State of Ohio Environmental Protection Agency

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50 W. Town St., Suite 700
Columbus, Ohio 43215

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P.O. Box 1049
Columbus, OH 43216-1049

12/14/2009

Certified Mail

ROBYN SIGLER
Arclin
6175 AMERICAN RD.
TOLEDO, OH 43612

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

RE: FINAL AIR POLLUTION PERMIT-TO-INSTALL AND OPERATE
Facility ID: 0448011550
Permit Number: P0088404
Permit Type: Renewal
County: Lucas

Dear Permit Holder:

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

Ohio EPA maintains a document entitled "Frequently Asked Questions about the PTIO". The document can be downloaded from the DAPC Web page, www.epa.ohio.gov/dapc, from the "Permits" link. This document contains additional information related to your permit, such as what activities are covered under the PTIO, who has enforcement authority over the permit and Ohio EPA's authorization to inspect your facility and records. Please contact the Office of Compliance Assistance and Pollution Prevention at (614) 644-3469 if you need assistance.

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

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

If you have any questions regarding this permit, please contact the Toledo Department of Environmental Services. This permit has been posted to the Division of Air Pollution Control (DAPC) Web page www.epa.ohio.gov/dapc.

Sincerely,

Michael W. Ahern

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

Cc: TDES

Ted Strickland, Governor
Lee Fisher, Lieutenant Governor
Chris Korleski, Director

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State of Ohio Environmental Protection Agency
Division of Air Pollution Control

FINAL

Air Pollution Permit-to-Install and Operate

for

Arclin

Facility ID:	0448011550
Permit Number:	P0088404
Permit Type:	Renewal
Issued:	12/14/2009
Effective:	12/14/2009
Expiration:	12/14/2019

State of Ohio Environmental Protection Agency
Division of Air Pollution Control

Air Pollution Permit-to-Install and Operate

for

Arclin

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Authorization

Facility ID: 0448011550
Application Number(s): A0019531, A0019532, A0019533, A0019534, A0019535, A0019536, A0019537, A0019538, A0019539, A0019540, A0019541, A0019542, A0019543, A0019544, A0019545, A0019546, A0019547, A0019548, A0019549, A0019550, A0019551, A0019552, A0019553, A0019558
Permit Number: P0088404
Permit Description: Operating permit renewal for resin manufacturing processes, formaldehyde plant, and storage tank.
Permit Type: Renewal
Permit Fee: $0.00
Issue Date: 12/14/2009
Effective Date: 12/14/2009
Expiration Date: 12/14/2019
Permit Evaluation Report (PER) Annual Date: Jan 1 - Dec 31, Due Feb 15

This document constitutes issuance to:

Arclin
6175 AMERICAN RD.
Toledo, OH 43612

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

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

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

The above named entity is hereby granted this Permit-to-Install and Operate for the air contaminant source(s) (emissions unit(s)) listed in this section pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this permit does not constitute expressed or implied approval or agreement that, if constructed or modified in accordance with the plans included in the application, the described emissions unit(s) will operate in compliance with applicable State and federal laws and regulations.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Chris Korleski
Director

Authorization (continued)

Permit Number: P0088404
Permit Description: Operating permit renewal for resin manufacturing processes, formaldehyde plant, and storage tank.

Permits for the following emissions unit(s) or groups of emissions units are in this document as indicated below:

Emissions Unit ID:	**P003**
Company Equipment ID:	TF-1
Superseded Permit Number:	04-01445
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	**P801**
Company Equipment ID:	Leak Detection and Repair
Superseded Permit Number:	04-01378
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	**T059**
Company Equipment ID:	METHANOL TANK T-METH-2
Superseded Permit Number:	04-628
General Permit Category and Type:	Not Applicable

Group Name: X001

Emissions Unit ID:	**P001**
Company Equipment ID:	Kettle One
Superseded Permit Number:	04-01445
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	**P002**
Company Equipment ID:	Kettle Two
Superseded Permit Number:	04-01445
General Permit Category and Type:	Not Applicable

A. Standard Terms and Conditions

1. **What does this permit-to-install and operate ("PTIO") allow me to do?**

   This permit allows you to install and operate the emissions unit(s) identified in this PTIO. You must install and operate the unit(s) in accordance with the application you submitted and all the terms and conditions contained in this PTIO, including emission limits and those terms that ensure compliance with the emission limits (for example, operating, recordkeeping and monitoring requirements).

2. **Who is responsible for complying with this permit?**

   The person identified on the "Authorization" page, above, is responsible for complying with this permit until the permit is revoked, terminated, or transferred. "Person" means a person, firm, corporation, association, or partnership. The words "you," "your," or "permittee" refer to the "person" identified on the "Authorization" page above.

   The permit applies only to the emissions unit(s) identified in the permit. If you install or modify any other equipment that requires an air permit, you must apply for an additional PTIO(s) for these sources.

3. **What records must I keep under this permit?**

   You must keep all records required by this permit, including monitoring data, test results, strip-chart recordings, calibration data, maintenance records, and any other record required by this permit for five years from the date the record was created. You can keep these records electronically, provided they can be made available to Ohio EPA during an inspection at the facility. Failure to make requested records available to Ohio EPA upon request is a violation of this permit requirement.

4. **What are my permit fees and when do I pay them?**

   There are two fees associated with permitted air contaminant sources in Ohio:

   - PTIO fee. This one-time fee is based on a fee schedule in accordance with Ohio Revised Code (ORC) section 3745.11, or based on a time and materials charge for permit application review and permit processing if required by the Director.

     You will be sent an invoice for this fee after you receive this PTIO and payment is due within 30 days of the invoice date. You are required to pay the fee for this PTIO even if you do not install or modify your operations as authorized by this permit.

   - Annual emissions fee. Ohio EPA will assess a separate fee based on the total annual emissions from your facility. You self-report your emissions in accordance with Ohio Administrative Code (OAC) Chapter 3745-78. This fee assessed is based on a fee schedule in ORC section 3745.11 and funds Ohio EPA's permit compliance oversight activities. For facilities that are permitted as synthetic minor sources, the fee schedule is adjusted annually for inflation. Ohio EPA will notify you when it is time to report your emissions and to pay your annual emission fees.

5. **When does my PTIO expire, and when do I need to submit my renewal application?**

   This permit expires on the date identified at the beginning of this permit document (see "Authorization" page above) and you must submit a renewal application to renew the permit. Ohio EPA will send a renewal notice to you approximately six months prior to the expiration date of this permit. However, it is very important that you submit a complete renewal permit application (postmarked prior to expiration of this permit) even if you do not receive the renewal notice.

If a complete renewal application is submitted before the expiration date, Ohio EPA considers this a timely application for purposes of ORC section 119.06, and you are authorized to continue operating the emissions unit(s) covered by this permit beyond the expiration date of this permit until final action is taken by Ohio EPA on the renewal application.

6. **What happens to this permit if my project is delayed or I do not install or modify my source?**

   This PTIO expires 18 months after the issue date identified on the "Authorization" page above unless otherwise specified if you have not (1) started constructing the new or modified emission sources identified in this permit, or (2) entered into a binding contract to undertake such construction. This deadline can be extended by up to 12 months, provided you apply to Ohio EPA for this extension within a reasonable time before the 18-month period has ended and you can show good cause for any such extension.

7. **What reports must I submit under this permit?**

   An annual permit evaluation report (PER) is required in addition to any malfunction reporting required by OAC rule 3745-15-06 or other specific rule-based reporting requirement identified in this permit. Your PER due date is identified in the Authorization section of this permit.

8. **If I am required to obtain a Title V operating permit in the future, what happens to the operating provisions and PER obligations under this permit?**

   If you are required to obtain a Title V permit under OAC Chapter 3745-77 in the future, the permit-to-operate portion of this permit will be superseded by the issued Title V permit. From the effective date of the Title V permit forward, this PTIO will effectively become a PTI (permit-to-install) in accordance with OAC rule 3745-31-02(B). The following terms and conditions will no longer be applicable after issuance of the Title V permit: Section B, Term 1.b) and Section C, for each emissions unit, Term a)(2).

   The PER requirements in this permit remain effective until the date the Title V permit is issued and is effective, and cease to apply after the effective date of the Title V permit. The final PER obligation will cover operations up to the effective date of the Title V permit and must be submitted on or before the submission deadline identified in this permit on the last day prior to the effective date of the Title V permit.

9. **What are my obligations when I perform scheduled maintenance on air pollution control equipment?**

   You must perform scheduled maintenance of air pollution control equipment in accordance with OAC rule 3745-15-06(A). If scheduled maintenance requires shutting down or bypassing any air pollution control equipment, you must also shut down the emissions unit(s) served by the air pollution control equipment during maintenance, unless the conditions of OAC rule 3745-15-06(A)(3) are met. Any emissions that exceed permitted amount(s) under this permit (unless specifically exempted by rule) must be reported as deviations in the annual permit evaluation report (PER), including nonexempt excess emissions that occur during approved scheduled maintenance.

10. **Do I have to report malfunctions of emissions units or air pollution control equipment? If so, how must I report?**

    If you have a reportable malfunction of any emissions unit(s) or any associated air pollution control system, you must report this to the Toledo Department of Environmental Services in accordance with

OAC rule 3745-15-06(B). Malfunctions that must be reported are those that result in emissions that exceed permitted emission levels. It is your responsibility to evaluate control equipment breakdowns and operational upsets to determine if a reportable malfunction has occurred.

If you have a malfunction, but determine that it is not a reportable malfunction under OAC rule 3745-15-06(B), it is recommended that you maintain records associated with control equipment breakdown or process upsets. Although it is not a requirement of this permit, Ohio EPA recommends that you maintain records for non-reportable malfunctions.

11. Can Ohio EPA or my local air agency inspect the facility where the emission unit(s) is/are located?

Yes. Under Ohio law, the Director or his authorized representative may inspect the facility, conduct tests, examine records or reports to determine compliance with air pollution laws and regulations and the terms and conditions of this permit. You must provide, within a reasonable time, any information Ohio EPA requests either verbally or in writing.

12. What happens if one or more emissions units operated under this permit is/are shut down permanently?

Ohio EPA can terminate the permit terms associated with any permanently shut down emissions unit. "Shut down" means the emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31.

You should notify Ohio EPA of any emissions unit that is permanently shut down by submitting a certification that identifies the date on which the emissions unit was permanently shut down. The certification must be submitted by an authorized official from the facility. You cannot continue to operate an emission unit once the certification has been submitted to Ohio EPA by the authorized official.

You must comply with all recordkeeping and reporting for any permanently shut down emissions unit in accordance with the provisions of the permit, regulations or laws that were enforceable during the period of operation, such as the requirement to submit a PER, air fee emission report, or malfunction report. You must also keep all records relating to any permanently shutdown emissions unit, generated while the emissions unit was in operation, for at least five years from the date the record was generated.

Again, you cannot resume operation of any emissions unit certified by the authorized official as being permanently shut down without first applying for and obtaining a permit pursuant to OAC Chapter 3745-31.

13. Can I transfer this permit to a new owner or operator?

You can transfer this permit to a new owner or operator. If you transfer the permit, you must follow the procedures in OAC Chapter 3745-31, including notifying Ohio EPA or the local air agency of the change in ownership or operator. Any transferee of this permit must assume the responsibilities of the transferor permit holder.

14. Does compliance with this permit constitute compliance with OAC rule 3745-15-07, "air pollution nuisance"?

This permit and OAC rule 3745-15-07 prohibit operation of the air contaminant source(s) regulated under this permit in a manner that causes a nuisance. Ohio EPA can require additional controls or modification of the requirements of this permit through enforcement orders or judicial enforcement action if, upon investigation, Ohio EPA determines existing operations are causing a nuisance.

15. What happens if a portion of this permit is determined to be invalid?

If a portion of this permit is determined to be invalid, the remainder of the terms and conditions remain valid and enforceable. The exception is where the enforceability of terms and conditions are dependent on the term or condition that was declared invalid.

B. Facility-Wide Terms and Conditions

1. This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

   a) For the purpose of a permit-to-install document, the facility-wide terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.

      (1) None.

   b) For the purpose of a permit-to-operate document, the facility-wide terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.

      (1) None.

C. Emissions Unit Terms and Conditions

1. P003, TF-1

Operations, Property and/or Equipment Description:

Formaldehyde manufacturing plant with catalytic incinerator

a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

(1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.

a. None.

(2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.

a. None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3) (PTI 04-01445 issued 1/16/2007)	Carbon monoxide (CO) emissions shall not exceed 13.1 pounds per hour and 57.38 tons per year.
b.	OAC rule 3745-31-05(D) (PTI 04-01445 issued 1/16/2007)	Volatile organic compounds (VOC) emissions shall not exceed 0.11 pound per hour and 0.48 ton per year. Formaldehyde emissions shall not exceed 0.066 pound per hour and 0.289 ton per year. Methanol emissions shall not exceed 0.052 pound per hour and 0.224 ton per year.
c.	OAC rule 3745-31-05(A)(3)(a)(ii)	see b)(2)f.
c.	OAC rule 3745-21-09(DD)	see b)(2)e.
d.	OAC rule 3745-21-09(EE)	see b)(2)a.
e.	40 CFR Part 60 Subpart A	see b)(2)c.
f.	40 CFR Part 60 Subpart VV	see b)(2)d.
g.	40 CFR Part 60 Subpart III	see b)(2)b.

(2) Additional Terms and Conditions

a. The permittee shall vent all emissions to a catalytic incinerator that is designed and operated either:

i. To reduce the VOC emissions vented to it with an efficiency of at least 98 percent by weight; or

ii. To emit VOC at a concentration less than twenty parts per million by volume, dry basis.

b. The permittee shall vent all emissions to a catalytic incinerator that is designed and operated to reduce emissions of total organic compounds (TOC) (less methane & ethane) by 98 weight percent or to a TOC (minus methane and ethane) concentration of 20 ppm by volume, on a dry basis corrected to 3 percent oxygen, whichever is less stringent.

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

d. The permittee shall comply with all applicable requirements of 40 CFR Part 60, Subpart VV. The terms and conditions associated with this rule are contained in emissions unit P801 (Fugitive Emissions).

e. The permittee shall comply with all applicable requirements of OAC rule 3745-21-09(DD). The terms and conditions associated with this rule are contained in emissions unit P801 (Fugitive Emissions).

f. The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the VOC emissions from this air contaminant source since the calculated annual emission rate for VOC is less than ten tons per year taking into account the federally enforceable rule limit of 98% emission reduction under OAC rule 3745-21-09(EE).

c) Operational Restrictions

(1) The average temperature of the exhaust gases immediately before the catalyst bed, for any 3-hour block of time when the emissions unit is in operation, shall not be more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance. The average temperature difference across the catalyst bed, for any 3-hour block of time when the emissions unit is in operation, shall not be less than 80 percent of the average temperature difference during the most recent emission test that demonstrated the emissions unit was in compliance.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall operate and maintain a temperature monitoring device equipped with a continuous recorder and having an accuracy of ±1 percent of the temperature being monitored expressed in degrees Celsius or ±0.5 °C, whichever is greater. The temperature monitoring devices shall be installed in the gas stream immediately

upstream and downstream of the incinerator's catalyst bed. Units shall be in degrees Fahrenheit. The temperature monitors and recorder(s) shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee. The permittee shall collect and record the following information each day:

(a) All 3-hour blocks of time (when the emissions unit was in operation) during which the average temperature of the exhaust gases immediately before the catalyst bed was more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance;

(b) All 3-hour blocks of time (when the emissions unit was in operation) during which the average temperature difference across the catalyst bed was less than 80% of the average temperature difference during the most recent emission test that demonstrated the emissions unit was in compliance; and

(c) A log of the downtime for the capture (collection) system, control device and monitoring equipment, when the associated emissions unit was in operation.

(3) The permittee shall install, calibrate, maintain, and operate according to manufacturer's specifications a flow indicator that provides a record of vent stream flow to the incinerator at least once every hour. The flow indicator shall be installed in the vent stream at a point closest to the inlet of each incinerator and before being joined with any other vent stream.

e) Reporting Requirements

(1) The permittee shall submit quarterly summaries of the following records:

a. all 3-hour blocks of time (when the emissions unit(s) was/were in operation) during which the average temperature of the exhaust gases immediately before the catalyst bed was more than 50 degrees Fahrenheit below the average temperature established during the most recent performance test that demonstrated the emissions unit(s) was/were in compliance;

b. all 3-hour blocks of time (when the emissions unit(s) was/were in operation) during which the average temperature difference across the catalyst bed was less than 80 percent of the average temperature difference established during the most recent performance test that demonstrated the emissions unit(s) was/were in compliance;

c. any records of downtime (date and length of time) for the capture (collection) system, the catalytic incinerator, and/or the monitoring equipment when the emissions unit(s) was/were in operation; and

d. a log of the operating time for the capture system, catalytic incinerator, monitoring equipment, and the emissions unit(s).

These quarterly reports shall be submitted to the City of Toledo, Division of Environmental Services by April 30, July 31, October 31 and January 31, and shall cover the records for the previous calendar quarter.

(2) The permittee shall submit quarterly deviation reports that identify all periods of time during which the vent stream was diverted from the incinerator or had no flow rate while the process unit was in operation.

The permittee shall submit to the City of Toledo, Division of Environmental Services quarterly summaries of these records. The quarterly reports shall be submitted by April 30, July 31, October 31 and January 31, and shall cover the records for the previous calendar quarter.

If no deviations occur in the calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during the preceding 3-month period.

(3) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve-months for each air contaminant source identified in this permit.

f) Testing Requirements

(1) Compliance with the emission limitations in b)(1) and b)(2) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitation:

VOC emissions shall not exceed 0.11 pound per hour

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with the methods and procedures specified in OAC rule 3745-21-10(C). Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

b. Emission Limitation:

VOC emissions shall not exceed 0.48 ton per year

Applicable Compliance Method:

Compliance may be demonstrated by the following one-time calculation. Multiply the short-term allowable VOC emission limitation (0.11 lb/hr) by the maximum annual hours of operation (8,760 hours), and divide by 2,000 pounds per ton.

c. Emission Limitation:

CO emissions shall not exceed 13.1 pounds per hour

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1

through 4 and 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. Emission Limitation:

CO emissions shall not exceed 57.38 tons per year

Applicable Compliance Method:

Compliance may be demonstrated by the following one-time calculation. Multiply the short-term allowable CO emission limitation (13.1 lbs/hr) by the maximum annual hours of operation (8,760 hours), and then divide by 2,000 pounds per ton.

e. Emission Limitation:

Formaldehyde emissions shall not exceed 0.066 pound per hour

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Methods 1 through 4 and 18 of 40 CFR Part 60, Appendix A. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

f. Emission Limitation:

Formaldehyde emissions shall not exceed 0.289 ton per year

Applicable Compliance Method:

Compliance may be demonstrated by the following one-time calculation. Multiply the short-term allowable formaldehyde emission limitation (0.066 lb/hr) by the maximum annual hours of operation (8,760 hours), and then divide by 2,000 pounds per ton.

g. Emission Limitation:

Methanol emissions shall not exceed 0.052 pound per hour

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Method 308 of 40 CFR Part 63, Appendix A. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

h. Emission Limitation:

Methanol emissions shall not exceed 0.224 ton per year

Applicable Compliance Method:

Compliance may be demonstrated by the following one-time calculation. Multiply the short-term allowable methanol emission limitation (0.052 lb/hr) by the maximum annual hours of operation (8,760 hours), and then divide by 2,000 pounds per ton.

i. Emission Limitation:

The permittee shall vent all emissions to a catalytic incinerator that is designed and operated to reduce emissions of total organic compounds (TOC) (less methane & ethane) by 98 weight percent or to a TOC (minus methane and ethane) concentration of 20 ppm by volume, on a dry basis corrected to 3 percent oxygen, whichever is less stringent.

Applicable Compliance Method:

The methods and procedures of 40 CFR 60.614 shall be used to demonstrate compliance. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

j. Emission Limitation:

The process vent stream shall be vented to a combustion device that is designed and operated either: to reduce the VOC emissions vented to it with an efficiency of at least 98 percent by weight; or to emit VOC at a concentration less than twenty parts per million by volume, dry basis

Applicable Compliance Method:

The methods and procedures specified in OAC rule 3745-21-10(C) shall be used to demonstrate compliance with this emissions limitation.

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

a. The emission testing shall be conducted approximately 5 years after permit issuance and within 6 months prior to permit renewal.

b. The emission testing shall be conducted to demonstrate compliance with the emission limitation for TOC (less methane & ethane) in b)(2)b.

c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):

The methods and procedures of 40 CFR 60.614 shall be used to demonstrate compliance.

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

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

e. The permittee shall record the temperature immediately upstream and downstream of the incinerator's catalyst bed during each test run. The permittee shall determine the 3-hour average temperature immediately upstream and the 3-hour average temperature immediately downstream of the catalyst bed, and include the 3-hour average temperature values in the written test report.

f. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. 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 District Office's or local air agency's refusal to accept the results of the emission test(s).

g. Personnel from the appropriate Ohio EPA District Office or local air agency 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.

h. 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 appropriate Ohio EPA District Office or local air agency 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 appropriate Ohio EPA District Office or local air agency.

g) Miscellaneous Requirements

(1) None.

2. P801, Leak Detection and Repair

Operations, Property and/or Equipment Description:

Facility-wide fugitive emissions from equipment leaks

a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

(1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.

a. None.

(2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.

a. None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3) (PTI 04-424 issued 3/9/1988)	Fugitive volatile organic compounds (VOC) emissions shall not exceed 3.69 pounds per hour and 16.17 tons per year. see b)(2)a.
b.	OAC rule 3745-31-05(D) (PTI 04-01378 issued 10/12/2006)	Fugitive formaldehyde emissions shall not exceed 1.52 pounds per hour and 6.67 tons per year; Fugitive methanol emissions shall not exceed 1.56 pounds per hour and 6.83 tons per year; and Fugitive phenol emissions shall not exceed 0.61 pound per hour and 2.67 tons per year.
c.	OAC rule 3745-21-09(DD)	see b)(2)b.
d.	40 CFR Part 60 Subpart A	see b)(2)c.
e.	40 CFR Part 60 Subpart VV	see b)(2)d.

(2) Additional Terms and Conditions

a. The requirements of this rule include compliance with the requirements of OAC rule 3745-21-09(DD) and 40 CFR Part 60, Subpart VV.

b. The permittee shall comply with all applicable requirements of OAC rule 3745-21-09(DD). In accordance with OAC rule 3745-21-09(DD)(1), this facility produces urea-formaldehyde resin and formaldehyde which are chemicals listed in Appendix A of this rule.

The permittee may apply to the director for determination of an equivalent requirement in lieu of the requirements specified in paragraphs (DD)(2) to (DD)(10) of this rule. The determination of equivalence will be evaluated by the guidelines specified in OAC rule 3745-21-09(DD)(16)(b) to (DD)(16)(d). If the director approves an equivalent requirement for a process unit, said requirement shall be specified in the special terms and conditions of an operating permit or variance issued by the director for the process unit.

c. 40 CFR Part 60 subpart A provides applicability provisions, definitions, and other general provisions that are pertinent to emissions units affected by 40 CFR Part 60. Per 40 CFR 60.486(k), the provisions of 40 CFR 60.7(b) and (d) do not apply to this emissions unit.

d. The permittee shall comply with all applicable requirements of 40 CFR Part 60, Subpart VV. The provisions of 40 CFR Part 60 Subpart VV apply to affected facilities in the synthetic organic chemicals manufacturing industry as defined under 40 CFR 60.481. The process unit for production of formaldehyde is subject to the requirements of this rule. For purposes of this rule, the process unit also includes raw material, intermediate product and final product storage tanks.

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) A leak detection and repair program for equipment in the process unit shall be developed and implemented in accordance with the following requirements. Process units which produce urea-formaldehyde or formaldehyde are required to comply with these requirements.

a. A leak detection and repair program for equipment in the process unit shall be developed and implemented in accordance with the requirements specified in d)(1)b. to d)(1)l. and e)(1).

b. Except as otherwise provided in d)(1)c. and d)(1)d., equipment shall be monitored for leaks in accordance with the method specified in paragraph (F) of rule 3745-21-10 of the Administrative Code, as follows:

i. Any pump in light liquid service shall be monitored monthly.

For purposes of OAC rule 3745-21-09(DD), "in light liquid service" means that the piece of equipment contains or contacts process fluid that meets all of the following conditions:

(a) The process fluid is a liquid at operating conditions.

(b) The vapor pressure of one or more of the pure components within the process fluid is greater than 0.04 pound per square inch at sixty-eight degrees Fahrenheit. Vapor pressures may be obtained from standard reference texts or may be determined by the method in ASTM D2879-70.

(c) The total concentration of the pure components having a vapor pressure greater than 0.04 pound per square inch at sixty-eight degrees Fahrenheit is equal to or greater than twenty per cent by weight.

ii. Any valve in gas/vapor service or in light liquid service shall be monitored monthly, except that quarterly monitoring may be employed anytime after no leaks are detected during two consecutive months. The quarterly monitoring shall begin with the next calendar quarter following the two consecutive months of no detected leaks and shall be conducted in the first month of each calendar quarter. The quarterly monitoring may continue until a leak is detected, at which time monthly monitoring shall be employed again.

For purposes of OAC rule 3745-21-09(DD), "in gas/vapor service" means that the piece of equipment contains or contacts process fluid that is in the gaseous state at the operating conditions.

iii. Any of the following equipment shall be monitored within five calendar days after evidence of a leak or potential leak from the equipment by visual, audible, olfactory, or other detection method:

(a) Any pump in heavy liquid service;

(b) Any valve in heavy liquid service;

(c) Any pressure relief device in light liquid service or in heavy liquid service; and

(d) Any flange or other connector.

For purposes of OAC rule 3745-21-09(DD), "in heavy liquid service" means that the piece of equipment is not in gas/vapor service or in light liquid service.

iv. Any equipment in which a leak is detected as described in d)(1)g. shall be monitored within five working days after each attempt to repair, unless the permittee believes that the equipment was not successfully repaired.

c. For any valve in gas/vapor service or in light liquid service, an alternative monitoring schedule may be employed in lieu of the monitoring schedule specified in d)(1)b.ii. as follows:

i. The valve is designated as unsafe to monitor and is monitored as frequently as practical during safe to monitor times, provided the following conditions are met:

(a) The permittee of the valve demonstrates that the valve is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of monitoring on a monthly basis.

(b) The permittee of the valve adheres to a written plan that requires monitoring of the valve as frequently as practical during safe to monitor times.

ii. The valve is subject to an alternative monitoring schedule based on a skip period as specified in d)(11).

d. Excluded from the monitoring requirements of d)(1)b. are the following equipment:

i. Any pump that has no externally actuated shaft penetrating the pump housing and that is designated for no detectable emissions as provided in d)(6);

ii. Any pump that is equipped with a dual mechanical seal which has a barrier fluid system and sensor that comply with the requirements specified in d)(7);

iii. Any pump that is equipped with a closed vent system capable of capturing and transporting any leakage from the pump seal to control equipment, provided the closed vent system and the control equipment comply with the requirements specified in d)(8) and d)(9);

iv. Any valve that has no externally actuated stem penetrating the valve and that is designated for no detectable emissions as provided in d)(6); and

v. Any valve that is subject to the alternative monitoring standard for valves based on the percentage of valves leaking as provided in d)(11).

e. Any pump in light liquid service shall be checked by visual inspection each calendar week for indications of liquids dripping from the pump seal, unless the pump is equipped with a closed vent system capable of transporting any leakage from the pump seal to control equipment, and the closed vent system and control equipment comply with the requirements specified in paragraphs d)(8) and d)(9).

f. Any sensor employed pursuant to d)(1)d.ii or d)(2) shall be checked daily, unless the sensor is equipped with an audible alarm.

g. A leak is detected:

i. When a concentration of ten thousand ppmv or greater is measured from a potential leak interface of any equipment that is monitored for leaks using the method in OAC rule 3745-21-10(F);

ii. When there is an indication of liquids dripping from the seal of a pump in light liquid service; or

iii. When a sensor employed pursuant to d)(1)d.ii or d)(2) indicates failure of the seal system, the barrier fluid system, or both.

h. When a leak is detected as described in d)(1)g., the following procedures shall be followed:

i. A weatherproof and readily visible identification tag, marked with the equipment identification number, is immediately attached to the leaking equipment.

ii. A record of the leak and any attempt to repair the leak is entered into the leak repair log kept pursuant to d)(1)k.

iii. The identification tag attached to the leaking equipment, other than a valve that is monitored pursuant to d)(1)b.ii., may be removed after the leaking equipment is repaired.

iv. The identification tag attached to a leaking valve that is monitored pursuant to d)(1)b.ii. may be removed after the leaking valve is repaired, monitored for leaks for two consecutive months as specified in d)(1)b.ii., and found to have no detected leaks during those two consecutive months.

i. When a leak is detected as described in d)(1)g., the leaking equipment shall be repaired as soon as practicable, but no later than fifteen calendar days after the leak is detected, except for a delay of repair as provided in d)(10). Leaking equipment shall be deemed repaired if the maximum concentration measured pursuant to d)(1)b.iv. is less than ten thousand ppmv.

j. When a leak is detected as described in d)(1)g., a first attempt at repair shall be made no later than five calendar days after the leak is detected; and the first attempts at repair shall include, but are not limited to, the following best practices where practicable:

i. Tightening of bonnet bolts;

ii. Replacement of bonnet bolts;

iii. Tightening of packing gland nuts; and

iv. Injection of lubricant into lubricated packing.

k. When a leak is detected as described in d)(1)g., the following information shall be recorded in a leak repair log:

i. The identification number of the leaking equipment and, for leaks based on monitoring, the identification numbers of the leak detection instrument and its operator;

ii. The basis for the detection of the leak; for example, monitoring, visual inspection, or sensor;

iii. The date on which the leak was detected and the date of each attempt to repair the leaking equipment;

iv. The methods of repair applied in each attempt to repair the leaking equipment;

v. One of the following entries within five working days after each attempt to repair the leaking equipment:

(a) "Not monitored," denoting the leaking equipment was presumed to still be leaking and it was not monitored; or

(b) If the leaking equipment was monitored with a leak detection instrument, the maximum concentration that was measured as follows:

(i) The actual reading in ppmv; or

(ii) "Below 10,000," denoting less than ten thousand ppmv; or

(iii) "Above 10,000," denoting not less than ten thousand ppmv;

vi. If the leak is not repaired within fifteen calendar days after the date on which it was detected:

(a) "Repair delayed" and the reason for the delay;

(b) If repair is being delayed until the next process unit shutdown due to technical infeasibility of repair, the signature of the permittee whose decision it was that repair is technically infeasible without a process unit shutdown;

(c) The expected date of successful repair of the leak;

(d) The dates of process unit shutdowns that occur while the leaking equipment is unrepaired; and

vii. The date on which the leak was successfully repaired.

l. The leak repair log shall be retained by the permittee of the process unit in a readily accessible location for a minimum of two years after the date on which the record was made.

[OAC rule 3745-21-09(DD)(2)]

(2) Any compressor required to comply with OAC rule 3745-21-09(DD) shall be equipped with a seal that has a barrier fluid system and sensor which comply with the requirements specified in d)(7).

a. Excluded from the requirements of d)(2) is any compressor that is designated for no detectable emissions as provided in d)(6).

b. Excluded from the requirements of d)(2) is any compressor that is equipped with a closed vent system capable of capturing and transporting any leakage from the compressor seal to control equipment, provided the closed vent system and the control equipment comply with the requirements specified in d)(8) and d)(9).

[OAC rule 3745-21-09(DD)(3)(a) - (d)]

(3) Any pressure relief device in gas/vapor service required to comply with OAC rule 3745-21-09(DD) shall, except during pressure releases, be operated with no detectable emissions, as indicated by an instrument reading of less than five hundred ppmv above background, as measured by the method specified in OAC rule 3745-21-10(F).

a. After each pressure release, the pressure relief device shall be returned to a condition of no detectable emissions as soon as practicable, but no later than five calendar days after the pressure release, except for a delay of repair as provided in d)(10).

b. No later than five calendar days after a pressure release, the pressure relief device shall be tested to confirm the condition of no detectable emissions in accordance with the method specified in OAC rule 3745-21-10(F).

c. Excluded from the requirements of paragraph d)(3) and d)(3)b. is any pressure relief device that is equipped with a closed vent system capable of capturing and transporting leakage through the pressure relief device to control equipment, provided the closed vent system and control equipment comply with the requirements specified in d)(8) and d)(9).

[OAC rule 3745-21-09(DD)(4)(a) - (e)]

(4) Any sampling connection system required to comply with OAC rule 3745-21-09(DD) shall be equipped with a closed purge system or a closed vent system that meets one of the following requirements:

a. The purged process fluid is returned directly to the process line with zero VOC emissions to the ambient air;

b. The purged process fluid is collected and recycled with zero VOC emissions to the ambient air; or

c. The closed purge system or closed vent system is designed and operated to capture and transport all the purged process fluid to control equipment that meet the requirements specified in d)(9).

Excluded from the requirements of d)(4) is any sampling connection system that is an in-situ sampling system.

[OAC rule 3745-21-09(DD)(5)(a) -(c)]

(5) Any open-ended valve or line required to comply with OAC rule 3745-21-09(DD) shall be equipped with a cap, blind flange, plug, or second valve and shall comply with the following requirements.

a. If equipped with a second valve, the open-ended valve or line shall be operated in a manner such that the valve on the process fluid end is closed before the second valve is closed.

b. Except during operations requiring the flow of process fluid through the open-ended valve or line, the cap, blind flange, plug, or second valve shall seal the open end of the open-ended valve or line.

c. If a double block and bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves, but shall comply with d)(5)b. at all other times.

[OAC rule 3745-21-09(DD)(6)(a) - (d)]

(6) Any equipment (pump, valve, or compressor) designated for no detectable emissions pursuant to d)(1)d.i., d)(1)d.iv. or d)(2)a. shall comply with the following requirements.

a. The equipment shall be operated with no detectable emissions as indicated by an instrument reading of less than five hundred ppmv above background as measured by OAC rule 3745-21-10(F).

b. The equipment shall be tested for compliance with d)(6)a. initially upon designation and annually.

c. The designation of the equipment shall be signed by the permittee of the equipment in the log kept pursuant to d)(13)a.

[OAC rule 3745-21-09(DD)(7)(a) - (d)]

(7) Barrier fluid systems and sensors for pumps and compressors

a. When a pump or compressor is equipped with a seal that has a barrier fluid system and sensor which are employed to meet the requirements of d)(1)d.ii., or d)(2), the requirements of d)(7)b. to d. shall be met.

b. The barrier fluid system shall meet one of the following conditions:

i. The barrier fluid system is operated with a barrier fluid at a pressure that is at all times greater than the stuffing box pressure of the pump or compressor.

ii. The barrier fluid system is equipped with a barrier fluid degassing reservoir that is connected by a closed vent system to control equipment and the closed vent system and control equipment comply with the requirements specified in d)(8) and d)(9).

iii. The barrier fluid system is equipped with a system that purges the barrier fluid into a process stream with zero VOC emissions to the ambient air.

c. The barrier fluid system shall be in heavy liquid service or shall not be in VOC service.

d. The barrier fluid system shall be equipped with a sensor that will detect failure of the seal system, the barrier fluid system, or both based on criteria determined by the permittee from design considerations and operating experience.

[OAC rule 3745-21-09(DD)(8)(a) - (d)]

(8) Any closed vent system that is used to comply with the requirements of d)(1)d.iii., d)(2)b., d)(3)c., d)(4)c., d)(7)b.ii., or d)(10)c.ii. shall comply with the following requirements.

a. The closed vent system shall be designed and operated with no detectable emissions, as indicated by an instrument reading of less than five hundred ppmv above background, as measured by the method specified in OAC rule 3745-21-10(F).

b. The closed vent system shall be tested for compliance with d)(8)a. initially and annually.

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

[OAC rule 3745-21-09(DD)(9)(a) - (d)]

(9) Any control equipment that is used to comply with the requirements of d)(1)d.iii., d)(2)b., d)(3)c., or d)(7)b.ii. shall comply with the following requirements.

a. If the control equipment is a vapor recovery system, it shall be designed and operated to recover VOC emissions vented to it with an efficiency of at least ninety-five per cent by weight.

b. If the control equipment is an enclosed combustion device, it shall be designed and operated to reduce the VOC emissions vented to it with an efficiency of at least ninety-five per cent by weight, or to provide a minimum residence time of 0.75 second at a minimum temperature of fifteen hundred degrees Fahrenheit.

c. The permittee of the control equipment shall monitor the control equipment to ensure that it is operated and maintained in conformance with its design.

d. The control equipment shall be operated at all times when emissions may be vented to it.

[OAC rule 3745-21-09(DD)(10)(a) - (c)]

(10) A delay of repair that is employed pursuant to d)(1)i. or d)(3)a. shall be allowed only as provided in the following paragraphs.

a. A delay of repair shall be allowed if the repair is technically infeasible without a process unit shutdown. However, the repair shall occur before the end of the next process unit shutdown.

b. A delay of repair shall be allowed for a piece of equipment that is isolated from the process and that does not remain in VOC service (for example, isolated from the process and properly purged).

c. A delay of repair for a valve shall be allowed if:

i. The permittee demonstrates that the emission of purged material resulting from immediate repair is greater than the emission likely to result from delay of repair; and

ii. When repair procedures are effected, the purged material is collected and destroyed or recovered in control equipment that meets the requirements specified in d)(9).

d. A delay of repair for a pump shall be allowed if:

i. The repair requires the use of a dual mechanical seal system and associated barrier fluid system; and

ii. The repair is completed as soon as practicable, but no later than six months after the leak was detected.

e. A delay of repair beyond a process unit shutdown shall be allowed for a valve if a valve assembly replacement is necessary during the process unit shutdown, valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. A delay of repair beyond the next process unit shutdown shall not be allowed for that valve unless the next process unit shutdown occurs sooner than six months after the first process unit shutdown.

[OAC rule 3745-21-09(DD)(11)]

(11) The permittee may elect to implement an alternative monitoring schedule in lieu of the monitoring requirements specified in d)(1)b.ii., as provided in d)(1)d.v. The alternative monitoring schedule shall be based on skipping quarterly monitoring periods provided the percentage of valves leaking is no more than 2.0. If the permittee elects to implement an alternative monitoring schedule, then the permittee shall comply with the requirements specified in the following paragraphs.

a. The permittee shall notify the Toledo Division of Environmental Services prior to implementing this alternative monitoring schedule. Such notification must identify which valves will be subject to this alternative monitoring schedule and which work practice within d)(11)d. will be implemented. Any valve in vacuum service, in heavy liquid service, or not in VOC service, shall be excluded from this alternative monitoring schedule.

b. Any valve subject to this alternative monitoring schedule shall comply initially with the monitoring requirements specified in d)(1)b.ii.

c. Any valve subject to this alternative monitoring schedule shall continue to be subject to the requirements specified in d)(1)g. to d)(1)l. and e)(1).

d. One of the following two alternative work practices for skipping monitoring periods may be implemented:

i. After two consecutive quarterly leak detection periods with the percentage of valves leaking equal to or less than 2.0, a monitoring program may begin in which the first quarter of every two consecutive quarterly leak detection periods is skipped.

ii. After five consecutive quarterly leak detection periods with the percentage of valves leaking equal to or less than 2.0, a monitoring program may begin in which the first three quarters of every four consecutive quarterly periods is skipped.

e. If the percentage of valves leaking is greater than 2.0, the permittee shall comply with the monitoring requirements as specified in d)(1)b.ii., but may again elect to use this alternative monitoring schedule.

f. The percentage of valves leaking shall be determined for the valves subject to this alternative monitoring schedule as the sum of the number of those valves found leaking during any portion of the current monitoring period and the number of those valves found leaking during a previous monitoring period for which repair has been delayed during the current monitoring period, divided by the total number of valves, and multiplied by one hundred.

g. The following information pertaining to valves subject to this alternative monitoring schedule shall be recorded in a log that is kept in a readily accessible location:

i. A schedule of monitoring; and

ii. The percentage of valves leaking during each monitoring period.

[OAC rule 3745-21-09(DD)(12)]

(12) The permittee may elect to implement an alternative monitoring standard in lieu of the monitoring requirements specified in, d)(1)b.ii., as provided in d)(1)d.v. The alternative monitoring standard shall be based on maintaining the percentage of valves leaking at 2.0 or less. Any permittee who elects to implement an alternative monitoring standard shall comply with the following requirements.

a. The permittee shall notify the Toledo Division of Environmental Services prior to implementing this alternative monitoring standard.

b. All valves in gas/vapor service or in light liquid service in the process unit shall be subject to this alternative monitoring standard, except for those valves which are designated as unsafe to monitor as provided in paragraph d)(1)c.i., those valves not in VOC service, and those valves in vacuum service.

c. The percentage of valves leaking, as determined in accordance with d)(12)e., shall not exceed 2.0. If the percentage of valves leaking is greater than 2.0, the permittee shall comply with the monitoring requirements as specified in d)(1)b.ii., but may again elect to use this alternative monitoring standard.

d. All valves subject to this alternative monitoring standard shall be tested for compliance with d)(12)c. initially upon implementation and annually.

e. A compliance test shall be conducted in the following manner:

i. All valves subject to this alternative monitoring standard shall be monitored for leaks within a one-week period by the method specified in OAC rule 3745-21-10(F).

ii. If an instrument reading of ten thousand ppmv or greater is measured, a leak is detected.

iii. The percentage of valves leaking shall be determined as the number of valves for which a leak is detected, divided by the number of valves monitored, and multiplied by one hundred.

f. When a leak is detected as described in d)(12)e.ii., the leaking valve shall be repaired in accordance d)(1)h. and d)(1)i.

[OAC rule 3745-21-09(DD)(13)]

(13) The permittee shall comply with the following recordkeeping requirements. The permittee may use one recordkeeping system for more than one process unit to comply with the recordkeeping requirements, provided the system identifies each record by each process unit.

a. The following information shall be recorded in a log that is kept in a readily accessible location:

i. A list of identification numbers for equipment subject to the requirements of d)(1) through d)(9);

ii. A list of identification numbers for equipment designated for no detectable emissions as provided in d)(6), and a signature of the permittee authorizing such designation;

iii. A list of identification numbers for pressure relief devices subject to d)(3);

iv. A list of identification numbers for closed vent systems subject to d)(8); and

v. For compliance tests required under paragraphs d)(3)b., d)(6)b., and d)(8)b.:

(a) The date of each compliance test;

(b) The background level measured during each compliance test; and

(c) The maximum instrument reading measured at the equipment during each compliance test.

b. The following information pertaining to valves subject to an alternative monitoring schedule, as provided in d)(1)c., shall be recorded in a log that is kept in a readily accessible location:

i. A list of identification numbers for valves designated as unsafe to monitor, an explanation for each valve stating why the valve is unsafe to monitor, and the plan for monitoring each valve;

ii. A list of identification numbers for valves subject to the alternative monitoring schedule based on a skip period, a schedule for monitoring, and the percentage of valves leaking during each monitoring period.

c. The following information pertaining to closed vent systems and control equipment described in d)(8) and d)(9) shall be recorded 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 specifications;

iii. Periods when the closed vent systems and control equipment are not operated as designed, including periods when a flare pilot light does not have a flame; and

iv. Dates of startups and shutdowns of the closed vent systems and control equipment.

d. The following information pertaining to barrier fluid systems and sensors described in d)(7) shall be recorded in a log that is kept in a readily accessible location:

i. A list of identification numbers of pumps and compressors equipped with such barrier fluid systems and sensors;

ii. The criteria that indicate failure of the seal system, the barrier fluid system, or both, as required in d)(7)d. and an explanation of the criteria; and

iii. Any changes to such criteria and the reasons for the changes.

e. The following information for use in determining an exemption for the process unit as provided in d)(15) shall be recorded in a log that is kept in a readily accessible location:

i. A statement listing the feed and raw materials and products from the process unit and an analysis demonstrating whether these chemicals are heavy liquids or beverage alcohols; or

ii. An analysis demonstrating that no equipment is in VOC service.

f. The following information pertaining to specific equipment that are exempt as provided in d)(14) shall be recorded in a log that is kept in a readily accessible location:

i. A list of identification numbers of equipment in vacuum service; and

ii. A list of identification numbers of equipment not in VOC service and the information or data used to demonstrate that the equipment is not in VOC service.

[OAC rule 3745-21-09(DD)(14)]

(14) Exempted from the requirements of d)(1) are the following equipment:

a. Any equipment not in VOC service, as determined in accordance with paragraph (O)(2) of rule 3745-21-10 of the Administrative Code; and

For purposes of OAC rule 3745-21-09(DD), "In VOC service" means that the piece of equipment contains or contacts a process fluid that is at least ten per cent VOC by weight.

b. Any equipment in vacuum service (operating at an internal pressure that is at least 0.7 pound per square inch below ambient pressure).

[OAC rule 3745-21-09(DD)(17)(b)(i) and (ii)]

(15) Exempted from the requirements of d)(1) are the following process units:

a. Any process unit that produces only heavy liquid chemicals from heavy liquid feed or raw materials;

"In heavy liquid service" means that the piece of equipment is not in gas/vapor service or in light liquid service.

b. Any process unit that has no equipment in VOC service as determined in accordance with paragraph (O)(2) of rule 3745-21-10 of the Administrative Code.

[OAC rule 3745-21-09(DD) (17)(a)(ii) and (iv)]

(16) § 60.482-1 Standards: General.

a. Each permittee subject to the provisions of 40 CFR Part 60 Subpart VV shall demonstrate compliance with the requirements of §§60.482–1 through 60.482–10 or §60.480(e) [d)(16 through d)(25)] for all equipment within 180 days of initial startup. The process unit for production of formaldehyde is subject to the requirements of this rule. For purposes of this rule, the process unit also includes raw material, intermediate product and final product storage tanks.

b. Compliance with §§60.482–1 to 60.482–10 [d)(16 through d)(25)] will be determined by review of records and reports, review of performance test results, and inspection using the methods and procedures specified in §60.485 [d)(29)].

i. A permittee may request a determination of equivalence of a means of emission limitation to the requirements of §§60.482–2, 60.482–3, 60.482–5, 60.482–6, 60.482–7, 60.482–8, and 60.482–10 [d)(17, d)(18), d)(20), d)(21), d)(22), d)(23), and d)(25)] as provided in §60.484 [d)(28)].

ii. If the Administrator of U.S. EPA makes a determination that a means of emission limitation is at least equivalent to the requirements of §§60.482–2, 60.482–3, 60.482–5, 60.482–6, 60.482–7, 60.482–8, or 60.482–10 [d)(17, d)(18), d)(20), d)(21), d)(22), d)(23), and d)(25)], a permittee shall comply with the requirements of that determination.

c. Equipment that is in vacuum service is excluded from the requirements of §§60.482–2 to 60.482–10 [d)(17 to d)(25)] if it is identified as required in §60.486(e)(5) [d)(30)e.v.]. For purposes of 40 CFR Part 60 Subpart VV, "in vacuum service" means that equipment is operating at an internal pressure which is at least 5 kilopascals (kPa)(0.7 psia) below ambient pressure.

d. Equipment that a permittee designates as being in VOC service less than 300 hours per year is excluded from the requirements of §§60.482–2 through 60.482–10 [d)(17 to d)(25)] if it is identified as required in §60.486(e)(6) [d)(30)e.vi.] and it meets any of the conditions specified in d)(16)e.i. through iii.

i. The equipment is in VOC service only during startup and shutdown, excluding startup and shutdown between batches of the same campaign for a batch process.

ii. The equipment is in VOC service only during process malfunctions or other emergencies.

iii. The equipment is backup equipment that is in VOC service only when the primary equipment is out of service.

For purposes of 40 CFR Part 60 Subpart VV, "in VOC service" means that the piece of equipment contains or contacts a process fluid that is at least 10 percent VOC by weight. (The provisions of §60.485(d) specify how to determine that a piece of equipment is not in VOC service.)

e. If a dedicated batch process unit operates less than 365 days during a year, a permittee may monitor to detect leaks from pumps and valves at the frequency specified in the following table instead of monitoring as specified in §§60.482–2, 60.482–7, and 60.483–2 [d)(17), d)(22), and d)(27)]:

Operating time (percent of hours during year)	Equivalent monitoring frequency time in use		
Monthly	Quarterly	Semiannually	
0 to <25	Quarterly	Annually	Annually.
25 to <50	Quarterly	Semiannually	Annually.
50 to <75	Bimonthly	Three quarters	Semiannually.

75 to 100	Monthly	Quarterly	Semiannually.

i. Pumps and valves that are shared among two or more batch process units that are subject to this subpart may be monitored at the frequencies specified in d)(16), provided the operating time of all such process units is considered.

ii. The monitoring frequencies specified in d)(16) are not requirements for monitoring at specific intervals and can be adjusted to accommodate process operations. A permittee may monitor at any time during the specified monitoring period (e.g., month, quarter, year), provided the monitoring is conducted at a reasonable interval after completion of the last monitoring campaign. Reasonable intervals are defined in d)(16)f.iii.(a) through (d).

(a) When monitoring is conducted quarterly, monitoring events must be separated by at least 30 calendar days.

(b) When monitoring is conducted semiannually (*i.e.*, once every 2 quarters), monitoring events must be separated by at least 60 calendar days.

(c) When monitoring is conducted in 3 quarters per year, monitoring events must be separated by at least 90 calendar days.

(d) When monitoring is conducted annually, monitoring events must be separated by at least 120 calendar days.

f. If the storage vessel is shared with multiple process units, the process unit with the greatest annual amount of stored materials (predominant use) is the process unit the storage vessel is assigned to. If the storage vessel is shared equally among process units, and one of the process units has equipment subject to subpart VVa of 40 CFR Part 60, the storage vessel is assigned to that process unit. If the storage vessel is shared equally among process units, none of which have equipment subject to subpart VVa of 40 CFR Part 60, the storage vessel is assigned to any process unit subject to this subpart. If the predominant use of the storage vessel varies from year to year, then the permittee must estimate the predominant use initially and reassess every 3 years. The permittee must keep records of the information and supporting calculations that show how predominant use is determined. All equipment on the storage vessel must be monitored when in VOC service.

Effective Date Note: At 73 FR 31375, June 2, 2008, in §60.482–1 paragraph (g) [d)(16)g.] was stayed until further notice.

(17) § 60.482-2 Standards: Pumps in light liquid service.

a. Each pump in light liquid service shall be monitored monthly to detect leaks by the methods specified in §60.485(b) [d)(29)b.], except as provided in §60.482–1(c) and (f) [d)(16)c. and f.] and d)(17)d. through f. A pump that begins operation

in light liquid service after the initial startup date for the process unit must be monitored for the first time within 30 days after the end of its startup period, except for a pump that replaces a leaking pump and except as provided in §60.482–1(c) and (f) [d)(16)c. and f.] and d)(17)d. through f.

i. "In light liquid service" for purposes of 40 CFR Part 60 Subpart VV means that the piece of equipment contains a liquid that meets all of the following conditions.

(a) The vapor pressure of one or more of the organic components is greater than 0.3 kPa at 20 °C (1.2 in. H2O at 68 °F). Standard reference texts or ASTM D2879–83, 96, or 97 (incorporated by reference—see §60.17) shall be used to determine the vapor pressures.

(b) The total concentration of the pure organic components having a vapor pressure greater than 0.3 kPa at 20 °C (1.2 in. H2O at 68 °F) is equal to or greater than 20 percent by weight.

(c) The fluid is a liquid at operating conditions.

ii. Each pump in light liquid service shall be checked by visual inspection each calendar week for indications of liquids dripping from the pump seal, except as provided in §60.482–1(f) [d)(16)f].

b. If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

i. If there are indications of liquids dripping from the pump seal, the permittee shall follow the procedure specified in either d)(17)b.ii(a) or (b). This requirement does not apply to a pump that was monitored after a previous weekly inspection if the instrument reading for that monitoring event was less than 10,000 ppm and the pump was not repaired since that monitoring event.

(a) Monitor the pump within 5 days as specified in §60.485(b) [d)(29)b.]. If an instrument reading of 10,000 ppm or greater is measured, a leak is detected. The leak shall be repaired using the procedures in d)(17)c.

(b) Designate the visual indications of liquids dripping as a leak, and repair the leak within 15 days of detection by eliminating the visual indications of liquids dripping.

c. When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in §60.482–9 [d)(24)].

i. A first attempt at repair shall be made no later than 5 calendar days after each leak is detected. First attempts at repair include, but are not limited to, the practices described in d)(17)c.ii.(a) and (b), where practicable.

(a) Tightening the packing gland nuts;

(b) Ensuring that the seal flush is operating at design pressure and temperature.

d. Each pump equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from the requirements of d)(17)a., provided the requirements specified in paragraphs d)(17)d.i. through vi. are met.

i. Each dual mechanical seal system is—

(a) Operated with the barrier fluid at a pressure that is at all times greater than the pump stuffing box pressure; or

(b) Equipped with a barrier fluid degassing reservoir that is routed to a process or fuel gas system or connected by a closed vent system to a control device that complies with the requirements of §60.482–10 [d)(25)]; or

(c) Equipped with a system that purges the barrier fluid into a process stream with zero VOC emissions to the atmosphere.

ii. The barrier fluid system is in heavy liquid service or is not in VOC service.

iii. Each barrier fluid system is equipped with a sensor that will detect failure of the seal system, the barrier fluid system, or both.

iv. Each pump is checked by visual inspection, each calendar week, for indications of liquids dripping from the pump seals.

(a) If there are indications of liquids dripping from the pump seal at the time of the weekly inspection, the permittee shall follow the procedure specified in either d)(17)d.iv.(b)(i) or (ii).

(i) Monitor the pump within 5 days as specified in §60.485(b) [d)(29)b.] to determine if there is a leak of VOC in the barrier fluid. If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(ii) Designate the visual indications of liquids dripping as a leak.

v. Each sensor as described in d)(17)d.iii. is checked daily or is equipped with an audible alarm.

(a) The permittee determines, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.

(b) If the sensor indicates failure of the seal system, the barrier fluid system, or both, based on the criterion established in d)(17)d.v.(b), a leak is detected.

vi. When a leak is detected pursuant to d)17)d.iv.(b)(i) of this section, it shall be repaired as specified in d)(17)c.

(a) A leak detected pursuant to d)(17)d.v.(c) shall be repaired within 15 days of detection by eliminating the conditions that activated the sensor.

(b) A designated leak pursuant to d)(17)d.iv.(b)(ii) shall be repaired within 15 days of detection by eliminating visual indications of liquids dripping.

e. Any pump that is designated, as described in §60.486(e)(1) and (2) [d)(30)e.i. and ii.], for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of d)(17)a., c., and d. if the pump:

i. Has no externally actuated shaft penetrating the pump housing,

ii. Is demonstrated to be operating with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background as measured by the methods specified in §60.485(c) [d)(29)c.], and

iii. Is tested for compliance with d)(17)e.ii. initially upon designation, annually, and at other times requested by the Toledo Division of Environmental Services.

f. If any pump is equipped with a closed vent system capable of capturing and transporting any leakage from the seal or seals to a process or to a fuel gas system or to a control device that complies with the requirements of §60.482–10 [d)(25)], it is exempt from d)(17)a. through e.

g. Any pump that is designated, as described in §60.486(f)(1) [d)(30)f.i.], as an unsafe-to-monitor pump is exempt from the monitoring and inspection requirements of d)(17)a. and d)(17)d.iv. through d.vi. if:

i. The permittee of the pump demonstrates that the pump is unsafe-to-monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with d)(17)a.; and

ii. The permittee of the pump has a written plan that requires monitoring of the pump as frequently as practicable during safe-to-monitor times but not more frequently than the periodic monitoring schedule otherwise applicable, and repair of the equipment according to the procedures in d)(17)c. if a leak is detected.

h. Any pump that is located within the boundary of an unmanned plant site is exempt from the weekly visual inspection requirement of d)(17)a.ii. and d)(17)d.iv., and the daily requirements of d)(17)d.v., provided that each pump is visually inspected as often as practicable and at least monthly.

(18) § 60.482-3 Standards: Compressors.

a. Each compressor shall be equipped with a seal system that includes a barrier fluid system and that prevents leakage of VOC to the atmosphere, except as provided in §60.482–1(c) [d)(16)c.] and d)(18)h. through j.

b. Each compressor seal system as required in d)(18)a. shall be:

i. Operated with the barrier fluid at a pressure that is greater than the compressor stuffing box pressure; or

ii. Equipped with a barrier fluid system degassing reservoir that is routed to a process or fuel gas system or connected by a closed vent system to a control device that complies with the requirements of §60.482–10 [d)(25)]; or

iii. Equipped with a system that purges the barrier fluid into a process stream with zero VOC emissions to the atmosphere.

c. The barrier fluid system shall be in heavy liquid service or shall not be in VOC service.

For purposes of 40 CFR Part 60 Subpart VV, “in heavy liquid service” means that the piece of equipment is not in gas/vapor service or in light liquid service.

d. Each barrier fluid system as described in d)(18)a. shall be equipped with a sensor that will detect failure of the seal system, barrier fluid system, or both.

e. Each sensor as required in d)(18)d. shall be checked daily or shall be equipped with an audible alarm.

i. The permittee shall determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.

f. If the sensor indicates failure of the seal system, the barrier system, or both based on the criterion determined under d)(18)e.ii., a leak is detected.

g. When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in §60.482–9 [d)(24)].

i. A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

h. A compressor is exempt from the requirements of d)(18)a. and b., if it is equipped with a closed vent system to capture and transport leakage from the compressor drive shaft back to a process or fuel gas system or to a control device that complies with the requirements of §60.482–10 [d)(25)], except as provided in d)(18)i.

i. Any compressor that is designated, as described in §60.486(e) (1) and (2) [d)(30)e.i. and ii.], for no detectable emissions, as indicated by an instrument

reading of less than 500 ppm above background, is exempt from the requirements of d)(18)a. through h. if the compressor:

i. Is demonstrated to be operating with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as measured by the methods specified in §60.485(c) [d)(29)c.]; and

ii. Is tested for compliance with d)(18)i.i. initially upon designation, annually, and at other times requested by the Toledo Division of Environmental Services.

j. Any existing reciprocating compressor in a process unit which becomes an affected facility under provisions of §60.14 or §60.15 is exempt from d)(18)a. through e. and h., provided the permittee demonstrates that recasting the distance piece or replacing the compressor are the only options available to bring the compressor into compliance with the provisions of d)(18)a. through e. and h.

(19) § 60.482-4 Standards: Pressure relief devices in gas/vapor service.

a. Except during pressure releases, each pressure relief device in gas/vapor service shall be operated with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as determined by the methods specified in §60.485(c) [d)(29)c.].

"In gas/vapor service" for purposes of 40 CFR Part 60 Subpart VV means that the piece of equipment contains process fluid that is in the gaseous state at operating conditions.

b. After each pressure release, the pressure relief device shall be returned to a condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as soon as practicable, but no later than 5 calendar days after the pressure release, except as provided in §60.482–9 [d)(24)].

i. No later than 5 calendar days after the pressure release, the pressure relief device shall be monitored to confirm the conditions of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, by the methods specified in §60.485(c) [d)(29)c.].

c. Any pressure relief device that is routed to a process or fuel gas system or equipped with a closed vent system capable of capturing and transporting leakage through the pressure relief device to a control device as described in §60.482–10 [d)(25)] is exempted from the requirements of d)(19)a. and b.

d. Any pressure relief device that is equipped with a rupture disk upstream of the pressure relief device is exempt from the requirements of d)(19)a. and b., provided the permittee complies with the requirements in d)(19)d.ii.

i. After each pressure release, a new rupture disk shall be installed upstream of the pressure relief device as soon as practicable, but no later

than 5 calendar days after each pressure release, except as provided in §60.482–9 [d)(24)].

(20) § 60.482-5 Standards: Sampling connection systems.

a. Each sampling connection system shall be equipped with a closed-purge, closed-loop, or closed-vent system, except as provided in §60.482–1(c) [d)(16)c.] and d)(20)c.

b. Each closed-purge, closed-loop, or closed-vent system as required in d)(20)a. shall comply with the requirements specified in d)(20)b.i. through iv.

i. Gases displaced during filling of the sample container are not required to be collected or captured.

ii. Containers that are part of a closed-purge system must be covered or closed when not being filled or emptied.

iii. Gases remaining in the tubing or piping between the closed-purge system valve(s) and sample container valve(s) after the valves are closed and the sample container is disconnected are not required to be collected or captured.

iv. Each closed-purge, closed-loop, or closed-vent system shall be designed and operated to meet requirements in either d)(20)b.iv.(a), (b), (c), or (d).

(a) Return the purged process fluid directly to the process line.

(b) Collect and recycle the purged process fluid to a process.

(c) Capture and transport all the purged process fluid to a control device that complies with the requirements of §60.482–10 [d)(25)].

(d) Collect, store, and transport the purged process fluid to any of the following systems or facilities:

(i) A waste management unit as defined in §63.111, if the waste management unit is subject to and operated in compliance with the provisions of 40 CFR part 63, subpart G, applicable to Group 1 wastewater streams;

(ii) A treatment, storage, or disposal facility subject to regulation under 40 CFR part 262, 264, 265, or 266;

(iii) A facility permitted, licensed, or registered by a state to manage municipal or industrial solid waste, if the process fluids are not hazardous waste as defined in 40 CFR part 261;

(iv) A waste management unit subject to and operated in compliance with the treatment requirements of §61.348(a), provided all waste management units that collect, store, or transport the purged process fluid to the treatment unit are

subject to and operated in compliance with the management requirements of §§61.343 through 61.347; or

(v) A device used to burn off-specification used oil for energy recovery in accordance with 40 CFR part 279, subpart G, provided the purged process fluid is not hazardous waste as defined in 40 CFR part 261.

c. In situ sampling systems and sampling systems without purges are exempt from the requirements of d)(20)a. and b.

(21) § 60.482-6 Standards: Open-ended valves or lines.

a. Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve, except as provided in §60.482–1(c) [d)(16)c.] and d)(21)d. and e.

i. The cap, blind flange, plug, or second valve shall seal the open end at all times except during operations requiring process fluid flow through the open-ended valve or line.

b. Each open-ended valve or line equipped with a second valve shall be operated in a manner such that the valve on the process fluid end is closed before the second valve is closed.

c. When a double block-and-bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves but shall comply with d)(21)a. at all other times.

d. Open-ended valves or lines in an emergency shutdown system which are designed to open automatically in the event of a process upset are exempt from the requirements of d)(21)a. through c.

e. Open-ended valves or lines containing materials which would autocatalytically polymerize or would present an explosion, serious overpressure, or other safety hazard if capped or equipped with a double block and bleed system as specified in d)(21)a. through c. are exempt from the requirements of d)(21)a. through c.

(22) § 60.482-7 Standards: Valves in gas/vapor service and in light liquid service.

a. Each valve shall be monitored monthly to detect leaks by the methods specified in §60.485(b) [d)(29)b.] and shall comply with d)(22)b. through e., except as provided in d)(22)f. through h., §60.482–1(c) and (f) [d)(16)c. and f.], and §§60.483–1 and 60.483–2 [d)(26) and d)(27)].

i. A valve that begins operation in gas/vapor service or light liquid service after the initial startup date for the process unit must be monitored according to paragraphs d)(22)a.ii.(a) or (b), except for a valve that replaces a leaking valve and except as provided in d)(22)f. through h., §60.482–1(c) [d)(16)c.], and §§60.483–1 and 60.483–2 [d)(26) and d)(27)].

(a) Monitor the valve as in d)(22)a.i. The valve must be monitored for the first time within 30 days after the end of its startup period to ensure proper installation.

(b) If the valves on the process unit are monitored in accordance with §60.483–1 [d)(26)] or §60.483–2 [d)(27)], count the new valve as leaking when calculating the percentage of valves leaking as described in §60.483–2(b)(5) [d)(27)b.v.]. If less than 2.0 percent of the valves are leaking for that process unit, the valve must be monitored for the first time during the next scheduled monitoring event for existing valves in the process unit or within 90 days, whichever comes first.

b. If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

c. Any valve for which a leak is not detected for 2 successive months may be monitored the first month of every quarter, beginning with the next quarter, until a leak is detected.

d. As an alternative to monitoring all of the valves in the first month of a quarter, an permittee may elect to subdivide the process unit into 2 or 3 subgroups of valves and monitor each subgroup in a different month during the quarter, provided each subgroup is monitored every 3 months. The permittee must keep records of the valves assigned to each subgroup.

i. If a leak is detected, the valve shall be monitored monthly until a leak is not detected for 2 successive months.

e. When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in §60.482–9 [d)(24)].

i. A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

f. First attempts at repair include, but are not limited to, the following best practices where practicable:

i. Tightening of bonnet bolts;

ii. Replacement of bonnet bolts;

iii. Tightening of packing gland nuts;

iv. Injection of lubricant into lubricated packing.

g. Any valve that is designated, as described in §60.486(e)(2) [d)(30)e.ii.], for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of d)(22)a. if the valve:

i. Has no external actuating mechanism in contact with the process fluid,

ii. Is operated with emissions less than 500 ppm above background as determined by the method specified in §60.485(c) [d)(29)c.], and

iii. Is tested for compliance with d)(22)f.ii. initially upon designation, annually, and at other times requested by the Toledo Division of Environmental Services.

h. Any valve that is designated, as described in d)(30)f.i., as an unsafe-to-monitor valve is exempt from the requirements of d)(22)a. if:

i. The permittee of the valve demonstrates that the valve is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with d)(22)a., and

ii. The permittee of the valve adheres to a written plan that requires monitoring of the valve as frequently as practicable during safe-to-monitor times.

i. Any valve that is designated, as described in §60.486(f)(2) [d)(30)f.ii.], as a difficult-to-monitor valve is exempt from the requirements of d)(22)a. if:

i. The permittee of the valve demonstrates that the valve cannot be monitored without elevating the monitoring personnel more than 2 meters above a support surface.

ii. The process unit within which the valve is located either becomes an affected facility through §60.14 or §60.15 or the permittee designates less than 3.0 percent of the total number of valves as difficult-to-monitor, and

iii. The permittee of the valve follows a written plan that requires monitoring of the valve at least once per calendar year.

(23) § 60.482-8 Standards: Pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and connectors.

a. If evidence of a potential leak is found by visual, audible, olfactory, or any other detection method at pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and connectors, the permittee shall follow either one of the following procedures:

i. The permittee shall monitor the equipment within 5 days by the method specified in §60.485(b) [d)(29)b.] and shall comply with the requirements of d)(23)b. through d.

ii. The permittee shall eliminate the visual, audible, olfactory, or other indication of a potential leak within 5 calendar days of detection.

b. If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

c. When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in §60.482–9 [d)(24)].

i. The first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

d. First attempts at repair include, but are not limited to, the best practices described under §§60.482–2(c)(2) and 60.482–7(e) [d)(17)c.ii and d)(22)e.].

(24) § 60.482-9 Standards: Delay of repair.

a. Delay of repair of equipment for which leaks have been detected will be allowed if repair within 15 days is technically infeasible without a process unit shutdown. Repair of this equipment shall occur before the end of the next process unit shutdown. Monitoring to verify repair must occur within 15 days after startup of the process unit.

b. Delay of repair of equipment will be allowed for equipment which is isolated from the process and which does not remain in VOC service.

c. Delay of repair for valves will be allowed if:

i. The permittee demonstrates that emissions of purged material resulting from immediate repair are greater than the fugitive emissions likely to result from delay of repair, and

ii. When repair procedures are effected, the purged material is collected and destroyed or recovered in a control device complying with §60.482–10 [d)(25)].

d. Delay of repair for pumps will be allowed if:

i. Repair requires the use of a dual mechanical seal system that includes a barrier fluid system, and

ii. Repair is completed as soon as practicable, but not later than 6 months after the leak was detected.

e. Delay of repair beyond a process unit shutdown will be allowed for a valve, if valve assembly replacement is necessary during the process unit shutdown, valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the next process unit shutdown will not be allowed unless the next process unit shutdown occurs sooner than 6 months after the first process unit shutdown.

f. When delay of repair is allowed for a leaking pump or valve that remains in service, the pump or valve may be considered to be repaired and no longer subject to delay of repair requirements if two consecutive monthly monitoring instrument readings are below the leak definition.

(25) § 60.482-10 Standards: Closed vent systems and control devices.

a. Closed vent systems and control devices used to comply with provisions of 40 CFR Part 60 Subpart VV shall comply with the provisions of this section.

b. Vapor recovery systems (for example, condensers and absorbers) shall be designed and operated to recover the VOC emissions vented to them with an efficiency of 95 percent or greater, or to an exit concentration of 20 parts per million by volume, whichever is less stringent.

c. Enclosed combustion devices shall be designed and operated to reduce the VOC emissions vented to them with an efficiency of 95 percent or greater, or to an exit concentration of 20 parts per million by volume, on a dry basis, corrected to 3 percent oxygen, whichever is less stringent or to provide a minimum residence time of 0.75 seconds at a minimum temperature of 816 °C.

d. Flares used to comply with this subpart shall comply with the requirements of §60.18.

e. Control devices used to comply with the provisions of 40 CFR Part 60 Subpart VV shall monitor these control devices to ensure that they are operated and maintained in conformance with their designs.

f. Except as provided in d)(25)i. through k., each closed vent system shall be inspected according to the procedures and schedule specified in d)(25)f.i. and ii.

i. If the vapor collection system or closed vent system is constructed of hard-piping, the permittee shall comply with the requirements specified in d)(25)f.i.(a) and (b):

(a) Conduct an initial inspection according to the procedures in §60.485(b) [d)(29)b.]; and

(b) Conduct annual visual inspections for visible, audible, or olfactory indications of leaks.

ii. If the vapor collection system or closed vent system is constructed of ductwork, the permittee shall:

(a) Conduct an initial inspection according to the procedures in §60.485(b) [d)(29)b.]; and

(b) Conduct annual inspections according to the procedures in §60.485(b) [d)(29)b.].

g. Leaks, as indicated by an instrument reading greater than 500 parts per million by volume above background or by visual inspections, shall be repaired as soon as practicable except as provided in d)(25)h.

i. A first attempt at repair shall be made no later than 5 calendar days after the leak is detected.

ii. Repair shall be completed no later than 15 calendar days after the leak is detected.

h. Delay of repair of a closed vent system for which leaks have been detected is allowed if the repair is technically infeasible without a process unit shutdown or if the permittee determines that emissions resulting from immediate repair would

be greater than the fugitive emissions likely to result from delay of repair. Repair of such equipment shall be complete by the end of the next process unit shutdown.

i. If a vapor collection system or closed vent system is operated under a vacuum, it is exempt from the inspection requirements of d)(25)f.i.(a) and f.ii.

j. Any parts of the closed vent system that are designated, as described in d)(25)l.i., as unsafe to inspect are exempt from the inspection requirements of d)(25)f.i.(a) and f.ii if they comply with the requirements specified in d)(25)j.i. and ii.:

   i. The permittee determines that the equipment is unsafe to inspect because inspecting personnel would be exposed to an imminent or potential danger as a consequence of complying with d)(25)f.i.(a) or f.ii.; and

   ii. The permittee has a written plan that requires inspection of the equipment as frequently as practicable during safe-to-inspect times.

k. Any parts of the closed vent system that are designated, as described in d)(25)l.ii., as difficult to inspect are exempt from the inspection requirements of d)(25)f.i.(a) and f.ii. if they comply with the requirements specified in d)(25)k.i. through iii.:

   i. The permittee determines that the equipment cannot be inspected without elevating the inspecting personnel more than 2 meters above a support surface; and

   ii. The process unit within which the closed vent system is located becomes an affected facility through §§60.14 or 60.15, or the permittee designates less than 3.0 percent of the total number of closed vent system equipment as difficult to inspect; and

   iii. The permittee has a written plan that requires inspection of the equipment at least once every 5 years. A closed vent system is exempt from inspection if it is operated under a vacuum.

l. The permittee shall record the information specified in d)(25)l.i. through v.

   i. Identification of all parts of the closed vent system that are designated as unsafe to inspect, an explanation of why the equipment is unsafe to inspect, and the plan for inspecting the equipment.

   ii. Identification of all parts of the closed vent system that are designated as difficult to inspect, an explanation of why the equipment is difficult to inspect, and the plan for inspecting the equipment.

   iii. For each inspection during which a leak is detected, a record of the information specified in §60.486(c) [d)(30)c.].

iv. For each inspection conducted in accordance with §60.485(b) [d)(29)b.] during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected.

v. For each visual inspection conducted in accordance with d)(25)f.i.(b) during which no leaks are detected, a record that the inspection was performed, the date of the inspection, and a statement that no leaks were detected.

m. Closed vent systems and control devices used to comply with provisions of 40 CFR Part 60 Subpart VV shall be operated at all times when emissions may be vented to them.

(26) § 60.483-1 Alternative standards for valves—allowable percentage of valves leaking.

a. A permittee may elect to comply with an allowable percentage of valves leaking of equal to or less than 2.0 percent.

b. The following requirements shall be met if a permittee wishes to comply with an allowable percentage of valves leaking:

i. A permittee must notify the Toledo Division of Environmental Services that the permittee has elected to comply with the allowable percentage of valves leaking before implementing this alternative standard, as specified in §60.487(d) [e)(3)d.].

ii. A performance test as specified in d)(26)c.] shall be conducted initially upon designation, annually, and at other times requested by the Toledo Division of Environmental Services.

iii. If a valve leak is detected, it shall be repaired in accordance with §60.482–7(d) and (e) [d)(22)d. and e.].

c. Performance tests shall be conducted in the following manner:

i. All valves in gas/vapor and light liquid service within the affected facility shall be monitored within 1 week by the methods specified in §60.485(b) [d)(29)b.].

ii. If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

iii. The leak percentage shall be determined by dividing the number of valves for which leaks are detected by the number of valves in gas/vapor and light liquid service within the affected facility.

d. Owners and operators who elect to comply with this alternative standard shall not have an affected facility with a leak percentage greater than 2.0 percent, determined as described in §60.485(h) [d)(29)h.].

(27) § 60.483-2 Alternative standards for valves—skip period leak detection and repair.

a. The permittee may elect to comply with one of the alternative work practices specified in d)(27)b.ii. and iii.

i. The permittee shall notify the Toledo Division of Environmental Services before implementing one of the alternative work practices, as specified in §60.487(d) [d)(3)d.].

b. The permittee shall comply initially with the requirements for valves in gas/vapor service and valves in light liquid service, as described in §60.482–7 [d)(22)].

i. After 2 consecutive quarterly leak detection periods with the percent of valves leaking equal to or less than 2.0, a permittee may begin to skip 1 of the quarterly leak detection periods for the valves in gas/vapor and light liquid service.

ii. After 5 consecutive quarterly leak detection periods with the percent of valves leaking equal to or less than 2.0, a permittee may begin to skip 3 of the quarterly leak detection periods for the valves in gas/vapor and light liquid service.

iii. If the percent of valves leaking is greater than 2.0, the permittee shall comply with the requirements as described in §60.482–7 [d)(22)]but can again elect to use this section.

iv. The percent of valves leaking shall be determined as described in §60.485(h) [d)(29)h.].

v. The permittee shall keep a record of the percent of valves found leaking during each leak detection period.

vi. A valve that begins operation in gas/vapor service or light liquid service after the initial startup date for a process unit following one of the alternative standards in this section must be monitored in accordance with §60.482–7(a)(2)(i) or (ii) [d)(22)a.ii.(a) or (b)] before the provisions of this section can be applied to that valve.

(28) § 60.484 Equivalence of means of emission limitation

a. The permittee may apply to the Administrator of U.S. EPA for determination of equivalence for any means of emission limitation that achieves a reduction in emissions of VOC at least equivalent to the reduction in emissions of VOC achieved by the controls required in 40 CFR Part 60 Subpart VV.

b. Determination of equivalence to the equipment, design, and operational requirements of this subpart will be evaluated by the following guidelines:

i. Each owner or operator applying for an equivalence determination shall be responsible for collecting and verifying test data to demonstrate equivalence of means of emission limitation.

ii. The Administrator of U.S. EPA will compare test data for demonstrating equivalence of the means of emission limitation to test data for the equipment, design, and operational requirements.

iii. The Administrator of U.S. EPA may condition the approval of equivalence on requirements that may be necessary to assure operation and maintenance to achieve the same emission reduction as the equipment, design, and operational requirements.

c. Determination of equivalence to the required work practices in this subpart will be evaluated by the following guidelines:

i. The permittee shall be responsible for collecting and verifying test data to demonstrate equivalence of an equivalent means of emission limitation.

ii. For each affected facility for which a determination of equivalence is requested, the emission reduction achieved by the required work practice shall be demonstrated.

iii. For each affected facility, for which a determination of equivalence is requested, the emission reduction achieved by the equivalent means of emission limitation shall be demonstrated.

iv. The permittee shall commit in writing to work practice(s) that provide for emission reductions equal to or greater than the emission reductions achieved by the required work practice.

v. The Administrator of U.S. EPA will compare the demonstrated emission reduction for the equivalent means of emission limitation to the demonstrated emission reduction for the required work practices and will consider the commitment in d)(28)c.iv.

vi. The Administrator of U.S. EPA may condition the approval of equivalence on requirements that may be necessary to assure operation and maintenance to achieve the same emission reduction as the required work practice.

d. The permittee may offer a unique approach to demonstrate the equivalence of any equivalent means of emission limitation.

e. After a request for determination of equivalence is received, the Administrator of U.S. EPA will publish a notice in the Federal Register and provide the opportunity for public hearing if the Administrator judges that the request may be approved.

i. After notice and opportunity for public hearing, the Administrator will determine the equivalence of a means of emission limitation and will publish the determination in the Federal Register.

ii. Any equivalent means of emission limitations approved under this section shall constitute a required work practice, equipment, design, or operational standard within the meaning of section 111(h)(1) of the Clean Air Act.

f. Manufacturers of equipment used to control equipment leaks of VOC may apply to the Administrator of U.S. EPA for determination of equivalence for any equivalent means of emission limitation that achieves a reduction in emissions of VOC achieved by the equipment, design, and operational requirements of this subpart.

i. The Administrator will make an equivalence determination according to the provisions of d)(28)b., c., d., and e.

(29) § 60.485 Test methods and procedures.

a. In conducting the performance tests required in §60.8, the permittee shall use as reference methods and procedures the test methods in appendix A of 40 CFR Part 60 or other methods and procedures as specified in this section, except as provided in §60.8(b).

b. The permittee shall determine compliance with the standards in §§60.482–1 through 60.482–10, 60.483, and 60.484 [d)(16) through d)(28)] as follows:

i. Method 21 shall be used to determine the presence of leaking sources. The instrument shall be calibrated before use each day of its use by the procedures specified in Method 21. The following calibration gases shall be used:

(a) Zero air (less than 10 ppm of hydrocarbon in air); and

(b) A mixture of methane or n-hexane and air at a concentration of about, but less than, 10,000 ppm methane or n-hexane.

c. The permittee shall determine compliance with the no detectable emission standards in §§60.482–2(e), 60.482–3(i), 60.482–4, 60.482–7(f), and 60.482–10(e) [d)(17)e., d)(18)i., d)(19), d)(22)f., and d)(25)e.] as follows:

i. The requirements of d)(29)b. shall apply.

ii. Method 21 shall be used to determine the background level. All potential leak interfaces shall be traversed as close to the interface as possible. The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared with 500 ppm for determining compliance.

d. The permittee shall test each piece of equipment unless he demonstrates that a process unit is not in VOC service, i.e., that the VOC content would never be reasonably expected to exceed 10 percent by weight. For purposes of this demonstration, the following methods and procedures shall be used:

i. Procedures that conform to the general methods in ASTM E260–73, 91, or 96, E168–67, 77, or 92, E169–63, 77, or 93 (incorporated by reference—see §60.17) shall be used to determine the percent VOC content in the process fluid that is contained in or contacts a piece of equipment.

ii. Organic compounds that are considered by the Administrator of U.S. EPA to have negligible photochemical reactivity may be excluded from the total quantity of organic compounds in determining the VOC content of the process fluid.

iii. Engineering judgment may be used to estimate the VOC content, if a piece of equipment had not been shown previously to be in service. If the Administrator of U.S. EPA disagrees with the judgment, d)(29)d.i. and ii. shall be used to resolve the disagreement.

e. The permittee shall demonstrate that a piece of equipment is in light liquid service by showing that all the following conditions apply:

i. The vapor pressure of one or more of the organic components is greater than 0.3 kPa at 20 °C (1.2 in. H_2O at 68 °F). Standard reference texts or ASTM D2879–83, 96, or 97 (incorporated by reference—see §60.17) shall be used to determine the vapor pressures.

ii. The total concentration of the pure organic components having a vapor pressure greater than 0.3 kPa at 20 °C (1.2 in. H_2O at 68 °F) is equal to or greater than 20 percent by weight.

iii. The fluid is a liquid at operating conditions.

f. Samples used in conjunction with d)(29)d., e., and g. shall be representative of the process fluid that is contained in or contacts the equipment or the gas being combusted in the flare.

g. The permittee shall determine compliance with the standards of flares as follows:

i. Method 22 shall be used to determine visible emissions.

ii. A thermocouple or any other equivalent device shall be used to monitor the presence of a pilot flame in the flare.

iii. The maximum permitted velocity for air assisted flares shall be computed using the following equation:

$$V_{max} = K_1 + K_2 H_T$$

Where:

V_{max}= Maximum permitted velocity, m/sec (ft/sec)

H_T= Net heating value of the gas being combusted, MJ/scm (Btu/scf).

K_1= 8.706 m/sec (metric units)

= 28.56 ft/sec (English units)

K_2= 0.7084 m 4 /(MJ-sec) (metric units)

= 0.087 ft 4 /(Btu-sec) (English units)

iv. The net heating value (H_T) of the gas being combusted in a flare shall be computed using the following equation:

$$H_T = K\sum_{i=1}^{n} C_i H_i$$

Where:

K = Conversion constant, 1.740 × 10 - 7 (g-mole)(MJ)/(ppm-scm-kcal) (metric units) = 4.674 × 10 - 6 [(g-mole)(Btu)/(ppm-scf-kcal)] (English units)

C_i= Concentration of sample component "i," ppm

H_i= Net heat of combustion of sample component "i" at 25 °C and 760 mm Hg (77 °F and 14.7 psi), kcal/g-mole

v. Method 18 or ASTM D6420–99 (2004) (where the target compound(s) are those listed in Section 1.1 of ASTM D6420–99, and the target concentration is between 150 parts per billion by volume and 100 parts per million by volume) and ASTM D2504–67, 77 or 88 (Reapproved 1993) (incorporated by reference—see §60.17) shall be used to determine the concentration of sample component "i."

vi. ASTM D2382–76 or 88 or D4809–95 (incorporated by reference—see §60.17) shall be used to determine the net heat of combustion of component "i" if published values are not available or cannot be calculated.

vii. Method 2, 2A, 2C, or 2D, as appropriate, shall be used to determine the actual exit velocity of a flare. If needed, the unobstructed (free) cross-sectional area of the flare tip shall be used.

h. The permittee shall determine compliance with §60.483–1 or §60.483–2 [d)(26) or d)(27)] as follows:

i. The percent of valves leaking shall be determined using the following equation:

$\%V_L = (V_L/V_T) * 100$

Where:

$\%V_L$= Percent leaking valves

V_L= Number of valves found leaking

V_T= The sum of the total number of valves monitored

ii. The total number of valves monitored shall include difficult-to-monitor and unsafe-to-monitor valves only during the monitoring period in which those valves are monitored.

iii. The number of valves leaking shall include valves for which repair has been delayed.

iv. Any new valve that is not monitored within 30 days of being placed in service shall be included in the number of valves leaking and the total number of valves monitored for the monitoring period in which the valve is placed in service.

v. If the process unit has been subdivided in accordance with §60.482–7(c)(1)(ii) [d)(22)c.i.(b)], the sum of valves found leaking during a monitoring period includes all subgroups.

vi. The total number of valves monitored does not include a valve monitored to verify repair.

(30) § 60.486 Recordkeeping requirements.

a. Each permittee subject to the provisions of 40 CFR Part 60 Subpart VV shall comply with the recordkeeping requirements of this section.

i. A permittee of more than one affected facility subject to the provisions of 40 CFR Part 60 Subpart VV may comply with the recordkeeping requirements for these facilities in one recordkeeping system if the system identifies each record by each facility.

b. When each leak is detected as specified in §§60.482–2, 60.482–3, 60.482–7, 60.482–8, and 60.483–2 [d)(17), d)(18), d)(22), d)(23), and d)(27)], the following requirements apply:

i. A weatherproof and readily visible identification, marked with the equipment identification number, shall be attached to the leaking equipment.

ii. The identification on a valve may be removed after it has been monitored for 2 successive months as specified in §60.482–7(c) [d)(22)c.]and no leak has been detected during those 2 months.

iii. The identification on equipment except on a valve, may be removed after it has been repaired.

c. When each leak is detected as specified in §§60.482–2, 60.482–3, 60.482–7, 60.482–8, and 60.483–2, [d)(17), d)(18), d)(22), d)(23) and d)(27)] the following information shall be recorded in a log and shall be kept for 2 years in a readily accessible location:

i. The instrument and operator identification numbers and the equipment identification number.

ii. The date the leak was detected and the dates of each attempt to repair the leak.

iii. Repair methods applied in each attempt to repair the leak.

iv. "Above 10,000" if the maximum instrument reading measured by the methods specified in §60.485(a) [d)(29)a.] after each repair attempt is equal to or greater than 10,000 ppm.

v. "Repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.

vi. The signature of the permittee (or designate) whose decision it was that repair could not be effected without a process shutdown.

vii. The expected date of successful repair of the leak if a leak is not repaired within 15 days.

viii. Dates of process unit shutdowns that occur while the equipment is unrepaired.

ix. The date of successful repair of the leak.

d. The following information pertaining to the design requirements for closed vent systems and control devices described in §60.482–10 [d)(25)] shall be recorded 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 specifications.

iii. A description of the parameter or parameters monitored, as required in §60.482–10(e) [d)(25)e.], to ensure that control devices are operated and maintained in conformance with their design and an explanation of why that parameter (or parameters) was selected for the monitoring.

iv. Periods when the closed vent systems and control devices required in §§60.482–2, 60.482–3, 60.482–4, and 60.482–5 [d)(17 through d)(20)] are not operated as designed, including periods when a flare pilot light does not have a flame.

v. Dates of startups and shutdowns of the closed vent systems and control devices required in §§60.482–2, 60.482–3, 60.482–4, and 60.482–5 [d)(17 through d)(20)].

e. The following information pertaining to all equipment subject to the requirements in §§60.482–1 to 60.482–10 [d)(16) through d)(25)] shall be recorded in a log that is kept in a readily accessible location:

i. A list of identification numbers for equipment subject to the requirements of 40 CFR Part 60 Subpart VV.

(a) A list of identification numbers for equipment that are designated for no detectable emissions under the provisions of §§60.482–2(e), 60.482–3(i) and 60.482–7(f) [d)(17)e., d)(18)i., and d)(22)f.].

(b) The designation of equipment as subject to the requirements of §60.482–2(e), §60.482–3(i), or §60.482–7(f) [d)(17)e., d)(18)i., and d)(22)f.] shall be signed by the permittee. Alternatively, the permittee may establish a mechanism with their permitting authority that satisfies this requirement.

ii. A list of equipment identification numbers for pressure relief devices required to comply with §60.482–4 [d)(19)].

iii. The dates of each compliance test as required in §§60.482–2(e), 60.482–3(i), 60.482–4, and 60.482–7(f) [d)(17)e., d)(18)i., d)(19), and d)(22)f.].

(a) The background level measured during each compliance test.

(b) The maximum instrument reading measured at the equipment during each compliance test.

iv. A list of identification numbers for equipment in vacuum service.

v. A list of identification numbers for equipment that the permittee designates as operating in VOC service less than 300 hr/yr in accordance with §60.482–1(e) [d)(16)e.], a description of the conditions under which the equipment is in VOC service, and rationale supporting the designation that it is in VOC service less than 300 hr/yr.

f. The following information pertaining to all valves subject to the requirements of §60.482–7(g) and (h) [d)(22)g. and h.] and to all pumps subject to the requirements of §60.482–2(g) [d)(17)g.] shall be recorded in a log that is kept in a readily accessible location:

i. A list of identification numbers for valves and pumps that are designated as unsafe-to-monitor, an explanation for each valve or pump stating why the valve or pump is unsafe-to-monitor, and the plan for monitoring each valve or pump.

ii. A list of identification numbers for valves that are designated as difficult-to-monitor, an explanation for each valve stating why the valve is difficult-to-monitor, and the schedule for monitoring each valve.

g. The following information shall be recorded for valves complying with §60.483–2 [d)(27)]:

i. A schedule of monitoring.

ii. The percent of valves found leaking during each monitoring period.

h. The following information shall be recorded in a log that is kept in a readily accessible location:

i. Design criterion required in §§60.482–2(d)(5) and 60.482–3(e)(2) [d)(17)d.v. and d)(18)e.ii.] and explanation of the design criterion; and

ii. Any changes to this criterion and the reasons for the changes.

i. Information and data used to demonstrate that a piece of equipment is not in VOC service shall be recorded in a log that is kept in a readily accessible location.

j. The provisions of §60.7 (b) and (d) do not apply to affected facilities subject to 40 CFR Part 60 Subpart VV.

e) Reporting Requirements

(1) Semiannual reports shall be submitted to the Toledo Division of Environmental Services and shall include the following information for the preceding semiannual periods:

a. The process unit identification;

b. The number of pumps in light liquid service excluding those pumps designated for no detectable emissions under the provision of d)(1)d.i. and those pumps complying with d)(1)d.iii.;

c. The number of valves in gas/vapor service or in light liquid service excluding those valves designated for no detectable emission under the provision of d)(1)d.iv. and those valves subject to the alternative standard for monitoring under the provision of d)(1)d.v.;

d. The number of compressors excluding those compressors designated for no detectable emissions under the provision of d)(2)a. and those compressors complying with paragraph d)(2)b.;

e. For each month during the semiannual period:

i. The number of pumps in light liquid service for which leaks were detected as described in d)(1)g.;

ii. The number of pumps in light liquid service for which leaks were not repaired within fifteen calendar days after the date of leak detection;

iii. The number of valves in gas/vapor service or in light liquid service for which leaks were detected as described in d)(1)g.;

iv. The number of valves in gas/vapor service or in light liquid service for which leaks were not repaired within fifteen calendar days after the date of leak detection;

v. The number of compressors for which leaks were detected as described in d)(7)d..;

vi. The number of compressors for which leaks were not repaired within fifteen calendar days after the date of leak detection;

vii. The facts that explain each delay of repair allowed pursuant to d)(10);

f. The dates of process unit shutdowns that occurred within the semiannual period; and

g. the results of compliance tests required by d)(3)b.

These reports shall be submitted semiannually by February 1 and August 1 of each year and shall cover the previous 6 calendar months (July through December and January through June respectively). These reports shall be submitted to the Toledo Division of Environmental Services, 348 South Erie Street, Toledo, Ohio 43604.

[OAC rule 3745-21-09(DD)(2)(m) and (DD)(15)(c)]

(2) For compliance tests required under d)(6)b. and d)(8)b., the permittee shall, not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. 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 District Office's or local air agency's refusal to accept the results of the emission test(s).

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 appropriate Ohio EPA District Office or local air agency 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 appropriate Ohio EPA District Office or local air agency.

[OAC rule 3745-21-09(DD)(15)(b)]

(3) § 60.487 Reporting requirements.

a. Each permittee subject to the provisions of 40 CFR Part 60 Subpart VV shall submit semiannual reports to the Toledo Division of Environmental Services beginning six months after the initial startup date.

b. All semiannual reports to the Toledo Division of Environmental Services shall include the following information, summarized from the information in §60.486 [d)(30)]:

i. Process unit identification.

ii. For each month during the semiannual reporting period,

(a) Number of valves for which leaks were detected as described in §60.482–7(b) or §60.483–2 [d)(22)b. or d)(27)],

(b) Number of valves for which leaks were not repaired as required in §60.482–7(d)(1) [d)(22)d.i.],

(c) Number of pumps for which leaks were detected as described in §60.482–2(b), (d)(4)(ii)(A) or (B), or (d)(5)(iii) [d)(17)b., d)(17)d.iv.(b)(i) or (ii), or d)(17)d.v.(c)],

(d) Number of pumps for which leaks were not repaired as required in §60.482–2(c)(1) and (d)(6) [d)(17)c.i. and d.vi.],

(e) Number of compressors for which leaks were detected as described in §60.482–3(f) [d)(18)f.],

(f) Number of compressors for which leaks were not repaired as required in §60.482–3(g)(1) [d)(18)g.i.], and

(g) The facts that explain each delay of repair and, where appropriate, why a process unit shutdown was technically infeasible.

iii. Dates of process unit shutdowns which occurred within the semiannual reporting period.

c. A permittee electing to comply with the provisions of §§60.483–1 or 60.483–2 [d)(26) or d)(27)] shall notify the Toledo Division of Environmental Services of the alternative standard selected 90 days before implementing either of the provisions.

d. The permittee shall report the results of all performance tests in accordance with §60.8 of the General Provisions. The provisions of §60.8(d) do not apply to affected facilities subject to the provisions of 40 CFR Part 60 Subpart VV except that a permittee must notify the Toledo Division of Environmental Services of the schedule for the initial performance tests at least 30 days before the initial performance tests.

f) Testing Requirements

(2) Compliance with the emission limitations in b)(1) and b)(2) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitation:

Fugitive VOC emissions shall not exceed 3.69 pounds per hour

Applicable Compliance Method:

Compliance shall be determined through emission factor calculations using the average SOCMI emission factors from Table 2-1 of "Protocol for Equipment Leak Emission Estimates, EPA-453/R95-017". For each component, multiply the average SOCMI emission factor by 2.2 pounds per kilogram. Sum the emissions from all components to determine the total VOC emissions. Alternative US EPA approved emission factors may be used if appropriate.

b. Emission Limitation:

Fugitive VOC emissions shall not exceed 16.17 tons per year

Applicable Compliance Method:

Compliance may be demonstrated by the following one-time calculation. Multiply the short-term allowable VOC emission limitation (3.69 lbs/hr) by the maximum annual hours of operation (8,760 hours), and divide by 2,000 pounds per ton.

c. Emission Limitation:

Fugitive formaldehyde emissions shall not exceed 1.52 pounds per hour

Applicable Compliance Method:

Compliance shall be demonstrated through emission factor calculations using the average SOCMI emission factors from Table 2-1 of "Protocol for Equipment Leak Emission Estimates, EPA-453/R95-017". For each component, multiply the average SOCMI emission factor by 2.2 pounds per kilogram, and multiply by the mass fraction of formaldehyde contained in the process material at each component. Sum the emissions from all components to determine the total emissions. Alternative US EPA approved emission factors may be used if appropriate.

d. Emission Limitation:

Fugitive formaldehyde emissions shall not exceed 6.67 tons per year

Applicable Compliance Method:

Compliance may be demonstrated by the following one-time calculation. Multiply the short-term allowable formaldehyde emission limitation (1.52 lbs/hr) by the maximum annual hours of operation (8,760 hours), and then divide by 2,000 pounds per ton.

e. Emission Limitation:

Fugitive methanol emissions shall not exceed 1.56 pounds per hour

Applicable Compliance Method:

Compliance shall be demonstrated through emission factor calculations by multiplying the average SOCMI emission factors from Table 2-1 of "Protocol for Equipment Leak Emission Estimates, EPA-453/R95-017" by the number of components, multiplying by 2.2 pounds per kilogram, and multiplying by the mass fraction of methanol contained in the process material at each component. Alternative US EPA approved emission factors may be used if appropriate.

f. Emission Limitation:

Fugitive methanol emissions shall not exceed 6.83 tons per year

Applicable Compliance Method:

Compliance may be demonstrated by the following one-time calculation. Multiply the short-term allowable methanol emission limitation (1.56 lbs/hr) by the

maximum annual hours of operation (8,760 hours), and then divide by 2,000 pounds per ton.

g. Emission Limitation:

Fugitive phenol emissions shall not exceed 0.61 pound per hour

Applicable Compliance Method:

Compliance shall be demonstrated through emission factor calculations by multiplying the average SOCMI emission factors from Table 2-1 of "Protocol for Equipment Leak Emission Estimates, EPA-453/R95-017" by the number of components, multiplying by 2.2 pounds per kilogram, and multiplying by the mass fraction of phenol contained in the process material at each component. Alternative US EPA approved emission factors may be used if appropriate.

h. Emission Limitation:

Fugitive phenol emissions shall not exceed 2.67 tons per year

Applicable Compliance Method:

Compliance may be demonstrated by the following one-time calculation. Multiply the short-term allowable methanol emission limitation (0.61 lb/hr) by the maximum annual hours of operation (8,760 hours), and then divide by 2,000 pounds per ton.

g) Miscellaneous Requirements

(1) None.

3. T059, METHANOL TANK T-METH-2

Operations, Property and/or Equipment Description:

100,000 gallon internal floating roof methanol storage tank

a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

(1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.

a. None.

(2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.

a. None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3) (PTI 04-628 issued 11/7/1990)	Volatile organic compounds (VOC) emissions shall not exceed 1.8 tons per year.
b.	40 CFR Part 60 Subpart A	see b)(2)b.
c.	40 CFR Part 60 Subpart Kb	see c)(1).

(2) Additional Terms and Conditions

a. Compliance with this rule also includes compliance with the requirements of 40 CFR Part 60 Subpart Kb.

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

c) Operational Restrictions

(1) [60.112b(a)(1)]

The permittee shall equip the storage vessel with a fixed roof in combination with an internal floating roof meeting the following specifications:

a. [60.112b(a)(1)(i)]
The internal floating roof shall rest or float on the liquid surface (but not necessarily in complete contact with it) inside a storage vessel that has a fixed roof. The internal floating roof shall be floating on the liquid surface at all times, except during initial fill and during those intervals when the storage vessel is completely emptied or subsequently emptied and refilled. When the roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be accomplished as rapidly as possible.

b. [60.112b(a)(1)(ii)]
The internal floating roof shall be equipped with a mechanical shoe seal. A mechanical shoe seal is a metal sheet held vertically against the wall of the storage vessel by springs or weighted levers and is connected by braces to the floating roof. A flexible coated fabric (envelope) spans the annular space between the metal sheet and the floating roof.

c. [60.112b(a)(1)(iii)]
Each opening in a noncontact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and the rim space vents is to provide a projection below the liquid surface.

d. [60.112b(a)(1)(iv)]
Each opening in the internal floating roof except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains is to be equipped with a cover or lid which is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted except when they are in use.

e. [60.112b(a)(1)(v)]
Automatic bleeder vents shall be equipped with a gasket and are to be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports.

f. [60.112b(a)(1)(vi)]
Rim space vents shall be equipped with a gasket and are to be set to open only when the internal floating roof is not floating or at the manufacturer's recommended setting.

g. [60.112b(a)(1)(vii)]
Each penetration of the internal floating roof for the purpose of sampling shall be a sample well. The sample well shall have a slit fabric cover that covers at least 90 percent of the opening.

h. [60.112b(a)(1)(viii)]
Each penetration of the internal floating roof that allows for passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or a gasketed sliding cover.

i. [60.112b(a)(1)(ix)]
Each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover.

d) Monitoring and/or Recordkeeping Requirements

(1) [60.113b(a)(1)]
The permittee shall visually inspect the internal floating roof, the primary seal, and the secondary seal (if one is in service), prior to filling the storage vessel with VOL. If there are holes, tears, or other openings in the primary seal, the secondary seal, or the seal fabric or defects in the internal floating roof, or both, the permittee shall repair the items before filling the storage vessel.

(2) [60.113b(a)(2)]
The permittee shall visually inspect the internal floating roof and the primary seal or the secondary seal (if one is present) through manholes and roof hatches on the fixed roof at least once every 12 months after initial fill. If the internal floating roof is not resting on the surface of the VOL inside the storage vessel, or there is liquid accumulated on the roof, or the seal is detached, or there are holes or tears in the seal fabric, the permittee shall repair the items or empty and remove the storage vessel from service within 45 days. If a failure that is detected during inspections required in this paragraph cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, a 30-day extension may be requested from the Toledo Division of Environmental Services in the inspection report required in 60.115b(a)(3). Such a request for an extension must document that alternate storage capacity is unavailable and specify a schedule of actions the company will take that will assure that the control equipment will be repaired or the vessel will be emptied as soon as possible.

(3) [60.113b(a)(4)]
Visually inspect the internal floating roof, the primary seal, the secondary seal (if one is in service), gaskets, slotted membranes and sleeve seals (if any) each time the storage vessel is emptied and degassed. If the internal floating roof has defects, the primary seal has holes, tears, or other openings in the seal or the seal fabric, or the secondary seal has holes, tears, or other openings in the seal or the seal fabric, or the gaskets no longer close off the liquid surfaces from the atmosphere, or the slotted membrane has more than 10 percent open area, the permittee shall repair the items as necessary so that none of the conditions specified in this paragraph exist before refilling the storage vessel with VOL. In no event shall inspections conducted in accordance with this provision occur at intervals greater than 10 years in the case of vessels conducting the annual visual inspection as specified in 60.113b(a)(2).

(4) [60.115b(a)(2)]
The permittee shall keep a record of each inspection performed as required by 60.113b(a). Each record shall identify the storage vessel on which the inspection was performed and shall contain the date the vessel was inspected and the observed condition of each component of the control equipment (seals, internal floating roof, and fittings).

(5) The permittee shall keep copies of all records required by 40 CFR Part 60 subpart Kb, except for the record required by 60.116b(b), for at least 2 years. The record required by 60.116b(b) will be kept for the life of the source.

(6) [60.116b(b)]
The permittee shall keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel.

(7) [60.116b(c)]
The permittee shall maintain a record of the VOL stored, the period of storage, and the maximum true vapor pressure (to determine the maximum true vapor pressure, see 40 CFR 60.116b(e) [see g)] of that VOL during the respective storage period.

e) Reporting Requirements

(1) [60.113b(a)(5)]
Notify the Toledo Division of Environmental Services (TES) in writing at least 30 days prior to the filling or refilling of each storage vessel for which an inspection is required by 60.113b(a)(1) and (a)(4) to afford TES the opportunity to have an observer present. If the inspection required by 60.113b(a)(4) is not planned and the permittee could not have known about the inspection 30 days in advance or refilling the tank, the permittee shall notify TES at least 7 days prior to the refilling of the storage vessel. Notification shall be made by telephone immediately followed by written documentation demonstrating why the inspection was unplanned. Alternatively, this notification including the written documentation may be made in writing and sent by express mail so that it is received by TES at least 7 days prior to the refilling.

(2) [60.115b(a)(3)]
If any of the conditions described in 40 CFR 60.113b(a)(2) are detected during the annual visual inspection required by 40 CFR 60.113b(a)(2), the permittee shall submit a report to TES within 30 days of the inspection. Each report shall identify the storage vessel, the nature of the defects, and the date the storage vessel was emptied or the nature of and the date the repair was made.

(3) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve-months for each air contaminant source identified in this permit.

f) Testing Requirements

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

a. Emission Limitation:

1.8 tons per year VOC

Applicable Compliance Method:

Compliance with the VOC emission limitation shall be determined using the latest version of TANKS software, using the actual annual throughput and annual average vapor pressure.

g) Miscellaneous Requirements

(1) [60.116b(e)] - Determining Vapor Pressure
Available data on the storage temperature may be used to determine the maximum true vapor pressure as determined below.

a. [60.116b(e)(1)]
For vessels operated above or below ambient temperatures, the maximum true vapor pressure is calculated based upon the highest expected calendar-month average of the storage temperature. For vessels operated at ambient temperatures, the maximum true vapor pressure is calculated based upon the maximum local monthly average ambient temperature as reported by the National Weather Service.

b. [60.116b(e)(2)]
For crude oil or refined petroleum products the vapor pressure may be obtained by the following:

i. Available data on the Reid vapor pressure and the maximum expected storage temperature based on the highest expected calendar-month average temperature of the stored product may be used to determine the maximum true vapor pressure from nomographs contained in API Bulletin 2517 (incorporated by reference see 40 CFR 60.17), unless the Toledo Division of Environmental Services specifically requests that the liquid be sampled, the actual storage temperature determined, and the Reid vapor pressure determined from the sample(s).

ii. The true vapor pressure of each type of crude oil with a Reid vapor pressure less than 13.8 kPa or with physical properties that preclude determination by the recommended method is to be determined from available data and recorded if the estimated maximum true vapor pressure is greater than 3.5 kPa.

c. [60.116b(e)(3)]
For other liquids, the vapor pressure:

i. may be obtained from standard reference texts, or

ii. determined by ASTM Method D2879-83, 96, or 97 (incorporated by reference see 40 CFR 60.17); or

iii. measured by an appropriate method approved by the Administrator; or

iv. calculated by an appropriate method approved by the Administrator.

4. Emissions Unit Group - X001: P001, P002,

EU ID	Operations, Property and/or Equipment Description
P001	Resin manufacturing process with wet scrubber and catalytic incinerator (Kettle One)
P002	Resin manufacturing process with wet scrubber and catalytic incinerator (Kettle Two)

a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

(1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.

a. None.

(2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.

a. None.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3)(a)(iii)*(c)* (PTI 04-01445 issued 1/16/2007)	Volatile organic compounds (VOC) emissions from each emissions unit shall not exceed 0.22 pound per hour and 0.96 ton per year. Formaldehyde emissions from each emissions unit shall not exceed 0.137 pound per hour and 0.6 ton per year. Methanol emissions from each emissions unit shall not exceed 0.023 pound per hour and 0.1 ton per year. Phenol emissions from each emissions unit shall not exceed 0.023 pound per hour and 0.1 ton per year. see b)(2)a.
b.	OAC rule 3745-21-09(DD)	see b)(2)b.
c.	OAC rule 3745-21-09(EE)	see b)(2)c.

(2) Additional Terms and Conditions

a. The requirements of this rule include compliance with the requirements of OAC rules 3745-21-09(DD) and 3745-21-09(EE). Fugitive emissions from equipment leaks are included in emissions unit P801.

b. The permittee shall comply with all applicable requirements of OAC rule 3745-21-09(DD). Fugitive emissions from equipment leaks are included in emissions unit P801.

c. The permittee shall vent emissions to a catalytic incinerator that is designed and operated to:

i. To reduce the VOC emissions vented to it with an efficiency of at least 98 percent by weight; or

ii. To emit VOC at a concentration less than twenty parts per million by volume, dry basis.

c) Operational Restrictions

(1) The catalytic incinerator shall be operated and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals. The conversion efficiency of the catalyst, as determined in an annual catalyst activity test, shall be sufficient to meet the destruction efficiency and control efficiency requirements of this permit at a test temperature that is equal to that temperature at which the inlet to the catalyst bed is set. Solvent loading during the catalyst activity test shall be consistent with the test laboratory's normal testing protocol.

d) Monitoring and/or Recordkeeping Requirements

(1) In order to maintain compliance with the applicable emission limitation(s) contained in this permit, the acceptable temperature of the exhaust gases immediately before the catalyst bed, during any period of time when the emissions unit(s) controlled by the catalytic incinerator is/are in operation, shall not be more than 50 degrees Fahrenheit below the average temperature measured during the most recent performance test that demonstrated the emissions unit(s) was/were in compliance.

[Note: The OAC rules do not restrict the catalytic incinerator to an average temperature not more than 50 degrees below that measured during the most recent compliant stack test, nor does it restrict the average temperature difference across the catalyst bed to a temperature equal or greater than 80% of the average temperature that was measured during the most recent compliant stack test; however, the rules do require continuous records of these temperatures and reporting of any 3-hour average temperature(s) that do not meet these requirements.]

(2) The permittee shall operate and maintain continuous temperature monitors and recorder(s) which measure and record(s) the temperature immediately upstream and downstream of the incinerators' catalyst bed when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The monitoring and recorder(s) shall be installed,

calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

The permittee shall collect and record the following information each day:

a. All 3-hour blocks of time (when the emissions unit was in operation) during which the average temperature of the exhaust gases immediately before the catalyst bed was more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance;

b. All 3-hour blocks of time (when the emissions unit was in operation) during which the average temperature difference across the catalyst bed was less than 80% of the average temperature difference during the most recent emission test that demonstrated the emissions unit was in compliance; and

c. A log of the downtime for the capture (collection) system, control device and monitoring equipment, when the associated emissions unit was in operation.

(3) The permittee shall perform a preventative maintenance inspection of the catalytic incinerator on an annual basis to evaluate the performance of the catalyst bed. Each inspection shall consist of internal and visual inspections in accordance with the manufacturer's recommendations, and shall include a physical inspection of the unit and all of the associated equipment, including but not limited to burners, controls, dampers, valves, and monitoring and recording equipment. Repair and replacement of equipment and the catalyst shall be performed as determined by the inspection. During each annual inspection a sample of the catalyst material shall be collected from the catalyst bed and used to perform a catalyst activity test. The permittee shall maintain a record of the results of each annual inspection and the results of each annual catalyst activity test.

The permittee shall also perform weekly inspections of the external integrity of the catalytic incinerator. Records shall be maintained of the inspections and the date(s) of catalyst replacement, and if only partial, the amount or percent of the total catalyst replaced.

e) Reporting Requirements

(1) The permittee shall submit quarterly summaries of the following records:

a. all 3-hour blocks of time (when the emissions unit(s) was/were in operation) during which the average temperature of the exhaust gases immediately before the catalyst bed was more than 50 degrees Fahrenheit below the average temperature established during the most recent performance test that demonstrated the emissions unit(s) was/were in compliance;

b. all 3-hour blocks of time (when the emissions unit(s) was/were in operation) during which the average temperature difference across the catalyst bed was less than 80 percent of the average temperature difference established during the most recent performance test that demonstrated the emissions unit(s) was/were in compliance;

c. any records of downtime (date and length of time) for the capture (collection) system, the catalytic incinerator, and/or the monitoring equipment when the emissions unit(s) was/were in operation; and

d. a log of the operating time for the capture system, catalytic incinerator, monitoring equipment, and the emissions unit(s).

These quarterly reports shall be submitted to the Toledo Division of Environmental Services by April 30, July 31, October 31, and January 31, and shall cover the records for the previous calendar quarters.

(2) Annual Permit Evaluation Report (PER) forms will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the PER in the form and manner provided by the director by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve-months for each air contaminant source identified in this permit.

(3) The permittee shall identify in the annual permit evaluation report the following information concerning the operations of the catalytic incinerator during the 12-month reporting period for this/these emissions unit(s):

a. each period of time (start time and date, and end time and date) when the average temperature of the exhaust gases immediately before the catalyst bed and/or the average temperature difference across the catalyst bed was outside of the acceptable ranges;

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 catalytic incinerator;

c. the results of any catalyst activity test(s) along with a summary of the results of the annual inspection of the internal integrity of the catalytic incinerator;

f) Testing Requirements

(1) Compliance with the emission limitations in b)(1) and b)(2) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitation:

VOC emissions from each emissions unit shall not exceed 0.22 pound per hour

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with OAC rule 3745-21-10(C). Alternative USEPA-approved test methods may be used with prior approval from the Ohio EPA.

b. Emission Limitation:

VOC emissions from each emissions unit shall not exceed 0.96 ton per year

Applicable Compliance Method:

Compliance may be determined by the following one-time calculation. Multiply the short-term allowable VOC emission limitation (0.22 lb/hr) by the maximum annual hours of operation (8,760 hours), and then divide by 2,000 pounds per ton.

c. Emission Limitation:

Formaldehyde emissions from each emissions unit shall not exceed 0.137 pound per hour

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emissions limitation through emission testing performed in accordance with Method 18 of 40 CFR Part 60, Appendix A. Alternative, USEPA-approved test methods may be used with prior approval from the Ohio EPA.

d. Emission Limitation:

Formaldehyde emissions from each emissions unit shall not exceed 0.6 ton per year

Applicable Compliance Method:

Compliance may be determined by the following one-time calculation. Multiply the short-term allowable formaldehyde emission limitation (0.137 lb/hr) by the maximum annual hours of operation (8,760 hours), and then divide by 2,000 pounds per ton.

e. Emission Limitation:

Methanol emissions from each emissions unit shall not exceed 0.023 pound per hour

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Method 308 of 40 CFR Part 63, Appendix A. Alternative, USEPA-approved test methods may be used with prior approval from the Ohio EPA.

f. Emission Limitation:

Methanol emissions from each emissions unit shall not exceed 0.1 ton per year

Applicable Compliance Method:

Compliance may be determined by the following one-time calculation. Multiply the short-term allowable methanol emission limitation (0.023 lb/hr) by the maximum annual hours of operation (8,760 hours), and then divide by 2,000 pounds per ton.

g. Emission Limitation:

Phenol emissions from each emissions unit shall not exceed 0.023 pound per hour

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with Method 18 of 40 CFR Part 60, Appendix A. Alternative, USEPA-approved test methods may be used with prior approval from the Ohio EPA.

h. Emission Limitation:

Phenol emissions from each emissions unit shall not exceed 0.1 ton per year

Applicable Compliance Method:

Compliance may be determined by the following one-time calculation. Multiply the short-term allowable methanol emission limitation (0.023 lb/hr) by the maximum annual hours of operation (8,760 hours), and then divide by 2,000 pounds per ton.

i. Emission Limitation:

Reduce VOC emissions with an efficiency of 98% by weight, or emit VOC at a concentration less than twenty parts per million by volume, dry basis

Applicable Compliance Method:

The methods and procedures of OAC rule 3745-21-10 shall be used to demonstrate compliance. Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA.

(2) The permittee shall conduct, or have conducted, emission testing for P001 and P002 in accordance with the following requirements:

a. The emission testing shall be conducted approximately 5 years after permit issuance and within 6 months prior to permit renewal.

The emission testing shall be conducted to demonstrate compliance with the requirement to reduce VOC emissions with an efficiency of 98% by weight, or emit VOC at a concentration less than twenty parts per million by volume, dry basis

b. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):

If required, the permittee shall demonstrate compliance with this emission limitation through emission testing performed in accordance with the methods and procedures specified in OAC rule 3745-21-10(C). The test methods and procedures selected shall be based on a consideration of the diversity of the

organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.

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

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

d. The permittee shall record the temperature immediately upstream and downstream of the incinerator's catalyst bed during each test run. The permittee shall determine the 3-hour average temperature immediately upstream and the 3-hour average temperature immediately downstream of the catalyst bed, and include the 3-hour average temperature values in the written test report.

e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. 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 District Office's or local air agency's refusal to accept the results of the emission test(s).

f. Personnel from the appropriate Ohio EPA District Office or local air agency 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 appropriate Ohio EPA District Office or local air agency 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 appropriate Ohio EPA District Office or local air agency.

g) Miscellaneous Requirements

(1) None.