



Environmental
Protection Agency

Ted Strickland, Governor
Lee Fisher, Lt. Governor
Chris Korleski, Director

8/23/2010

David Miller
FORT AMANDA SPECIALITIES LLC
1747 FORT AMANDA RD
LIMA, OH 45804-1864

RE: FINAL AIR POLLUTION PERMIT-TO-INSTALL AND OPERATE
Facility ID: 0302020097
Permit Number: P0086659
Permit Type: Renewal
County: Allen

Certified Mail

No	TOXIC REVIEW
No	PSD
No	SYNTHETIC MINOR TO AVOID MAJOR NSR
No	CEMS
No	MACT
Yes	NSPS
No	NESHAPS
No	NETTING
No	MAJOR NON-ATTAINMENT
No	MODELING SUBMITTED
No	SYNTHETIC MINOR TO AVOID TITLE V
No	FEDERALLY ENFORCABLE PTIO (FEPTIO)

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.

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

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

If you have any questions, please contact Ohio EPA DAPC, Northwest District Office at (419)352-8461 or the Office of Compliance Assistance and Pollution Prevention at (614) 644-3469. This permit can be accessed electronically on the DAPC Web page, www.epa.ohio.gov/dapc, by clicking the "Issued Air Pollution Control Permits" link.

Sincerely,

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

Cc: Ohio EPA-NWDO



FINAL

**Division of Air Pollution Control
Permit-to-Install and Operate
for
FORT AMANDA SPECIALITIES LLC**

Facility ID: 0302020097
Permit Number: P0086659
Permit Type: Renewal
Issued: 8/23/2010
Effective: 8/23/2010
Expiration: 8/23/2020



Division of Air Pollution Control
Permit-to-Install and Operate
for
FORT AMANDA SPECIALITIES LLC

Table of Contents

Authorization 1
A. Standard Terms and Conditions 3
1. What does this permit-to-install and operate ("PTIO") allow me to do?..... 4
2. Who is responsible for complying with this permit? 4
3. What records must I keep under this permit? 4
4. What are my permit fees and when do I pay them?..... 4
5. When does my PTIO expire, and when do I need to submit my renewal application? 4
6. What happens to this permit if my project is delayed or I do not install or modify my source? 5
7. What reports must I submit under this permit? 5
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? 5
9. What are my obligations when I perform scheduled maintenance on air pollution control equipment? ... 5
10. Do I have to report malfunctions of emissions units or air pollution control equipment? If so, how must I report? 5
11. Can Ohio EPA or my local air agency inspect the facility where the emission unit(s) is/are located? 6
12. What happens if one or more emissions units operated under this permit is/are shut down permanently? 6
13. Can I transfer this permit to a new owner or operator?..... 6
14. Does compliance with this permit constitute compliance with OAC rule 3745-15-07, "air pollution nuisance"? 6
15. What happens if a portion of this permit is determined to be invalid? 7
B. Facility-Wide Terms and Conditions..... 8
C. Emissions Unit Terms and Conditions 10
1. P001, Reactor 11
2. T007, Acetone Storage Tank (TA-05-001) 29
3. T014, MEH solution storage tank (TA-05-006) 48
4. T015, Waste condensate solution storage tank (TA-05-008)..... 67
5. Emissions Unit Group - 20 gallon DMH Storage Tank: T012, T013, 87

Authorization

Facility ID: 0302020097
Application Number(s): A0017448
Permit Number: P0086659
Permit Description: Renewal PTIO for the reactor system P001 and P005 and 5 storage tanks T007, T012-T015.
Permit Type: Renewal
Permit Fee: \$0.00
Issue Date: 8/23/2010
Effective Date: 8/23/2010
Expiration Date: 8/23/2020
Permit Evaluation Report (PER) Annual Date: Jan 1 - Dec 31, Due Feb 15

This document constitutes issuance to:

FORT AMANDA SPECIALITIES LLC
1747 FORT AMANDA RD
LIMA, OH 45804

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:

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

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: P0086659
Permit Description: Renewal PTIO for the reactor system P001 and P005 and 5 storage tanks T007, T012-T015.

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

- Emissions Unit ID: P001**
Company Equipment ID: Reactor
Superseded Permit Number:
General Permit Category and Type: Not Applicable
- Emissions Unit ID: T007**
Company Equipment ID: Acetone Storage Tank (TA-05-001)
Superseded Permit Number:
General Permit Category and Type: Not Applicable
- Emissions Unit ID: T014**
Company Equipment ID: MEH solution storage tank (TA-05-006)
Superseded Permit Number:
General Permit Category and Type: Not Applicable
- Emissions Unit ID: T015**
Company Equipment ID: Waste condensate solution storage tank (TA-05-008)
Superseded Permit Number:
General Permit Category and Type: Not Applicable

Group Name: 20 gallon DMH Storage Tank

Emissions Unit ID:	T012
Company Equipment ID:	DMH solution storage tank
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	T013
Company Equipment ID:	DMH/MEH solution swing storage tank (TA-05-007)
Superseded Permit Number:	
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. Unless otherwise specified, facilities subject to one or more synthetic minor restrictions must use Ohio EPA's "Air Services" to submit annual emissions associated with this permit requirement. 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 Ohio EPA DAPC, Northwest District Office 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 submitting¹ 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 emissions 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

¹ Permittees that use Ohio EPA's "Air Services" can mark the affected emissions unit(s) as "permanently shutdown" in the facility profile along with the date the emissions unit(s) was permanently removed and/or disabled. Submitting the facility profile update will constitute notifying of the permanent shutdown of the affected emissions unit(s).

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. P001, Reactor

Operations, Property and/or Equipment Description:

Reactor

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3) [PTI # 03-5696; issued 05/06/94]	0.20 lb hydrogen cyanide (HCN)/hr; 0.88 ton HCN/yr 0.04 lb formaldehyde/hr; 0.18 ton formaldehyde/yr
b.	OAC rule 3745-21-09(DD)	See b)(2)b. and b)(2)c.

(2) Additional Terms and Conditions

a. The emissions from this emissions unit shall be vented to the wet scrubber at all times the emissions unit is in operation.

b. The permittee of the process unit, producing one or more of the organic chemicals identified in Appendix A to OAC 3745-21-09 as an intermediate or final product, shall comply with the requirements identified in OAC 3745-21-09 paragraphs (DD)(2) to (DD)(6).

c. The permittee shall developed and implement a leak detection and repair program for the process unit in accordance with the requirements specified in OAC 3745-21-09 paragraphs (DD)(2)(b) to (DD)(2)(m).

c) Operational Restrictions

- (1) When a leak is detected the following procedures shall be followed:
 - a. a weatherproof identification tag with the equipment identification number and the date shall be immediately attached to the leaking equipment;
 - b. a record of the leak, the date it was first detected, and any attempt to repair the leak and date is entered into the leak repair log;
 - c. an identification tag that was attached to a leaking valve “in gas/vapor service” or “in light liquid service” may be removed only after the valve is repaired and found to have no leaks for two consecutive months; and
 - d. an identification tag attached to leaking equipment that is exempted from the monitoring requirements of OAC 3745-21-09(DD)(2)(b) may be removed immediately following the repair of the leak.
- (2) Repair of a leak shall be attempted no later than 5 calendar days after it is detected, where practicable, and shall include, but not limited to, the following best maintenance practices:
 - a. tightening of bonnet bolts;
 - b. replacement of bonnet bolts;
 - c. tightening of packing gland nuts; and
 - d. injection of lubricant into lubricated packing.
- (3) Except where meeting one of the conditions defined in OAC 3745-21-09(DD)(11), where a delay in repair is allowed, a leak shall be repaired as soon as practicable, but no later than 15 calendar days after it is detected. Leaking equipment shall be deemed repaired if the maximum VOC concentration is measured to be less than 10,000 ppmv.
- (4) Each compressor shall be equipped with a seal that has a barrier fluid system and sensor which comply with the requirements specified in OAC 3745-21-09(DD)(8), with the following exceptions:
 - a. any compressor designated for “no detectable emissions”, and meeting the requirements of OAC 3745-21-09 (DD)(7).
 - b. any compressors equipped with a closed vent system capable of capturing and transporting any leakage from the compressor seal to control equipment, where the closed vent system and the control equipment comply with the requirements specified in OAC 3745-21-09(DD)(9) and (DD)(10).
 - c. any reciprocating compressor that meets the following conditions:
 - i. the compressor was installed prior to May 9, 1986; and

- ii. the permittee demonstrates, to the satisfaction of the Director, that recasting the compressor distance piece or replacing the compressor are the only options available to bring it into compliance with the requirements to equip it with a seal with a barrier fluid system and sensor.
- (5) Except as otherwise provided below, any pressure relief device “in gas/vapor service” in the process unit shall comply with the following requirements:
- a. Except during pressure releases, the pressure relief device shall be operated with “no detectable emissions”, as indicated by an instrument reading of less than 500 ppmv above background, as measured by the method specified in OAC 3745-21-10(F)
 - b. No later than 5 calendar days after a pressure release, a pressure relief device shall be tested to confirm the condition of “no detectable emissions” in accordance with the method specified in OAC 3745-21-10(F).
 - c. Except for a delay of repair as provided in OAC 3745-21-09(DD)(11), a pressure relief device shall be returned to a condition of “no detectable emissions” as soon as practicable, but no later than 5 calendar days after a pressure release.

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 meeting the requirements specified in OAC 3745-21-09(DD)(9) and (DD)(10) is excluded from these requirements.

- (6) With the exception of an “in-situ sampling system” (a non-extractive sampler or an in-line sampler), each sampling connection system in the process unit 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 control equipment requirements specified in OAC 3745-21-09(DD)(10).
- (7) Each open-ended valve or line in the process unit shall be equipped with a cap, blind flange, plug, or second valve which shall comply with the following requirements:
- a. 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.
 - b. 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.

- c. A bleed valve or line from a double block and bleed system may remain open during operations that require venting the line between the block valves, but the line/valve shall be sealed (as in “a” above) at all other times.
- (8) A pump or compressor equipped with a seal that has a barrier fluid system and sensor, which are employed to meet the requirements of OAC 3745-21-09(DD)(2)(d)(ii) for a pump or 3745-21-09(DD)(3)(a) and (b) for a compressor, shall be operated and maintained to comply with the following requirements.
- a. The barrier fluid system shall meet one of the three following conditions:
 - i. The barrier fluid system is operated with a barrier fluid at a pressure that is greater, at all times, 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 OAC 3745-21-09(DD)(9) and (DD)(10).
 - 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.
 - b. The barrier fluid system shall be “in heavy liquid service” or shall not be “in VOC service”.
 - c. 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 design criteria and operating experience of the permittee.
- (9) A delay of the repair of a detected leak or a delay in returning a pressure relief valve/device to a condition of “no detectable emissions” shall be allowed only if complying with the following requirements:
- a. A delay of repair shall be allowed if the repair is technically infeasible without shutdown of the process unit. 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. it can be demonstrated that the emissions from purged material resulting from immediate repair is greater than the emissions likely to result from delay of repair; and
 - ii. the purged material is collected and destroyed or recovered in control equipment that meets the requirements specified in OAC 3745-21-09(DD)(10).

- d. A delay of repair for a valve beyond a process unit shutdown shall be allowed if:
 - i. a valve assembly replacement is necessary during the process unit shutdown, and
 - ii. the valve assembly supplies have been depleted, and
 - iii. 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 the valve unless the next process unit shutdown occurs sooner than 6 months after the first process unit shutdown.

- e. 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 6 months after the leak was detected.

d) **Monitoring and/or Recordkeeping Requirements**

- (1) In order to maintain compliance with the applicable emission limitation(s) contained in this permit, the acceptable range or limit for the pressure drop across the scrubber, the liquid flow rate, and the liquid pH shall be based upon the manufacturer's specifications until such time as any required performance testing is conducted and the appropriate range for each parameter is established to demonstrate compliance.
- (2) The permittee shall properly install, operate, and maintain equipment to continuously monitor and alarm the suction pressure to the scrubber eductors (in pounds per square inch, gauge), the scrubber solution flow to the scrubber eductors (in gallons per minute), and the scrubber solution flow to the scrubber column (in gallons per minute) during operation of this emissions unit, including periods of startup and shutdown. The permittee shall record the suction pressure to the scrubber eductors, the scrubber solution flow to the scrubber eductors, and the scrubber solution flow to the scrubber column on daily basis. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s), with any modifications deemed necessary by the permittee.

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

- a. the date and time the deviation began;
- b. the magnitude of the deviation at that time;
- c. the date the investigation was conducted;

- d. the name(s) of the personnel who conducted the investigation; and
- e. the findings and recommendations.

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

- a. a description of the corrective action;
- b. the date the corrective action was completed;
- c. the date and time the deviation ended;
- d. the total period of time (in minutes) during which there was a deviation;
- e. the pressure drop, flow rate, and pH readings immediately after the corrective action was implemented; and
- f. the name(s) of the personnel who performed the work.

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

These range(s) and/or limit(s) for the suction pressure to the scrubber eductors, the scrubber solution flow to the scrubber eductors, and the scrubber solution flow to the scrubber column are effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the appropriate Ohio EPA District Office or local air agency. The permittee may request revisions to the permitted range or limit for the suction pressure to the scrubber eductors, the scrubber solution flow to the scrubber eductors, and the scrubber solution flow to the scrubber column based upon information obtained during future performance tests that demonstrate compliance with the allowable HCN and formaldehyde emission rate for this emissions unit. In addition, approved revisions to the range or limit will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of an administrative modification.

- (3) Except as otherwise provided in OAC 3745-21-09(DD)(2)(c) and (DD)(2)(d), equipment shall be monitored for leaks in accordance with the method specified OAC 3745-21-10(F) and as follows:
 - a. Any pump “in light liquid service” shall be monitored monthly.
 - b. Any valve “in gas/vapor service” or “in light liquid service” shall be monitored monthly, except that quarterly monitoring may be employed where no leaks are detected during two consecutive months. Quarterly monitoring may begin with the next calendar quarter following the two consecutive months of no detected

leaks. Monitoring shall be conducted in the first month of each calendar quarter; and quarterly monitoring may continue until a leak is detected, at which time monitoring shall again be employed monthly.

- c. The following equipment shall be monitored within 5 calendar days after evidence of a leak or potential leak from the equipment by visual, audible, olfactory, or other detection method:
 - i. a pump “in heavy liquid service”;
 - ii. a valve “in heavy liquid service”;
 - iii. a pressure relief device “in light liquid service” or “in heavy liquid service”;
and
 - iv. a flange or other connector.
 - d. Any equipment in which a leak is detected, as defined in OAC 3745-21-09(DD)(2)(g), shall be monitored within 5 working days after each attempt to repair it, unless the equipment was not successfully repaired.
- (4) 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 OAC 3745-21-09(DD)(2)(b)(ii), above, if meeting one of the three following requirements:
- a. The valve is designated as “difficult to monitor” and is monitored once each calendar year if meeting all of the following conditions:
 - i. construction of the process unit commenced prior to May 9, 1986;
 - ii. the permittee demonstrates that the valve cannot be monitored without elevating the monitoring personnel more than 6 feet above a support surface; and
 - iii. the permittee has a written plan that requires monitoring of the valve at least once per year.
 - b. The valve is designated as “unsafe to monitor” and is monitored as frequently as practical during times when it is safe to monitor, provided the following conditions are met:
 - i. the permittee 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; and
 - ii. the permittee adheres to a written plan that requires monitoring of the valve as frequently as practical during times when it is safe to monitor.
 - c. The valve qualifies for an alternative monitoring schedule based on a “skip period” as allowed per OAC 3745-21-09(DD)(12).

- (5) The permittee may elect to implement an alternative monitoring schedule, to that of OAC 3745-21-09(DD)(2)(b)(ii) and as identified below, for the process unit valves if the following conditions are met:
- a. no more than 2.0% of the process unit valves are leaking;
 - b. the permittee notifies the Director (the appropriate district office or local air agency) prior to implementing the alternative monitoring schedule; and such notification identifies:
 - i. which valves will be subject to the alternative monitoring schedule; and
 - ii. which work practice, identified in OAC 3745-21-09(DD)(12)(e), will be implemented;
 - c. the permittee monitors the valves initially monthly, to quarterly, as allowed and according to the requirements specified in OAC 3745-21-09(DD)(2)(b)(ii); and
 - d. the valves continue to meet with the conditions specified in OAC 3745-21-09(DD)(2)(g) to (DD)(2)(m).

If meeting all of the above conditions (“a” through “d”), one of the following monitoring periods for valve leak detection may be implemented:

- e. after two consecutive quarterly leak detection periods with 2.0% or less of the process unit valves leaking, a monitoring program may begin in which the first quarter of every two consecutive quarterly leak detection periods is skipped; or
- f. after 5 consecutive quarterly leak detection periods with 2.0% or less of the process unit valves leaking, a monitoring program may begin in which the first three quarters of every four consecutive quarterly periods is skipped.

The alternative monitoring schedule shall be based on skipping quarterly monitoring periods. Any valve “in vacuum service”, “in heavy liquid service”, or not “in VOC service” shall be excluded from the monitoring schedule. If the percentage of valves leaking from the process unit becomes greater than 2.0%, the permittee shall again comply with the monitoring requirements specified in OAC 3745-21-09(DD)(2)(b)(ii), but may revert to this alternative monitoring schedule after meeting and documenting all of the above requirements.

- (6) The percentage of valves leaking, used to qualify for “skipped period” alternative monitoring schedule, shall be determined 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 100.
- (7) The following information shall be recorded in a log, that is kept in a readily accessible location, if the “skipped period” alternative monitoring schedule for leak detection of process unit valves is established:

- a. the identification numbers of the valves subject to the alternative monitoring schedule;
 - b. the schedule established for monitoring the subject valves;
 - c. the valves exempt from the alternative monitoring schedule and reason for the exemption, i.e., "in vacuum service", "in heavy liquid service", or not "in VOC service";
 - d. the percentage of valves leaking during each monitoring period; and
 - e. the maximum instrument reading and date each valve was monitored.
- (8) The permittee may elect to implement an alternative monitoring schedule to that of OAC 3745-21-09(DD)(2)(b)(ii) for the process unit valves, as provided in OAC 3745-21-09(DD)(2)(d)(v), if the following conditions are met:
- a. it can be demonstrated that no more than 2.0% of the process unit valves are leaking;
 - b. the permittee notifies the Director (the appropriate district office or local air agency) prior to implementing the alternative monitoring standard;
 - c. the demonstration of compliance to document that the percentage of valves leaking does not exceed 2.0% is conducted initially upon implementation and annually thereafter and as follows:
 - i. all valves subject to the alternative monitoring standard shall be monitored for leaks within a one-week period by the method specified in OAC 3745-21-10(F);
 - ii. any leak detected and measured with an instrument reading of 10,000 ppmv or greater shall be recorded as a leak; and
 - 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 100.
- 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 valves not "in VOC service", valves "in vacuum service", and valves which are designated as unsafe to monitor as provided in OAC 3745-21-09(DD)(2)(c)(ii).
- (9) When a leak is detected as described above, the leaking valve shall be repaired in accordance with OAC 3745-21-09(DD)(2)(h) and (DD)(2)(i). If the percentage of valves leaking from the process unit becomes greater than 2.0%, the permittee shall again comply with the monitoring requirements specified in OAC 3745-21-09(DD)(2)(b)(ii), but may revert to this alternative monitoring schedule after meeting and documenting all of the above requirements.
- (10) The following equipment is excluded from the monitoring requirements of OAC 3745-21-09(DD)(2)(b):

- a. any pump that has no externally actuated shaft penetrating the pump housing and that is designated for no detectable emissions as provided in OAC 3745-21-09(DD)(7);
 - b. 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 OAC 3745-21-09 (DD)(8);
 - c. 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 OAC 3745-21-09(DD)(9) and (DD)(10);
 - d. any valve that has no externally actuated stem penetrating the valve and that is designated for “no detectable emissions” as provided in OAC 3745-21-09(DD)(7); and
 - e. any valve that qualifies for the alternative monitoring standard based on the percentage of valves leaking, as provided in OAC 3745-21-09(DD)(13).
- (11) 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 OAC 3745-21-09(DD)(9) and (DD)(10).
- (12) Any sensor employed pursuant to OAC 3745-21-09(DD)(2)(d)(ii), for a pump equipped with a dual mechanical seal using a barrier fluid system and sensor; or a sensor employed pursuant to OAC 3745-21-09(DD)(3)(b), for a compressor equipped with a seal using a barrier fluid system and sensor; and complying with the requirements specified in OAC 3745-21-09(DD)(8), shall be checked daily, unless the sensor is equipped with an audible alarm.
- (13) A leak is detected when:
- a. a concentration of 10,000 ppmv or greater is measured from a potential leak interface of any equipment, that is monitored for leaks using the method specified in OAC 3745-21-10(F);
 - b. there is an indication of liquids dripping from the seal of a pump “in light liquid service”; or
 - c. a sensor employed pursuant to OAC 3745-21-09(DD)(2)(d)(ii) or (DD)(3)(b) indicates failure of the seal system, the barrier fluid system, or both.
- (14) When a leak is detected, the following information shall be recorded in the leak repair log:
- a. the identification number of the leaking equipment;
 - b. for each leak required to be monitored, the identification numbers of the leak detection instrument and its operator;

- c. how the leak was detected, e.g., monitoring, visual inspection, odor detected, or sensor alarm/signal;
 - d. the date on which the leak was detected and the date of each attempt to repair the leaking equipment;
 - e. the methods of repair applied in each attempt to repair the leak;
 - f. one of the following entries within 5 working days after each attempt to repair the leaking equipment:
 - i. "not monitored," denoting the leaking equipment was presumed to still be leaking and it was not monitored; or
 - ii. if the leaking equipment was monitored with a leak detection instrument, the maximum concentration that was measured as follows:
 - (a) the actual reading in ppmv; or
 - (b) a record stating that the measured concentration was "below 10,000 ppmv"; or
 - (c) a record stating that the measured concentration was "above 10,000 ppmv";
 - g. if the leak is not repaired within 15 calendar days after the date on which it was detected:
 - i. a record stating that repair was delayed and the reason for the delay;
 - ii. if repair is being delayed until the next process unit shutdown due to technical infeasibility of repair, the signature of the operator whose decision it was that repair is technically infeasible without a process unit shutdown;
 - iii. the expected date of successful repair of the leak; and
 - iv. the dates of process unit shutdowns that occur while the leaking equipment is unrepaired; and
 - h. the date on which the leak was successfully repaired.
- (15) The leak repair log shall be kept in a readily accessible location and maintained by the operator of the process unit. Each record shall be retained in the log for a minimum of two years following the date on which it was recorded.
- (16) The following information shall be recorded for the/each process unit in a log that is kept in a readily accessible location:
- a. a list of identification numbers for equipment subject to the requirements of OAC 3745-21-09(DD)(2) to (DD)(10);

- b. a list of identification numbers for equipment designated for “no detectable emissions” as provided in OAC 3745-21-09(DD)(7), and the signature of the permittee/operator authorizing the designation of each piece of equipment;
- c. a list of identification numbers for pressure relief devices subject to OAC 3745-21-09(DD)(4);
- d. a list of identification numbers for closed vent systems subject to OAC 3745-21-09(DD)(9);
- e. for compliance tests required under OAC 3745-21-09(DD)(4)(c), (DD)(7)(c), and (DD)(9)(c):
 - i. the date each compliance test is conducted;
 - ii. the background VOC emissions level measured during each compliance test; and
 - iii. the maximum instrument reading measured at the equipment during each compliance test;
- f. the following information pertaining to valves subject to an alternative monitoring schedule, as provided in OAC 3745-21-09(DD)(2)(c):
 - 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 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; and
 - iii. a list of identification numbers for valves subject to the alternative monitoring schedule based on a “skip period”, a schedule for monitoring these valves, and the percentage of valves leaking during each monitoring period;
- g. the following information pertaining to closed vent systems and control equipment meeting the requirements of OAC 3745-21-09(DD)(9) and (DD)(10):
 - i. detailed schematics, design specifications, and piping and instrumentation diagrams for the closed vent systems and collection and control equipment;
 - ii. the dates and descriptions of any changes in the design specifications above;
 - iii. a description of the parameter(s) monitored, as required in OAC 3745-21-09(DD)(10)(d), to ensure that the control equipment is operated and maintained in conformance with its design, and the reason for selecting the parameter(s);

- iv. 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
- v. dates of startups and shutdowns of the closed vent systems and control equipment;
- h. the following information pertaining to barrier fluid systems and sensors described in OAC 3745-21-09(DD)(8):
 - 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 OAC 3745-21-09(DD)(8)(d) and an explanation of the criteria; and
 - iii. any changes to such criteria and the reasons for the changes;
- i. the following information for use in determining an exemption for the process unit as provided in OAC 3745-21-09(DD)(17)(a):
 - i. an analysis demonstrating the design capacity of the process unit;
 - ii. 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
 - iii. an analysis demonstrating that equipment that is documented as “not in VOC service” meets this condition; and
- j. the following information pertaining to specific equipment that are exempt as provided in OAC 3745-21-09(DD)(17)(b):
 - i. a list of identification numbers of equipment “in vacuum service”;
 - ii. a list of identification numbers of equipment “not in VOC service” and the information or data used to demonstrate this; and
 - iii. a list of equipment subject to an equivalent emission requirement that is approved by the Director pursuant to OAC 3745-21-09 (DD)(16).

One recordkeeping system may be used to comply with the recordkeeping requirements for multiple process units provided the system identifies each process unit to which each record pertains.

- (17) The following facility process units are exempted from the requirements of OAC 3745-21-09(DD)(2) to (DD)(6). Records shall be maintained to identify and document the process unit equipment meeting these requirements:
- a. any process unit that has a design capacity to produce less than 1,100 tons per year;

- b. any process unit that produces only heavy liquid chemicals from heavy liquid feed or raw materials;
 - c. any process unit that produces beverage alcohol;
 - d. any process unit that has no equipment "in VOC service" as determined in accordance with OAC 3745-21-10(O)(2); and
 - e. any process unit at a petroleum refinery, as defined in OAC 3745-21-01(E)(15).
- (18) The following process equipment are exempt from the requirements of OAC 3745-21-09(DD)(2) to (DD)(6). Records shall be maintained to identify and document the process unit equipment meeting these requirements:
- a. any equipment "not in VOC service", as determined in accordance with OAC 3745-21-10(O)(2);
 - b. any equipment "in vacuum service"; and
 - c. any equipment subject to an equivalent emission limitation as provided in OAC 3745-21-09(DD)(16).
- e) Reporting Requirements
- (1) 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.
 - (2) The permittee shall identify in the annual permit evaluation report the following information concerning the operations of the wet scrubber 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 pressure drop across the scrubber, the liquid flow rate, or the liquid pH was/were outside of the appropriate range or exceeded the applicable limit contained in this permit;
 - 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 scrubber;
 - c. each incident of deviation described in e)(2)a. or e)(2)b. (above) where a prompt investigation was not conducted;
 - d. each incident of deviation described in e)(2)a. or e)(2)b. where prompt corrective action, that would bring the pressure drop, liquid flow rate, and/or scrubber liquid pH into compliance with the appropriate range or limit contained in this permit, was determined to be necessary and was not taken; and

- e. each incident of deviation described in e)(2)a. or e)(2)b. where proper records were not maintained for the investigation and/or the corrective action(s), as identified in the monitoring and record keeping requirements of this permit.
- (3) Semiannual reports shall be submitted to the Director by the first day of February and August and shall include the following information for each preceding semiannual period of operations:
- a. the process unit identification;
 - b. the number of pumps “in light liquid service” associated with the process unit, excluding:
 - i. pumps that have no externally actuated shaft penetrating the pump housing and designated for “no detectable emissions”; and
 - ii. pumps equipped with a closed vent system capable of capturing and transporting leakage from the pump seal to control equipment meeting the requirements of OAC 3745-21-09(DD)(9) and (DD)(10);
 - c. the number of valves “in gas/vapor service” or “in light liquid service” associated with the process unit, excluding:
 - i. valves that have no externally actuated stem penetrating the valve and designated for “no detectable emission”; and
 - ii. valves qualified for the alternative monitoring standard based on the percentage of valves leaking, under the provision of OAC 3745-21-09(DD)(13);
 - d. the number of compressors associated with the process unit, excluding:
 - i. compressors designated for and meeting the requirements for “no detectable emissions”;
 - ii. compressors equipped with a closed vent system capable of capturing and transporting leakage from the compressor seal to control equipment meeting the requirements of OAC 3745-21-09(DD)(9) and (DD)(10); and/or
 - iii. reciprocating compressors installed prior to 5/9/86, where it can be demonstrated that recasting or replacing the compressor would be the only means of complying with the requirement to equip it with a seal with a barrier fluid system and sensor;
 - e. for each month during the semiannual period:
 - i. the number of pumps “in light liquid service” for which leaks were detected (as required in this permit);
 - ii. the number of pumps “in light liquid service” for which leaks were not repaired within 15 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 required in this permit);
 - iv. the number of valves “in gas/vapor service” or “in light liquid service” for which leaks were not repaired within 15 calendar days after the date of leak detection;
 - v. the number of compressors for which leaks were detected (as required in this permit);
 - vi. the number of compressors for which leaks were not repaired within 15 calendar days after the date of leak detection; and
 - vii. for each delay of repair allowed pursuant to OAC 3745-21-09(DD)(11), the reason for the delay;
- f. the dates of process unit shutdowns that occurred within the semiannual period; and
 - g. the results of compliance tests for equipment identified as having “no detectable emissions”, along with the associated equipment identification numbers from the compliance log.

Semiannual reports shall be submitted to the appropriate Ohio EPA district office or local air agency by the first day of February and August and shall include information for the preceding semiannual period.

- (4) The permittee shall notify the appropriate Ohio EPA district office or local air agency of the intent-to-test the process control equipment not less than 30 days before the proposed initiation of the testing. The following information shall be included in the notification
 - a. a statement indicating the purpose of the proposed test and the applicable paragraph of OAC 3745-21-09 for which compliance will be demonstrated;
 - b. a detailed description of the process unit and control device to be tested;
 - c. a detailed description of the test procedures, equipment and sampling sites; and
 - d. a timetable, setting forth the dates on which:
 - i. the testing will be conducted; and
 - ii. the final test report will be submitted.

The results of such compliance tests shall be reported to the appropriate Ohio EPA district office or local air agency within 30 days following the test date.

f) Testing Requirements

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

- a. The emission testing shall be conducted within 6 months after permit issuance.
- b. The emission testing shall be conducted to demonstrate compliance with the suction pressure to the scrubber educators, the scrubber solution flow to the scrubber educators, and the scrubber solution flow to the scrubber column.
- c. The following test methods shall be employed to demonstrate compliance with the above emissions limitations: for PM10, 40 CFR Part 60, Appendix A, Methods 1-4 and appropriate methodology as approved by Ohio EPA. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA, NWDO.
- d. The test(s) shall be conducted while the emissions unit is operating at its maximum capacity, unless otherwise specified or approved by the Ohio EPA, NWDO.
- e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA, NWDO. 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, NWDO's refusal to accept the results of the emission test(s).

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

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

- a. Emission Limitation:
0.20 lb HCN/hr; 0.88 ton HCN/yr

Applicable Compliance Method:
Compliance shall be based upon stack testing performed in accordance with Methods 1-4 of 40 CFR, Part 60, Appendix A and appropriate methodology as approved by Ohio EPA.

The annual emission limitation shall be determined by multiplying the lbs/hr by a maximum operating schedule of 8760 hrs/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the daily limitation, compliance with the annual emission limitation shall also be demonstrated.

- b. Emission Limitation:
0.04 lb formaldehyde/hr; 0.18 ton formaldehyde/yr

Applicable Compliance Method:

Compliance shall be based upon stack testing performed in accordance with Methods 1-4 of 40 CFR, Part 60, Appendix A and appropriate methodology as approved by Ohio EPA.

The annual emission limitation shall be determined by multiplying the lbs/hr by a maximum operating schedule of 8760 hrs/yr and dividing by 2000 lbs/ton. Therefore, provided compliance is shown with the daily limitation, compliance with the annual emission limitation shall also be demonstrated.

- g) Miscellaneous Requirements

- (1) None.

2. T007, Acetone Storage Tank (TA-05-001)

Operations, Property and/or Equipment Description:

Fixed Roof Acetone 30,000 Gallon 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 operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3) [PTI # 03-7777; issued 06/08/94]	2.78 ton volatile organic compound (VOC)/yr See b)(2)a.
b.	40 CFR Part 60 Subpart Kb	See b)(2)b., d)(1) through d)(5), e)(2) and e)(3)
c.	OAC rule 3745-21-09(DD)	See b)(2)b. and b)(2)c.

(2) Additional Terms and Conditions

a. Best Available Technology (BAT) requirements for this emissions unit have been determined to be the use of submerge fill and a condenser and compliance with the terms and conditions of this permit.

b. The fixed roof storage tank shall be equipped with an internal floating roof meeting the following specifications:

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 readily as possible.

- ii. Each internal floating roof shall be equipped with one of the following closure devices between the wall of the storage vessel and the edge of the internal floating roof:
 - (a) A foam- or liquid-filled seal mounted in contact with the liquid (liquid-mounted seal). A liquid-mounted seal means a foam- or liquid-filled seal mounted in contact with the liquid between the wall of the storage vessel and the floating roof continuously around the circumference of the tank.
 - (b) Two seals mounted one above the other so that each forms a continuous closure that completely covers the space between the wall of the storage vessel and the edge of the internal floating roof. The lower seal may be vapor-mounted but both must be continuous.
 - (c) 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.
- 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.
- 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.
- 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.
- vi. Rim space vents shall be equipped with a gasket and are set to be open only when the internal floating roof is not floating or at the manufacturer's recommended setting.
- 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.

- 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 gasketed sliding cover.
 - ix. Each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover.
 - c. The permittee of the process unit, producing one or more of the organic chemicals identified in Appendix A to OAC 3745-21-09 as an intermediate or final product, shall comply with the requirements identified in OAC 3745-21-09 paragraphs (DD)(2) to (DD)(6).
 - d. The permittee shall developed and implement a leak detection and repair program for the process unit in accordance with the requirements specified in OAC 3745-21-09 paragraphs (DD)(2)(b) to (DD)(2)(m).
- c) Operational Restrictions
- (1) When a leak is detected the following procedures shall be followed:
 - a. a weatherproof identification tag with the equipment identification number and the date shall be immediately attached to the leaking equipment;
 - b. a record of the leak, the date it was first detected, and any attempt to repair the leak and date is entered into the leak repair log;
 - c. an identification tag that was attached to a leaking valve "in gas/vapor service" or "in light liquid service" may be removed only after the valve is repaired and found to have no leaks for two consecutive months; and
 - d. an identification tag attached to leaking equipment that is exempted from the monitoring requirements of OAC 3745-21-09(DD)(2)(b) may be removed immediately following the repair of the leak.
 - (2) Repair of a leak shall be attempted no later than 5 calendar days after it is detected, where practicable, and shall include, but not limited to, the following best maintenance practices:
 - a. tightening of bonnet bolts;
 - b. replacement of bonnet bolts;
 - c. tightening of packing gland nuts; and
 - d. injection of lubricant into lubricated packing.
 - (3) Except where meeting one of the conditions defined in OAC 3745-21-09(DD)(11), where a delay in repair is allowed, a leak shall be repaired as soon as practicable, but no later than 15 calendar days after it is detected. Leaking equipment shall be deemed repaired if the maximum VOC concentration is measured to be less than 10,000 ppmv.

- (4) Each compressor shall be equipped with a seal that has a barrier fluid system and sensor which comply with the requirements specified in OAC 3745-21-09(DD)(8), with the following exceptions:
- a. any compressor designated for “no detectable emissions”, and meeting the requirements of OAC 3745-21-09 (DD)(7).
 - b. any compressors equipped with a closed vent system capable of capturing and transporting any leakage from the compressor seal to control equipment, where the closed vent system and the control equipment comply with the requirements specified in OAC 3745-21-09(DD)(9) and (DD)(10).
 - c. any reciprocating compressor that meets the following conditions:
 - i. the compressor was installed prior to May 9, 1986; and
 - ii. the permittee demonstrates, to the satisfaction of the Director, that recasting the compressor distance piece or replacing the compressor are the only options available to bring it into compliance with the requirements to equip it with a seal with a barrier fluid system and sensor.
- (5) Except as otherwise provided below, any pressure relief device “in gas/vapor service” in the process unit shall comply with the following requirements:
- a. Except during pressure releases, the pressure relief device shall be operated with “no detectable emissions”, as indicated by an instrument reading of less than 500 ppmv above background, as measured by the method specified in OAC 3745-21-10(F)
 - b. No later than 5 calendar days after a pressure release, a pressure relief device shall be tested to confirm the condition of “no detectable emissions” in accordance with the method specified in OAC 3745-21-10(F).
 - c. Except for a delay of repair as provided in OAC 3745-21-09(DD)(11), a pressure relief device shall be returned to a condition of “no detectable emissions” as soon as practicable, but no later than 5 calendar days after a pressure release.

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 meeting the requirements specified in OAC 3745-21-09(DD)(9) and (DD)(10) is excluded from these requirements.

- (6) With the exception of an “in-situ sampling system” (a non-extractive sampler or an in-line sampler), each sampling connection system in the process unit 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 control equipment requirements specified in OAC 3745-21-09(DD)(10).
- (7) Each open-ended valve or line in the process unit shall be equipped with a cap, blind flange, plug, or second valve which shall comply with the following requirements:
- a. 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.
 - b. 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.
 - c. A bleed valve or line from a double block and bleed system may remain open during operations that require venting the line between the block valves, but the line/valve shall be sealed (as in "a" above) at all other times.
- (8) A pump or compressor equipped with a seal that has a barrier fluid system and sensor, which are employed to meet the requirements of OAC 3745-21-09(DD)(2)(d)(ii) for a pump or 3745-21-09(DD)(3)(a) and (b) for a compressor, shall be operated and maintained to comply with the following requirements.
- a. The barrier fluid system shall meet one of the three following conditions:
 - i. The barrier fluid system is operated with a barrier fluid at a pressure that is greater, at all times, 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 OAC 3745-21-09(DD)(9) and (DD)(10).
 - 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.
 - b. The barrier fluid system shall be "in heavy liquid service" or shall not be "in VOC service".
 - c. 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 design criteria and operating experience of the permittee.
- (9) A delay of the repair of a detected leak or a delay in returning a pressure relief valve/device to a condition of "no detectable emissions" shall be allowed only if complying with the following requirements:
- a. A delay of repair shall be allowed if the repair is technically infeasible without shutdown of the process unit. 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. it can be demonstrated that the emissions from purged material resulting from immediate repair is greater than the emissions likely to result from delay of repair; and
 - ii. the purged material is collected and destroyed or recovered in control equipment that meets the requirements specified in OAC 3745-21-09(DD)(10).
- d. A delay of repair for a valve beyond a process unit shutdown shall be allowed if:
 - i. a valve assembly replacement is necessary during the process unit shutdown, and
 - ii. the valve assembly supplies have been depleted, and
 - iii. 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 the valve unless the next process unit shutdown occurs sooner than 6 months after the first process unit shutdown.

- e. 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 6 months after the leak was detected.

d) **Monitoring and/or Recordkeeping Requirements**

- (1) The permittee shall keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. These records shall be kept for the life of the source.
- (2) The permit shall maintain records of the following information:
 - a. The types of liquids stored in the tank;
 - b. The period of storage; and
 - c. The maximum true vapor pressure (in pounds per square inch absolute), as stored, of each liquid that has a maximum true vapor pressure greater than 1.0 pound per square inch absolute. Available data on the storage temperature may be used to determine the maximum true vapor pressure as in the following:

- i. 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.
 - ii. For other liquids, the vapor pressure:
 - (a) May be obtained from standard reference texts; or
 - (b) Determined by ASTM D2879-83, 96, or 97 (incorporated by reference – see 40 CFR 60.17); or
 - (c) Measured by an appropriate method approved by the Administrator; or
 - (d) Calculated by an appropriate method approved by the Administrator.
- (3) After installing the internal floating roof, the permittee shall:
- a. 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 owner or operator shall repair the items before filling the storage vessel.
 - b. For vessels equipped with a liquid-mounted or mechanical shoe primary seal, visually inspect the internal floating roof and the primary seal or the secondary seal (in one is in service) 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 owner or operator 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 Administrator in the inspection report required in e)(1)b. 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.
 - c. For vessels equipped with a double-seal system as specified in b)(2)a.ii.(b):
 - i. Visually inspect the vessel as specified in d)(3)d. at least every 5 years; or
 - ii. Visually inspect the vessel as specified in d)(3)b.

- d. The permittee shall 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 seal fabric, or the secondary seal has holes, tears, or other openings in the seal or 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 owner or operator 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 d)(3)b. and d)(3)c.ii. and at intervals no greater than 5 years in the case of vessels specified in d)(3)c.i.
- (4) After installing the internal floating roof, the permittee shall keep a record of each inspection performed as required by d)(3)a. through d)(3)d. 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 owner or operator of each vessel storing a waste mixture of indeterminate or variable composition shall be subject to the following requirements:
 - a. Prior to the initial filling of the vessel, the highest maximum true vapor pressure for the range of anticipated liquid compositions to be stored will be determined using the methods described in d)(2)c.
 - b. For vessels in which the vapor pressure of the anticipated liquid composition is above 76.6 kPa (11.1 psia), an initial physical test of the vapor pressure is required; and a physical test at least every 6 months thereafter is required as determined by the following methods:
 - i. ASTM Method D2879-83 (incorporated by reference – see 40 CFR 60.17); or
 - ii. ASTM Method D323-83 (incorporated by reference – see 40 CFR 60.17); or
 - iii. As measured by an appropriate method as approved by the Administrator. [40 CFR 60.116b(f)]
 - (6) Except as otherwise provided in OAC 3745-21-09(DD)(2)(c) and (DD)(2)(d), equipment shall be monitored for leaks in accordance with the method specified OAC 3745-21-10(F) and as follows:
 - a. Any pump “in light liquid service” shall be monitored monthly.
 - b. Any valve “in gas/vapor service” or “in light liquid service” shall be monitored monthly, except that quarterly monitoring may be employed where no leaks are detected during two consecutive months. Quarterly monitoring may begin with the next calendar quarter following the two consecutive months of no detected

leaks. Monitoring shall be conducted in the first month of each calendar quarter; and quarterly monitoring may continue until a leak is detected, at which time monitoring shall again be employed monthly.

- c. The following equipment shall be monitored within 5 calendar days after evidence of a leak or potential leak from the equipment by visual, audible, olfactory, or other detection method:
 - i. a pump “in heavy liquid service”;
 - ii. a valve “in heavy liquid service”;
 - iii. a pressure relief device “in light liquid service” or “in heavy liquid service”;
and
 - iv. a flange or other connector.
 - d. Any equipment in which a leak is detected, as defined in OAC 3745-21-09(DD)(2)(g), shall be monitored within 5 working days after each attempt to repair it, unless the equipment was not successfully repaired.
- (7) 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 OAC 3745-21-09(DD)(2)(b)(ii), above, if meeting one of the three following requirements:
- a. The valve is designated as “difficult to monitor” and is monitored once each calendar year if meeting all of the following conditions:
 - i. construction of the process unit commenced prior to May 9, 1986;
 - ii. the permittee demonstrates that the valve cannot be monitored without elevating the monitoring personnel more than 6 feet above a support surface; and
 - iii. the permittee has a written plan that requires monitoring of the valve at least once per year.
 - b. The valve is designated as “unsafe to monitor” and is monitored as frequently as practical during times when it is safe to monitor, provided the following conditions are met:
 - i. the permittee 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; and
 - ii. the permittee adheres to a written plan that requires monitoring of the valve as frequently as practical during times when it is safe to monitor.
 - c. The valve qualifies for an alternative monitoring schedule based on a “skip period” as allowed per OAC 3745-21-09(DD)(12).

- (8) The permittee may elect to implement an alternative monitoring schedule, to that of OAC 3745-21-09(DD)(2)(b)(ii) and as identified below, for the process unit valves if the following conditions are met:
- a. no more than 2.0% of the process unit valves are leaking;
 - b. the permittee notifies the Director (the appropriate district office or local air agency) prior to implementing the alternative monitoring schedule; and such notification identifies:
 - i. which valves will be subject to the alternative monitoring schedule; and
 - ii. which work practice, identified in OAC 3745-21-09(DD)(12)(e), will be implemented;
 - c. the permittee monitors the valves initially monthly, to quarterly, as allowed and according to the requirements specified in OAC 3745-21-09(DD)(2)(b)(ii); and
 - d. the valves continue to meet with the conditions specified in OAC 3745-21-09(DD)(2)(g) to (DD)(2)(m).

If meeting all of the above conditions (“a” through “d”), one of the following monitoring periods for valve leak detection may be implemented:

- e. after two consecutive quarterly leak detection periods with 2.0% or less of the process unit valves leaking, a monitoring program may begin in which the first quarter of every two consecutive quarterly leak detection periods is skipped; or
- f. after 5 consecutive quarterly leak detection periods with 2.0% or less of the process unit valves leaking, a monitoring program may begin in which the first three quarters of every four consecutive quarterly periods is skipped.

The alternative monitoring schedule shall be based on skipping quarterly monitoring periods. Any valve “in vacuum service”, “in heavy liquid service”, or not “in VOC service” shall be excluded from the monitoring schedule. If the percentage of valves leaking from the process unit becomes greater than 2.0%, the permittee shall again comply with the monitoring requirements specified in OAC 3745-21-09(DD)(2)(b)(ii), but may revert to this alternative monitoring schedule after meeting and documenting all of the above requirements.

- (9) The percentage of valves leaking, used to qualify for “skipped period” alternative monitoring schedule, shall be determined 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 100.
- (10) The following information shall be recorded in a log, that is kept in a readily accessible location, if the “skipped period” alternative monitoring schedule for leak detection of process unit valves is established:

- a. the identification numbers of the valves subject to the alternative monitoring schedule;
 - b. the schedule established for monitoring the subject valves;
 - c. the valves exempt from the alternative monitoring schedule and reason for the exemption, i.e., "in vacuum service", "in heavy liquid service", or not "in VOC service";
 - d. the percentage of valves leaking during each monitoring period; and
 - e. the maximum instrument reading and date each valve was monitored.
- (11) The permittee may elect to implement an alternative monitoring schedule to that of OAC 3745-21-09(DD)(2)(b)(ii) for the process unit valves, as provided in OAC 3745-21-09(DD)(2)(d)(v), if the following conditions are met:
- a. it can be demonstrated that no more than 2.0% of the process unit valves are leaking;
 - b. the permittee notifies the Director (the appropriate district office or local air agency) prior to implementing the alternative monitoring standard;
 - c. the demonstration of compliance to document that the percentage of valves leaking does not exceed 2.0% is conducted initially upon implementation and annually thereafter and as follows:
 - i. all valves subject to the alternative monitoring standard shall be monitored for leaks within a one-week period by the method specified in OAC 3745-21-10(F);
 - ii. any leak detected and measured with an instrument reading of 10,000 ppmv or greater shall be recorded as a leak; and
 - 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 100.
- 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 valves not "in VOC service", valves "in vacuum service", and valves which are designated as unsafe to monitor as provided in OAC 3745-21-09(DD)(2)(c)(ii).
- (12) When a leak is detected as described above, the leaking valve shall be repaired in accordance with OAC 3745-21-09(DD)(2)(h) and (DD)(2)(i). If the percentage of valves leaking from the process unit becomes greater than 2.0%, the permittee shall again comply with the monitoring requirements specified in OAC 3745-21-09(DD)(2)(b)(ii), but may revert to this alternative monitoring schedule after meeting and documenting all of the above requirements.
- (13) The following equipment is excluded from the monitoring requirements of OAC 3745-21-09(DD)(2)(b):

- a. any pump that has no externally actuated shaft penetrating the pump housing and that is designated for no detectable emissions as provided in OAC 3745-21-09(DD)(7);
 - b. 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 OAC 3745-21-09 (DD)(8);
 - c. 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 OAC 3745-21-09(DD)(9) and (DD)(10);
 - d. any valve that has no externally actuated stem penetrating the valve and that is designated for “no detectable emissions” as provided in OAC 3745-21-09(DD)(7); and
 - e. any valve that qualifies for the alternative monitoring standard based on the percentage of valves leaking, as provided in OAC 3745-21-09(DD)(13).
- (14) 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 OAC 3745-21-09(DD)(9) and (DD)(10).
- (15) Any sensor employed pursuant to OAC 3745-21-09(DD)(2)(d)(ii), for a pump equipped with a dual mechanical seal using a barrier fluid system and sensor; or a sensor employed pursuant to OAC 3745-21-09(DD)(3)(b), for a compressor equipped with a seal using a barrier fluid system and sensor; and complying with the requirements specified in OAC 3745-21-09(DD)(8), shall be checked daily, unless the sensor is equipped with an audible alarm.
- (16) A leak is detected when:
- a. a concentration of 10,000 ppmv or greater is measured from a potential leak interface of any equipment, that is monitored for leaks using the method specified in OAC 3745-21-10(F);
 - b. there is an indication of liquids dripping from the seal of a pump “in light liquid service”; or
 - c. a sensor employed pursuant to OAC 3745-21-09(DD)(2)(d)(ii) or (DD)(3)(b) indicates failure of the seal system, the barrier fluid system, or both.
- (17) When a leak is detected, the following information shall be recorded in the leak repair log:
- a. the identification number of the leaking equipment;
 - b. for each leak required to be monitored, the identification numbers of the leak detection instrument and its operator;

- c. how the leak was detected, e.g., monitoring, visual inspection, odor detected, or sensor alarm/signal;
 - d. the date on which the leak was detected and the date of each attempt to repair the leaking equipment;
 - e. the methods of repair applied in each attempt to repair the leak;
 - f. one of the following entries within 5 working days after each attempt to repair the leaking equipment:
 - i. “not monitored,” denoting the leaking equipment was presumed to still be leaking and it was not monitored; or
 - ii. if the leaking equipment was monitored with a leak detection instrument, the maximum concentration that was measured as follows:
 - (a) the actual reading in ppmv; or
 - (b) a record stating that the measured concentration was “below 10,000 ppmv”; or
 - (c) a record stating that the measured concentration was “above 10,000 ppmv”;
 - g. if the leak is not repaired within 15 calendar days after the date on which it was detected:
 - i. a record stating that repair was delayed and the reason for the delay;
 - ii. if repair is being delayed until the next process unit shutdown due to technical infeasibility of repair, the signature of the operator whose decision it was that repair is technically infeasible without a process unit shutdown;
 - iii. the expected date of successful repair of the leak; and
 - iv. the dates of process unit shutdowns that occur while the leaking equipment is unrepaired; and
 - h. the date on which the leak was successfully repaired.
- (18) The leak repair log shall be kept in a readily accessible location and maintained by the operator of the process unit. Each record shall be retained in the log for a minimum of two years following the date on which it was recorded.
- (19) The following information shall be recorded for the/each process unit in a log that is kept in a readily accessible location:
- a. a list of identification numbers for equipment subject to the requirements of OAC 3745-21-09(DD)(2) to (DD)(10);

- b. a list of identification numbers for equipment designated for “no detectable emissions” as provided in OAC 3745-21-09(DD)(7), and the signature of the permittee/operator authorizing the designation of each piece of equipment;
- c. a list of identification numbers for pressure relief devices subject to OAC 3745-21-09(DD)(4);
- d. a list of identification numbers for closed vent systems subject to OAC 3745-21-09(DD)(9);
- e. for compliance tests required under OAC 3745-21-09(DD)(4)(c), (DD)(7)(c), and (DD)(9)(c):
 - i. the date each compliance test is conducted;
 - ii. the background VOC emissions level measured during each compliance test; and
 - iii. the maximum instrument reading measured at the equipment during each compliance test;
- f. the following information pertaining to valves subject to an alternative monitoring schedule, as provided in OAC 3745-21-09(DD)(2)(c):
 - 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 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; and
 - iii. a list of identification numbers for valves subject to the alternative monitoring schedule based on a “skip period”, a schedule for monitoring these valves, and the percentage of valves leaking during each monitoring period;
- g. the following information pertaining to closed vent systems and control equipment meeting the requirements of OAC 3745-21-09(DD)(9) and (DD)(10):
 - i. detailed schematics, design specifications, and piping and instrumentation diagrams for the closed vent systems and collection and control equipment;
 - ii. the dates and descriptions of any changes in the design specifications above;
 - iii. a description of the parameter(s) monitored, as required in OAC 3745-21-09(DD)(10)(d), to ensure that the control equipment is operated and maintained in conformance with its design, and the reason for selecting the parameter(s);

- iv. 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
- v. dates of startups and shutdowns of the closed vent systems and control equipment;
- h. the following information pertaining to barrier fluid systems and sensors described in OAC 3745-21-09(DD)(8):
 - 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 OAC 3745-21-09(DD)(8)(d) and an explanation of the criteria; and
 - iii. any changes to such criteria and the reasons for the changes;
- i. the following information for use in determining an exemption for the process unit as provided in OAC 3745-21-09(DD)(17)(a):
 - i. an analysis demonstrating the design capacity of the process unit;
 - ii. 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
 - iii. an analysis demonstrating that equipment that is documented as “not in VOC service” meets this condition; and
- j. the following information pertaining to specific equipment that are exempt as provided in OAC 3745-21-09(DD)(17)(b):
 - i. a list of identification numbers of equipment “in vacuum service”;
 - ii. a list of identification numbers of equipment “not in VOC service” and the information or data used to demonstrate this; and
 - iii. a list of equipment subject to an equivalent emission requirement that is approved by the Director pursuant to OAC 3745-21-09 (DD)(16).

One recordkeeping system may be used to comply with the recordkeeping requirements for multiple process units provided the system identifies each process unit to which each record pertains.

- (20) The following facility process units are exempted from the requirements of OAC 3745-21-09(DD)(2) to (DD)(6). Records shall be maintained to identify and document the process unit equipment meeting these requirements:
- a. any process unit that has a design capacity to produce less than 1,100 tons per year;

- b. any process unit that produces only heavy liquid chemicals from heavy liquid feed or raw materials;
 - c. any process unit that produces beverage alcohol;
 - d. any process unit that has no equipment "in VOC service" as determined in accordance with OAC 3745-21-10(O)(2); and
 - e. any process unit at a petroleum refinery, as defined in OAC 3745-21-01(E)(15).
- (21) The following process equipment are exempt from the requirements of OAC 3745-21-09(DD)(2) to (DD)(6). Records shall be maintained to identify and document the process unit equipment meeting these requirements:
- a. any equipment "not in VOC service", as determined in accordance with OAC 3745-21-10(O)(2);
 - b. any equipment "in vacuum service"; and
 - c. any equipment subject to an equivalent emission limitation as provided in OAC 3745-21-09(DD)(16).

e) Reporting Requirements

- (1) 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.
- (2) After installing the internal floating roof, the permittee shall meet the following requirements:
 - a. Submit a report that describes the control equipment and certifies that the control equipment meets the specifications of b)(2)c. and d)(3)a. This report shall be an attachment to the notification required by 40 CFR 60.7(a)(3). [40 CFR 60.115b(a)(1)]
 - b. If any of the conditions described in d)(3)b. are detected during the annual visual inspection required by d)(3)b., a report shall be furnished to the Administrator 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 date the repair was made. [40 CFR 60.115b(a)(3)]
 - c. After each inspection required by d)(3)c. that finds holes or tears in the seal or seal fabric, or defects in the internal floating roof, or other control equipment defects listed in d)(3)c.ii., a report shall be furnished to the Administrator within 30 days of the inspection. The report shall identify the storage vessel and the reason it did not meet the specifications of b)(2)c. and d)(3)c. and list each repair made. [40 CFR 60.115b(a)(4)]

- (3) The permittee shall provide written notification at least 30 days prior to the filling or refilling of each storage vessel for which an inspection is required by d)(3)a. and d)(3)d. If the inspection required by d)(3)d. is not planned and the permittee could not have known about the inspection 30 days in advance of filling the tank, the permittee shall notify the Northwest District Office 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 the Northwest District Office at least 7 days prior to refilling. [40 CFR 60.113b(a)(5)]
- (4) Semiannual reports shall be submitted to the Director by the first day of February and August and shall include the following information for each preceding semiannual period of operations:
- a. the process unit identification;
 - b. the number of pumps “in light liquid service” associated with the process unit, excluding:
 - i. pumps that have no externally actuated shaft penetrating the pump housing and designated for “no detectable emissions”; and
 - ii. pumps equipped with a closed vent system capable of capturing and transporting leakage from the pump seal to control equipment meeting the requirements of OAC 3745-21-09(DD)(9) and (DD)(10);
 - c. the number of valves “in gas/vapor service” or “in light liquid service” associated with the process unit, excluding:
 - i. valves that have no externally actuated stem penetrating the valve and designated for “no detectable emission”; and
 - ii. valves qualified for the alternative monitoring standard based on the percentage of valves leaking, under the provision of OAC 3745-21-09(DD)(13);
 - d. the number of compressors associated with the process unit, excluding:
 - i. compressors designated for and meeting the requirements for “no detectable emissions”;
 - ii. compressors equipped with a closed vent system capable of capturing and transporting leakage from the compressor seal to control equipment meeting the requirements of OAC 3745-21-09(DD)(9) and (DD)(10); and/or
 - iii. reciprocating compressors installed prior to 5/9/86, where it can be demonstrated that recasting or replacing the compressor would be the only means of complying with the requirement to equip it with a seal with a barrier fluid system and sensor;

- e. for each month during the semiannual period:
 - i. the number of pumps “in light liquid service” for which leaks were detected (as required in this permit);
 - ii. the number of pumps “in light liquid service” for which leaks were not repaired within 15 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 required in this permit);
 - iv. the number of valves “in gas/vapor service” or “in light liquid service” for which leaks were not repaired within 15 calendar days after the date of leak detection;
 - v. the number of compressors for which leaks were detected (as required in this permit);
 - vi. the number of compressors for which leaks were not repaired within 15 calendar days after the date of leak detection; and
 - vii. for each delay of repair allowed pursuant to OAC 3745-21-09(DD)(11), the reason for the delay;
- f. the dates of process unit shutdowns that occurred within the semiannual period; and
- g. the results of compliance tests for equipment identified as having “no detectable emissions”, along with the associated equipment identification numbers from the compliance log.

Semiannual reports shall be submitted to the appropriate Ohio EPA district office or local air agency by the first day of February and August and shall include information for the preceding semiannual period.

- (5) The permittee shall notify the appropriate Ohio EPA district office or local air agency of the intent-to-test the process control equipment not less than 30 days before the proposed initiation of the testing. The following information shall be included in the notification
 - a. a statement indicating the purpose of the proposed test and the applicable paragraph of OAC 3745-21-09 for which compliance will be demonstrated;
 - b. a detailed description of the process unit and control device to be tested;
 - c. a detailed description of the test procedures, equipment and sampling sites; and
 - d. a timetable, setting forth the dates on which:
 - i. the testing will be conducted; and
 - ii. the final test report will be submitted.

- (6) The results of such compliance tests shall be reported to the appropriate Ohio EPA district office or local air agency within 30 days following the test date.
- f) Testing Requirements
- (1) Compliance with the emission limitations in section b)(1) of the terms and conditions of this permit shall be determined in accordance with the following methods:
 - a. Emission Limitation:
2.78 tons VOC/yr

 - Applicable Compliance Method:
The permittee shall demonstrate compliance with the annual allowable VOC emission limitation by rim seal loss, withdraw loss and deck fitting loss calculations as determined by U.S. EPA Tanks 4.0 (or the most current version) program and the actual annual throughput.
- g) Miscellaneous Requirements
- (1) None.

3. T014, MEH solution storage tank (TA-05-006)

Operations, Property and/or Equipment Description:

Fixed Roof MEH 20,000 Gallon 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 operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3) [PTI # 03-7777; issued 06/08/94]	0.17 ton volatile organic compound (VOC)/yr See b)(2)a.
b.	40 CFR Part 60 Subpart Kb (40 CFR 60.11b)	See b)(2)b., d)(1) through d)(5), e)(2) and e)(3)
c.	OAC rule 3745-21-09(DD)	See b)(2)b. and b)(2)c.

(2) Additional Terms and conditions

a. Best Available Technology (BAT) requirements for this emissions unit have been determined to be compliance with the terms and conditions of this permit.

b. The fixed roof storage tank shall be equipped with an internal floating roof meeting the following specifications:

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 readily as possible.

- ii. Each internal floating roof shall be equipped with one of the following closure devices between the wall of the storage vessel and the edge of the internal floating roof:
 - (a) A foam- or liquid-filled seal mounted in contact with the liquid (liquid-mounted seal). A liquid-mounted seal means a foam- or liquid-filled seal mounted in contact with the liquid between the wall of the storage vessel and the floating roof continuously around the circumference of the tank.
 - (b) Two seals mounted one above the other so that each forms a continuous closure that completely covers the space between the wall of the storage vessel and the edge of the internal floating roof. The lower seal may be vapor-mounted but both must be continuous.
 - (c) 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.
- 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.
- 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.
- 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.
- vi. Rim space vents shall be equipped with a gasket and are set to be open only when the internal floating roof is not floating or at the manufacturer's recommended setting.
- 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.

- 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 gasketed sliding cover.
 - ix. Each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover.
 - c. The permittee of the process unit, producing one or more of the organic chemicals identified in Appendix A to OAC 3745-21-09 as an intermediate or final product, shall comply with the requirements identified in OAC 3745-21-09 paragraphs (DD)(2) to (DD)(6).
 - d. The permittee shall developed and implement a leak detection and repair program for the process unit in accordance with the requirements specified in OAC 3745-21-09 paragraphs (DD)(2)(b) to (DD)(2)(m).
- c) Operational Restrictions
- (1) When a leak is detected the following procedures shall be followed:
 - a. a weatherproof identification tag with the equipment identification number and the date shall be immediately attached to the leaking equipment;
 - b. a record of the leak, the date it was first detected, and any attempt to repair the leak and date is entered into the leak repair log;
 - c. an identification tag that was attached to a leaking valve "in gas/vapor service" or "in light liquid service" may be removed only after the valve is repaired and found to have no leaks for two consecutive months; and
 - d. an identification tag attached to leaking equipment that is exempted from the monitoring requirements of OAC 3745-21-09(DD)(2)(b) may be removed immediately following the repair of the leak.
 - (2) Repair of a leak shall be attempted no later than 5 calendar days after it is detected, where practicable, and shall include, but not limited to, the following best maintenance practices:
 - a. tightening of bonnet bolts;
 - b. replacement of bonnet bolts;
 - c. tightening of packing gland nuts; and
 - d. injection of lubricant into lubricated packing.
 - (3) Except where meeting one of the conditions defined in OAC 3745-21-09(DD)(11), where a delay in repair is allowed, a leak shall be repaired as soon as practicable, but no later than 15 calendar days after it is detected. Leaking equipment shall be deemed repaired if the maximum VOC concentration is measured to be less than 10,000 ppmv.

- (4) Each compressor shall be equipped with a seal that has a barrier fluid system and sensor which comply with the requirements specified in OAC 3745-21-09(DD)(8), with the following exceptions:
- a. any compressor designated for “no detectable emissions”, and meeting the requirements of OAC 3745-21-09 (DD)(7).
 - b. any compressors equipped with a closed vent system capable of capturing and transporting any leakage from the compressor seal to control equipment, where the closed vent system and the control equipment comply with the requirements specified in OAC 3745-21-09(DD)(9) and (DD)(10).
 - c. any reciprocating compressor that meets the following conditions:
 - i. the compressor was installed prior to May 9, 1986; and
 - ii. the permittee demonstrates, to the satisfaction of the Director, that recasting the compressor distance piece or replacing the compressor are the only options available to bring it into compliance with the requirements to equip it with a seal with a barrier fluid system and sensor.
- (5) Except as otherwise provided below, any pressure relief device “in gas/vapor service” in the process unit shall comply with the following requirements:
- a. Except during pressure releases, the pressure relief device shall be operated with “no detectable emissions”, as indicated by an instrument reading of less than 500 ppmv above background, as measured by the method specified in OAC 3745-21-10(F)
 - b. No later than 5 calendar days after a pressure release, a pressure relief device shall be tested to confirm the condition of “no detectable emissions” in accordance with the method specified in OAC 3745-21-10(F).
 - c. Except for a delay of repair as provided in OAC 3745-21-09(DD)(11), a pressure relief device shall be returned to a condition of “no detectable emissions” as soon as practicable, but no later than 5 calendar days after a pressure release.

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 meeting the requirements specified in OAC 3745-21-09(DD)(9) and (DD)(10) is excluded from these requirements.

- (6) With the exception of an “in-situ sampling system” (a non-extractive sampler or an in-line sampler), each sampling connection system in the process unit 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 control equipment requirements specified in OAC 3745-21-09(DD)(10).
- (7) Each open-ended valve or line in the process unit shall be equipped with a cap, blind flange, plug, or second valve which shall comply with the following requirements:
 - a. 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.
 - b. 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.
 - c. A bleed valve or line from a double block and bleed system may remain open during operations that require venting the line between the block valves, but the line/valve shall be sealed (as in “a” above) at all other times.
- (8) A pump or compressor equipped with a seal that has a barrier fluid system and sensor, which are employed to meet the requirements of OAC 3745-21-09(DD)(2)(d)(ii) for a pump or 3745-21-09(DD)(3)(a) and (b) for a compressor, shall be operated and maintained to comply with the following requirements.
 - a. The barrier fluid system shall meet one of the three following conditions:
 - i. The barrier fluid system is operated with a barrier fluid at a pressure that is greater, at all times, 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 OAC 3745-21-09(DD)(9) and (DD)(10).
 - 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.
 - b. The barrier fluid system shall be “in heavy liquid service” or shall not be “in VOC service”.
 - c. 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 design criteria and operating experience of the permittee.
- (9) A delay of the repair of a detected leak or a delay in returning a pressure relief valve/device to a condition of “no detectable emissions” shall be allowed only if complying with the following requirements:
 - a. A delay of repair shall be allowed if the repair is technically infeasible without shutdown of the process unit. 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. it can be demonstrated that the emissions from purged material resulting from immediate repair is greater than the emissions likely to result from delay of repair; and
 - ii. the purged material is collected and destroyed or recovered in control equipment that meets the requirements specified in OAC 3745-21-09(DD)(10).
- d. A delay of repair for a valve beyond a process unit shutdown shall be allowed if:
 - i. a valve assembly replacement is necessary during the process unit shutdown, and
 - ii. the valve assembly supplies have been depleted, and
 - iii. 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 the valve unless the next process unit shutdown occurs sooner than 6 months after the first process unit shutdown.

- e. 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

(10) the repair is completed as soon as practicable, but no later than 6 months after the leak was detected.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. These records shall be kept for the life of the source.
- (2) The permit shall maintain records of the following information:
 - a. The types of liquids stored in the tank;
 - b. The period of storage; and
 - c. The maximum true vapor pressure (in pounds per square inch absolute), as stored, of each liquid that has a maximum true vapor pressure greater than 1.0 pound per square inch absolute. Available data on the storage temperature may be used to determine the maximum true vapor pressure as in the following:

- i. 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.
 - ii. For other liquids, the vapor pressure:
 - (a) May be obtained from standard reference texts; or
 - (b) Determined by ASTM D2879-83, 96, or 97 (incorporated by reference – see 40 CFR 60.17); or
 - (c) Measured by an appropriate method approved by the Administrator; or
 - (d) Calculated by an appropriate method approved by the Administrator.
- (3) After installing the internal floating roof, the permittee shall:
- a. 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 owner or operator shall repair the items before filling the storage vessel.
 - b. For vessels equipped with a liquid-mounted or mechanical shoe primary seal, visually inspect the internal floating roof and the primary seal or the secondary seal (in one is in service) 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 owner or operator 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 Administrator in the inspection report required in e)(1)b. 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.
 - c. For vessels equipped with a double-seal system as specified in b)(2)a.ii.(b):
 - i. Visually inspect the vessel as specified in d)(3)d. at least every 5 years; or
 - ii. Visually inspect the vessel as specified in d)(3)b.

- d. The permittee shall 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 seal fabric, or the secondary seal has holes, tears, or other openings in the seal or 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 owner or operator 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 d)(3)b. and d)(3)c.ii. and at intervals no greater than 5 years in the case of vessels specified in d)(3)c.i.
- (4) After installing the internal floating roof, the permittee shall keep a record of each inspection performed as required by d)(3)a. through d)(3)d. 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 owner or operator of each vessel storing a waste mixture of indeterminate or variable composition shall be subject to the following requirements:
- a. Prior to the initial filling of the vessel, the highest maximum true vapor pressure for the range of anticipated liquid compositions to be stored will be determined using the methods described in d)(2)c.
- b. For vessels in which the vapor pressure of the anticipated liquid composition is above 76.6 kPa (11.1 psia), an initial physical test of the vapor pressure is required; and a physical test at least every 6 months thereafter is required as determined by the following methods:
- i. ASTM Method D2879-83 (incorporated by reference – see 40 CFR 60.17); or
- ii. ASTM Method D323-83 (incorporated by reference – see 40 CFR 60.17); or
- iii. As measured by an appropriate method as approved by the Administrator. [40 CFR 60.116b(f)]
- (6) Except as otherwise provided in OAC 3745-21-09(DD)(2)(c) and (DD)(2)(d), equipment shall be monitored for leaks in accordance with the method specified OAC 3745-21-10(F) and as follows:
- a. Any pump “in light liquid service” shall be monitored monthly.
- b. Any valve “in gas/vapor service” or “in light liquid service” shall be monitored monthly, except that quarterly monitoring may be employed where no leaks are detected during two consecutive months. Quarterly monitoring may begin with the next calendar quarter following the two consecutive months of no detected

leaks. Monitoring shall be conducted in the first month of each calendar quarter; and quarterly monitoring may continue until a leak is detected, at which time monitoring shall again be employed monthly.

- c. The following equipment shall be monitored within 5 calendar days after evidence of a leak or potential leak from the equipment by visual, audible, olfactory, or other detection method:
 - i. a pump “in heavy liquid service”;
 - ii. a valve “in heavy liquid service”;
 - iii. a pressure relief device “in light liquid service” or “in heavy liquid service”;
and
 - iv. a flange or other connector.
 - d. Any equipment in which a leak is detected, as defined in OAC 3745-21-09(DD)(2)(g), shall be monitored within 5 working days after each attempt to repair it, unless the equipment was not successfully repaired.
- (7) 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 OAC 3745-21-09(DD)(2)(b)(ii), above, if meeting one of the three following requirements:
- a. The valve is designated as “difficult to monitor” and is monitored once each calendar year if meeting all of the following conditions:
 - i. construction of the process unit commenced prior to May 9, 1986;
 - ii. the permittee demonstrates that the valve cannot be monitored without elevating the monitoring personnel more than 6 feet above a support surface; and
 - iii. the permittee has a written plan that requires monitoring of the valve at least once per year.
 - b. The valve is designated as “unsafe to monitor” and is monitored as frequently as practical during times when it is safe to monitor, provided the following conditions are met:
 - i. the permittee 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; and
 - ii. the permittee adheres to a written plan that requires monitoring of the valve as frequently as practical during times when it is safe to monitor.
 - c. The valve qualifies for an alternative monitoring schedule based on a “skip period” as allowed per OAC 3745-21-09(DD)(12).

- (8) The permittee may elect to implement an alternative monitoring schedule, to that of OAC 3745-21-09(DD)(2)(b)(ii) and as identified below, for the process unit valves if the following conditions are met:
- a. no more than 2.0% of the process unit valves are leaking;
 - b. the permittee notifies the Director (the appropriate district office or local air agency) prior to implementing the alternative monitoring schedule; and such notification identifies:
 - i. which valves will be subject to the alternative monitoring schedule; and
 - ii. which work practice, identified in OAC 3745-21-09(DD)(12)(e), will be implemented;
 - c. the permittee monitors the valves initially monthly, to quarterly, as allowed and according to the requirements specified in OAC 3745-21-09(DD)(2)(b)(ii); and
 - d. the valves continue to meet with the conditions specified in OAC 3745-21-09(DD)(2)(g) to (DD)(2)(m).

If meeting all of the above conditions (“a” through “d”), one of the following monitoring periods for valve leak detection may be implemented:

- a. after two consecutive quarterly leak detection periods with 2.0% or less of the process unit valves leaking, a monitoring program may begin in which the first quarter of every two consecutive quarterly leak detection periods is skipped; or
- b. after 5 consecutive quarterly leak detection periods with 2.0% or less of the process unit valves leaking, a monitoring program may begin in which the first three quarters of every four consecutive quarterly periods is skipped.

The alternative monitoring schedule shall be based on skipping quarterly monitoring periods. Any valve “in vacuum service”, “in heavy liquid service”, or not “in VOC service” shall be excluded from the monitoring schedule. If the percentage of valves leaking from the process unit becomes greater than 2.0%, the permittee shall again comply with the monitoring requirements specified in OAC 3745-21-09(DD)(2)(b)(ii), but may revert to this alternative monitoring schedule after meeting and documenting all of the above requirements.

- (9) The percentage of valves leaking, used to qualify for “skipped period” alternative monitoring schedule, shall be determined 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 100.
- (10) The following information shall be recorded in a log, that is kept in a readily accessible location, if the “skipped period” alternative monitoring schedule for leak detection of process unit valves is established:

- a. the identification numbers of the valves subject to the alternative monitoring schedule;
 - b. the schedule established for monitoring the subject valves;
 - c. the valves exempt from the alternative monitoring schedule and reason for the exemption, i.e., "in vacuum service", "in heavy liquid service", or not "in VOC service";
 - d. the percentage of valves leaking during each monitoring period; and
 - e. the maximum instrument reading and date each valve was monitored.
- (11) The permittee may elect to implement an alternative monitoring schedule to that of OAC 3745-21-09(DD)(2)(b)(ii) for the process unit valves, as provided in OAC 3745-21-09(DD)(2)(d)(v), if the following conditions are met:
- a. it can be demonstrated that no more than 2.0% of the process unit valves are leaking;
 - b. the permittee notifies the Director (the appropriate district office or local air agency) prior to implementing the alternative monitoring standard;
 - c. the demonstration of compliance to document that the percentage of valves leaking does not exceed 2.0% is conducted initially upon implementation and annually thereafter and as follows:
 - i. all valves subject to the alternative monitoring standard shall be monitored for leaks within a one-week period by the method specified in OAC 3745-21-10(F);
 - ii. any leak detected and measured with an instrument reading of 10,000 ppmv or greater shall be recorded as a leak; and
 - 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 100.

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 valves not "in VOC service", valves "in vacuum service", and valves which are designated as unsafe to monitor as provided in OAC 3745-21-09(DD)(2)(c)(ii).

- (12) When a leak is detected as described above, the leaking valve shall be repaired in accordance with OAC 3745-21-09(DD)(2)(h) and (DD)(2)(i). If the percentage of valves leaking from the process unit becomes greater than 2.0%, the permittee shall again comply with the monitoring requirements specified in OAC 3745-21-09(DD)(2)(b)(ii), but may revert to this alternative monitoring schedule after meeting and documenting all of the above requirements.
- (13) The following equipment is excluded from the monitoring requirements of OAC 3745-21-09(DD)(2)(b):

- a. any pump that has no externally actuated shaft penetrating the pump housing and that is designated for no detectable emissions as provided in OAC 3745-21-09(DD)(7);
 - b. 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 OAC 3745-21-09 (DD)(8);
 - c. 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 OAC 3745-21-09(DD)(9) and (DD)(10);
 - d. any valve that has no externally actuated stem penetrating the valve and that is designated for “no detectable emissions” as provided in OAC 3745-21-09(DD)(7); and
 - e. any valve that qualifies for the alternative monitoring standard based on the percentage of valves leaking, as provided in OAC 3745-21-09(DD)(13).
- (14) 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 OAC 3745-21-09(DD)(9) and (DD)(10).
- (15) Any sensor employed pursuant to OAC 3745-21-09(DD)(2)(d)(ii), for a pump equipped with a dual mechanical seal using a barrier fluid system and sensor; or a sensor employed pursuant to OAC 3745-21-09(DD)(3)(b), for a compressor equipped with a seal using a barrier fluid system and sensor; and complying with the requirements specified in OAC 3745-21-09(DD)(8), shall be checked daily, unless the sensor is equipped with an audible alarm.
- (16) A leak is detected when:
- a. a concentration of 10,000 ppmv or greater is measured from a potential leak interface of any equipment, that is monitored for leaks using the method specified in OAC 3745-21-10(F);
 - b. there is an indication of liquids dripping from the seal of a pump “in light liquid service”; or
 - c. a sensor employed pursuant to OAC 3745-21-09(DD)(2)(d)(ii) or (DD)(3)(b) indicates failure of the seal system, the barrier fluid system, or both.
- (17) When a leak is detected, the following information shall be recorded in the leak repair log:
- a. the identification number of the leaking equipment;
 - b. for each leak required to be monitored, the identification numbers of the leak detection instrument and its operator;

- c. how the leak was detected, e.g., monitoring, visual inspection, odor detected, or sensor alarm/signal;
 - d. the date on which the leak was detected and the date of each attempt to repair the leaking equipment;
 - e. the methods of repair applied in each attempt to repair the leak;
 - f. one of the following entries within 5 working days after each attempt to repair the leaking equipment:
 - i. "not monitored," denoting the leaking equipment was presumed to still be leaking and it was not monitored; or
 - ii. if the leaking equipment was monitored with a leak detection instrument, the maximum concentration that was measured as follows:
 - (a) the actual reading in ppmv; or
 - (b) a record stating that the measured concentration was "below 10,000 ppmv"; or
 - (c) a record stating that the measured concentration was "above 10,000 ppmv";
 - g. if the leak is not repaired within 15 calendar days after the date on which it was detected:
 - i. a record stating that repair was delayed and the reason for the delay;
 - ii. if repair is being delayed until the next process unit shutdown due to technical infeasibility of repair, the signature of the operator whose decision it was that repair is technically infeasible without a process unit shutdown;
 - iii. the expected date of successful repair of the leak; and
 - iv. the dates of process unit shutdowns that occur while the leaking equipment is unrepaired; and
 - h. the date on which the leak was successfully repaired.
- (18) The leak repair log shall be kept in a readily accessible location and maintained by the operator of the process unit. Each record shall be retained in the log for a minimum of two years following the date on which it was recorded.
- (19) The following information shall be recorded for the/each process unit in a log that is kept in a readily accessible location:
- a. a list of identification numbers for equipment subject to the requirements of OAC 3745-21-09(DD)(2) to (DD)(10);

- b. a list of identification numbers for equipment designated for “no detectable emissions” as provided in OAC 3745-21-09(DD)(7), and the signature of the permittee/operator authorizing the designation of each piece of equipment;
- c. a list of identification numbers for pressure relief devices subject to OAC 3745-21-09(DD)(4);
- d. a list of identification numbers for closed vent systems subject to OAC 3745-21-09(DD)(9);
- e. for compliance tests required under OAC 3745-21-09(DD)(4)(c), (DD)(7)(c), and (DD)(9)(c):
 - i. the date each compliance test is conducted;
 - ii. the background VOC emissions level measured during each compliance test; and
 - iii. the maximum instrument reading measured at the equipment during each compliance test;
- f. the following information pertaining to valves subject to an alternative monitoring schedule, as provided in OAC 3745-21-09(DD)(2)(c):
 - 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 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; and
 - iii. a list of identification numbers for valves subject to the alternative monitoring schedule based on a “skip period”, a schedule for monitoring these valves, and the percentage of valves leaking during each monitoring period;
- g. the following information pertaining to closed vent systems and control equipment meeting the requirements of OAC 3745-21-09(DD)(9) and (DD)(10):
 - i. detailed schematics, design specifications, and piping and instrumentation diagrams for the closed vent systems and collection and control equipment;
 - ii. the dates and descriptions of any changes in the design specifications above;
 - iii. a description of the parameter(s) monitored, as required in OAC 3745-21-09(DD)(10)(d), to ensure that the control equipment is operated and maintained in conformance with its design, and the reason for selecting the parameter(s);

- iv. 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
- v. dates of startups and shutdowns of the closed vent systems and control equipment;
- h. the following information pertaining to barrier fluid systems and sensors described in OAC 3745-21-09(DD)(8):
 - 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 OAC 3745-21-09(DD)(8)(d) and an explanation of the criteria; and
 - iii. any changes to such criteria and the reasons for the changes;
- i. the following information for use in determining an exemption for the process unit as provided in OAC 3745-21-09(DD)(17)(a):
 - i. an analysis demonstrating the design capacity of the process unit;
 - ii. 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
 - iii. an analysis demonstrating that equipment that is documented as “not in VOC service” meets this condition; and
- j. the following information pertaining to specific equipment that are exempt as provided in OAC 3745-21-09(DD)(17)(b):
 - i. a list of identification numbers of equipment “in vacuum service”;
 - ii. a list of identification numbers of equipment “not in VOC service” and the information or data used to demonstrate this; and
 - iii. a list of equipment subject to an equivalent emission requirement that is approved by the Director pursuant to OAC 3745-21-09 (DD)(16).

One recordkeeping system may be used to comply with the recordkeeping requirements for multiple process units provided the system identifies each process unit to which each record pertains.

- (20) The following facility process units are exempted from the requirements of OAC 3745-21-09(DD)(2) to (DD)(6). Records shall be maintained to identify and document the process unit equipment meeting these requirements:
- a. any process unit that has a design capacity to produce less than 1,100 tons per year;

- b. any process unit that produces only heavy liquid chemicals from heavy liquid feed or raw materials;
 - c. any process unit that produces beverage alcohol;
 - d. any process unit that has no equipment "in VOC service" as determined in accordance with OAC 3745-21-10(O)(2); and
 - e. any process unit at a petroleum refinery, as defined in OAC 3745-21-01(E)(15).
- (21) The following process equipment are exempt from the requirements of OAC 3745-21-09(DD)(2) to (DD)(6). Records shall be maintained to identify and document the process unit equipment meeting these requirements:
- a. any equipment "not in VOC service", as determined in accordance with OAC 3745-21-10(O)(2);
 - b. any equipment "in vacuum service"; and
 - c. any equipment subject to an equivalent emission limitation as provided in OAC 3745-21-09(DD)(16).
- e) Reporting Requirements
- (1) 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.
 - (2) After installing the internal floating roof, the permittee shall meet the following requirements:
 - a. Submit a report that describes the control equipment and certifies that the control equipment meets the specifications of b)(2)c. and d)(3)a. This report shall be an attachment to the notification required by 40 CFR 60.7(a)(3). [40 CFR 60.115b(a)(1)]
 - b. If any of the conditions described in d)(3)b. are detected during the annual visual inspection required by d)(3)b., a report shall be furnished to the Administrator 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 date the repair was made. [40 CFR 60.115b(a)(3)]
 - c. After each inspection required by d)(3)c. that finds holes or tears in the seal or seal fabric, or defects in the internal floating roof, or other control equipment defects listed in d)(3)c.ii., a report shall be furnished to the Administrator within 30 days of the inspection. The report shall identify the storage vessel and the reason it did not meet the specifications of b)(2)c. and d)(3)c. and list each repair made. [40 CFR 60.115b(a)(4)]

- (3) The permittee shall provide written notification at least 30 days prior to the filling or refilling of each storage vessel for which an inspection is required by d)(3)a. and d)(3)d. If the inspection required by d)(3)d. is not planned and the permittee could not have known about the inspection 30 days in advance of filling the tank, the permittee shall notify the Northwest District Office 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 the Northwest District Office at least 7 days prior to refilling. [40 CFR 60.113b(a)(5)]
- (4) Semiannual reports shall be submitted to the Director by the first day of February and August and shall include the following information for each preceding semiannual period of operations:
- a. the process unit identification;
 - b. the number of pumps “in light liquid service” associated with the process unit, excluding:
 - i. pumps that have no externally actuated shaft penetrating the pump housing and designated for “no detectable emissions”; and
 - ii. pumps equipped with a closed vent system capable of capturing and transporting leakage from the pump seal to control equipment meeting the requirements of OAC 3745-21-09(DD)(9) and (DD)(10);
 - c. the number of valves “in gas/vapor service” or “in light liquid service” associated with the process unit, excluding:
 - i. valves that have no externally actuated stem penetrating the valve and designated for “no detectable emission”; and
 - ii. valves qualified for the alternative monitoring standard based on the percentage of valves leaking, under the provision of OAC 3745-21-09(DD)(13);
 - d. the number of compressors associated with the process unit, excluding:
 - i. compressors designated for and meeting the requirements for “no detectable emissions”;
 - ii. compressors equipped with a closed vent system capable of capturing and transporting leakage from the compressor seal to control equipment meeting the requirements of OAC 3745-21-09(DD)(9) and (DD)(10); and/or
 - iii. reciprocating compressors installed prior to 5/9/86, where it can be demonstrated that recasting or replacing the compressor would be the only means of complying with the requirement to equip it with a seal with a barrier fluid system and sensor;

- e. for each month during the semiannual period:
 - i. the number of pumps “in light liquid service” for which leaks were detected (as required in this permit);
 - ii. the number of pumps “in light liquid service” for which leaks were not repaired within 15 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 required in this permit);
 - iv. the number of valves “in gas/vapor service” or “in light liquid service” for which leaks were not repaired within 15 calendar days after the date of leak detection;
 - v. the number of compressors for which leaks were detected (as required in this permit);
 - vi. the number of compressors for which leaks were not repaired within 15 calendar days after the date of leak detection; and
 - vii. for each delay of repair allowed pursuant to OAC 3745-21-09(DD)(11), the reason for the delay;
- f. the dates of process unit shutdowns that occurred within the semiannual period; and
- g. the results of compliance tests for equipment identified as having “no detectable emissions”, along with the associated equipment identification numbers from the compliance log.

Semiannual reports shall be submitted to the appropriate Ohio EPA district office or local air agency by the first day of February and August and shall include information for the preceding semiannual period.

- (5) The permittee shall notify the appropriate Ohio EPA district office or local air agency of the intent-to-test the process control equipment not less than 30 days before the proposed initiation of the testing. The following information shall be included in the notification
 - a. a statement indicating the purpose of the proposed test and the applicable paragraph of OAC 3745-21-09 for which compliance will be demonstrated;
 - b. a detailed description of the process unit and control device to be tested;
 - c. a detailed description of the test procedures, equipment and sampling sites; and
 - d. a timetable, setting forth the dates on which:
 - i. the testing will be conducted; and
 - ii. the final test report will be submitted.

(6) The results of such compliance tests shall be reported to the appropriate Ohio EPA district office or local air agency within 30 days following the test date.

f) Testing Requirements

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

a. Emission Limitation:
0.17 ton VOC/yr

Applicable Compliance Method:

The permittee shall demonstrate compliance with the annual allowable VOC emission limitation by rim seal loss, withdraw loss and deck fitting loss calculations as determined by U.S. EPA Tanks 4.0 (or the most current version) program and the actual annual throughput.

g) Miscellaneous Requirements

(1) None.

4. T015, Waste condensate solution storage tank (TA-05-008)

Operations, Property and/or Equipment Description:

Fixed Roof Wastewater 30,000 Gallon 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 operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3) [PTI # 03-7777; issued 06/08/94]	0.01 ton volatile organic compound (VOC)/yr See b)(2)a.
b.	40 CFR Part 60 Subpart Kb	See b)(2)c., d)(3) through d)(7), e)(2) and e)(3)
c.	OAC rule 3745-21-09(DD)	See b)(2)b. and b)(2)c.

(2) Additional Terms and Conditions

a. Best Available Technology (BAT) requirements for this emissions unit have been determined to be the use of submerge fill and a scrubber and compliance with the terms and conditions of this permit.

b. The emissions from this emissions unit shall be vented to the wet scrubber at all times the emissions unit is in operation.

c. The fixed roof storage tank shall be equipped with an internal floating roof meeting the following specifications:

- 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 readily as possible.
- ii. Each internal floating roof shall be equipped with one of the following closure devices between the wall of the storage vessel and the edge of the internal floating roof:
 - (a) A foam- or liquid-filled seal mounted in contact with the liquid (liquid-mounted seal). A liquid-mounted seal means a foam- or liquid-filled seal mounted in contact with the liquid between the wall of the storage vessel and the floating roof continuously around the circumference of the tank.
 - (b) Two seals mounted one above the other so that each forms a continuous closure that completely covers the space between the wall of the storage vessel and the edge of the internal floating roof. The lower seal may be vapor-mounted but both must be continuous.
 - (c) 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.
- 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.
- 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.
- 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.
- vi. Rim space vents shall be equipped with a gasket and are set to be open only when the internal floating roof is not floating or at the manufacturer's recommended setting.

- 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.
 - 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 gasketed sliding cover.
 - ix. Each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover.
 - d. The permittee of the process unit, producing one or more of the organic chemicals identified in Appendix A to OAC 3745-21-09 as an intermediate or final product, shall comply with the requirements identified in OAC 3745-21-09 paragraphs (DD)(2) to (DD)(6).
 - e. The permittee shall developed and implement a leak detection and repair program for the process unit in accordance with the requirements specified in OAC 3745-21-09 paragraphs (DD)(2)(b) to (DD)(2)(m).
- c) Operational Restrictions
- (1) When a leak is detected the following procedures shall be followed:
 - a. a weatherproof identification tag with the equipment identification number and the date shall be immediately attached to the leaking equipment;
 - b. a record of the leak, the date it was first detected, and any attempt to repair the leak and date is entered into the leak repair log;
 - c. an identification tag that was attached to a leaking valve "in gas/vapor service" or "in light liquid service" may be removed only after the valve is repaired and found to have no leaks for two consecutive months; and
 - d. an identification tag attached to leaking equipment that is exempted from the monitoring requirements of OAC 3745-21-09(DD)(2)(b) may be removed immediately following the repair of the leak.
 - (2) Repair of a leak shall be attempted no later than 5 calendar days after it is detected, where practicable, and shall include, but not limited to, the following best maintenance practices:
 - a. tightening of bonnet bolts;
 - b. replacement of bonnet bolts;
 - c. tightening of packing gland nuts; and
 - d. injection of lubricant into lubricated packing.
 - (3) Except where meeting one of the conditions defined in OAC 3745-21-09(DD)(11), where a delay in repair is allowed, a leak shall be repaired as soon as practicable, but no later

than 15 calendar days after it is detected. Leaking equipment shall be deemed repaired if the maximum VOC concentration is measured to be less than 10,000 ppmv.

- (4) Each compressor shall be equipped with a seal that has a barrier fluid system and sensor which comply with the requirements specified in OAC 3745-21-09(DD)(8), with the following exceptions:
- a. any compressor designated for “no detectable emissions”, and meeting the requirements of OAC 3745-21-09 (DD)(7).
 - b. any compressors equipped with a closed vent system capable of capturing and transporting any leakage from the compressor seal to control equipment, where the closed vent system and the control equipment comply with the requirements specified in OAC 3745-21-09(DD)(9) and (DD)(10).
 - c. any reciprocating compressor that meets the following conditions:
 - i. the compressor was installed prior to May 9, 1986; and
 - ii. the permittee demonstrates, to the satisfaction of the Director, that recasting the compressor distance piece or replacing the compressor are the only options available to bring it into compliance with the requirements to equip it with a seal with a barrier fluid system and sensor.
- (5) Except as otherwise provided below, any pressure relief device “in gas/vapor service” in the process unit shall comply with the following requirements:
- a. Except during pressure releases, the pressure relief device shall be operated with “no detectable emissions”, as indicated by an instrument reading of less than 500 ppmv above background, as measured by the method specified in OAC 3745-21-10(F)
 - b. No later than 5 calendar days after a pressure release, a pressure relief device shall be tested to confirm the condition of “no detectable emissions” in accordance with the method specified in OAC 3745-21-10(F).
 - c. Except for a delay of repair as provided in OAC 3745-21-09(DD)(11), a pressure relief device shall be returned to a condition of “no detectable emissions” as soon as practicable, but no later than 5 calendar days after a pressure release.

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 meeting the requirements specified in OAC 3745-21-09(DD)(9) and (DD)(10) is excluded from these requirements.

- (6) With the exception of an “in-situ sampling system” (a non-extractive sampler or an in-line sampler), each sampling connection system in the process unit 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 control equipment requirements specified in OAC 3745-21-09(DD)(10).
- (7) Each open-ended valve or line in the process unit shall be equipped with a cap, blind flange, plug, or second valve which shall comply with the following requirements:
- a. 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.
 - b. 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.
 - c. A bleed valve or line from a double block and bleed system may remain open during operations that require venting the line between the block valves, but the line/valve shall be sealed (as in "a" above) at all other times.
- (8) A pump or compressor equipped with a seal that has a barrier fluid system and sensor, which are employed to meet the requirements of OAC 3745-21-09(DD)(2)(d)(ii) for a pump or 3745-21-09(DD)(3)(a) and (b) for a compressor, shall be operated and maintained to comply with the following requirements.
- a. The barrier fluid system shall meet one of the three following conditions:
 - i. The barrier fluid system is operated with a barrier fluid at a pressure that is greater, at all times, 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 OAC 3745-21-09(DD)(9) and (DD)(10).
 - 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.
 - b. The barrier fluid system shall be "in heavy liquid service" or shall not be "in VOC service".
 - c. 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 design criteria and operating experience of the permittee.
- (9) A delay of the repair of a detected leak or a delay in returning a pressure relief valve/device to a condition of "no detectable emissions" shall be allowed only if complying with the following requirements:

- a. A delay of repair shall be allowed if the repair is technically infeasible without shutdown of the process unit. 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. it can be demonstrated that the emissions from purged material resulting from immediate repair is greater than the emissions likely to result from delay of repair; and
 - ii. the purged material is collected and destroyed or recovered in control equipment that meets the requirements specified in OAC 3745-21-09(DD)(10).
- d. A delay of repair for a valve beyond a process unit shutdown shall be allowed if:
 - i. a valve assembly replacement is necessary during the process unit shutdown, and
 - ii. the valve assembly supplies have been depleted, and
 - iii. 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 the valve unless the next process unit shutdown occurs sooner than 6 months after the first process unit shutdown.

- e. 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

- (10) the repair is completed as soon as practicable, but no later than 6 months after the leak was detected.

d) **Monitoring and/or Recordkeeping Requirements**

- (1) In order to maintain compliance with the applicable emission limitation(s) contained in this permit, the acceptable range or limit for the pressure drop across the scrubber, the liquid flow rate, and the liquid pH shall be based upon the manufacturer's specifications until such time as any required performance testing is conducted and the appropriate range for each parameter is established to demonstrate compliance.
- (2) The permittee shall properly install, operate, and maintain equipment to continuously monitor and alarm the suction pressure to the scrubber eductors (in pounds per square inch, gauge), the scrubber solution flow to the scrubber eductors (in gallons per minute), and the scrubber solution flow to the scrubber column (in gallons per minute) during

operation of this emissions unit, including periods of startup and shutdown. The permittee shall record the suction pressure to the scrubber eductors, the scrubber solution flow to the scrubber eductors, and the scrubber solution flow to the scrubber column on daily basis. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s), with any modifications deemed necessary by the permittee.

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

- a. the date and time the deviation began;
- b. the magnitude of the deviation at that time;
- c. the date the investigation was conducted;
- d. the name(s) of the personnel who conducted the investigation; and
- e. the findings and recommendations.

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

- a. a description of the corrective action;
- b. the date the corrective action was completed;
- c. the date and time the deviation ended;
- d. the total period of time (in minutes) during which there was a deviation;
- e. the pressure drop, flow rate, and pH readings immediately after the corrective action was implemented; and
- f. the name(s) of the personnel who performed the work.

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

- (3) These range(s) and/or limit(s) for the suction pressure to the scrubber eductors, the scrubber solution flow to the scrubber eductors, and the scrubber solution flow to the scrubber column are effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the appropriate Ohio EPA District

Office or local air agency. The permittee may request revisions to the permitted range or limit for the suction pressure to the scrubber eductors, the scrubber solution flow to the scrubber eductors, and the scrubber solution flow to the scrubber column based upon information obtained during future performance tests that demonstrate compliance with the allowable HCN and formaldehyde emission rate for this emissions unit. In addition, approved revisions to the range or limit will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of an administrative modification.

- (4) The permittee shall keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. These records shall be kept for the life of the source.
- (5) The permit shall maintain records of the following information:
 - a. The types of liquids stored in the tank;
 - b. The period of storage; and
 - c. The maximum true vapor pressure (in pounds per square inch absolute), as stored, of each liquid that has a maximum true vapor pressure greater than 1.0 pound per square inch absolute. Available data on the storage temperature may be used to determine the maximum true vapor pressure as in the following:
 - i. 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.
 - ii. For other liquids, the vapor pressure:
 - (a) May be obtained from standard reference texts; or
 - (b) Determined by ASTM D2879-83, 96, or 97 (incorporated by reference – see 40 CFR 60.17); or
 - (c) Measured by an appropriate method approved by the Administrator; or
 - (d) Calculated by an appropriate method approved by the Administrator.
- (6) After installing the internal floating roof, the permittee shall:
 - a. 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 owner or operator shall repair the items before filling the storage vessel.

- b. For vessels equipped with a liquid-mounted or mechanical shoe primary seal, visually inspect the internal floating roof and the primary seal or the secondary seal (in one is in service) 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 owner or operator 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 Administrator in the inspection report required in e)(1)b. 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.
 - c. For vessels equipped with a double-seal system as specified in b)(2)a.ii.(b):
 - i. Visually inspect the vessel as specified in d)(3)d. at least every 5 years; or
 - ii. Visually inspect the vessel as specified in d)(3)b.
 - d. The permittee shall 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 seal fabric, or the secondary seal has holes, tears, or other openings in the seal or 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 owner or operator 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 d)(3)b. and d)(3)c.ii. and at intervals no greater than 5 years in the case of vessels specified in d)(3)c.i.
- (7) After installing the internal floating roof, the permittee shall keep a record of each inspection performed as required by d)(3)a. through d)(3)d. 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).
- (8) The owner of operator of each vessel storing a waste mixture of indeterminate or variable composition shall be subject to the following requirements:
- a. Prior to the initial filling of the vessel, the highest maximum true vapor pressure for the range of anticipated liquid compositions to be stored will be determined using the methods described in d)(2)c.

- b. For vessels in which the vapor pressure of the anticipated liquid composition is above 76.6 kPa (11.1 psia), an initial physical test of the vapor pressure is required; and a physical test at least every 6 months thereafter is required as determined by the following methods:
 - i. ASTM Method D2879-83 (incorporated by reference – see 40 CFR 60.17); or
 - ii. ASTM Method D323-83 (incorporated by reference – see 40 CFR 60.17); or
 - iii. As measured by an appropriate method as approved by the Administrator. [40 CFR 60.116b(f)]
- (9) Except as otherwise provided in OAC 3745-21-09(DD)(2)(c) and (DD)(2)(d), equipment shall be monitored for leaks in accordance with the method specified OAC 3745-21-10(F) and as follows:
- a. Any pump “in light liquid service” shall be monitored monthly.
 - b. Any valve “in gas/vapor service” or “in light liquid service” shall be monitored monthly, except that quarterly monitoring may be employed where no leaks are detected during two consecutive months. Quarterly monitoring may begin with the next calendar quarter following the two consecutive months of no detected leaks. Monitoring shall be conducted in the first month of each calendar quarter; and quarterly monitoring may continue until a leak is detected, at which time monitoring shall again be employed monthly.
 - c. The following equipment shall be monitored within 5 calendar days after evidence of a leak or potential leak from the equipment by visual, audible, olfactory, or other detection method:
 - i. a pump “in heavy liquid service”;
 - ii. a valve “in heavy liquid service”;
 - iii. a pressure relief device “in light liquid service” or “in heavy liquid service”;
and
 - iv. a flange or other connector.
 - d. Any equipment in which a leak is detected, as defined in OAC 3745-21-09(DD)(2)(g), shall be monitored within 5 working days after each attempt to repair it, unless the equipment was not successfully repaired.
- (10) 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 OAC 3745-21-09(DD)(2)(b)(ii), above, if meeting one of the three following requirements:
- a. The valve is designated as “difficult to monitor” and is monitored once each calendar year if meeting all of the following conditions:

- i. construction of the process unit commenced prior to May 9, 1986;
 - ii. the permittee demonstrates that the valve cannot be monitored without elevating the monitoring personnel more than 6 feet above a support surface; and
 - iii. the permittee has a written plan that requires monitoring of the valve at least once per year.
 - b. The valve is designated as “unsafe to monitor” and is monitored as frequently as practical during times when it is safe to monitor, provided the following conditions are met:
 - i. the permittee 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; and
 - ii. the permittee adheres to a written plan that requires monitoring of the valve as frequently as practical during times when it is safe to monitor.
 - c. The valve qualifies for an alternative monitoring schedule based on a “skip period” as allowed per OAC 3745-21-09(DD)(12).
 - (11) The permittee may elect to implement an alternative monitoring schedule, to that of OAC 3745-21-09(DD)(2)(b)(ii) and as identified below, for the process unit valves if the following conditions are met:
 - a. no more than 2.0% of the process unit valves are leaking;
 - b. the permittee notifies the Director (the appropriate district office or local air agency) prior to implementing the alternative monitoring schedule; and such notification identifies:
 - i. which valves will be subject to the alternative monitoring schedule; and
 - ii. which work practice, identified in OAC 3745-21-09(DD)(12)(e), will be implemented;
 - c. the permittee monitors the valves initially monthly, to quarterly, as allowed and according to the requirements specified in OAC 3745-21-09(DD)(2)(b)(ii); and
 - d. the valves continue to meet with the conditions specified in OAC 3745-21-09(DD)(2)(g) to (DD)(2)(m).
- If meeting all of the above conditions (“a” through “d”), one of the following monitoring periods for valve leak detection may be implemented:
- e. after two consecutive quarterly leak detection periods with 2.0% or less of the process unit valves leaking, a monitoring program may begin in which the first quarter of every two consecutive quarterly leak detection periods is skipped; or

- f. after 5 consecutive quarterly leak detection periods with 2.0% or less of the process unit valves leaking, a monitoring program may begin in which the first three quarters of every four consecutive quarterly periods is skipped.

The alternative monitoring schedule shall be based on skipping quarterly monitoring periods. Any valve "in vacuum service", "in heavy liquid service", or not "in VOC service" shall be excluded from the monitoring schedule. If the percentage of valves leaking from the process unit becomes greater than 2.0%, the permittee shall again comply with the monitoring requirements specified in OAC 3745-21-09(DD)(2)(b)(ii), but may revert to this alternative monitoring schedule after meeting and documenting all of the above requirements.

- (12) The percentage of valves leaking, used to qualify for "skipped period" alternative monitoring schedule, shall be determined 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 100.
- (13) The following information shall be recorded in a log, that is kept in a readily accessible location, if the "skipped period" alternative monitoring schedule for leak detection of process unit valves is established:
 - a. the identification numbers of the valves subject to the alternative monitoring schedule;
 - b. the schedule established for monitoring the subject valves;
 - c. the valves exempt from the alternative monitoring schedule and reason for the exemption, i.e., "in vacuum service", "in heavy liquid service", or not "in VOC service";
 - d. the percentage of valves leaking during each monitoring period; and
 - e. the maximum instrument reading and date each valve was monitored.
- (14) The permittee may elect to implement an alternative monitoring schedule to that of OAC 3745-21-09(DD)(2)(b)(ii) for the process unit valves, as provided in OAC 3745-21-09(DD)(2)(d)(v), if the following conditions are met:
 - a. it can be demonstrated that no more than 2.0% of the process unit valves are leaking;
 - b. the permittee notifies the Director (the appropriate district office or local air agency) prior to implementing the alternative monitoring standard;
 - c. the demonstration of compliance to document that the percentage of valves leaking does not exceed 2.0% is conducted initially upon implementation and annually thereafter and as follows:

- i. all valves subject to the alternative monitoring standard shall be monitored for leaks within a one-week period by the method specified in OAC 3745-21-10(F);
- ii. any leak detected and measured with an instrument reading of 10,000 ppmv or greater shall be recorded as a leak; and
- 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 100.

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 valves not "in VOC service", valves "in vacuum service", and valves which are designated as unsafe to monitor as provided in OAC 3745-21-09(DD)(2)(c)(ii).

- (15) When a leak is detected as described above, the leaking valve shall be repaired in accordance with OAC 3745-21-09(DD)(2)(h) and (DD)(2)(i). If the percentage of valves leaking from the process unit becomes greater than 2.0%, the permittee shall again comply with the monitoring requirements specified in OAC 3745-21-09(DD)(2)(b)(ii), but may revert to this alternative monitoring schedule after meeting and documenting all of the above requirements.
- (16) The following equipment is excluded from the monitoring requirements of OAC 3745-21-09(DD)(2)(b):
 - a. any pump that has no externally actuated shaft penetrating the pump housing and that is designated for no detectable emissions as provided in OAC 3745-21-09(DD)(7);
 - b. 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 OAC 3745-21-09 (DD)(8);
 - c. 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 OAC 3745-21-09(DD)(9) and (DD)(10);
 - d. any valve that has no externally actuated stem penetrating the valve and that is designated for "no detectable emissions" as provided in OAC 3745-21-09(DD)(7); and
 - e. any valve that qualifies for the alternative monitoring standard based on the percentage of valves leaking, as provided in OAC 3745-21-09(DD)(13).
- (17) 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 OAC 3745-21-09(DD)(9) and (DD)(10).

- (18) Any sensor employed pursuant to OAC 3745-21-09(DD)(2)(d)(ii), for a pump equipped with a dual mechanical seal using a barrier fluid system and sensor; or a sensor employed pursuant to OAC 3745-21-09(DD)(3)(b), for a compressor equipped with a seal using a barrier fluid system and sensor; and complying with the requirements specified in OAC 3745-21-09(DD)(8), shall be checked daily, unless the sensor is equipped with an audible alarm.
- (19) A leak is detected when:
- a. a concentration of 10,000 ppmv or greater is measured from a potential leak interface of any equipment, that is monitored for leaks using the method specified in OAC 3745-21-10(F);
 - b. there is an indication of liquids dripping from the seal of a pump “in light liquid service”; or
 - c. a sensor employed pursuant to OAC 3745-21-09(DD)(2)(d)(ii) or (DD)(3)(b) indicates failure of the seal system, the barrier fluid system, or both.
- (20) When a leak is detected, the following information shall be recorded in the leak repair log:
- a. the identification number of the leaking equipment;
 - b. for each leak required to be monitored, the identification numbers of the leak detection instrument and its operator;
 - c. how the leak was detected, e.g., monitoring, visual inspection, odor detected, or sensor alarm/signal;
 - d. the date on which the leak was detected and the date of each attempt to repair the leaking equipment;
 - e. the methods of repair applied in each attempt to repair the leak;
 - f. one of the following entries within 5 working days after each attempt to repair the leaking equipment:
 - i. “not monitored,” denoting the leaking equipment was presumed to still be leaking and it was not monitored; or
 - ii. if the leaking equipment was monitored with a leak detection instrument, the maximum concentration that was measured as follows:
 - (a) the actual reading in ppmv; or
 - (b) a record stating that the measured concentration was “below 10,000 ppmv”; or
 - (c) a record stating that the measured concentration was “above 10,000 ppmv”;

- g. if the leak is not repaired within 15 calendar days after the date on which it was detected:
 - i. a record stating that repair was delayed and the reason for the delay;
 - ii. if repair is being delayed until the next process unit shutdown due to technical infeasibility of repair, the signature of the operator whose decision it was that repair is technically infeasible without a process unit shutdown;
 - iii. the expected date of successful repair of the leak; and
 - iv. the dates of process unit shutdowns that occur while the leaking equipment is unrepaired; and
 - h. the date on which the leak was successfully repaired.
- (21) The leak repair log shall be kept in a readily accessible location and maintained by the operator of the process unit. Each record shall be retained in the log for a minimum of two years following the date on which it was recorded.
- (22) The following information shall be recorded for the/each process unit in a log that is kept in a readily accessible location:
- a. a list of identification numbers for equipment subject to the requirements of OAC 3745-21-09(DD)(2) to (DD)(10);
 - b. a list of identification numbers for equipment designated for “no detectable emissions” as provided in OAC 3745-21-09(DD)(7), and the signature of the permittee/operator authorizing the designation of each piece of equipment;
 - c. a list of identification numbers for pressure relief devices subject to OAC 3745-21-09(DD)(4);
 - d. a list of identification numbers for closed vent systems subject to OAC 3745-21-09(DD)(9);
 - e. for compliance tests required under OAC 3745-21-09(DD)(4)(c), (DD)(7)(c), and (DD)(9)(c):
 - i. the date each compliance test is conducted;
 - ii. the background VOC emissions level measured during each compliance test; and
 - iii. the maximum instrument reading measured at the equipment during each compliance test;
 - f. the following information pertaining to valves subject to an alternative monitoring schedule, as provided in OAC 3745-21-09(DD)(2)(c):

- 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 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; and
 - iii. a list of identification numbers for valves subject to the alternative monitoring schedule based on a “skip period”, a schedule for monitoring these valves, and the percentage of valves leaking during each monitoring period;
- g. the following information pertaining to closed vent systems and control equipment meeting the requirements of OAC 3745-21-09(DD)(9) and (DD)(10):
- i. detailed schematics, design specifications, and piping and instrumentation diagrams for the closed vent systems and collection and control equipment;
 - ii. the dates and descriptions of any changes in the design specifications above;
 - iii. a description of the parameter(s) monitored, as required in OAC 3745-21-09(DD)(10)(d), to ensure that the control equipment is operated and maintained in conformance with its design, and the reason for selecting the parameter(s);
 - iv. 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
 - v. dates of startups and shutdowns of the closed vent systems and control equipment;
- h. the following information pertaining to barrier fluid systems and sensors described in OAC 3745-21-09(DD)(8):
- 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 OAC 3745-21-09(DD)(8)(d) and an explanation of the criteria; and
 - iii. any changes to such criteria and the reasons for the changes;
- i. the following information for use in determining an exemption for the process unit as provided in OAC 3745-21-09(DD)(17)(a):
- i. an analysis demonstrating the design capacity of the process unit;

- ii. 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
 - iii. an analysis demonstrating that equipment that is documented as “not in VOC service” meets this condition; and
- j. the following information pertaining to specific equipment that are exempt as provided in OAC 3745-21-09(DD)(17)(b):
- i. a list of identification numbers of equipment “in vacuum service”;
 - ii. a list of identification numbers of equipment “not in VOC service” and the information or data used to demonstrate this; and
 - iii. a list of equipment subject to an equivalent emission requirement that is approved by the Director pursuant to OAC 3745-21-09 (DD)(16).

One recordkeeping system may be used to comply with the recordkeeping requirements for multiple process units provided the system identifies each process unit to which each record pertains.

- (23) The following facility process units are exempted from the requirements of OAC 3745-21-09(DD)(2) to (DD)(6). Records shall be maintained to identify and document the process unit equipment meeting these requirements:
- a. any process unit that has a design capacity to produce less than 1,100 tons per year;
 - b. any process unit that produces only heavy liquid chemicals from heavy liquid feed or raw materials;
 - c. any process unit that produces beverage alcohol;
 - d. any process unit that has no equipment “in VOC service” as determined in accordance with OAC 3745-21-10(O)(2); and
 - e. any process unit at a petroleum refinery, as defined in OAC 3745-21-01(E)(15).
- (24) The following process equipment are exempt from the requirements of OAC 3745-21-09(DD)(2) to (DD)(6). Records shall be maintained to identify and document the process unit equipment meeting these requirements:
- a. any equipment “not in VOC service”, as determined in accordance with OAC 3745-21-10(O)(2);
 - b. any equipment “in vacuum service”; and
 - c. any equipment subject to an equivalent emission limitation as provided in OAC 3745-21-09(DD)(16).

e) Reporting Requirements

- (1) 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.
- (2) After installing the internal floating roof, the permittee shall meet the following requirements:
 - a. Submit a report that describes the control equipment and certifies that the control equipment meets the specifications of b)(2)c. and d)(3)a. This report shall be an attachment to the notification required by 40 CFR 60.7(a)(3). [40 CFR 60.115b(a)(1)]
 - b. If any of the conditions described in d)(3)b. are detected during the annual visual inspection required by d)(3)b., a report shall be furnished to the Administrator 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 date the repair was made. [40 CFR 60.115b(a)(3)]
 - c. After each inspection required by d)(3)c. that finds holes or tears in the seal or seal fabric, or defects in the internal floating roof, or other control equipment defects listed in d)(3)c.ii., a report shall be furnished to the Administrator within 30 days of the inspection. The report shall identify the storage vessel and the reason it did not meet the specifications of b)(2)c. and d)(3)c. and list each repair made. [40 CFR 60.115b(a)(4)]
- (3) The permittee shall provide written notification at least 30 days prior to the filling or refilling of each storage vessel for which an inspection is required by d)(3)a. and d)(3)d. If the inspection required by d)(3)d. is not planned and the permittee could not have known about the inspection 30 days in advance of filling the tank, the permittee shall notify the Northwest District Office 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 the Northwest District Office at least 7 days prior to refilling. [40 CFR 60.113b(a)(5)].
- (4) Semiannual reports shall be submitted to the Director by the first day of February and August and shall include the following information for each preceding semiannual period of operations:
 - a. the process unit identification;
 - b. the number of pumps “in light liquid service” associated with the process unit, excluding:

- i. pumps that have no externally actuated shaft penetrating the pump housing and designated for “no detectable emissions”; and
 - ii. pumps equipped with a closed vent system capable of capturing and transporting leakage from the pump seal to control equipment meeting the requirements of OAC 3745-21-09(DD)(9) and (DD)(10);
- c. the number of valves “in gas/vapor service” or “in light liquid service” associated with the process unit, excluding:
- i. valves that have no externally actuated stem penetrating the valve and designated for “no detectable emission”; and
 - ii. valves qualified for the alternative monitoring standard based on the percentage of valves leaking, under the provision of OAC 3745-21-09(DD)(13);
- d. the number of compressors associated with the process unit, excluding:
- i. compressors designated for and meeting the requirements for “no detectable emissions”;
 - ii. compressors equipped with a closed vent system capable of capturing and transporting leakage from the compressor seal to control equipment meeting the requirements of OAC 3745-21-09(DD)(9) and (DD)(10); and/or
 - iii. reciprocating compressors installed prior to 5/9/86, where it can be demonstrated that recasting or replacing the compressor would be the only means of complying with the requirement to equip it with a seal with a barrier fluid system and sensor;
- e. for each month during the semiannual period:
- i. the number of pumps “in light liquid service” for which leaks were detected (as required in this permit);
 - ii. the number of pumps “in light liquid service” for which leaks were not repaired within 15 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 required in this permit);
 - iv. the number of valves “in gas/vapor service” or “in light liquid service” for which leaks were not repaired within 15 calendar days after the date of leak detection;
 - v. the number of compressors for which leaks were detected (as required in this permit);
 - vi. the number of compressors for which leaks were not repaired within 15 calendar days after the date of leak detection; and

- vii. for each delay of repair allowed pursuant to OAC 3745-21-09(DD)(11), the reason for the delay;
- f. the dates of process unit shutdowns that occurred within the semiannual period; and
- g. the results of compliance tests for equipment identified as having “no detectable emissions”, along with the associated equipment identification numbers from the compliance log.

Semiannual reports shall be submitted to the appropriate Ohio EPA district office or local air agency by the first day of February and August and shall include information for the preceding semiannual period.

- (5) The permittee shall notify the appropriate Ohio EPA district office or local air agency of the intent-to-test the process control equipment not less than 30 days before the proposed initiation of the testing. The following information shall be included in the notification
 - a. a statement indicating the purpose of the proposed test and the applicable paragraph of OAC 3745-21-09 for which compliance will be demonstrated;
 - b. a detailed description of the process unit and control device to be tested;
 - c. a detailed description of the test procedures, equipment and sampling sites; and
 - d. a timetable, setting forth the dates on which:
 - i. the testing will be conducted; and
 - ii. the final test report will be submitted.
- (6) The results of such compliance tests shall be reported to the appropriate Ohio EPA district office or local air agency within 30 days following the test date.

f) Testing Requirements

- (1) Compliance with the emission limitations in section b)(1) of the terms and conditions of this permit shall be determined in accordance with the following methods:
 - a. Emission Limitation:
0.01 ton VOC/yr

Applicable Compliance Method:
The permittee shall demonstrate compliance with the annual allowable VOC emission limitation by rim seal loss, withdraw loss and deck fitting loss calculations as determined by U.S. EPA Tanks 4.0 (or the most current version) program and the actual annual throughput.

g) Miscellaneous Requirements

- (1) None.

5. Emissions Unit Group - 20 gallon DMH Storage Tank: T012, T013,

EU ID	Operations, Property and/or Equipment Description
T012	Fixed Roof DMH 20,000 Gallon Storage Tank
T013	Fixed Roof DMH/MEH Swing 20,000 Gallon 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.

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 # 03-7777; issued 06/08/94]	0.26 ton volatile organic compound (VOC)/yr from each storage tank See b)(2)a.
b.	40 CFR Part 60 Subpart Kb	See b)(2)b., d)(1) through d)(5), e)(2) and e)(3)
c.	OAC rule 3745-21-09(DD)	See b)(2)b. and b)(2)c.

(2) Additional Terms and Conditions

a. Best Available Technology (BAT) requirements have been determined to be compliance with the terms and conditions of this permit.

b. The fixed roof storage tank shall be equipped with an internal floating roof meeting the following specifications:

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 readily as possible.

- ii. Each internal floating roof shall be equipped with one of the following closure devices between the wall of the storage vessel and the edge of the internal floating roof:
 - (a) A foam- or liquid-filled seal mounted in contact with the liquid (liquid-mounted seal). A liquid-mounted seal means a foam- or liquid-filled seal mounted in contact with the liquid between the wall of the storage vessel and the floating roof continuously around the circumference of the tank.
 - (b) Two seals mounted one above the other so that each forms a continuous closure that completely covers the space between the wall of the storage vessel and the edge of the internal floating roof. The lower seal may be vapor-mounted but both must be continuous.
 - (c) 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.
- 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.
- 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.
- 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.
- vi. Rim space vents shall be equipped with a gasket and are set to be open only when the internal floating roof is not floating or at the manufacturer's recommended setting.

- 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.
 - 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 gasketed sliding cover.
 - ix. Each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover.
 - c. The permittee of the process unit, producing one or more of the organic chemicals identified in Appendix A to OAC 3745-21-09 as an intermediate or final product, shall comply with the requirements identified in OAC 3745-21-09 paragraphs (DD)(2) to (DD)(6).
 - d. The permittee shall developed and implement a leak detection and repair program for the process unit in accordance with the requirements specified in OAC 3745-21-09 paragraphs (DD)(2)(b) to (DD)(2)(m).
- c) Operational Restrictions
- (1) When a leak is detected the following procedures shall be followed:
 - a. a weatherproof identification tag with the equipment identification number and the date shall be immediately attached to the leaking equipment;
 - b. a record of the leak, the date it was first detected, and any attempt to repair the leak and date is entered into the leak repair log;
 - c. an identification tag that was attached to a leaking valve "in gas/vapor service" or "in light liquid service" may be removed only after the valve is repaired and found to have no leaks for two consecutive months; and
 - d. an identification tag attached to leaking equipment that is exempted from the monitoring requirements of OAC 3745-21-09(DD)(2)(b) may be removed immediately following the repair of the leak.
 - (2) Repair of a leak shall be attempted no later than 5 calendar days after it is detected, where practicable, and shall include, but not limited to, the following best maintenance practices:
 - a. tightening of bonnet bolts;
 - b. replacement of bonnet bolts;
 - c. tightening of packing gland nuts; and
 - d. injection of lubricant into lubricated packing.
 - (3) Except where meeting one of the conditions defined in OAC 3745-21-09(DD)(11), where a delay in repair is allowed, a leak shall be repaired as soon as practicable, but no later

than 15 calendar days after it is detected. Leaking equipment shall be deemed repaired if the maximum VOC concentration is measured to be less than 10,000 ppmv.

- (4) Each compressor shall be equipped with a seal that has a barrier fluid system and sensor which comply with the requirements specified in OAC 3745-21-09(DD)(8), with the following exceptions:
- a. any compressor designated for “no detectable emissions”, and meeting the requirements of OAC 3745-21-09 (DD)(7).
 - b. any compressors equipped with a closed vent system capable of capturing and transporting any leakage from the compressor seal to control equipment, where the closed vent system and the control equipment comply with the requirements specified in OAC 3745-21-09(DD)(9) and (DD)(10).
 - c. any reciprocating compressor that meets the following conditions:
 - i. the compressor was installed prior to May 9, 1986; and
 - ii. the permittee demonstrates, to the satisfaction of the Director, that recasting the compressor distance piece or replacing the compressor are the only options available to bring it into compliance with the requirements to equip it with a seal with a barrier fluid system and sensor.
- (5) Except as otherwise provided below, any pressure relief device “in gas/vapor service” in the process unit shall comply with the following requirements:
- a. Except during pressure releases, the pressure relief device shall be operated with “no detectable emissions”, as indicated by an instrument reading of less than 500 ppmv above background, as measured by the method specified in OAC 3745-21-10(F)
 - b. No later than 5 calendar days after a pressure release, a pressure relief device shall be tested to confirm the condition of “no detectable emissions” in accordance with the method specified in OAC 3745-21-10(F).
 - c. Except for a delay of repair as provided in OAC 3745-21-09(DD)(11), a pressure relief device shall be returned to a condition of “no detectable emissions” as soon as practicable, but no later than 5 calendar days after a pressure release.

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 meeting the requirements specified in OAC 3745-21-09(DD)(9) and (DD)(10) is excluded from these requirements.

- (6) With the exception of an “in-situ sampling system” (a non-extractive sampler or an in-line sampler), each sampling connection system in the process unit 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 control equipment requirements specified in OAC 3745-21-09(DD)(10).
- (7) Each open-ended valve or line in the process unit shall be equipped with a cap, blind flange, plug, or second valve which shall comply with the following requirements:
- a. 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.
 - b. 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.
 - c. A bleed valve or line from a double block and bleed system may remain open during operations that require venting the line between the block valves, but the line/valve shall be sealed (as in "a" above) at all other times.
- (8) A pump or compressor equipped with a seal that has a barrier fluid system and sensor, which are employed to meet the requirements of OAC 3745-21-09(DD)(2)(d)(ii) for a pump or 3745-21-09(DD)(3)(a) and (b) for a compressor, shall be operated and maintained to comply with the following requirements.
- a. The barrier fluid system shall meet one of the three following conditions:
 - i. The barrier fluid system is operated with a barrier fluid at a pressure that is greater, at all times, 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 OAC 3745-21-09(DD)(9) and (DD)(10).
 - 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.
 - b. The barrier fluid system shall be "in heavy liquid service" or shall not be "in VOC service".
 - c. 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 design criteria and operating experience of the permittee.
- (9) A delay of the repair of a detected leak or a delay in returning a pressure relief valve/device to a condition of "no detectable emissions" shall be allowed only if complying with the following requirements:

- a. A delay of repair shall be allowed if the repair is technically infeasible without shutdown of the process unit. 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. it can be demonstrated that the emissions from purged material resulting from immediate repair is greater than the emissions likely to result from delay of repair; and
 - ii. the purged material is collected and destroyed or recovered in control equipment that meets the requirements specified in OAC 3745-21-09(DD)(10).
- d. A delay of repair for a valve beyond a process unit shutdown shall be allowed if:
 - i. a valve assembly replacement is necessary during the process unit shutdown, and
 - ii. the valve assembly supplies have been depleted, and
 - iii. 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 the valve unless the next process unit shutdown occurs sooner than 6 months after the first process unit shutdown.

- e. 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

(10) the repair is completed as soon as practicable, but no later than 6 months after the leak was detected.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. These records shall be kept for the life of the source.
- (2) The permit shall maintain records of the following information:
 - a. The types of liquids stored in the tank;
 - b. The period of storage; and

- c. The maximum true vapor pressure (in pounds per square inch absolute), as stored, of each liquid that has a maximum true vapor pressure greater than 1.0 pound per square inch absolute. Available data on the storage temperature may be used to determine the maximum true vapor pressure as in the following:
 - i. 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.
 - ii. For other liquids, the vapor pressure:
 - (a) May be obtained from standard reference texts; or
 - (b) Determined by ASTM D2879-83, 96, or 97 (incorporated by reference – see 40 CFR 60.17); or
 - (c) Measured by an appropriate method approved by the Administrator; or
 - (d) Calculated by an appropriate method approved by the Administrator.
- (3) After installing the internal floating roof, the permittee shall:
- a. 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 owner or operator shall repair the items before filling the storage vessel.
 - b. For vessels equipped with a liquid-mounted or mechanical shoe primary seal, visually inspect the internal floating roof and the primary seal or the secondary seal (in one is in service) 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 owner or operator 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 Administrator in the inspection report required in e)(1)b. 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.
 - c. For vessels equipped with a double-seal system as specified in b)(2)a.ii.(b):

- i. Visually inspect the vessel as specified in d)(3)d. at least every 5 years;
or
 - ii. Visually inspect the vessel as specified in d)(3)b.
 - d. The permittee shall 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 seal fabric, or the secondary seal has holes, tears, or other openings in the seal or 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 owner or operator 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 d)(3)b. and d)(3)c.ii. and at intervals no greater than 5 years in the case of vessels specified in d)(3)c.i.
- (4) After installing the internal floating roof, the permittee shall keep a record of each inspection performed as required by d)(3)a. through d)(3)d. 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 owner of operator of each vessel storing a waste mixture of indeterminate or variable composition shall be subject to the following requirements:
 - a. Prior to the initial filling of the vessel, the highest maximum true vapor pressure for the range of anticipated liquid compositions to be stored will be determined using the methods described in d)(2)c.
 - b. For vessels in which the vapor pressure of the anticipated liquid composition is above 76.6 kPa (11.1 psia), an initial physical test of the vapor pressure is required; and a physical test at least every 6 months thereafter is required as determined by the following methods:
 - i. ASTM Method D2879-83 (incorporated by reference – see 40 CFR 60.17); or
 - ii. ASTM Method D323-83 (incorporated by reference – see 40 CFR 60.17);
or
 - iii. As measured by an appropriate method as approved by the Administrator. [40 CFR 60.116b(f)]
- (6) Except as otherwise provided in OAC 3745-21-09(DD)(2)(c) and (DD)(2)(d), equipment shall be monitored for leaks in accordance with the method specified OAC 3745-21-10(F) and as follows:
 - a. Any pump “in light liquid service” shall be monitored monthly.

- b. Any valve “in gas/vapor service” or “in light liquid service” shall be monitored monthly, except that quarterly monitoring may be employed where no leaks are detected during two consecutive months. Quarterly monitoring may begin with the next calendar quarter following the two consecutive months of no detected leaks. Monitoring shall be conducted in the first month of each calendar quarter; and quarterly monitoring may continue until a leak is detected, at which time monitoring shall again be employed monthly.
 - c. The following equipment shall be monitored within 5 calendar days after evidence of a leak or potential leak from the equipment by visual, audible, olfactory, or other detection method:
 - i. a pump “in heavy liquid service”;
 - ii. a valve “in heavy liquid service”;
 - iii. a pressure relief device “in light liquid service” or “in heavy liquid service”;
and
 - iv. a flange or other connector.
 - d. Any equipment in which a leak is detected, as defined in OAC 3745-21-09(DD)(2)(g), shall be monitored within 5 working days after each attempt to repair it, unless the equipment was not successfully repaired.
- (7) 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 OAC 3745-21-09(DD)(2)(b)(ii), above, if meeting one of the three following requirements:
- a. The valve is designated as “difficult to monitor” and is monitored once each calendar year if meeting all of the following conditions:
 - i. construction of the process unit commenced prior to May 9, 1986;
 - ii. the permittee demonstrates that the valve cannot be monitored without elevating the monitoring personnel more than 6 feet above a support surface; and
 - iii. the permittee has a written plan that requires monitoring of the valve at least once per year.
 - b. The valve is designated as “unsafe to monitor” and is monitored as frequently as practical during times when it is safe to monitor, provided the following conditions are met:
 - i. the permittee 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; and
 - ii. the permittee adheres to a written plan that requires monitoring of the valve as frequently as practical during times when it is safe to monitor.

- c. The valve qualifies for an alternative monitoring schedule based on a “skip period” as allowed per OAC 3745-21-09(DD)(12).
- (8) The permittee may elect to implement an alternative monitoring schedule, to that of OAC 3745-21-09(DD)(2)(b)(ii) and as identified below, for the process unit valves if the following conditions are met:
- a. no more than 2.0% of the process unit valves are leaking;
 - b. the permittee notifies the Director (the appropriate district office or local air agency) prior to implementing the alternative monitoring schedule; and such notification identifies:
 - i. which valves will be subject to the alternative monitoring schedule; and
 - ii. which work practice, identified in OAC 3745-21-09(DD)(12)(e), will be implemented;
 - c. the permittee monitors the valves initially monthly, to quarterly, as allowed and according to the requirements specified in OAC 3745-21-09(DD)(2)(b)(ii); and
 - d. the valves continue to meet with the conditions specified in OAC 3745-21-09(DD)(2)(g) to (DD)(2)(m).

If meeting all of the above conditions (“a” through “d”), one of the following monitoring periods for valve leak detection may be implemented:

- e. after two consecutive quarterly leak detection periods with 2.0% or less of the process unit valves leaking, a monitoring program may begin in which the first quarter of every two consecutive quarterly leak detection periods is skipped; or
- f. after 5 consecutive quarterly leak detection periods with 2.0% or less of the process unit valves leaking, a monitoring program may begin in which the first three quarters of every four consecutive quarterly periods is skipped.

The alternative monitoring schedule shall be based on skipping quarterly monitoring periods. Any valve “in vacuum service”, “in heavy liquid service”, or not “in VOC service” shall be excluded from the monitoring schedule. If the percentage of valves leaking from the process unit becomes greater than 2.0%, the permittee shall again comply with the monitoring requirements specified in OAC 3745-21-09(DD)(2)(b)(ii), but may revert to this alternative monitoring schedule after meeting and documenting all of the above requirements.

- (9) The percentage of valves leaking, used to qualify for “skipped period” alternative monitoring schedule, shall be determined 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 100.

- (10) The following information shall be recorded in a log, that is kept in a readily accessible location, if the “skipped period” alternative monitoring schedule for leak detection of process unit valves is established:
- a. the identification numbers of the valves subject to the alternative monitoring schedule;
 - b. the schedule established for monitoring the subject valves;
 - c. the valves exempt from the alternative monitoring schedule and reason for the exemption, i.e., “in vacuum service”, “in heavy liquid service”, or not “in VOC service”;
 - d. the percentage of valves leaking during each monitoring period; and
 - e. the maximum instrument reading and date each valve was monitored.
- (11) The permittee may elect to implement an alternative monitoring schedule to that of OAC 3745-21-09(DD)(2)(b)(ii) for the process unit valves, as provided in OAC 3745-21-09(DD)(2)(d)(v), if the following conditions are met:
- a. it can be demonstrated that no more than 2.0% of the process unit valves are leaking;
 - b. the permittee notifies the Director (the appropriate district office or local air agency) prior to implementing the alternative monitoring standard;
 - c. the demonstration of compliance to document that the percentage of valves leaking does not exceed 2.0% is conducted initially upon implementation and annually thereafter and as follows:
 - i. all valves subject to the alternative monitoring standard shall be monitored for leaks within a one-week period by the method specified in OAC 3745-21-10(F);
 - ii. any leak detected and measured with an instrument reading of 10,000 ppmv or greater shall be recorded as a leak; and
 - 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 100.

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 valves not “in VOC service”, valves “in vacuum service”, and valves which are designated as unsafe to monitor as provided in OAC 3745-21-09(DD)(2)(c)(ii).

- (12) When a leak is detected as described above, the leaking valve shall be repaired in accordance with OAC 3745-21-09(DD)(2)(h) and (DD)(2)(i). If the percentage of valves leaking from the process unit becomes greater than 2.0%, the permittee shall again comply with the monitoring requirements specified in OAC 3745-21-09(DD)(2)(b)(ii), but

may revert to this alternative monitoring schedule after meeting and documenting all of the above requirements.

- (13) The following equipment is excluded from the monitoring requirements of OAC 3745-21-09(DD)(2)(b):
- a. any pump that has no externally actuated shaft penetrating the pump housing and that is designated for no detectable emissions as provided in OAC 3745-21-09(DD)(7);
 - b. 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 OAC 3745-21-09 (DD)(8);
 - c. 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 OAC 3745-21-09(DD)(9) and (DD)(10);
 - d. any valve that has no externally actuated stem penetrating the valve and that is designated for “no detectable emissions” as provided in OAC 3745-21-09(DD)(7); and
 - e. any valve that qualifies for the alternative monitoring standard based on the percentage of valves leaking, as provided in OAC 3745-21-09(DD)(13).
- (14) 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 OAC 3745-21-09(DD)(9) and (DD)(10).
- (15) Any sensor employed pursuant to OAC 3745-21-09(DD)(2)(d)(ii), for a pump equipped with a dual mechanical seal using a barrier fluid system and sensor; or a sensor employed pursuant to OAC 3745-21-09(DD)(3)(b), for a compressor equipped with a seal using a barrier fluid system and sensor; and complying with the requirements specified in OAC 3745-21-09(DD)(8), shall be checked daily, unless the sensor is equipped with an audible alarm.
- (16) A leak is detected when:
- a. a concentration of 10,000 ppmv or greater is measured from a potential leak interface of any equipment, that is monitored for leaks using the method specified in OAC 3745-21-10(F);
 - b. there is an indication of liquids dripping from the seal of a pump “in light liquid service”; or
 - c. a sensor employed pursuant to OAC 3745-21-09(DD)(2)(d)(ii) or (DD)(3)(b) indicates failure of the seal system, the barrier fluid system, or both.

- (17) When a leak is detected, the following information shall be recorded in the leak repair log:
- a. the identification number of the leaking equipment;
 - b. for each leak required to be monitored, the identification numbers of the leak detection instrument and its operator;
 - c. how the leak was detected, e.g., monitoring, visual inspection, odor detected, or sensor alarm/signal;
 - d. the date on which the leak was detected and the date of each attempt to repair the leaking equipment;
 - e. the methods of repair applied in each attempt to repair the leak;
 - f. one of the following entries within 5 working days after each attempt to repair the leaking equipment:
 - i. "not monitored," denoting the leaking equipment was presumed to still be leaking and it was not monitored; or
 - ii. if the leaking equipment was monitored with a leak detection instrument, the maximum concentration that was measured as follows:
 - (a) the actual reading in ppmv; or
 - (b) a record stating that the measured concentration was "below 10,000 ppmv"; or
 - (c) a record stating that the measured concentration was "above 10,000 ppmv";
 - g. if the leak is not repaired within 15 calendar days after the date on which it was detected:
 - i. a record stating that repair was delayed and the reason for the delay;
 - ii. if repair is being delayed until the next process unit shutdown due to technical infeasibility of repair, the signature of the operator whose decision it was that repair is technically infeasible without a process unit shutdown;
 - iii. the expected date of successful repair of the leak; and
 - iv. the dates of process unit shutdowns that occur while the leaking equipment is unrepaired; and

- h. the date on which the leak was successfully repaired.
- (18) The leak repair log shall be kept in a readily accessible location and maintained by the operator of the process unit. Each record shall be retained in the log for a minimum of two years following the date on which it was recorded.
- (19) The following information shall be recorded for the/each process unit in a log that is kept in a readily accessible location:
- a. a list of identification numbers for equipment subject to the requirements of OAC 3745-21-09(DD)(2) to (DD)(10);
 - b. a list of identification numbers for equipment designated for “no detectable emissions” as provided in OAC 3745-21-09(DD)(7), and the signature of the permittee/operator authorizing the designation of each piece of equipment;
 - c. a list of identification numbers for pressure relief devices subject to OAC 3745-21-09(DD)(4);
 - d. a list of identification numbers for closed vent systems subject to OAC 3745-21-09(DD)(9);
 - e. for compliance tests required under OAC 3745-21-09(DD)(4)(c), (DD)(7)(c), and (DD)(9)(c):
 - i. the date each compliance test is conducted;
 - ii. the background VOC emissions level measured during each compliance test; and
 - iii. the maximum instrument reading measured at the equipment during each compliance test;
 - f. the following information pertaining to valves subject to an alternative monitoring schedule, as provided in OAC 3745-21-09(DD)(2)(c):
 - 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 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; and
 - iii. a list of identification numbers for valves subject to the alternative monitoring schedule based on a “skip period”, a schedule for monitoring these valves, and the percentage of valves leaking during each monitoring period;
 - g. the following information pertaining to closed vent systems and control equipment meeting the requirements of OAC 3745-21-09(DD)(9) and (DD)(10):

- i. detailed schematics, design specifications, and piping and instrumentation diagrams for the closed vent systems and collection and control equipment;
 - ii. the dates and descriptions of any changes in the design specifications above;
 - iii. a description of the parameter(s) monitored, as required in OAC 3745-21-09(DD)(10)(d), to ensure that the control equipment is operated and maintained in conformance with its design, and the reason for selecting the parameter(s);
 - iv. 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
 - v. dates of startups and shutdowns of the closed vent systems and control equipment;
- h. the following information pertaining to barrier fluid systems and sensors described in OAC 3745-21-09(DD)(8):
- 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 OAC 3745-21-09(DD)(8)(d) and an explanation of the criteria; and
 - iii. any changes to such criteria and the reasons for the changes;
- i. the following information for use in determining an exemption for the process unit as provided in OAC 3745-21-09(DD)(17)(a):
- i. an analysis demonstrating the design capacity of the process unit;
 - ii. 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
 - iii. an analysis demonstrating that equipment that is documented as “not in VOC service” meets this condition; and
- j. the following information pertaining to specific equipment that are exempt as provided in OAC 3745-21-09(DD)(17)(b):
- i. a list of identification numbers of equipment “in vacuum service”;
 - ii. a list of identification numbers of equipment “not in VOC service” and the information or data used to demonstrate this; and

- iii. a list of equipment subject to an equivalent emission requirement that is approved by the Director pursuant to OAC 3745-21-09 (DD)(16).

One recordkeeping system may be used to comply with the recordkeeping requirements for multiple process units provided the system identifies each process unit to which each record pertains.

- (20) The following facility process units are exempted from the requirements of OAC 3745-21-09(DD)(2) to (DD)(6). Records shall be maintained to identify and document the process unit equipment meeting these requirements:

- a. any process unit that has a design capacity to produce less than 1,100 tons per year;
- b. any process unit that produces only heavy liquid chemicals from heavy liquid feed or raw materials;
- c. any process unit that produces beverage alcohol;
- d. any process unit that has no equipment "in VOC service" as determined in accordance with OAC 3745-21-10(O)(2); and
- e. any process unit at a petroleum refinery, as defined in OAC 3745-21-01(E)(15).

- (21) The following process equipment are exempt from the requirements of OAC 3745-21-09(DD)(2) to (DD)(6). Records shall be maintained to identify and document the process unit equipment meeting these requirements:

- a. any equipment "not in VOC service", as determined in accordance with OAC 3745-21-10(O)(2);
- b. any equipment "in vacuum service"; and
- c. any equipment subject to an equivalent emission limitation as provided in OAC 3745-21-09(DD)(16).

e) Reporting Requirements

- (1) 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.
- (2) After installing the internal floating roof, the permittee shall meet the following requirements:
 - a. Submit a report that describes the control equipment and certifies that the control equipment meets the specifications of b)(2)c. and d)(3)a. This report shall be an attachment to the notification required by 40 CFR 60.7(a)(3). [40 CFR 60.115b(a)(1)]

- b. If any of the conditions described in d)(3)b. are detected during the annual visual inspection required by d)(3)b., a report shall be furnished to the Administrator 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 date the repair was made. [40 CFR 60.115b(a)(3)]
 - c. After each inspection required by d)(3)c. that finds holes or tears in the seal or seal fabric, or defects in the internal floating roof, or other control equipment defects listed in d)(3)c.ii., a report shall be furnished to the Administrator within 30 days of the inspection. The report shall identify the storage vessel and the reason it did not meet the specifications of b)(2)c. and d)(3)c. and list each repair made. [40 CFR 60.115b(a)(4)]
- (3) The permittee shall provide written notification at least 30 days prior to the filling or refilling of each storage vessel for which an inspection is required by d)(3)a. and d)(3)d. If the inspection required by d)(3)d. is not planned and the permittee could not have known about the inspection 30 days in advance of filling the tank, the permittee shall notify the Northwest District Office 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 the Northwest District Office at least 7 days prior to refilling. [40 CFR 60.113b(a)(5)]
- (4) Semiannual reports shall be submitted to the Director by the first day of February and August and shall include the following information for each preceding semiannual period of operations:
- a. the process unit identification;
 - b. the number of pumps “in light liquid service” associated with the process unit, excluding:
 - i. pumps that have no externally actuated shaft penetrating the pump housing and designated for “no detectable emissions”; and
 - ii. pumps equipped with a closed vent system capable of capturing and transporting leakage from the pump seal to control equipment meeting the requirements of OAC 3745-21-09(DD)(9) and (DD)(10);
 - c. the number of valves “in gas/vapor service” or “in light liquid service” associated with the process unit, excluding:
 - i. valves that have no externally actuated stem penetrating the valve and designated for “no detectable emission”; and
 - ii. valves qualified for the alternative monitoring standard based on the percentage of valves leaking, under the provision of OAC 3745-21-09(DD)(13);

- d. the number of compressors associated with the process unit, excluding:
 - i. compressors designated for and meeting the requirements for “no detectable emissions”;
 - ii. compressors equipped with a closed vent system capable of capturing and transporting leakage from the compressor seal to control equipment meeting the requirements of OAC 3745-21-09(DD)(9) and (DD)(10); and/or
 - iii. reciprocating compressors installed prior to 5/9/86, where it can be demonstrated that recasting or replacing the compressor would be the only means of complying with the requirement to equip it with a seal with a barrier fluid system and sensor;
- e. for each month during the semiannual period:
 - i. the number of pumps “in light liquid service” for which leaks were detected (as required in this permit);
 - ii. the number of pumps “in light liquid service” for which leaks were not repaired within 15 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 required in this permit);
 - iv. the number of valves “in gas/vapor service” or “in light liquid service” for which leaks were not repaired within 15 calendar days after the date of leak detection;
 - v. the number of compressors for which leaks were detected (as required in this permit);
 - vi. the number of compressors for which leaks were not repaired within 15 calendar days after the date of leak detection; and
 - vii. for each delay of repair allowed pursuant to OAC 3745-21-09(DD)(11), the reason for the delay;
- f. the dates of process unit shutdowns that occurred within the semiannual period; and
- g. the results of compliance tests for equipment identified as having “no detectable emissions”, along with the associated equipment identification numbers from the compliance log.

Semiannual reports shall be submitted to the appropriate Ohio EPA district office or local air agency by the first day of February and August and shall include information for the preceding semiannual period.

- (5) The permittee shall notify the appropriate Ohio EPA district office or local air agency of the intent-to-test the process control equipment not less than 30 days before the

proposed initiation of the testing. The following information shall be included in the notification

- a. a statement indicating the purpose of the proposed test and the applicable paragraph of OAC 3745-21-09 for which compliance will be demonstrated;
- b. a detailed description of the process unit and control device to be tested;
- c. a detailed description of the test procedures, equipment and sampling sites; and
- d. a timetable, setting forth the dates on which:
 - i. the testing will be conducted; and
 - ii. the final test report will be submitted.

(6) The results of such compliance tests shall be reported to the appropriate Ohio EPA district office or local air agency within 30 days following the test date.

f) Testing Requirements

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

- a. Emission Limitation:
0.26 ton VOC/yr for each storage tank

Applicable Compliance Method:

The permittee shall demonstrate compliance with the annual allowable VOC emission limitation by rim seal loss, withdraw loss and deck fitting loss calculations as determined by U.S. EPA Tanks 4.0 (or the most current version) program.

g) Miscellaneous Requirements

(1) None.