to the NWDO (see item 2) on May 30, 2010, ISP indicated that we will submit a Title V minor modification application for this project at a later date. For these reasons, ISP-Lima requests the corresponding terms and conditions for this emissions unit in P0107710 be deleted from the Renewal permit.*

In paragraph C.3.b)(1)a. of the draft permit, the 10% opacity limit should be subject to the time and operating condition criteria for opacity standards set forth in OAC rule 3745-17-07.

b. Response: DAPC/NWDO contacted DAPC/Central Office for assistance, and DAPC/Central Office stated that PTI #P0107710 is legally enforceable, thus, the terms and conditions for this PTI were included in the Title V permit, even though source modification is not yet complete. If the company wants the old PTI terms put back into the Title V permit, they would have to submit a written request.

10. Topic: Emissions Unit Terms and Conditions – N006, term 3.b)(2)b. and P801, term 5.b)(2)b.

a. Comment #10 and #26: *Suggest replacing "this rule" with "ORC 3704.03(T)"*

b. Response: The company requested clarity on which rule the permit refers to in the paragraph, so we agree with company, and made the change.

11. Topic: Emissions Unit Terms and Conditions – N006, term 3.b)(2)c.

a. Comment #11: *Suggest replacing "limitation specified by this rule" with "limitations specified by OAC rule 3745-17-07(A), 17-09, and 18-06"*

b. Response: The company requested clarity on which rules the permit refers to in the paragraph, so we agree with company, and made the change.

12. Topic: Emissions Unit Terms and Conditions – N006, term 3.b)(2)c.

a. Comment #13: *"Suggest correcting the following typo ...to make a group determination…"" to "group determination"*

b. Response: This was a spacing error only in the company's copy of draft permit, so this did not require correction.

13. Topic: Emissions Unit Terms and Conditions – N006, term 3.c)(1)a. and 3.c)(1)b. and P801, term 5.c)(1)

a. Comment #14 and #32: *"The VOC emissions limit listed in permit condition 3.b)(2)a is from permit P0107710 issued on 4/27/2011. As stated above, this project is not complete and ISP-Lima requests that any reference to this permit and its terms and conditions be removed from the Title V Renewal permit.*

To correct this, ISP-Lima requests that this condition be revised to delete the reference to the reliance on the PTE for VOC emissions. However, ISP-Lima would like to clarify the control

requirements for the SOGB to state the underlying regulatory requirement for the 99% control. The 99% control requirement applies to VOC and liquid organics. Under 40 CFR 63 Subpart G, the emission unit is subject to a separate 98% control requirement for organic HAP. Organic HAP is a subset of VOC and liquid organics. ISP-Lima requests this condition be revised as follows:

The permittee shall comply with the following control requirements for emissions unit N006 - SOGB as follows:

a) Pursuant to 40 CFR 63.113(a)(2), the boiler shall reduce emissions of total organic hazardous air pollutants by 98% weight or to a concentration of 20 ppmv,"

b. Response: DAPC/NWDO contacted DAPC/Central Office for assistance, and DAPC/Central Office stated that the 99% control requirement for VOC represents BACT, and thus, cannot be changed. No change made.

14. Topic: Emissions Unit Terms and Conditions – N006, term 3.c)(2)a.

a. Comment #15: *ISP requests that " classified as a hazardous waste" be revised to say "classified as a non-hazardous waste as described by the test for characteristics of hazardous wastes under Chapter 3745-51 of the Administrative Code…". The liquid organic waste has a flash point greater than 140 degree F.*

b. Response: This language cannot be changed, since it is from the original PTI.

15. Topic: Emissions Unit Terms and Conditions – N006, term 3.d)(1)

a. Comment #16: *ISP requests that " conducted by the appropriate ASTM methods" be revised to say "conducted by the appropriate ASTM or equivalent methods…". Since Lima Refining Company performs this analysis, ISP has no direct control of their methodology.*

b. Response: Agree with company, and made the change.

16. Topic: Emissions Unit Terms and Conditions – N006, term 3.e)(1)

a. Comment #17: *ISP requests that " identify all exceedances of the fuel content" be revised to say "identify all exceedances from d)(1)...". This would provide additional clarification that exceedance is based on a 3-hour rolling average.*

b. Response: Consistent with other terms, it is not necessary to list d)(1) again, rather, the term was revised to include the 3-hour rolling average to provide sufficient clarification.

17. Topic: Emissions Unit Terms and Conditions – N006, term 3.e)(5)

a. Comment #18: *ISP requests that "NOx on a six-minute basis" be revised to say "NOx on a one-hour basis". Records on a six minute average basis appear to have no regulatory authority, and are in conflict with the underlying regulations. ISP-Lima does not agree that maintaining records of NOx ppm on a 6-minute basis is needed to demonstrate compliance with the lb/hr, 24-hr rolling basis NOx emissions limit, nor the NOx requirements from NSPS Db. Permit condition 3.d)(3) states that the "continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.13" and condition 3.d)(3) states "The permittee shall comply with the applicable monitoring and record keeping requirements for emissions unit N006 contained in 40 CFR, Part 60,Subpart Db." According to 60.13(e)(2) "All continuous monitoring*

systems referenced by paragraph (c) of this section for measuring emissions, except opacity, shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period." In addition, requiring 6-minute average NOx records has required ISP-Lima to report a Title V Deviation "whenever the continuous emissions monitor is not in operation for every minute. Since this level of reliability is not required by the underlying requirement, is not technically achievable, and is not needed to demonstrate compliance with the underlying requirements, ISP-Lima requests this record keeping requirement be deleted. ISP-Lima will use the one-minute data available for averaging periods when it is available, but does not believe they should be penalized for having periodic calibration or zero check times that cause the CEMS to record data on a less than one minute basis. Furthermore, ISP operates a Db boiler similar to PTI #P0103694 (issued 8/7/2009) in which their condition C.1.d)(7)d.i said: "At least one valid record of the emissions of NOx in parts per million (excluding system breakdowns, repairs, calibration checks, and zero and span adjustments) for each successive 15-minute period [40 CFR60.13(e)(2)]".

b. Response: Revised the permit term using the terms and conditions library for an existing NOx CEM.

18. Topic: Emissions Unit Terms and Conditions – N006, term 3.e)(6)

a. Comment #19: *ISP requests that these dates be changed to match the other report dates included in the Title V permit as follows: Please change January 30th to January 31st, July 30th to July 31st, October 30th to October 31st.*

b. Response: Agree with company, and changed the dates consistent with standard reporting dates.

19. Topic: Emissions Unit Terms and Conditions – N006, term 3.f)(2)a.

a. Comment #20: *ISP understands that the testing frequency for VOC is based on OEPA's Engineering Guide #16. However, ISP does not believe that this policy is appropriate for this emissions unit. This emissions unit is subject to extensive parametric monitoring requirements under the HON (40 CFR 63 Subpart G). The HON also requires additional stack tests if the process changes in such a way that could affect emissions from this source. Since testing requirements are already adequately addressed by the HON, ISP believes that these should superseded the guidance policy and the testing frequency should be once every permit term instead of every 2 ½ years. If VOC testing is reduced to once per permit term, ISP requests that CO testing be completed on the same frequency for consistency. Furthermore, we have historically demonstrated that the destruction efficiency of N006 beyond the 99 percent range and CO emission rate well below 186 lbs/hr.*

b. Response: Review of Engineering Guide #16 and previous stack testing indicates that the HON, Subpart G, is sufficient to address future testing requirements, and no separate stack testing is required, thus all stack testing requirements were deleted from section 3.f).

20. Topic: Emissions Unit Terms and Conditions – N006, term 3.f)(2)b. and 3.f)(2)c.

a. Comment #21: *ISP would like to clarify the control requirements for the SOGB to state the underlying regulatory requirement for the 99% control. The 99% control requirement applies to VOC and liquid organics. Under 40 CFR 63 Subpart G, the emission unit is subject to a separate 98% control requirement for organic HAP. Organic HAP is a subset of VOC and liquid organics. ISP-Lima requests this condition be revised as follows:*

"The permittee shall comply with the following control requirements for emissions unit N006 - SOGB as follows:

Pursuant to 40 CFR 63.113(a)(2), the boiler shall reduce emissions of total organic hazardous air pollutants by 98% weight or to a concentration of 20 ppmv, whichever is less stringent."

b. Response: Since VOC stack testing was determined to be unnecessary, all terms regarding VOC stack testing were deleted, so this change was not needed.

21. Topic: Emissions Unit Terms and Conditions – N006, term 3.f)(2)

a. Comment #22: *ISP requests to change to "60 days" because our testing contractor normally uses third party laboratory to analyze the volatile organic compound for hexane. ISP has historically requested for more time since our testing contractor needs additional time to finish their analysis of the lab package from a third party laboratory and to compose the reports.*

b. Response: The test report submittal is required within 30 days. This is standard language is all permits and cannot be changed.

22. Topic: Emissions Unit Terms and Conditions – P076, term 4.c)(1)

a. Comment #23: *ISP believes this condition should be a Monitoring and/or Recordkeeping Requirements and Reporting Requirement instead of an Operational Restriction. The total dissolved solids content of the cooling water is not sufficiently correlated to applicable emission limits or control measures to be non-compliance in and of itself.*

b. Response: Disagree with company. This operational restriction for the 4-week average total dissolved content is from PTI #03-11250, most recent modification. No change made.

23. Topic: Emissions Unit Terms and Conditions – P076, term 4.e)(1)

a. Comment #24: *ISP requests that "identify all exceedances of the total dissolved solids" be revised to say "identify all exceedances from d)(1)b...". This would provide additional clarification that exceedance is based on the four most current readings.*

b. Response: Disagree with company. By tracking the 4-week average total dissolved solids content and maintaining these records, the company will already have the required records in place, and it is not necessary to refer back to the permit term in d)(1)b. It is sufficient to list the 3,500 mg/l limitation in term e)(1).

24. Topic: Emissions Unit Terms and Conditions – P801, term 5.b)(1)a., 5.b)(2)a., 5.f)(1)a. and 5.f)(1)b.

a. Comment #25 and #33: *The modification of this source was authorized by permit P0107710 issued on April 27, 2011. ISP-Lima has not completed this project to date and therefore the permit terms and conditions should not be incorporated into the Title V Renewal permit until after this project is completed, begins to operate, and has demonstrated compliance. In our letter to the NWDO (see item 2) on May 30, 2010, ISP indicated that we will submit a Title V minor modification application for this project at a later date. For these reasons, ISP-Lima requests the corresponding terms and conditions for this emissions unit in P0107710 be deleted from the Renewal permit.*

b. Response: DAPC/NWDO contacted DAPC/Central Office for assistance, and DAPC/Central Office stated that PTI #P0107710 is legally enforceable, thus, the terms and conditions for this PTI were included in the Title V permit, even though source modification is not yet complete. If the company wants the old PTI terms put back into the Title V permit, they would have to submit a written request.

25. Topic: Emissions Unit Terms and Conditions – P801, term 5.b)(2)c.

a. Comment #27: *Request changing "…this rule" to "OAC rule 3745-31-05(A)(3), as effective 11/30/01…" for simplified reading.*

b. Response: The company requested clarity on which rule the permit refers to in the paragraph, so we agree with company, and made the change.

26. Topic: Emissions Unit Terms and Conditions – P801, term 5.b)(2)d.

a. Comment #28: *Request changing "this rule" to "OAC rule 3745-31-05(A)(3), as effective 12/01/06"*.

b. Response: The company requested clarity on which rule the permit refers to in the paragraph, so we agree with company, and made the change.

27. Topic: Emissions Unit Terms and Conditions – P801, term 5.b)(2)g.

a. Comment #29: *Request changing "emission limitation specified by this rule" to "VOC emission limitation specified by OAC 3745-21-09(EE)".*

b. Response: The company requested clarity on which rule the permit refers to in the paragraph, so we agree with company, and made the change.

28. Topic: Emissions Unit Terms and Conditions – P801, term 5.b)(2)f.

a. Comment #30: *ISP requests that the typos in paragraphs 2 and 3 be corrected. (see highlights)*

b. Response: This was a spacing error only in the company's copy of draft permit, so this did not require correction.

29. Topic: Emissions Unit Terms and Conditions – P801, term 5.b)(2)j.

a. Comment #31: *ISP requests that this paragraph be separated into its own condition. This paragraph does not assist the previous paragraph which pertains to compliance with NSPS Subpart RRR.*

b. Response: Agree with company, and changed to a separate permit term.

30. Topic: Emissions Unit Terms and Conditions – P905, term 6.b)(1)e.

a. Comment #34: *ISP requests that the "visible emissions of fugitive PE shall not exceed 20%, as a 3-minute average" be deleted from the Renewal permit because the facility is not located within an "Appendix A" area as identified in OAC rule 3745-17-08 and pursuant to OAC rule 3745-17-08(A), this emissions unit is exempt from the requirements of OAC rule 3745-17-08(B).*

b. Response: The visible emissions limitation was established based on BAT, and cannot be changed.

31. Topic: Emissions Unit Terms and Conditions – P905, term 6.b)(2)c.

a. Comment #35: *Request replacing "this rule" with "OAC rule 3745-17-11(B)"*

b. Response: The company requested clarity on which rule the permit refers to in the paragraph, so we agree with company, and made the change.

32. Topic: Emissions Unit Terms and Conditions – P905, term 6.c)(3)

a. Comment #36: *ISP believes that this condition should be a Monitoring and/or Recordkeeping Requirements and Reporting Requirement instead of an Operational Restriction. The pressure drop range across the dry filter is no a sufficient correlated surrogate for defining noncompliance with applicable emission limits or control measures.*

b. Response: Revised the permit term using the terms and conditions library ("G.E. language").

33. Topic: Emissions Unit Terms and Conditions – P905, term 6.d)(3)

a. Comment #37: *ISP requests that " on a weekly basis" be revised to say "when the emissions unit is in operation" because the emissions unit operates intermittently.*

b. Response: Revised the permit term using the terms and conditions library ("G.E. language").

34. Topic: Emissions Unit Terms and Conditions – P905, term 6.e)(3)

a. Comment #38: *ISP requests that " comply with the allowable range specified above" be revised to say "comply with the allowable range specified in c)(3)..." for simplified reading*

b. Response: Revised the permit term using the terms and conditions library ("G.E. language").

35. Topic: Emissions Unit Terms and Conditions – P905, term 6.f)(1)e.

a. Comment #39: *ISP requests that 6.f)(1)e. be deleted from the Renewal permit because the facility is not located within an "Appendix A" area as identified in OAC rule 3745-17-08 and pursuant to OAC rule 3745-17-08(A), this emissions unit is exempt from the requirements of OAC rule 3745-17-08(B).*

b. Response: The visible emissions limitation was established based on BAT, and cannot be changed.

Ohio | Environmental Protection Agency

PRELIMINARY PROPOSED

Division of Air Pollution Control
Title V Permit
for
ISP

Facility ID:	0302020343
Permit Number:	P0105167
Permit Type:	Renewal
Issued:	7/18/2012
Effective:	To be entered upon final issuance
Expiration:	To be entered upon final issuance

Ohio Environmental Protection Agency

Division of Air Pollution Control
Title V Permit
for
ISP

Table of Contents

Authorization 1
A. Standard Terms and Conditions 2
1. Federally Enforceable Standard Terms and Conditions 3
2. Monitoring and Related Record Keeping and Reporting Requirements 3
3. Scheduled Maintenance 6
4. Risk Management Plans 6
5. Title IV Provisions 7
6. Severability Clause 7
7. General Requirements 7
8. Fees 8
9. Marketable Permit Programs 8
10. Reasonably Anticipated Operating Scenarios 8
11. Reopening for Cause 9
12. Federal and State Enforceability 9
13. Compliance Requirements 9
14. Permit Shield 11
15. Operational Flexibility 11
16. Emergencies 11
17. Off-Permit Changes 11
18. Compliance Method Requirements 12
19. Insignificant Activities or Emissions Levels 12
20. Permit to Install Requirement 12
21. Air Pollution Nuisance 13
22. Permanent Shutdown of an Emissions Unit 13
23. Title VI Provisions 13
24. Reporting Requirements Related to Monitoring and Record Keeping Requirements Under State Law Only 14
25. Records Retention Requirements Under State Law Only 14
26. Inspections and Information Requests 14
27. Scheduled Maintenance/Malfunction Reporting 15
28. Permit Transfers 15

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

B. Facility-Wide Terms and Conditions 16

C. Emissions Unit Terms and Conditions 19

1. J001, Butanediol (BDO) Truck/ Railcar Loading and Tetrahydrofuran (THF) Railcar Loading 20
2. J002, Tetrahydrofuran (THF)/Water Loading 24
3. N006, Scrubber Offgas Boiler 28
4. P076, Cooling Tower #1 46
5. P801, Various Sources 49
6. P905, Catalyst Handling System 59

Authorization

Facility ID:	0302020343
Facility Description:	Industrial Organic Chemicals, n.e.c.
Application Number(s):	A0017552, A0017553, A0042257
Permit Number:	P0105167
Permit Description:	Renewal Title V Permit for an Industrial Organic Chemicals (n.e.c.) Facility
Permit Type:	Renewal
Issue Date:	7/18/2012
Effective Date:	To be entered upon final issuance
Expiration Date:	To be entered upon final issuance
Superseded Permit Number:	

This document constitutes issuance of an OAC Chapter 3745-77 Title V permit to:

ISP
1220 South Metcalf Street
Lima, OH 45804

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 Title V permit pursuant to Chapter 3745-77 of the Ohio Administrative Code. This permit and the authorization to operate the air contaminant sources (emissions units) at this facility shall expire at midnight on the expiration date shown above. You will be sent a notice approximately 18 months prior to the expiration date regarding the renewal of this permit. If you do not receive a notice, please contact the Ohio EPA DAPC, Northwest District Office. If a renewal permit is not issued prior to the expiration date, the permittee may continue to operate pursuant to OAC rule 3745-77-08(E) and in accordance with the terms of this permit beyond the expiration date, if a timely renewal application is submitted. A renewal application will be considered timely if it is submitted no earlier than 18 months (540 days) and no later than 6 months (180 days) prior to the expiration date.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Scott J. Nally
Director

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. 24., Reporting Requirements Related to Monitoring and Record Keeping Requirements of State-Only Enforceable Permit Terms and Conditions

(2) Standard Term and Condition A. 25., Records Retention Requirements for State-Only Enforceable Permit Terms and Conditions

(3) Standard Term and Condition A. 27., Scheduled Maintenance/Malfunction Reporting

(4) Standard Term and Condition A. 29., Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations

(Authority for term: ORC 3704.036(A))

2. 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 (i.e., in section C. Emissions Unit Terms and Conditions of this Title V permit), 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.

(Authority for term: OAC rule 3745-77-07(A)(3)(b)(i))

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 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.

(Authority for term: OAC rule 3745-77-07(A)(3)(b)(ii))

c) The permittee shall submit required reports in the following manner:

(1) All reporting required in accordance with OAC rule 3745-77-07(A)(3)(c) for deviations caused by malfunctions shall be submitted in the following manner:

Any malfunction, as defined in OAC rule 3745-15-06(B)(1), shall be promptly reported to the Ohio EPA in accordance with OAC rule 3745-15-06. In addition, to fulfill the OAC rule 3745-77-07(A)(3)(c) deviation reporting requirements for malfunctions, written reports that identify each malfunction that occurred during each calendar quarter (including each malfunction reported only verbally in accordance with OAC rule 3745-15-06) shall be submitted (i.e., postmarked) by January 31, April 30, July 31, and October 31 of each year in accordance with Standard Term and Condition A.2.c)(2) below; and each report shall cover the previous calendar quarter. An exceedance of the visible emission limitations specified in OAC rule 3745-17-07(A)(1) that is caused by a malfunction is not a violation and does not need to be reported as a deviation if the owner or operator of the affected air contaminant source or air pollution control equipment complies with the requirements of OAC rule 3745-17-07(A)(3)(c).

In accordance with OAC rule 3745-15-06, a malfunction reportable under OAC rule 3745-15-06(B) is a deviation of the federally enforceable permit requirements. Even though verbal notifications and written reports are required for malfunctions pursuant to OAC rule 3745-15-06, the written reports required pursuant to this term must be submitted quarterly to satisfy the prompt reporting provision of OAC rule 3745-77-07(A)(3)(c).

In identifying each deviation caused by a malfunction, the permittee shall specify the emission limitation(s) (or control requirement(s)) for which the deviation occurred, describe each deviation, and provide the magnitude and duration of each deviation. For a specific malfunction, if this information has been provided in a written report that was submitted in accordance with OAC rule 3745-15-06, the permittee may simply reference that written report to identify the deviation. Nevertheless, all malfunctions, including those reported only verbally in accordance with OAC rule 3745-15-06, must be reported in writing on a quarterly basis.

Any scheduled maintenance, as referenced in OAC rule 3745-15-06(A)(1), that results in a deviation from a federally enforceable emission limitation (or control requirement) shall be reported in the same manner as described above for malfunctions.

(Authority for term: OAC rule 3745-77-07(A)(3)(c))

(2) Except as may otherwise be provided in the terms and conditions for a specific emissions unit (i.e., in section C. Emissions Unit Terms and Conditions of this Title V permit or, in some cases, in section B. Facility-Wide Terms and Conditions of this Title V permit), all reporting required in accordance with OAC rule 3745-77-07(A)(3)(c) for deviations of the emission limitations, operational restrictions, and control device operating parameter limitations shall be submitted in the following manner:

Written reports of (a) any deviations from federally enforceable emission limitations, operational restrictions, and control device operating parameter limitations, (b) the probable cause of such deviations, and (c) any corrective actions or preventive

measures taken, shall be promptly made to the appropriate Ohio EPA District Office or local air agency. Except as provided below, the written reports shall be submitted (i.e., postmarked) by January 31, April 30, July 31, and October 31 of each year; and each report shall cover the previous calendar quarter.

In identifying each deviation, the permittee shall specify the emission limitation(s), operational restriction(s), and/or control device operating parameter limitation(s) for which the deviation occurred, describe each deviation, and provide the estimated magnitude and duration of each deviation.

These written deviation reports shall satisfy the requirements of OAC rule 3745-77-07(A)(3)(c) pertaining to the submission of monitoring reports every six months and to the prompt reporting of all deviations. Full compliance with OAC rule 3745-77-07(A)(3)(c) requires reporting of all other deviations of the federally enforceable requirements specified in the permit as required by such rule.

If an emissions unit has a deviation reporting requirement for a specific emission limitation, operational restriction, or control device operating parameter limitation that is not on a quarterly basis (e.g., within 30 days following the end of the calendar month, or within 30 or 45 days after the exceedance occurs), that deviation reporting requirement satisfies the reporting requirements specified in this Standard Term and Condition for that specific emission limitation, operational restriction, or control device parameter limitation. Following the provisions of that non-quarterly deviation reporting requirement will also satisfy (for the deviations so reported) the requirements of OAC rule 3745-77-07(A)(3)(c) pertaining to the submission of monitoring reports every six months and to the prompt reporting of all deviations, and additional quarterly deviation reports for that specific emission limitation, operational restriction, or control device parameter limitation are not required pursuant to this Standard Term and Condition.

See A.29 below if no deviations occurred during the quarter.

(Authority for term: OAC rule 3745-77-07(A)(3)(c))

(3) All reporting required in accordance with the OAC rule 3745-77-07(A)(3)(c) for other deviations of the federally enforceable permit requirements which are not reported in accordance with Standard Term and Condition A.2)c)(2) above shall be submitted in the following manner:

Unless otherwise specified by rule, written reports that identify deviations of the following federally enforceable requirements contained in this permit; Standard Terms and Conditions: A.3, A.4, A.5, A.7.e), A.8, A.13, A.15, A.19, A.20, A.21, and A.23 of this Title V permit, as well as any deviations from the requirements in section C. Emissions Unit Terms and Conditions of this Title V permit, and any monitoring, record keeping, and reporting requirements, which are not reported in accordance with Standard Term and Condition A.2.c)(2) above shall be submitted (i.e., postmarked) to the appropriate Ohio EPA District Office or local air agency by January 31 and July 31 of each year; and each report shall cover the previous six calendar months. Unless otherwise specified by rule, all other deviations from federally enforceable requirements identified in this permit shall be submitted annually as part of the annual compliance certification, including deviations of federally enforceable requirements not specifically addressed by permit or rule for the

insignificant activities or emissions levels (IEU) identified in section B. Facility-Wide Terms and Conditions of this Title V permit. Annual reporting of deviations is deemed adequate to meet the deviation reporting requirements for IEUs unless otherwise specified by permit or rule.

In identifying each deviation, the permittee shall specify the federally enforceable requirement for which the deviation occurred, describe each deviation, and provide the magnitude and duration of each deviation.

These semi-annual and annual written reports shall satisfy the reporting requirements of OAC rule 3745-77-07(A)(3)(c) for any deviations from the federally enforceable requirements contained in this permit that are not reported in accordance with Standard Term and Condition A.2.c)(2) above.

If no such deviations occurred during a six-month period, the permittee shall submit a semi-annual report which states that no such deviations occurred during that period.

(Authority for term: OAC rules 3745-77-07(A)(3)(c)(i) and (ii) and OAC rule 3745-77-07(A)(13)(b))

(4) 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 (including any written malfunction reports required by OAC rule 3745-15-06 that are referenced in the deviation reports) are true, accurate, and complete."

(Authority for term: OAC rule 3745-77-07(A)(3)(c)(iv))

(5) Reports of any required monitoring and/or record keeping information shall be submitted to Ohio EPA DAPC, Northwest District Office.

(Authority for term: OAC rule 3745-77-07(A)(3)(c))

3. Scheduled Maintenance

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. Except as provided in OAC rule 3745-15-06(A)(3), any scheduled maintenance necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emissions unit(s) that is (are) served by such control system(s). Any scheduled maintenance, as defined in OAC rule 3745-15-06(A)(1), that results in a deviation from a federally enforceable emission limitation (or control requirement) shall be reported in the same manner as described for malfunctions in Standard Term and Condition A.2.c)(1) above.

(Authority for term: OAC rule 3745-77-07(A)(3)(c))

4. Risk Management Plans

If applicable, the permittee shall 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"); and, pursuant to 40 C.F.R. 68.215(a), the permittee shall submit either of the following:

a) a compliance plan for meeting the requirements of 40 C.F.R. Part 68 by the date specified in 40 C.F.R. 68.10(a) and OAC 3745-104-05(A); or

b) as part of the compliance certification submitted under 40 C.F.R. 70.6(c)(5), a certification statement that the source is in compliance with all requirements of 40 C.F.R. Part 68 and OAC Chapter 3745-104, including the registration and submission of the risk management plan.

(Authority for term: OAC rule 3745-77-07(A)(4))

5. 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.

(Authority for term: OAC rule 3745-77-07(A)(5))

6. Severability Clause

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

(Authority for term: OAC rule 3745-77-07(A)(6))

7. 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 reissuance, or modification, or for denial of a permit renewal application.

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, reopened, revoked, or revoked and reissued, for cause, in accordance with Standard Term and Condition A.11 below. 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, reopening 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.

f) Except as otherwise indicated below, this Title V permit, or permit modification, is effective for five years from the original effective date specified in the permit. In the event that this facility becomes eligible for non-title V permits, this permit shall cease to be enforceable when:

(1) the permittee submits an approved facility-wide potential to emit analysis supporting a claim that the facility no longer meets the definition of a "major source" as defined in OAC rule 3745-77-01(W) based on the permanent shutdown and removal of one or more emissions units identified in this permit; or

(2) the permittee no longer meets the definition of a "major source" as defined in OAC rule 3745-77-01(W) based on obtaining restrictions on the facility-wide potential(s) to emit that are federally enforceable or legally and practically enforceable ; or

(3) a combination of (1) and (2) above.

The permittee shall continue to comply with all applicable OAC Chapter 3745-31 requirements for all regulated air contaminent sources once this permit ceases to be enforceable. The permittee shall comply with any residual requirements, such as quarterly deviation reports, semi-annual deviation reports, and annual compliance certifications covering the period during which this Title V permit was enforceable. All records relating to this permit must be maintained in accordance with law.

(Authority for term: OAC rule 3745-77-01(W), OAC rule 3745-77-07(A)(3)(b)(ii), OAC rule 3745-77(A)(7))

8. 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.

(Authority for term: OAC rule 3745-77-07(A)(8))

9. Marketable Permit Programs

No revision of this permit is required under any approved economic incentive, marketable permits, emissions trading, and other similar programs or processes for changes that are provided for in this permit.

(Authority for term: OAC rule 3745-77-07(A)(9))

10. Reasonably Anticipated Operating Scenarios

The permittee is hereby authorized to make changes among operating scenarios authorized in this permit without notice to the Ohio EPA, but, contemporaneous with making a change from one operating scenario to another, the permittee must record in a log at the permitted facility the scenario under which the permittee is operating. The permit shield provided in these standard terms and conditions shall apply to all operating scenarios authorized in this permit.

(Authority for term: OAC rule 3745-77-07(A)(10))

11. Reopening for Cause

This Title V permit will be reopened prior to its expiration date under the following conditions:

a) Additional applicable requirements under the Act become applicable to one or more emissions units covered by this permit, and this permit has a remaining term of three or more years. Such a reopening shall be completed not later than eighteen (18) months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to paragraph (E)(1) of OAC rule 3745-77-08.

b) This permit is issued to an affected source under the acid rain program and additional requirements (including excess emissions requirements) become applicable. Upon approval by the Administrator, excess emissions offset plans shall be deemed to be incorporated into the permit, and shall not require a reopening of this permit.

c) The Director of the Ohio EPA or the Administrator of the U.S. EPA determines that the federally applicable requirements in this permit are based on a material mistake, or that inaccurate statements were made in establishing the emissions standards or other terms and conditions of this permit related to such federally applicable requirements.

d) The Administrator of the U.S. EPA or the Director of the Ohio EPA determines that this permit must be revised or revoked to assure compliance with the applicable requirements.

(Authority for term: OAC rules 3745-77-07(A)(12) and 3745-77-08(D))

12. Federal and State Enforceability

Only those terms and conditions designated in this permit as federally enforceable, that 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, the State, and citizens under the Act. All other terms and conditions of this permit shall not be federally enforceable and shall be enforceable under State law only.

(Authority for term: OAC rule 3745-77-07(B))

13. Compliance Requirements

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

b) Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Director of the Ohio EPA or an authorized representative of the Director to:

(1) At reasonable times, enter upon the permittee's premises where a source is located or the emissions-related activity is conducted, or where records must be kept under the conditions of this permit.

(2) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit, subject to the protection from disclosure to the public of confidential information consistent with paragraph (E) of OAC rule 3745-77-03.

(3) Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.

(4) As authorized by the Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit and applicable requirements.

c) The permittee shall submit progress reports to the appropriate Ohio EPA District Office or local air agency concerning any schedule of compliance for meeting an applicable requirement. Progress reports shall be submitted semiannually or more frequently if specified in the applicable requirement or by the Director of the Ohio EPA. Progress reports shall contain the following:

(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.

d) Compliance certifications concerning the terms and conditions contained in this permit that are federally enforceable emission limitations, standards, or work practices, shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) and the Administrator of the U.S. EPA in the following manner and with the following content:

(1) Compliance certifications shall be submitted annually on a calendar year basis. The annual certification shall be submitted (i.e., postmarked) on or before April 30th of each year during the permit term.

(2) Compliance certifications shall include the following:

a. An identification of each term or condition of this permit that is the basis of the certification.

b. The permittee's current compliance status.

c. Whether compliance was continuous or intermittent.

d. The method(s) used for determining the compliance status of the source currently and over the required reporting period.

e. Such other facts as the Director of the Ohio EPA may require in the permit to determine the compliance status of the source.

(3) Compliance certifications shall contain such additional requirements as may be specified pursuant to sections 114(a)(3) and 504(b) of the Act.

(Authority for term: OAC rules 3745-77-07(C)(1),(2),(4) and (5) and ORC section 3704.03(L))

14. Permit Shield

a) Compliance with the terms and conditions of this permit (including terms and conditions established for alternate operating scenarios, emissions trading, and emissions averaging, but excluding terms and conditions for which the permit shield is expressly prohibited under OAC rule 3745-77-07) shall be deemed compliance with the applicable requirements identified and addressed in this permit as of the date of permit issuance.

b) This permit shield provision shall apply to any requirement identified in this permit pursuant to OAC rule 3745-77-07(F)(2), as a requirement that does not apply to the source or to one or more emissions units within the source.

(Authority for term: OAC rule 3745-77-07(F))

15. Operational Flexibility

The permittee is authorized to make the changes identified in OAC rule 3745-77-07(H)(1)(a) to (H)(1)(c) within the permitted stationary source without obtaining a permit revision, if such change is not a modification under any provision of Title I of the Act [as defined in OAC rule 3745-77-01(JJ)], and does not result in an exceedance of the emissions allowed under this permit (whether expressed therein as a rate of emissions or in terms of total emissions), and the permittee provides the Administrator of the U.S. EPA and the appropriate Ohio EPA District Office or local air agency with written notification within a minimum of seven days in advance of the proposed changes, unless the change is associated with, or in response to, emergency conditions. If less than seven days notice is provided because of a need to respond more quickly to such emergency conditions, the permittee shall provide notice to the Administrator of the U.S. EPA and the appropriate District Office of the Ohio EPA or local air agency as soon as possible after learning of the need to make the change. The notification shall contain the items required under OAC rule 3745-77-07(H)(2)(d).

(Authority for term: OAC rules 3745-77-07(H)(1) and (2))

16. Emergencies

The permittee shall have an affirmative defense of emergency to an action brought for noncompliance with technology-based emission limitations if the conditions of OAC rule 3745-77-07(G)(3) are met. This emergency defense provision is in addition to any emergency or upset provision contained in any applicable requirement.

(Authority for term: OAC rule 3745-77-07(G))

17. Off-Permit Changes

The owner or operator of a Title V source may make any change in its operations or emissions at the source that is not specifically addressed or prohibited in the Title V permit, without obtaining an amendment or modification of the permit, provided that the following conditions are met:

a) The change does not result in conditions that violate any applicable requirements or that violate any existing federally enforceable permit term or condition.

b) The permittee provides contemporaneous written notice of the change to the Director and the Administrator of the U.S. EPA, except that no such notice shall be required for changes that qualify as insignificant emissions levels or activities as defined in OAC rule 3745-77-01(U). Such written notice shall describe each such change, the date of such change, any change in emissions or pollutants emitted, and any federally applicable requirement that would apply as a result of the change.

c) The change shall not qualify for the permit shield under OAC rule 3745-77-07(F).

d) The permittee shall keep a record describing all changes made at the source that result in emissions of a regulated air pollutant subject to an applicable requirement, but not otherwise regulated under the permit, and the emissions resulting from those changes.

e) The change is not subject to any applicable requirement under Title IV of the Act or is not a modification under any provision of Title I of the Act.

Paragraph (I) of rule 3745-77-07 of the Administrative Code applies only to modification or amendment of the permittee's Title V permit. The change made may require a permit-to-install under Chapter 3745-31 of the Administrative Code if the change constitutes a modification as defined in that Chapter. Nothing in paragraph (I) of rule 3745-77-07 of the Administrative Code shall affect any applicable obligation under Chapter 3745-31 of the Administrative Code.

(Authority for term: OAC rule 3745-77-07(I))

18. Compliance Method Requirements

Nothing in this permit shall alter or affect the ability of any person to establish compliance with, or a violation of, any applicable requirement through the use of credible evidence to the extent authorized by law. Nothing in this permit shall be construed to waive any defenses otherwise available to the permittee, including but not limited to, any challenge to the Credible Evidence Rule (see 62 Fed. Reg. 8314, Feb. 24, 1997), in the context of any future proceeding.

(This term is provided for informational purposes only.)

19. Insignificant Activities or Emissions Levels

Each IEU that has one or more applicable requirements shall comply with those applicable requirements.

(Authority for term: OAC rule 3745-77-07(A)(1))

20. Permit to Install Requirement

Prior to the "installation" or "modification" of any "air contaminant source," as those terms are defined in OAC rule 3745-31-01, a permit to install must be obtained from the Ohio EPA pursuant to OAC Chapter 3745-31.

(Authority for term: OAC rule 3745-77-07(A)(1))

21. 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.

(Authority for term: OAC rule 3745-77-07(A)(1))

22. Permanent Shutdown of an Emissions Unit

The permittee may notify Ohio EPA of any emissions unit that is permanently shut down by submitting a certification from the responsible 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 responsible official that the emissions unit was permanently shut down.

After the date on which an emissions unit is permanently shut down (i.e., that 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 and therefore ceases to meet the definition of an "emissions unit" as defined in OAC rule 3745-77-01(O)), rendering existing permit terms and conditions irrelevant, the permittee shall not be required, after the date of the certification and submission to Ohio EPA, to meet any Title V permit requirements applicable to that emissions unit, except for any residual requirements, such as the quarterly deviation reports, semi-annual deviation reports and annual compliance certification covering the period during which the emissions unit last operated. All records relating to the shutdown emissions unit, generated while the emissions unit was in operation, must be maintained in accordance with law.

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

(Authority for term: OAC rule 3745-77-01)

23. Title VI Provisions

If applicable, the permittee shall comply with the standards for recycling and reducing emissions of ozone depleting substances pursuant to 40 CFR Part 82, Subpart F, except as provided for motor vehicle air conditioners in Subpart B of 40 CFR Part 82:

a) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices specified in 40 CFR 82.156.

b) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment specified in 40 CFR 82.158.

c) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR 82.161.

(Authority for term: OAC rule 3745-77-01(H)(11))

24. Reporting Requirements Related to Monitoring and Record Keeping RequirementsUnder State Law Only

The permittee shall submit required reports in the following manner:

a) Reports of any required monitoring and/or record keeping information shall be submitted to the appropriate Ohio EPA District Office or local air agency.

b) Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (i) any deviations (excursions) from emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and record keeping requirements specified in this permit, (ii) the probable cause of such deviations, and (iii) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the appropriate Ohio EPA District Office or local air agency. In identifying each deviation, the permittee shall specify the applicable requirement for which the deviation occurred, describe each deviation, and provide the magnitude and duration of each deviation. 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.)

25. Records Retention RequirementsUnder State Law Only

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.

26. Inspections and Information Requests

The Director of the Ohio EPA, or an authorized representative of the Director, may, subject to the safety requirements of the permittee and without undue delay, enter upon the premises of this source at any reasonable time for purposes of making inspections, conducting tests, examining records or reports pertaining to any emission of air contaminants, and determining compliance with any applicable State air pollution laws and regulations and the terms and conditions of this permit. 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, reopening or revoking this permit or to determine compliance with this permit. Upon verbal or written request, the permittee shall also furnish to the Director of the Ohio EPA, or an authorized representative of the Director, copies of records required to be kept by this permit.

(Authority for term: OAC rule 3745-77-07(C))

27. 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 of any emissions units or any associated air pollution control system(s) shall be reported to the appropriate Ohio EPA District Office or local air agency in accordance with paragraph (B) of OAC rule 3745-15-06. 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 emissions unit(s) that is (are) served by such control system(s).

28. Permit Transfers

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

(Authority for term: OAC rule 3745-77-01(C))

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

If no emission limitation (or control requirement), operational restriction and/or control device parameter limitation 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) by January 31, April 30, July 31, and October 31 of each year; and each report shall cover the previous calendar quarter.

The permittee is not required to submit a quarterly report which states that no deviations occurred during that quarter for the following situations:

a) where an emissions unit has deviation reporting requirements for a specific emission limitation, operational restriction, or control device parameter limitation that override the deviation reporting requirements specified in Standard Term and Condition A.2.c)(2); or

b) where an uncontrolled emissions unit has no monitoring, record keeping, or reporting requirements and the emissions unit's applicable emission limitations are established at the potentials to emit; or

c) where the company's responsible official has certified that an emissions unit has been permanently shut down.

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 insignificant emissions units at this facility must comply with all applicable State and federal regulations, as well as any emission limitations and/or control requirements contained within the identified permit to install for the emissions unit. The insignificant emissions units listed below are subject toone or more applicable requirement contained in a permit-to-install or in the SIP-approved versions of OAC Chapters 3745-17, 3745-18 and 3745-21, 40 CFR, Part 60, Subpart VV and 40 CFR, Part 63, Subpart H.

   a) T094 – 32,000 gallon fixed roof butanediol product rundown tank #60 (PTI #03-11250)

   b) T095 – 32,000 gallon fixed roof butanediol product rundown tank #61 (PTI #03-11250)

   c) T096 – 35,000 gallon fixed roof butanediol product rerun tank #62 (PTI #03-13628)

   d) T097 – 12,000 gallon fixed roof organic waste tank #63 (PTI #03-13628)

   e) T099 – 35,000 gallon fixed roof tetrahydrofuran/water solution tank #65 (PTI #03-13628)

   f) T100 – 35,000 gallon fixed roof maintenance flush tank #66 (PTI #03-11250)

   g) T101 – 376,000 gallon fixed roof butanediol product tank #67 (PTI #03-13628)

   h) T102 - 376,000 gallon fixed roof butanediol product tank #68 (PTI #03-13628)

3. The following emissions units contained in this permit are subject to 40 CFR, Part 63, Subpart A: J001, J002, N006, P076, P801, T095, T096, T097, T099, T100, T101 and T102. The complete MACT General Provisions may be accessed via the Internet from the Electronic Code of Federal Regulations (e-CFR) website http://www.ecfr.gpoaccess.gov or by contacting the Ohio EPA, Northwest District Office.

4. The following emissions units contained in this permit are subject to 40 CFR, Part 63, Subpart F: N006, P076 and P801. 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://www.ecfr.gpoaccess.gov or by contacting the Ohio EPA, Northwest District Office.

5. The following emissions units contained in this permit are subject to 40 CFR, Part 63, Subpart G: N006 and P801. 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://www.ecfr.gpoaccess.gov or by contacting the Ohio EPA, Northwest District Office.

6. The following emissions units contained in this permit are subject to 40 CFR, Part 63, Subpart H: J001, J002, N006, P801, T095, T096, T097, T099, T100, T101 and T102. 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://www.ecfr.gpoaccess.gov or by contacting the Ohio EPA, Northwest District Office.

7. The following emissions units contained in this permit are subject to 40 CFR, Part 60, SubpartDb: N006. The complete NSPS requirements, including the NSPS General Provisions may be accessed via the Internet from the Electronic Code of Federal Regulations (e-CFR) website http://www.ecfr.gpoaccess.gov or by contacting the Ohio EPA, Northwest District Office.

8. The following emissions units contained in this permit are subject to 40 CFR, Part 60, Subpart VV: J001, J002, N006, P801, T095, T096, T097, T099, T100, T101 and T102. The complete NSPS requirements, including the NSPS General Provisions may be accessed via the Internet from the Electronic Code of Federal Regulations (e-CFR) website http://www.ecfr.gpoaccess.gov or by contacting the Ohio EPA, Northwest District Office.

9. The following emissions units contained in this permit are subject to 40 CFR, Part 60, Subpart III: P801. The complete NSPS requirements, including the NSPS General Provisions may be accessed via the Internet from the Electronic Code of Federal Regulations (e-CFR) website http://www.ecfr.gpoaccess.gov or by contacting theOhio EPA, Northwest District Office.

10. The following emissions units contained in this permit are subject to 40 CFR, Part 60, Subpart NNN: P801. The complete NSPS requirements, including the NSPS General Provisions may be accessed via the Internet from the Electronic Code of Federal Regulations (e-CFR) website http://www.ecfr.gpoaccess.gov or by contacting the Ohio EPA, Northwest District Office.

11. The following emissions units contained in this permit are subject to 40 CFR, Part 60, Subpart RRR: P801. The complete NSPS requirements, including the NSPS General Provisions may be accessed via the Internet from the Electronic Code of Federal Regulations (e-CFR) website http://www.ecfr.gpoaccess.gov or by contacting the Ohio EPA, Northwest District Office.

12. The following insignificant emission units are subject to OAC rule 3745-21-09(DD), 40 CFR, Part 60, Subpart VV and 40 CFR, Part 63, Subpart H: T095, T096, T097, T099, T100, T101 and T102 [See B.11.a), B.11.b) and B.11.c)].

    a) 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.

    b) 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.

    c) The permittee shall include the appropriate process equipment and regulated components for these emission units 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 recordkeeping, reporting, and testing) 40 CFR, Part 63, Subpart H (National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks) [See 40 CFR 63.160 – 63.183].

C. Emissions Unit Terms and Conditions

1. J001, Butanediol (BDO) Truck/ Railcar Loading and Tetrahydrofuran (THF) Railcar Loading

Operations, Property and/or Equipment Description:

BDO product loading facilities (1 truck and 2 railcar loading racks). The railcar loading includes THF loading by railcar. Uses flare for THF railcar loading. Uses submerged fill. Only transfer liquids containing organic hazardous air pollutants as impurities.

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 3745-21-07(M)(2)	See b)(2)a.
b.	OAC rule 3745-21-09(DD)	See b)(2)b.
c.	40 CFR, Part 60, Subpart VV (40 CFR 60.480 – 60.489)	See b)(2)b.
d.	OAC rule 3745-31-05(A)(3) [PTI #P0110046, modification issued 6/8/12]	For emissions from the flare: 0.1 ton of volatile organic compounds (VOC)/yr no visible emissions, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours The requirements of this rule also include compliance with the requirements of OAC rule 3745-21-09(DD). [The fugitive emissions associated with this emissions unit are accounted for in the fugitive emission allowable for emissions unit P801.]
e.	40 CFR, Part 63, Subparts F, G and H	None [See b)(2)d.]

(2) Additional Terms and Conditions

a. 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.

b. The permittee shall include the appropriate process equipment and regulated components for emissions unit J001 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 recordkeeping, reporting, and testing) in OAC rule 3745-21-09(DD) and 40 CFR, Part 60, Subpart VV.

c. Emissions from THF loading by railcar are vented to a flare that also controls the emissions from emissions unit P801. All operational restrictions, monitoring, record keeping and reporting requirements for the flare are established in the terms and conditions for emissions unit P801. Therefore, no additional monitoring, record keeping and reporting requirements are necessary for this emissions unit.

d. Pursuant to 40 CFR 63.100(f)(9), this emissions unit is exempt from the requirements in 40 CFR, Part 63, Subparts F, G and H since the loading facilities only transfer liquids containing organic hazardous air pollutants as impurities.

c) Operational Restrictions

(1) The permittee shall not exceed an annual material throughput rate of 22,500,000 gallons. This throughput restriction only pertains to the loading of BDO product.

[OAC rule 3745-77-07(A)(1) and PTI #P0110046]

(2) The flare shall be operated at all times when loading THF by railcar.

[OAC rule 3745-77-07(A)(1) and PTI #P0110046]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall maintain annual records of the BDO productthroughput, in gallons, for this emissions unit.

[OAC rule 3745-77-07(C)(1) and PTI #P0110046]

(2) The permittee shall maintain records that document any time periods when the flare serving this emissions unit was not in service while loading THF by railcar.

[OAC rule 3745-77-07(C)(1) and PTI #P0110046]

e) Reporting Requirements

(1) The permittee shall submit annual summary reports that include the actual annual BDO productthroughput and all exceedances of thethroughput restriction established in section c)(1)for this emissions unit for the previous calendar year. These reports shall be submitted by January 31 of each year and shall include the corrective actions that were taken to achieve compliance.

[OAC rule 3745-77-07(C)(1) and PTI #P0110046]

(2) The permittee shall submit quarterly summaries that include a log of the downtime for the flare, when loading THF by railcar. These quarterly reports shall be submitted by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarter.

[OAC rule 3745-77-07(C)(1) and PTI #P0110046]

f) Testing Requirements

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

a. Emission Limitation: 0.1 ton of VOC/yr

<u>Applicable Compliance Method:</u> The permittee may demonstrate compliance with the annual limitation by using an emission factor and equation (1), from AP-42, Section 5.2.2.1.1, and the actual annual BDO product throughput as recorded in d)(1), as follows:

LL = 12.46 [S x P x M/T]

where:

LL = loading loss, pounds per 1,000 gallons (lbs/1,000 gal) of liquid loaded

S = saturation factor = 0.50 (AP-42, Table 5.2-1)

P = true vapor pressure of liquid loaded, pounds per square inch absolute (psia) = 0.000789

M = molecular weight of vapors, pounds per pound-mole (lb/lb-mole) = 90

T = temperature of liquid loaded, degrees R = 573.

TPY = LL x (actual annual throughput/1000) x (1 ton/2,000 lbs)

b. <u>Emission Limitation:</u> no visible emissions from the flare, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours, from the flare

Applicable Compliance Method: If required, the permittee shall demonstrate compliance in accordance with 40 CFR, Part 60, Appendix A, Method 22.

[OAC rule 3745-77-07(C)(1) and PTI #P0110046]

g) Miscellaneous Requirements

(1) None.

2. J002, Tetrahydrofuran (THF)/Water Loading

Operations, Property and/or Equipment Description:

THF/water solution loading facilities (truck loading rack). Uses flare for loading of non-photochemically reactive material. Uses submerged fill. Only transfer liquids containing organic hazardous air pollutants as impurities.

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 3745-21-07(M)(2)	See b)(2)a.
b.	OAC rule 3745-21-09(DD)	See b)(2)b.
c.	40 CFR, Part 60, Subpart VV (40 CFR 60.480 – 60.489)	See b)(2)b.
d.	OAC rule 3745-31-05(A)(3) [PTI #P0109626, modification issued 4/18/12]	For emissions from the flare: 0.16 ton of volatile organic compounds (VOC)/yr no visible emissions, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours The requirements of this rule also include compliance with the requirements of OAC rule 3745-21-09(DD). [The fugitive emissions associated with this emissions unit are accounted for in fugitive emission allowable for emissions unit P801.]
e.	40 CFR, Part 63, Subparts F, G and H	None [See b)(2)d.]

(2) Additional Terms and Conditions

a. 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.

b. The permittee shall include the appropriate process equipment and regulated components for emissions unit J002 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 recordkeeping, reporting, and testing) in OAC rule 3745-21-09(DD) and 40 CFR, Part 60, Subpart VV.

c. This emissions unit is vented to a flare that also controls the emissions from emissions unit P801. All operational restrictions, monitoring, record keeping and reporting requirements for the flare are established in the terms and conditions for emissions unit P801. Therefore, no additional monitoring, record keeping and reporting requirements are necessary for this emissions unit.

d. Pursuant to 40 CFR 63.100(f)(9), this emissions unit is exempt from the requirements in 40 CFR, Part 63, Subparts F, G and H since the loading facilities only transfer liquids containing organic hazardous air pollutants as impurities.

c) Operational Restrictions

(1) The permittee shall not exceed an annual material throughput rate of 4,500,000 gallons.

[OAC rule 3745-77-07(A)(1) and PTI #P0109626]

(2) The flare shall be operated at all times when this emissions unit is in operation.

[OAC rule 3745-77-07(A)(1) and PTI #P0109626]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall maintain annual records of the types of materials stored/loaded/unloaded and the throughput, in gallons, for this emissions unit.

[OAC rule 3745-77-07(C)(1) and PTI #P0109626]

(2) The permittee shall maintain records that document any time periods when the flare serving this emissions unit was not in service while this emissions unit was operating.

[OAC rule 3745-77-07(C)(1) and PTI #P0109626]

e) Reporting Requirements

(1) The permittee shall submit annual summary reports that include the actual annual material throughput and all exceedances of the throughput restrictions established in this section for this emissions unit during the previous calendar year. These reports shall be submitted by January 31 of each year and shall include the corrective actions that were taken to achieve compliance.

[OAC rule 3745-77-07(C)(1) and PTI #P0109626]

(2) The permittee shall submit quarterly summaries that include a log of the downtime for the flare, when the associated emissions unit was in operation. These quarterly reports shall be submitted by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarter.

[OAC rule 3745-77-07(C)(1) and PTI #P0109626]

f) Testing Requirements

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

a. Emission Limitation: 0.16 ton VOC/yr

Applicable Compliance Method: The permittee may demonstrate compliance with the annual limitation by using an emission factor and equation (1), from AP-42, Section 5.2.2.1.1, the actual annual throughput, as recorded in d)(1), and a control factor of (1-0.98)*, as follows:

LL = 12.46 x [S x P x M/T]

where:

LL = loading loss, pounds per 1,000 gallons (lbs/1,000 gallon) of liquid loaded

S = saturation factor = 0.50 (AP-42, Table 5.2-1)

P = true vapor pressure of liquid loaded, pounds per square inch absolute (psia) = 0.7734

M = molecular weight of vapors, pounds per pound-mole (lb/lb-mole) = 67

T = temperature of liquid loaded, degrees R = 555

TPY = LL x (actual annual throughput/1,000) x (1 ton/2,000 lbs) x (1 - 0.98*)

*The control efficiency of the flare is assumed to be 98%.

[OAC rule 3745-77-07(C)(1) and PTI #P0109626]

b. Emission Limitation: no visible emissions from the flare (emissions unit P801), except for periods not to exceed a total of 5 minutes during any 2 consecutive hours, from the flare

Applicable Compliance Method: If required, the permittee shall demonstrate compliance in accordance with 40 CFR, Part 60, Appendix A, Method 22.

[OAC rule 3745-77-07(C) (1) and PTI #P0109626]

g) Miscellaneous Requirements

(1) None.

3. 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 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(D) [PTI #P0110047, modification issued 6/8/12]	63.0 lbs of volatile organic compounds (VOC)/hr and 276.0 tons VOC/yr 205.4 lbs of carbon monoxide (CO)/hr and 900.0 tons CO/yr 25.4 lbs of nitrogen oxides (NOx)/hr, based upon a rolling, 24-hour average and 111.3 tons NOx/yr 5.5 lbs of sulfur dioxide (SO2)/hr, based upon a 30-day rolling average and 24.2 tons SO2/yr 6.4 lbs of particulate emissions (PE)/hr and 28.0 tons PE/yr Visible PE shall not exceed 10% opacity as a 6-minute average. 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. See b)(2)a. and c)(1)
b.	ORC 3704.03(T)	See b)(2)b.
c.	OAC rule 3745-17-07(A)	See b)(2)c.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
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)	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. 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. 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.

(2) Additional Terms and Conditions

a. PTI No. P0109627, 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 lbsNOx/hr, based upon a rolling, 24-hour average and 111.3 tons NOx/yr;

iv. 5.5 lbs SO2/hr, based upon a 30-day rolling average and 24.2 tons SO2/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 (H2S) in excess of 162 ppm, as a rolling, 3-hour average. This concentration is equivalent to 230 mg H2S/dscm.

b. The requirements of ORC 3704.03(T) 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 limitations specified by OAC rule 3745-17-07(A), 17-09 and 18-06 are less stringent than the emission limitations 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. Permit term c)(1) contains the control efficiency requirements.

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. NOx emissions from the combustion of fuel and waste stream in the SOGB shall not exceed 0.10 lb/mmBtu total heat input based on a 30-day, rolling average as required by 40 CFR 60.44b.

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.

[OAC rule 3745-77-07(A)(1) and PTI #P0110047]

(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.

[OAC rule 3745-77-07(A)(1) and PTI #P0110047]

(3) The permittee shall establish a range of operating parameters for the SOGB that meet the requirements of 40 CFR, Part 63, Subpart G.

[OAC rule 3745-77-07(A)(1) and PTI #P0110047]

(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.

[OAC rule 3745-77-07(A)(1) and PTI #P0110047]

(5) See 40 CFR, Part 60, Subpart Db (40 CFR 60.40b – 60.49b)

[OAC rule 3745-77-07(A)(1); 40 CFR, Part 60, Subpart Db; and PTI #P0110047]

(6) See 40 CFR, Part 63, Subpart F (40 CFR 63.100 – 63.107)

[OAC rule 3745-77-07(A)(1); 40 CFR, Part 63, Subpart F; and PTI #P0110047]

(7) See 40 CFR, Part 63, Subpart G (40 CFR 63.110 – 63.153)

[OAC rule 3745-77-07(A)(1); 40 CFR, Part 63, Subpart G; and PTI #P0110047]

(8) See 40 CFR, Part 63, Subpart H (40 CFR 63.160 – 63.183)

[OAC rule 3745-77-07(A)(1); 40 CFR, Part 63, Subpart H; and PTI #P0110047]

d) Monitoring and/or Recordkeeping Requirements

(1) In order to demonstrate compliance with the requirement not to burn any fuel gas that contains an H2S 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 H2S 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 H2S limitation will also be adequate to ensure ongoing compliance with the SO2 emission limitation.

Sulfur monitoring for raw material butane shall be conducted by the appropriate ASTM or equivalent methods. For butane supplied by Lima Refining Company, weekly analyses shall be required at a minimum.

[OAC rule 3745-77-07(C)(1) and PTI #P0110047]

(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.

[OAC rule 3745-77-07(C)(1) and PTI #P0110047]

(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 six-minute periodrequired;

b. emissions of NOx in lb/million Btu of actual heat input based upon a 30-day, rolling average and lbs/hr based upon a rolling, 24-hour average;

c. results of quarterly cylinder gas audits in accordance with section 5.1.2 of Appendix F of 40 CFR, Part 60;

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.

[OAC rule 3745-77-07(C)(1) and PTI #P0110047]

(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.

[OAC rule 3745-77-07(C)(1) and PTI #P0110047]

(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.

[OAC rule 3745-77-07(C)(1) and PTI #P0110047]

(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.

[OAC rule 3745-77-07(C)(1) and PTI #P0110047]

(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.

[OAC rule 3745-77-07(C)(1) and PTI #P0110047]

(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)]

[OAC rule 3745-77-07(C)(1) and PTI #P0110047]

(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.

[OAC rule 3745-77-07(C)(1) and PTI #P0110047]

(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.

[OAC rule 3745-77-07(C)(1) and PTI #P0110047]

(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 (μg/m3): 262,000

Maximum Hourly Emission Rate (lbs/hr): 0.15

Predicted 1-Hour Maximum Ground-Level Concentration (μg/m3): 174

MAGLC (μg/m3): 6,238

Pollutant: Tetrahydrofuran

TLV (μg/m3): 590,000

Maximum Hourly Emission Rate (lbs/hr): 5.20

Predicted 1-Hour Maximum Ground-Level Concentration (μg/m3): 358

MAGLC (μg/m3): 14,048

Pollutant: Ethanol

TLV (μg/m3): 1,880,000

Maximum Hourly Emission Rate (lbs/hr): 2.2

Predicted 1-Hour Maximum Ground-Level Concentration (μg/m3): 151

MAGLC (μg/m3): 44,762

Pollutant: Propanol

TLV (μg/m3): 492,000

Maximum Hourly Emission Rate (lbs/hr): 1.90

Predicted 1-Hour Maximum Ground-Level Concentration (μg/m3): 131

MAGLC (μg/m3): 11,714

Pollutant: Butanol

TLV (μg/m3): 152,000

Maximum Hourly Emission Rate (lbs/hr): 4.35

Predicted 1-Hour Maximum Ground-Level Concentration (μg/m3): 299

MAGLC (μg/m3): 2,670

Pollutant: Formic Acid

TLV (μg/m3): 9,400

Maximum Hourly Emission Rate (lbs/hr): 0.02

Predicted 1-Hour Maximum Ground-Level Concentration (μg/m3): 1.38

MAGLC (μg/m3): 224

Pollutant: Acrylic Acid

TLV (μg/m3): 5,900

Maximum Hourly Emission Rate (lbs/hr): 0.02

Predicted 1-Hour Maximum Ground-Level Concentration (μg/m3): 1.38

MAGLC (μg/m3): 141

Pollutant: Acetic Acid

TLV (μg/m3): 25,000

Maximum Hourly Emission Rate (lbs/hr): 0.05

Predicted 1-Hour Maximum Ground-Level Concentration (μg/m3): 3.44

MAGLC (μg/m3): 595

[PTI #P0110047]

(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.

[PTI #P0110047]

(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.

[PTI #P0110047]

(14) See 40 CFR, Part 60, Subpart Db (40 CFR 60.40b – 60.49b)

[OAC rule 3745-77-07(C)(1); 40 CFR, Part 60, Subpart Db; and PTI #P0110047]

(15) See 40 CFR, Part 63, Subpart F (40 CFR 63.100 – 63.107)

[OAC rule 3745-77-07(C)(1); 40 CFR, Part 63, Subpart F; and PTI #P0110047]

(16) See 40 CFR, Part 63, Subpart G (40 CFR 63.110 – 63.153)

[OAC rule 3745-77-07(C)(1); 40 CFR, Part 63, Subpart G; and PTI #P0110047]

(17) See 40 CFR, Part 63, Subpart H (40 CFR 63.160 – 63.183)

[OAC rule 3745-77-07(C)(1); 40 CFR, Part 63, Subpart H; and PTI #P0110047]

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports that identify all exceedances of the fuel content restriction of 230 mg H2S/dscm (equivalent to 162 ppm of H2S), based on a 3-hour, rolling average. These reports shall be submitted in accordance with the Standard Terms and Conditions of this permit.

[OAC rule 3745-77-07(C)(1) and PTI #P0110047]

(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.

[OAC rule 3745-77-07(C)(1) and PTI #P0110047]

(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).

[OAC rule 3745-77-07(C)(1) and PTI #P0110047]

(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.

[OAC rule 3745-77-07(C)(1) and PTI #P0110047]

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

a. Pursuant to the monitoring, record keeping, and reporting requirements for continuous monitoring systems contained in 40 CFR 60.7 and 60.13(h) and the requirements established in this permit, the permittee shall submit reports within 30 days following the end of each calendar quarter to the appropriate Ohio EPA District Office or local air agency, documenting all instances of NOx emissions in

excess of any applicable limit specified in this permit, 40 CFR Part 60, OAC Chapters 3745-14 and 3745-23, and any other applicable rules or regulations.

The report shall document the date, commencement and completion times, duration, and magnitude of each exceedance, as well as the reason (if known) and the corrective actions taken (if any) for each exceedance. Excess emissions shall be reported in units of the applicable standard(s).

b. These quarterly reports shall be submitted by January 31, April 30, July 31, and October 31 of each year and shall include the following:

i. the facility name and address;

ii. the manufacturer and model number of the continuous NOx and other associated monitors;

iii. a description of any change in the equipment that comprises the continuous emission monitoring system (CEMS), including any change to the hardware, changes to the software that may affect CEMS readings, and/or changes in the location of the CEMS sample probe;

iv. the excess emissions report (EER)*, i.e., a summary of any exceedances during the calendar quarter, as specified above;

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

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

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

viii. results and dates of quarterly cylinder gas audits;

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

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

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

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

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

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

* 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

[OAC rule 3745-77-07(C)(1) and PTI #P0110047]

(6) 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.

[OAC rule 3745-77-07(C)(1) and PTI #P0110047]

(7) 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.

[OAC rule 3745-77-07(C)(1) and PTI #P0110047]

(8) See 40 CFR, Part 60, Subpart Db (40 CFR 60.40b – 60.49b)

[OAC rule 3745-77-07(C)(1); 40 CFR, Part 60, Subpart Db; and PTI #P0110047]

(9) See 40 CFR, Part 63, Subpart F (40 CFR 63.100 – 63.107)

[OAC rule 3745-77-07(C)(1); 40 CFR, Part 63, Subpart F; and PTI #P0110047]

(10) See 40 CFR, Part 63, Subpart G (40 CFR 63.110 – 63.153)

[OAC rule 3745-77-07(C)(1); 40 CFR, Part 63, Subpart G; and PTI #P0110047]

(11) See 40 CFR, Part 63, Subpart H (40 CFR 63.160 – 63.183)

[OAC rule 3745-77-07(C)(1); 40 CFR, Part 63, Subpart H; and PTI #P0110047]

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 lbsNOx/hr, based upon a rolling, 24-hour average, 5.5 lbs SO2/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 SO2 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, SO2 emission limitation shall be based upon H2S monitoring for refinery fuel gas and sulfur monitoring for input butane using ASTM or equivalent 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 NOx emission limitation shall be based on the continuous NOx emissions monitor.

Compliance with the hourly allowable COemission 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 10.

[OAC rule 3745-77-07(C)(1) and PTI #P0110047]

b. Emission Limitations: 276.0 tons VOC/yr, 900.0 tons CO, 111.3 tons NOx/yr, 24.2 tons SO2/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.

[OAC rule 3745-77-07(C)(1) and PTI #P0110047]

c. Emission Limitation: 0.10 lbNOx/mmBtu total heat input

Applicable Compliance Method: Compliance with the NOx standard of 0.10 lb/mmBtu heat input shall be demonstrated through a 30-day rolling average of all the calculated daily NOx 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_x per mmBtu heat input:

lbsNOx/mmBtu heat input = lbsNOx emitted/mmBtu heat input

lbsNOx = ppmv/10^6 x MW_{corr} x Stack (lb/hr) x Moisture

Where:

Ppmv = concentration of NOx measured by CEM on SOGI outlet

MW_{corr} = molecular weight correction factor, NOx (46.01 lb/lb-mole) to stack gas (~29.7 lb/lb-mole)

Stack = stack flow, lb/hr

Moisture = moisture correction factor, dry NOx CEM, wet stack flowmeter

mmBtu/hr = [Fuel * DH_{cf}/ 10^6] + [Offgas<u>lb</u> * DH_{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_{cf}= Heat of combustion for fuel, Btu/lb (for natural gas, 23,000 Btu/lb and refinery fuel gas, 20,482 Btu/lb)

DH_{co}= Heat of combustion for off gas= $^{n}\sum_{i=1} C_i Btu_i$

where:

C_i = offgas concentration of component i, in lb/hr

Btu_i = 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

10^6 = conversion to MM

The permittee shall demonstrate compliance with the 0.10 lbNOx per mmBtu limit through a 30-day, rolling average of all the calculated hourly NOx 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.

[OAC rule 3745-77-07(C)(1) and PTI #P0110047]

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

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

[OAC rule 3745-77-07(C)(1) and PTI #P0110047]

e. Emission Limitation: 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.

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.

[OAC rule 3745-77-07(C)(1) and PTI #P0110047]

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

a. The emission testing shall be conducted within 6 months after the effective date of this permit and every 2.5 years thereafter.

b. The emission testing shall be conducted to demonstrate compliance with the mass emission rate for CO.

c. The following test methods shall be employed to demonstrate compliance with the allowable mass emission rate:

CO - Methods 1 - 4 and 10 of 40 CFR, Part 60, Appendix A

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

d. The tests shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, Northwest District Office.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA, Northwest District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA, Northwest District Office's refusal to accept the results of the emission test(s).

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

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

[OAC rule 3745-77-07(C)(1)]

(3) 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.

[OAC rule 3745-77-07(C)(1) and PTI #P0110047]

(4) Ongoing compliance with the NOx 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.

[OAC rule 3745-77-07(C)(1) and PTI #P0110047]

(5) See 40 CFR, Part 60, Subpart Db (40 CFR 60.40b – 60.49b)

[OAC rule 3745-77-07(C)(1); 40 CFR, Part 60, Subpart Db; and PTI #P0110047]

(6) See 40 CFR, Part 63, Subpart F (40 CFR 63.100 – 63.107)

[OAC rule 3745-77-07(C)(1); 40 CFR, Part 63, Subpart F; and PTI #P0110047]

(7) See 40 CFR, Part 63, Subpart G (40 CFR 63.110 – 63.153)

[OAC rule 3745-77-07(C)(1); 40 CFR, Part 63, Subpart G; and PTI #P0110047]

(8) See 40 CFR, Part 63, Subpart H (40 CFR 63.160 – 63.183)

[OAC rule 3745-77-07(C)(1); 40 CFR, Part 63, Subpart H; and PTI #P0110047]

g) Miscellaneous Requirements

(1) None.

4. P076, Cooling Tower #1

Operations, Property and/or Equipment Description:

Non-contact cooling tower system

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-17-07(A)	Visible particulate emissions (PE) shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.
b.	OAC rule 3745-17-11(B)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05.
c.	OAC rule 3745-31-05(A)(3) (PTI #03-11250, issued 10/28/04)	0.184 lb PE/hr and 0.81 ton PE/yr 0.22 lb of volatile organic compounds (VOC)/hr and 0.96 ton VOC/yr The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A) and 40 CFR, Part 63, Subpart F.
d.	40 CFR, Part 63, Subpart F (40 CFR 63.100 – 63.107)	See b)(2)a.

(2) Additional Terms and Conditions

a. This emissions unit is exempt from the requirements of this rule pursuant to 40 CFR 63.104(a)(5).

c) Operational Restrictions

(1) The permittee shall maintain a rolling, 4-week average total dissolved solids content of 3,500 mg/l or less in the cooling water.

[OAC rule 3745-77-07(A)(1) and PTI #03-11250]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall perform the following:

a. The permittee shall test and record the total dissolved solids content (mg/l) of the cooling water on a weekly basis using a conductivity meter or other U.S. EPA-approved test procedures.

b. Each week, the permittee shall calculate and record the average total dissolved solids content value based on the four most current readings from d)(1)a.

[OAC rule 3745-77-07(C)(1) and PTI #03-11250]

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports that identify all exceedances of the total dissolved solids restriction of 3,500 mg/l. These quarterly deviation reports shall be submitted in accordance with the Standard Terms and Conditions of this permit.

[OAC rule 3745-77-07(C)(1) and PTI #03-11250]

f) Testing Requirements

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

a. Emission Limitation: Visible PE shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.

Applicable Compliance Method: If required, the permittee shall demonstrate compliance with the visible PE limitation above in accordance with OAC rule 3745-17-03(B)(1).

[OAC rule 3745-77-07(C)(1) and PTI #03-11250]

b. Emission Limitation: 0.184 lb PE/hr

Applicable Compliance Method: Compliance with the hourly allowable PE limitation shall be demonstrated by multiplying the maximum total dissolved solids content of the cooling water (3,500 mg/liter) by the maximum water flow rate (gallons/hr) and by a maximum drift loss factor of 0.0005%, and then by a conversion factor of (3.785 liter/gallon x lb/453,592 mg).

The permittee shall maintain documentation from the manufacturer of the cooling tower drift loss eliminators demonstrating that the cooling tower design specifications meet the maximum drift loss of 0.0005%.

In the event of equipment modification to the drift loss eliminators, specifications demonstrating compliance with a maximum drift loss of 0.0005% shall be submitted to the Ohio EPA and maintained by the permittee.

[OAC rule 3745-77-07(C)(1) and PTI #03-11250]

c. Emission Limitation: 0.81 tons PE/yr

Applicable Compliance Method: The annual emission limitation was developed by multiplying the hourly emission limitation by 8,760 hrs/yr; and then dividing by 2,000 lbs/ton. Therefore, as long as compliance with the hourly allowable emission limitation is maintained, compliance with the annual emission limitation shall also be demonstrated.

[OAC rule 3745-77-07(C)(1) and PTI #03-11250]

d. Emission Limitation: 0.22 lb VOC/hr

Applicable Compliance Method: Compliance with the hourly allowable VOC emission limitation may be determined by multiplying an emission factor of 0.175 lb VOC/1,000,000 gallons by the maximum cooling water throughput capacity of 1,200,000 gallons per hour.

[OAC rule 3745-77-07(C)(1) and PTI #03-11250]

e. Emission Limitation: 0.96 tons VOC/yr

Applicable Compliance Method: The annual emission limitation was developed by multiplying the hourly emission limitation by 8,760 hrs/yr; and then dividing by 2,000 lbs/ton. Therefore, as long as compliance with the hourly allowable emission limitation is maintained, compliance with the annual emission limitation shall also be demonstrated.

[OAC rule 3745-77-07(C)(1) and PTI #03-11250]

g) Miscellaneous Requirements

(1) None.

5. P801, Various Sources

Operations, Property and/or Equipment Description:

Maleic anhydride reactor and recovery section, maleic acid hydrogenation section, butanediol recovery and purification section, butane feedstock supply section. Also includes fugitives.

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(D) (PTI #P0107710, modification issued 4/27/11)	Emissions from this process vented to the flare: 0.04 lb of particulate emissions (PE)/hr and 0.18 tons PE/yr 7.58 lbs of volatile organic compounds (VOC)/hr, and 33.2 tons VOC/yr 4.85 lbs of carbon monoxide (CO)/hr and 21.23 tons CO/yr 0.89 lb of nitrogen oxides (NOx)/hr and 3.90 tons NOx/yr 0.48 lb of sulfur dioxide (SO2)/hr and 2.10 tons SO2/yr No visible emissions from the flare [See c)(3)a.i.] Fugitive Process Emissions: 11.89 tons VOC/yr The emissions from this process that are vented to the scrubber off-gas boiler (SOGB) are accounted for in the emissions allowables for emissions unit N006.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		See b)(2)a. and c)(1)
b.	ORC 3704.03(T)	See b)(2)b.
c.	OAC rule 3745-31-05(A)(3), as effective 11/30/01	See b)(2)c.
d.	OAC rule 3745-31-05(A)(3), as effective 12/01/06	See b)(2)d.
e.	OAC rule 3745-21-07(M)(2)	See b)(2)e.
f.	OAC rule 3745-21-09(DD)	See b)(2)f.
g.	OAC rule 3745-21-09(EE)	See b)(2)g.
h.	40 CFR, Part 60, Subpart VV	See b)(2)f.
i.	40 CFR, Part 60, Subpart III	See b)(2)h.
j.	40 CFR, Part 60, Subpart NNN	See b)(2)i.
k.	40 CFR, Part 60, Subpart RRR	See b)(2)j.
l.	40 CFR, Part 63, Subpart F	See c)(6), d)(3), e)(3) and f)(2)
m.	40 CFR, Part 63, Subpart G	See b)(2)k., c)(7), d)(4), e)(4) and f)(3)
n.	40 CFR, Part 63, Subpart H	See b)(2)f., c)(8), d)(5), e)(5) and f)(4)
o.	40 CFR, Part 63, Subpart A [40 CFR Part 63.1 – 63.15]	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. 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. 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.

(2) Additional Terms and Conditions

a. PTI No. P0107710 modification, issued 4/27/11, 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. Emissions from this process vented to the flare:

(a) 0.04 lb PE/hr and 0.18 tons PE/yr

(b) 7.58 lbs VOC/hr, and 33.2 tons VOC/yr

(c) 4.85 lbs CO/hr and 21.23 tons CO/yr

(d) 0.89 lbNOx/hr and 3.90 tons NOx/yr

(e) 0.48 lb SO2/hr and 2.10 tons SO2/yr

(f) No visible emissions from the flare [See c)(3)a.i.]

ii. Fugitive Process Emissions:

(a) 11.89 tons VOC/yr

iii. The emissions from this process that are vented to the scrubber off-gas boiler (SOGB) are accounted for in the emissions allowables for emissions unit N006.

b. The requirements of ORC 3704.03(T) 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 requirements of OAC rule 3745-31-05(A)(3), as effective November 30, 2001, 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 OAC rule 3745-31-05(A)(3), as effective November 30, 2001, in this permit.

The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to OAC paragraph 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to ORC changes effective August 3, 2006 (S.B. 265 changes), such that BAT is no longer required by State regulations for NAAQS pollutants less than ten tons per year. However, that rule revision has not yet been approved by 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 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of 3745-31-05, the requirements under this rule no longer apply.

It should be noted that the emission limitations and control requirements established pursuant to OAC rule 3745-31-05(D) will remain applicable after the above SIP revisions are approved by U.S. EPA.

d. OAC rule 3745-31-05(A)(3), as effective December 1, 2006, applies once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the SIP.

Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3)(a), as effective December 1, 2006, do not apply to the PE, NOx and SO2 emissions from this air contaminant source since the controlled potential to

emit (PTE) is less than 10 tons per year taking into consideration federally enforceable requirements established under OAC rule 3745-31-05(D).

e. 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.

f. 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 equivalentto or less stringent than the alternative leak detection and repair (LDAR) monitoring plansubmitted by the permittee, pursuant to 40 CFR, Part 63, Subpart H.

The permittee shall include the appropriate process equipment and regulated componentsfor emissions unit P801 in the current site fugitive LDARprogram. The LDAR program shall comply with the appropriate provisions (includingoperational restrictions, monitoring and record keeping, reporting, and testing) of 40 CFR, Part63, Subpart H (National Emission Standards for Organic Hazardous Air Pollutants forEquipment Leaks.

g. The VOC emission limitation specified by OAC rule 3745-21-09(EE) is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(D).

h. 40 CFR, Part 60, Subpart III regulations overlap with those of 40 CFR, Part 63, Subpart G. 40 CFR 63.110(d) addresses this overlap and states that equipment subject to 40 CFR, Part 60, Subpart III is required to comply only with the provisions of 40 CFR, Part 63, Subpart G.

i. 40 CFR, Part 60, Subpart NNN regulations overlap with those of 40 CFR, Part 63, Subpart G. 40 CFR 63.110(d) addresses this overlap and states that equipment subject to 40 CFR, Part 60, Subpart NNN is required to comply only with the provisions of 40 CFR, Part 63, Subpart G.

j. 40 CFR, Part 60, Subpart RRR regulations overlap with those of 40 CFR, Part 63, Subpart G. 40 CFR 63.110(d) addresses this overlap and states that equipment subject to 40 CFR, Part 60, Subpart RRR is required to comply only with the provisions of 40 CFR, Part 63, Subpart G.

k. 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).

l. This emissions unit is vented to a thermal oxidizer that also controls the emissions from emissions unit N006. All operational restrictions, monitoring,

record keeping, reporting and testing requirements for the thermal oxidizer are established in the terms and conditions for emissions unit N006. Therefore, no additional monitoring, record keeping, reporting and testing requirements are necessary for this emissions unit.

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. Emissions from this emissions unit shall be vented to a closed process vent. The closed process vent system shall meet the following control requirements:

i. maleic acid scrubber vent emissions shall be reduced by 99% utilizing a thermal oxidizer; and

ii. all process vent emissions not routed to a thermal oxidizer shall be combusted in a flare.

[OAC rule 3745-77-07(A)(1) and PTI No. P0107710]

(2) The closed vent system shall be operated at all times when emissions may be vented to it.

[OAC rule 3745-77-07(A)(1) and PTI No. P0107710]

(3) The permittee shall comply with the following operational requirements of 40 CFR, Part 63, Subparts A, F, G and H:

a. Flare operational restrictions [40 CFR 63.11(b)(4)]:

i. The flare shall be designed for and operated with no visible emissions as determined by "Method 22, 40 CFR, Part 60, Appendix A," except for periods notto exceed a total of five minutes during any 120 consecutive minutes.

ii. The flare shall be operated with either an electric arc ignition system or a pilot flame. If a pilot flame is employed, the flame shall be present at all times. If an electric arc ignition system is employed, the arcing shall pulse continually.

iii. The flare shall be steam-assisted.

iv. The net heating value of the gas being controlled in the flare shall meet the requirements of 40 CFR 63.11, as determined by the specified analytical methods.

v. The flare shall be designed and operated to meet the requirements for actual exit velocity, as determined by the method specified in 40CFR 63.11.

vi. The permittee shall ensure the flare is operated and maintained in conformance with its design.

vii. The flare shall be operated at all times when emissions may be vented to it.

[OAC rule 3745-77-07(A)(1) and PTI No. P0107710]

(4) At all times including periods of startup, shutdown, and malfunction as defined by a plan developed in accordance with 63.6(e)(3), emissions unit P801 shall be operated in accordance with good air pollution control practices.

[OAC rule 3745-77-07(A)(1) and PTI No. P0107710]

(5) The permittee shall comply with the heat exchanger system requirements by one of the methods specified in 63.104(b) or (c) unless one or more of the exemptions contained in 63.104(a)(1) through (6) are met.

[OAC rule 3745-77-07(A)(1) and PTI No. P0107710]

(6) See 40 CFR, Part 63, Subpart F (40 CFR 63.100 – 63.107)

[OAC rule 3745-77-07(A)(1) and 40 CFR, Part 63, Subpart F]

(7) See 40 CFR, Part 63, Subpart G (40 CFR 63.110 – 63.153)

[OAC rule 3745-77-07(A)(1) and 40 CFR, Part 63, Subpart G]

(8) See 40 CFR, Part 63, Subpart H (40 CFR 63.160 – 63.183)

[OAC rule 3745-77-07(A)(1) and 40 CFR, Part 63, Subpart H]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall comply with the following monitoring requirements:

a. Flare monitoring requirements:

i. The flare shall be monitored with a thermocouple or any other equivalent device to detect the presence of a pilot flame. If an electric arc ignition system is employed, the arcing shall be monitored to detect any failure. [40 CFR 63.114(a)(2)].

ii. 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 stacks serving this emissions unit including the flare. 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 location and 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.

If, during any weekly check, the permittee observes visible emissions from the flare, the permittee shall monitor the visible emissions for a minimum period of 10 minutes in accordance with the methods and procedures specified in 40 CFR, Part 60, Appendix A, Method 22 and record the results in an operations log.

b. LDAR monitoring requirements:

i. The permittee shall comply with the LDAR program monitoring requirements in accordance with 40 CFR 63.180. Monitoring shall comply with Method 21 of 40 CFR, Part 60, appendix A.

[OAC rule 3745-77-07(C)(1) and PTI No. P0107710]

(2) The permittee shall comply with the following record keeping requirements:

a. The permittee shall maintain records of whether or not the flow indicator specified in 40 CFR Part 63.114(d)(1) was operating and whether or not a diversion was detected [40 CFR 63.118(a)(3)].

b. The following information shall be recorded for the flare and kept in a readily accessible location:

i. detailed schematics, design specifications, and piping and instrumentation diagrams;

ii. the dates and descriptions of any changes in the design specification;

iii. a description of the parameter or parameters monitored to ensure that the flare is operated and maintained in conformance with its design, and an explanation of the reason for selecting such parameter or parameters;

iv. periods when the closed vent system and the flare are not operated as designed; and,

v. dates of start-ups and shutdowns of the closed vent system and flare.

c. The permittee shall maintain records that document operating time for the closed vent system, flare and monitoring equipment. The information shall be maintained in the company's files for a period of five years.

d. Flare record keeping requirements:

i. The permittee shall maintain records of all hourly periods when the flare pilot flame is absent [40 CFR 60.118(a)(1)].

e. The permittee shall comply with all LDAR program record keeping requirements in accordance with 40 CFR 63.181. All records and information required shall be maintained in a manner that can be readily accessed at the plant site.

f. 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 unless otherwise specified in this permit and/or required by either state or federal applicable regulations. 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.

[OAC rule 3745-77-07(C)(1) and PTI No. P0107710]

(3) See 40 CFR, Part 63, Subpart F (40 CFR 63.100 – 63.107)

[OAC rule 3745-77-07(C)(1) and 40 CFR, Part 63, Subpart F]

(4) See 40 CFR, Part 63, Subpart G (40 CFR 63.110 – 63.153)

[OAC rule 3745-77-07(C)(1) and 40 CFR, Part 63, Subpart G]

(5) See 40 CFR, Part 63, Subpart H (40 CFR 63.160 – 63.183)

[OAC rule 3745-77-07(C)(1) and 40 CFR, Part 63, Subpart H]

e) Reporting Requirements

(1) The permittee shall comply with the following quarterly reporting requirements:

a. the permittee shall submit the following reports for criteria pollutants:

i. exceedances of all monitored parameters;

ii. a log of the operating time for the closed vent system and flare;

iii. all periods of time when the flare was not operational; and

iv. all periods of time when required monitoring data was not collected.

b. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the stacks, including the flare, serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Ohio EPA, Northwest District Office by January 31 and July 31 of each year and shall cover the previous 6-month period.

c. The permittee shall submit quarterly reports which include all visible emission readings conducted pursuant to the methods and procedures specified in 40 CFR, Part 60, Appendix A, Method 22 as a result of the presence of visible emissions from the flare. These quarterly reports shall be submitted by January 31, April 30, July 31, and October 31 of each year and shall address the data obtained during the previous calendar quarter.

[OAC rule 3745-77-07(C)(1) and PTI No. P0107710]

(2) The permittee shall comply with the LDAR program reporting requirements in accordance with 40 CFR 63.182. The time periods or deadlines specified in 40 CFR 63.182 may be changed by mutual agreement between the permittee and the Ohio EPA in accordance with 40 CFR 63.9(i).

[OAC rule 3745-77-07(C)(1) and PTI No. P0107710]

(3) See 40 CFR, Part 63, Subpart F (40 CFR 63.100 – 63.107)

[OAC rule 3745-77-07(C)(1) and 40 CFR, Part 63, Subpart F]

(4) See 40 CFR, Part 63, Subpart G (40 CFR 63.110 – 63.153)

[OAC rule 3745-77-07(C)(1) and 40 CFR, Part 63, Subpart G]

(5) See 40 CFR, Part 63, Subpart H (40 CFR 63.160 – 63.183)

[OAC rule 3745-77-07(C)(1) and 40 CFR, Part 63, Subpart H]

f) Testing Requirements

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

a. <u>Emission Limitations:</u> Flare emissions - 0.04 lb PE/hr, 7.58 lbs VOC/hr, 4.85 lbs CO/hr, 0.89 lbNOx/hr, 0.48 lb SO2/hr

<u>Applicable Compliance Method:</u> Compliance shall be demonstrated by ensuring the flare operates at the proper efficiency through the monitoring and record keeping specified in sections d)(1)a. and d)(2)e.

The flare VOC emission limitation was developed by applying a 98% reduction efficiency for control with a flare to calculated engineering estimates of flare vent streams. The other flare emission limitations account for combustion emissions from the natural gas pilot flame. Pilot flame emissions were established by multiplying the emission factors for NOx, PE, CO and SO2 of 0.068 lbNOx/mmBtu, 0.003 lb PE/mmBtu, 0.37 lb CO/mmBtu and 0.0006 lb SO2/mmBtu by the maximum hourly heat input capacity (13 mmBtu/hr) of the pilot flame.

b. <u>Emission Limitations:</u> 0.18 ton PE/yr, 33.2 tons VOC/yr, 21.23 tons CO/yr, 3.90 tons NOx/yr, 2.10 tons SO2/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: No visible emissions from the flare [See c)(3)a.i.]

Applicable Compliance Method: The test method employed to demonstrate compliance with the emission limitation shall be Method 22, which is located in 40 CFR, Part 60, Appendix A.

d. Emission Limitation: Fugitive Process Emissions – 11.89 tons VOC/yr

Applicable Compliance Method: The process fugitive emission limitation was developed in accordance with the following equation:

PFE = [summation of NiSi x (hrs/yr) x (ton/2000 lbs)] for i=1 to n

where:

PFE = process fugitive VOC emissions, tons/yr

Ni = number of pipe fitting components

Si = SOCMI emission factor for pipe fitting component i(EPA-450/3-010, April 1982) for pipe fitting component i and/or site specific emission factors derived in accordance with U.S. EPA approved protocols. Compliance shall be demonstrated by calculations of annual emissions using the above equation or monitoring data from the LDAR program in conjunction with the U.S. EPA SOCMI correlations equation and the actual annual hours of operation.

[OAC rule 3745-77-07(C)(1) and PTI No. P0107710]

(2) See 40 CFR, Part 63, Subpart F (40 CFR 63.100 – 63.107)

[OAC rule 3745-77-07(C)(1) and 40 CFR, Part 63, Subpart F]

(3) See 40 CFR, Part 63, Subpart G (40 CFR 63.110 – 63.153)

[OAC rule 3745-77-07(C)(1) and 40 CFR, Part 63, Subpart G]

(4) See 40 CFR, Part 63, Subpart H (40 CFR 63.160 – 63.183)

[OAC rule 3745-77-07(C)(1) and 40 CFR, Part 63, Subpart H]

g) Miscellaneous Requirements

(1) None.

6. P905, Catalyst Handling System

Operations, Property and/or Equipment Description:

maleic anhydride reactor catalyst handling system; catalyst make-up transfers and catalyst drum handling.

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

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-17-07(A)	Visible particulate emissions (PE) shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.
b.	OAC rule 3745-17-07(B)	None [See b)(2)a.]
c.	OAC rule 3745-17-08(B)	None [See b)(2)b.]
d.	OAC rule 3745-17-11(B)	See b)(2)c.
e.	OAC rule 3745-31-05(A)(3) (PTI #03-11250, issued 10/28/04)	Stack emissions: 0.20 lb of particulate emissions (PE)/hr, 0.14 ton PE/yr Fugitive emissions: 0.05 ton of fugitive PE/yr Visible emissions of fugitive PE shall not exceed 20%, as a 3-minute average. The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A).

(2) Additional Terms and Conditions

a. This emissions unit is exempt from the visible emissions limitation specified in OAC rule 3745-17-07(B), pursuant to OAC rule 3745-17-07(B)(11)(e).

b. This facility is not located within an "Appendix A" area as identified in OAC rule 3745-17-08 (it is located in Allen County, but outside the city limits of Lima). Therefore, pursuant to OAC rule 3745-17-08(A), this emissions unit is exempt from the requirements of OAC rule 3745-17-08(B).

c. The emission limitation based on OAC rule 3745-17-11(B) is less stringent than the limitation established pursuant to OAC rule 3745-31-05.

d. The emissions from this emissions unit shall be vented to the cartridge filter at all times the emissions unit is in operation.

c) Operational Restrictions

(1) The maximum annual catalyst usage for this emissions unit shall not exceed 1,367 tons/year.

[OAC rule 3745-77-07(A)(1) and PTI #03-11250]

(2) The permittee shall maintain on site, a Preventive Maintenance Malfunction Abatement Plan (PMMAP) for this emissions unit. The PMMAP shall include a description of steps or procedures reasonably available to be taken order to prevent or minimize the emission of PE during the transfer of catalyst between the maleic anhydride reactor and the catalyst hopper.

[OAC rule 3745-77-07(A)(1) and PTI #03-11250]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall collect and record the amount of catalyst handled per year (from January to December), in tons.

[OAC rule 3745-77-07(C)(1) and PTI #03-11250]

(2) The permittee shall perform weekly checks, when the emissions unit is in operation and when the weather conditions allow, for any visible emissions of fugitive dust from the egress points (i.e., building windows, doors, roof monitors, etc.) 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 location and 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.

[OAC rule 3745-77-07(C)(1) and PTI #03-11250]

(3) In order to maintain compliance with the applicable emission limitation(s) contained in this permit, the acceptable range established for the pressure drop across the cartridge filter is between -14 to +9 pounds per square inch.

[OAC rule 3745-77-07(C)(1)]

(4) The permittee shall properly install, operate, and maintain equipment to continuously monitor the pressure drop, in pounds per square inch, across the cartridge filter when the controlled emissions unit is in operation, including periods of startup and shutdown. The permittee shall record the pressure drop across the cartridge filter on a weekly basis. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s), with any modifications deemed necessary by the permittee.

Whenever the monitored value for the pressure drop deviates from the limit or range established in accordance with this permit,the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:

a. the date and time the deviation began;

b. the magnitude of the deviation at that time;

c. the date the investigation was conducted;

d. the name(s) of the personnel who conducted the investigation; and

e. the findings and recommendations.

In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable range specified in this permit, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken:

a. a description of the corrective action;

b. the date corrective action was completed;

c. the date and time the deviation ended;

d. the total period of time (in minutes) during which there was a deviation;

e. the pressure drop readings immediately after the corrective action was implemented; and

f. the name(s) of the personnel who performed the work.

Investigation and records required by this paragraph do not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

This range or limit on the pressure drop across the cartridge filter is effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the Ohio EPA, Northwest District Office. The permittee may request revisions to the permitted limit or range for the pressure drop based upon information obtained during future testing that demonstrate compliance with the allowable particulate emission rate for the controlled emissions unit. In addition, approved revisions to the range or limit will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of a minor permit modification.

[OAC rule 3745-77-07(C)(1)]

e) Reporting Requirements

(1) The permittee shall submit annual reports that summarize the actual annual catalyst throughput for this emissions unit for the previous calendar year. These reports shall be submitted by January 31 of each year.

[OAC rule 3745-77-07(C)(1) and PTI #03-11250]

(2) The permittee shall submit semiannual written reports that (a) identify all days during which any visible emissions of fugitive dust were observed from the egress points (i.e., building windows, doors, roof monitors, etc.) 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.

[OAC rule 3745-77-07(C)(1) and PTI #03-11250]

(3) The permittee shall submit quarterly deviation (excursion) reports that identify the following:

a. each period of time (start time and date, and end time and date)when the pressure drop across the cartridge filter was outside of the acceptable range;

b. any period of time (start time and date, and end time and date)when the emissions unit(s) was/were in operation and the process emissions were not vented to the cartridge filter;

c. each incident of deviation described in “a” (above) where a prompt investigation was not conducted;

d. each incident of deviation described in “a” where prompt corrective action, that would bring the pressure drop into compliance with the acceptable range, was determined to be necessary and was not taken; and

e. each incident of deviation described in “a” where proper records were not maintained for the investigation and/or the corrective action(s),as identified in the monitoring and record keeping requirements of this permit.

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

[OAC rule 3745-15-03(B)(1)(a) and OAC rule 3745-15-03(C); and OAC rule 3745-77-07(C)(1)]

f) Testing Requirements

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

a. Emission Limitation: Visible PE shall not exceed 20% opacity, as a 6-minute average, except as provided by OAC rule 3745-17-07(A).

Applicable Compliance Method: If required, compliance with the visible PE limitation shall be determined in accordance with the methods specified in OAC rule 3745-17-03(B)(1).

[OAC rule 3745-77-07(C)(1) and PTI #03-11250]

b. Emission Limitation: 0.20 lb PE/hr (stack emissions)

Applicable Compliance Method: The hourly allowable PE limitation was established by applying a 99% removal efficiency for control with a cartridge filter to the calculated uncontrolled mass rate of emissions based on engineering estimates of 20 lbs/hr.

If required, compliance with the limitation shall be determined in accordance with the methods specified in Methods 1-5 of 40 CFR, Part 60, Appendix A.

[OAC rule 3745-77-07(C)(1) and PTI #03-11250]

c. Emission Limitation: 0.14 ton PE/yr (stack emissions)

Applicable Compliance Method: The annual emissions shall be determined by multiplying the total amount of catalyst loaded each year by a site-specific emission factor of 0.20 lb PE/ton of catalyst loaded, and then dividing by 2000 lbs/ton.

[OAC rule 3745-77-07(C)(1) and PTI #03-11250]

d. Emission Limitation: 0.05 ton PE/yr (fugitive emissions)

Applicable Compliance Method: The annual emission limitation was developed by multiplying a 0.08 lb PE/ton of catalyst handled emission factor (based on engineering estimates) by a maximum operational restriction of 1,367 tons per year.

Compliance shall be demonstrated by multiplying the above emission factor (0.08 lb PE/ton of catalyst handled) by the total annual amount (in tons) of catalyst handled [from the record keeping specified in Section d)(1)], and then dividing by 2,000 lbs/ton.

[OAC rule 3745-77-07(C)(1) and PTI #03-11250]

e. Emission Limitation: Visible emissions of fugitive PE shall not exceed 20%, as a 3-minute average.

Applicable Compliance Method: If required, the permittee shall demonstrate compliance pursuant to the methods specified in Method 9 of 40 CFR, Part. 60, Appendix A.

[OAC rule 3745-77-07(C)(1) and PTI #03-11250]

g) Miscellaneous Requirements

(1) None.