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

12/31/2012

Certified Mail

TARA BARRETT
Georgia Pacific Chemicals LLC
1975 Watkins Road
Columbus, OH 43207

No	TOXIC REVIEW
No	SYNTHETIC MINOR TO AVOID MAJOR NSR
No	CEMS
No	MACT/GACT
No	NSPS
No	NESHAPS
No	NETTING
No	MODELING SUBMITTED
Yes	SYNTHETIC MINOR TO AVOID TITLE V
Yes	FEDERALLY ENFORCABLE PTIO (FEPTIO)
No	SYNTHETIC MINOR TO AVOID MAJOR GHG

RE: FINALAIR POLLUTION PERMIT-TO-INSTALL AND OPERATE
Facility ID: 0125040904
Permit Number: P0112344
Permit Type: Administrative Modification
County: Franklin

Dear Permit Holder:

Enclosed please find a final Ohio Environmental Protection Agency (EPA) 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. In this letter you will find the information on the following topics:

- **How to appeal this permit**
- **How to save money, reduce pollution and reduce energy consumption**
- **How to give us feedback on your permitting experience**
- **How to get an electronic copy of your permit**

How to appeal this permit

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

Environmental Review Appeals Commission
77 South High Street, 17th Floor
Columbus, OH 43215

How to save money, reduce pollution and reduce energy consumption

The Ohio EPA is encouraging companies to investigate pollution prevention and energy conservation. Not only will this reduce pollution and energy consumption, but it can also save you money. If you would like to learn ways you can save money while protecting the environment, please contact our Office of Compliance Assistance and Pollution Prevention at (614) 644-3469. Additionally, all or a portion of the capital expenditures related to installing air pollution control equipment under this permit may be eligible for financing and State tax exemptions through the Ohio Air Quality Development Authority (OAQDA) under Ohio Revised Code Section 3706. For more information, see the OAQDA website: www.ohioairquality.org/clean_air

How to give us feedback on your permitting experience

Please complete a survey at www.epa.ohio.gov/dapc/permitsurvey.aspx and give us feedback on your permitting experience. We value your opinion.

How to get an electronic copy of your permit

This permit can be accessed electronically via the eBusiness Center: Air Services in Microsoft Word format or in Adobe PDF on the Division of Air Pollution Control (DAPC) Web page, www.epa.ohio.gov/dapc by clicking the "Search for Permits" link under the Permitting topic on the Programs tab.

If you have any questions, please contact Ohio EPA DAPC, Central District Office at (614)728-3778or the Office of Compliance Assistance and Pollution Prevention at (614) 644-3469.

Sincerely,

Michael W. Ahern

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

Cc: Ohio EPA-CDO

FINAL

Division of Air Pollution Control
Permit-to-Install and Operate
for
Georgia Pacific Chemicals LLC

Facility ID:	0125040904
Permit Number:	P0112344
Permit Type:	Administrative Modification
Issued:	12/31/2012
Effective:	12/31/2012
Expiration:	11/15/2016

Division of Air Pollution Control
Permit-to-Install and Operate
for
Georgia Pacific Chemicals LLC

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Authorization

Facility ID:	0125040904
Application Number(s):	M0001990
Permit Number:	P0112344
Permit Description:	Administrative Modification to allow records to be maintained in degrees Celsius instead of degrees Fahrenheit to reflect facility operations
Permit Type:	Administrative Modification
Permit Fee:	$0.00
Issue Date:	12/31/2012
Effective Date:	12/31/2012
Expiration Date:	11/15/2016

Permit Evaluation Report (PER) Annual Date: Oct 1 - Sept 30, Due Nov 15

This document constitutes issuance to:

Georgia Pacific Chemicals LLC
1975 Watkins Road
Columbus, OH 43207

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

Ohio Environmental Protection Agency (EPA) District Office or local air agency responsible for processing and administering your permit:

Ohio EPA DAPC, Central District Office
50 West Town Street, 6th Floor
P.O. Box 1049
Columbus, OH 43216-1049
(614)728-3778

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

Scott J. Nally
Director

Authorization (continued)

Permit Number: P0112344
Permit Description: Administrative Modification to allow records to be maintained in degrees Celsius instead of degrees Fahrenheit to reflect facility operations

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:	Plant No.1
Superseded Permit Number:	P0108409
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	**P003**
Company Equipment ID:	Plant No.2
Superseded Permit Number:	P0108409
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	**T065**
Company Equipment ID:	T85 (former P801)
Superseded Permit Number:	P0108409
General Permit Category and Type:	Not Applicable

Group Name: Kettles

Emissions Unit ID:	**P004**
Company Equipment ID:	Kettle No.K1
Superseded Permit Number:	P0108409
General Permit Category andType:	Not Applicable
Emissions Unit ID:	**P006**
Company Equipment ID:	Kettle No K3
Superseded Permit Number:	P0108409
General Permit Category andType:	Not Applicable

Group Name: Loading stations 1 and 4

Emissions Unit ID:	**J003**
Company Equipment ID:	Load Stat #4 (Z032)
Superseded Permit Number:	P0108409
General Permit Category andType:	Not Applicable
Emissions Unit ID:	**J004**
Company Equipment ID:	Load Stat #1(Z033)
Superseded Permit Number:	P0108409
General Permit Category andType:	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 takenby 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, Central 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 submitting[1] 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.

[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).

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

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

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

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

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

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

B. Facility-Wide Terms and Conditions

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

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

      (1) None.

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

      (1) None.

C. Emissions Unit Terms and Conditions

1. P001, Plant No.1

Operations, Property and/or Equipment Description:

Plant No. 1 metal oxide process for formaldehyde and urea-formaldehyde production controlled by thermal oxidizer C001

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)(1)a., b)(2)a., and b)(2)e.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(D) (Synthetic minor to avoid Title V and MACT)	Methanol emissions from the thermal oxidizer shall not exceed 1.40 lbs/hr and 6.12 tons/yr. Formaldehyde emissions from the thermal oxidizer stack shall not exceed 0.26 lb/hr and 1.13 tons/yr. Volatile organic compound (VOC) emissions from the thermal oxidizer stack shall not exceed 2.92 lbs/hr and 12.77 tons/yr. Carbon monoxide (CO) emissions from the thermal oxidizer stack shall not exceed 6.61 lbs/hr and 28.94 tons/yr. Total fugitive VOC emissions from the

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		methanol feed system and process piping associated with P001 and P003 shall not exceed 0.53 ton methanol per year and 0.15 ton formaldehyde per year. The requirements of this rule also include compliance with the requirements of OAC rule 3745-21-09(DD) and OAC rule 3745-21-09(EE). See b)(2)a. and b)(2)e.
b.	OAC rule 3745-21-09(DD)	See b)(2)b., b)(2)c., and b)(2)d.
c.	OAC rule 3745-21-09(EE)	See b)(2)e.
d.	40 CFR 60.480 – 60.489 (40 CFR Part 60 Subpart VV)	See b)(2)f.
e.	40 CFR 60.610 – 60.618 (40 CFR Part 60 Subpart III)	See b)(2)f.

(2) Additional Terms and Conditions

a. The hourly and annual emission limitations were established to reflect the potential to emit (PTE) for this emissions unit. The PTE is based upon a maximum annual production of 105,014,880 lbs of urea-formaldehyde solution (as 50% formaldehyde), the 98% control efficiency requirement for the emissions from the thermal oxidizer, and a LDAR program that complies with the requirements of OAC rule 3745-21-09(DD).

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).

[OAC 3745-21-09(DD)(1)]

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).

[OAC 3745-21-09(DD)(2)(a)].

d. The following definitions shall apply to the LDAR program:

i. “In gas/vapor service” means that the piece of equipment contains or contacts process fluid that is in the gaseous state at operating conditions;

ii. “In heavy liquid service” means that the piece of equipment is not in gas/vapor service or in light liquid service;

iii. "In light liquid service" means that the piece of equipment contains or contacts process fluid that meets the conditions specified in (O)(3) of rule 3745-21-10 of the Administrative Code;

iv. "In situ sampling system" means a nonextractive sampler or an in-line sampler;

v. "In vacuum service" means that the piece of equipment is operating at an internal pressure that is at least 0.7 pound per square inch below ambient pressure; and

vi. "In VOC service" means that the piece of equipment contains or contacts a process fluid that is at least 10 percent VOC by weight.

e. The permittee shall vent the process vent stream to a thermal oxidizer that is designed and operated either to reduce the VOC emissions vented to it with an efficiency of at least 98 percent by weight or to emit VOC at a concentration less than 20 parts per million by volume, dry basis.

f. The New Source Performance Standards (NSPS) regulations are not applicable because this emission unit was installed prior to the applicability dates of January 5, 1981, (as listed in 40 CFR 60.480(b)) and October 21, 1983 (as listed in 40 CFR 60.617(b)).

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.

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

(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.

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

(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 500 ppmv.

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

(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 <u>exceptions</u>:

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. thepermittee 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.

[OAC 3745-21-09(DD)(3)(a) through (e)]

(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.

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

(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).

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

(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.

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

(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 <u>not</u> 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 average combustion temperature within the thermal oxidizer, for any 3-hour block of time when the emissions unit(s) controlled by the thermal oxidizer is/are in operation, shall not be more than 50 degrees Fahrenheit (or equivalent to 27.8 degrees Celsius) below the average temperature measured during the most recent performance test that demonstrated the emissions unit(s) was/were in compliance.

(2) The permittee shall properly install, operate, and maintain a continuous temperature monitor and recorder that measures and records the combustion temperature within the thermal oxidizer when the emissions unit(s) is/are in operation, including periods of startup and shutdown. Units shall be in degrees Celsius. The accuracy for each thermocouple, monitor, and recorder shall be guaranteed by the manufacturer to be within ± 1 percent of the temperature being measured or ± 5 degrees Celsius, whichever is greater. The temperature monitor and recorder shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and the operating manuals, with any modifications deemed necessary by the permittee. The permittee shall collect and record the following information each day the emissions unit(s) is/are in operation:

a. all 3-hour blocks of time, when the emissions unit(s) controlled by the thermal oxidizer was/were in operation, during which the average combustion temperature within the thermal oxidizer was more than 27.8 degrees Celsius below the average temperature measured during the most recent performance test that demonstrated the emissions unit(s) was/were in compliance; and

b. a log (date and total time) of the downtime or bypass of the capture (collection) system and thermal oxidizer, and/or downtime of the monitoring equipment, when the associated emissions unit(s) was/were in operation.

These records shall be maintained at the facility for a period of three years.

(3) Excluding periods of startup and shutdown, whenever the monitored average combustion temperature within the thermal oxidizer deviates from the range or limit established in accordance with this permit, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:

a. the date and time the deviation began;

b. the magnitude of the deviation at that time;

c. the date the investigation was conducted;

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

e. the findings and recommendations.

In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable range/limit 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:

f. a description of the corrective action;

g. the date corrective action was completed;

h. the date and time the deviation ended;

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

j. the temperature readings immediately after the corrective action was implemented; and

k. 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.

The temperature range is 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 temperature range/limit based upon information obtained during future performance tests that demonstrate compliance with the allowable emission rate(s) for the controlled pollutant(s). In addition, approved revisions to the temperature range/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) 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.

[OAC 3745-21-09(DD)(2)(b)(ii)]

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.

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

(5) 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. thepermittee 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. thepermittee 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).

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

(6) 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.

[OAC 3745-21-09(DD)(12)(a) through (f)] for [OAC 3745-21-09(DD)(2)(c)(iii)]

(7) 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.

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

(8) 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.

[OAC 3745-21-09(DD)(12)(a), (b), and (h)]

(9) 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).

[OAC 3745-21-09(DD)(13)(a) through (e)] for [OAC 3745-21-09(DD)(2)(d)(v)]

(10) 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.

[OAC 3745-21-09(DD)(13)(d) and (g)]

(11) 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).

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

(12) 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).

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

(13) 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.

[OAC 3745-21-09(DD)(2)(f)] for [OAC 3745-21-09(DD)(8)]

(14) A leak is detected when:

a. a concentration of 500 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.

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

(15) 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 500 ppmv"; or

(c) a record stating that the measured concentration was "above 500 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.

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

(16) 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.

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

(17) 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.

[OAC 3745-21-09(DD)(14)(a) and (g)]

(18) 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).

[OAC 3745-21-09(DD)(17)(a)]

(19) 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).

[OAC 3745-21-09(DD)(17)(b)]

e) Reporting Requirements

(1) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.

(2) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be completed electronically and submitted via the Ohio EPA eBusiness Center: Air Services by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve-months for each air contaminant source identified in this permit.

(3) 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, <u>excluding</u>:

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.

[OAC 3745-21-09(DD)(2)(m)] and [OAC 3745-21-09(DD)(15)(a), (c), and (d)]

(4) The permittee shall submit quarterly deviation (excursion) reports that identify:

a. all deviations (excursions) of the following emission limitations, operational restrictions and/or control device operating parameter limitations that restrict the potential to emit (PTE) of any regulated air pollutant and have been detected by the monitoring, record keeping and/or testing requirements in this permit:

i. each 3-hour block of time (start time and date, and end time and date) when the average combustion temperature within the thermal oxidizer was outside of the acceptable range;

ii. any 3-hour block 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 thermal oxidizer the probable cause of each deviation (excursion);

b. any corrective actions that were taken to remedy the deviations (excursions) or prevent future deviations (excursions); and

c. the magnitude and duration of each deviation (excursion).

If no deviations (excursions) occurred during a calendar quarter, the permittee shall submit a report that states that no deviations (excursions) occurred during the quarter.

The quarterly reports shall be submitted, electronically through Ohio EPA Air Services, each year by January 31 (covering October to December), April 30 (covering January to March), July 31 (covering April to June), and October 31 (covering July to September), unless an alternative schedule has been established and approved by the Director (the appropriate District Office or local air agency).

(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.

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. The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

f) Testing Requirements

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

a. <u>Emission Limitation:</u>

The permittee shall vent the process vent stream to a thermal oxidizer that is designed and operated either to reduce the VOC emissions vent to it either by at least 98 percent, by weight, or to emit VOC at a concentration less than 20 parts per million, dry basis.

<u>Applicable Compliance Method:</u>

The permittee conducted U.S. EPA Methods 10, 25A, and 320 testing on stack emissions from this emission unit on September 15, 2011, and submitted a comprehensive written report demonstrating compliance with the emissions limitations to the Ohio EPA, Central District Office on October 17, 2011.

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

i. The emission testing shall be conducted approximately 2.5 years after permit issuance and within 6 months prior to the permitexpiration.

ii. The emission testing shall be conducted to demonstrate compliance with the allowable hourly mass emission rate(s) for methanol, formaldehyde, volatile organic compounds (VOCs), and carbon monoxide emissions, as well as the control efficiency of VOC across the thermal oxidizer.

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

Methods 1-4 located in 40 CFR Part 60, Appendix A
Method 25 or 25A located in 40 CFR Part 60, Appendix A; and
Method 320 located in 40 CFR Part 63, Appendix A.

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

The control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) shall be determined in accordance with the test methods and procedures specified in 3745-21-10 or an alternative test protocol approved by the Ohio EPA. The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.

iv. The test(s) shall be conducted under those representative conditions that challenge to the fullest extent possible a facility's ability to meet the applicable emissions limits and/or control requirements, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency. Although this generally consists of operating the emissions unit at its maximum material input/production rates and results in the highest emission rate of the tested pollutant, there may be circumstances where a lower emissions loading is deemed the most challenging control scenario. Failure to test under these conditions is justification for not accepting the test results as a demonstration of compliance.

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

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

vii. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may

request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.

b. Emission Limitation:

Methanol emission from the thermal oxidizer stack shall not exceed 1.40 lb/hr and 6.12 tons/yr

Applicable Compliance Method:

The permittee shall demonstrate compliance with the hourly emission limitation through emission testing required in f)(1)a.

Provided compliance with the hourly limitation is shown, compliance with the annual limitation will be assumed.

c. Emission Limitation:

Formaldehyde emissions from the thermal oxidizer stack shall not exceed 0.26 lb/hr and 1.13 ton/yr.

Applicable Compliance Method:

The permittee shall demonstrate compliance with the hourly emission limitation through emission testing required in f)(1)a.

Provided compliance with the hourly limitation is shown, compliance with the annual limitation will be assumed.

d. Emission Limitation:

VOC emissions from the thermal oxidizer stack shall not exceed 2.92 lbs/hr and 12.77 tons/yr.

Applicable Compliance Method:

The permittee shall demonstrate compliance with the hourly emission limitation through emission testing required in f)(1)a.

Provided compliance with the hourly limitation is shown, compliance with the annual limitation will be assumed.

e. Emission Limitation:

Carbon monoxide emissions from the thermal oxidizer stack shall not exceed 6.61 lbs/hr and 28.94 tons/yr.

Applicable Compliance Method:

The permittee shall demonstrate compliance with the hourly emission limitation through emission testing required in f)(1)a.

Provided compliance with the hourly limitation is shown, compliance with the annual limitation will be assumed.

f. Emission Limitation:

Total fugitive VOC emissions from the methanol feed system and process piping associated with Plant No. 1 (P001) and Plant No. 2 (P003) shall not exceed 0.53 ton of methanol and 0.15 ton of formaldehyde per year

Applicable Compliance Method:

Compliance with the annual fugitive VOC emissions shall be determined by calculations that use Texas Commission of Environmental Quality (TCEQ) emission factors. There is an emission factor for each category of components that may leak, i.e. valves, connectors and pumps in light liquid, heavy liquid and gas/vapor service. The total number of components for that category is then multiplied by the emission factor and any applicable emission reductions for a light liquid and a heavy liquid. The emissions shall be calculated for both methanol and formaldehyde.

g) Miscellaneous Requirements

(1) None.

2. P003, Plant No.2

Operations, Property and/or Equipment Description:

Plant No. 2 metal oxide process for formaldehyde and urea-formaldehyde production vented to a catalytic incinerator

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

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

a. d)(20) – d)(23), and e)(3).

(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)(1)a., b)(2)a., b)(2)e., c)(1), and e)(5)a.ii.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(D) (Synthetic minor to avoid Title V and MACT)	Methanol emissions from the catalytic incinerator stack shall not exceed 0.14 lb/hr and 0.64 ton/yr. Formaldehyde emissions from the catalytic incinerator stack shall not exceed 0.27 lb/hr and 1.18 ton/yr. Volatile organic compound (VOC) emissions from the catalytic incinerator stack shall not exceed 2.17 lbs/hr and 9.52 tons/yr. Carbon monoxide (CO) emissions from the catalytic incinerator stack shall not exceed 9.03 lbs per hour and 39.57 tons per year.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		Total fugitive VOC emissions resulting from process piping in the methanol feed system and formaldehyde production in P001 and P003 shall not exceed 0.53 ton methanol and 0.15 ton formaldehyde per year. The requirement of this rule also includes compliance with the requirements of OAC rules 3745-21-09(DD) and OAC rules 3745-21-09(EE).
b.	OAC rule 3745-21-09(DD)	See b)(2)b., b)(2)c., and b)(2)d.
c.	OAC rule 3745-21-09(EE)	See b)(2)e.
d.	ORC 3704.03(F)(4)(d)	See d)(20) – d)(23) and e)(4)
e.	40 CFR 60.480 – 60.489 (40 CFR Part 60, Subpart VV)	See b)(2)f.
f.	40 CFR 60.610 – 60.618 (40 CFR Part 60, Subpart III)	See b)(2)f.

(2) Additional Terms and Conditions

a. The hourly and annual emission limitations were established to reflect the potential to emit (PTE) for this emissions unit. The PTE is based upon a maximum annual production of 141,281,280 lbs of formaldehyde and urea-formaldehyde solution (as 50% formaldehyde), the 98% control efficiency requirement for the emissions across the catalyst bed, and a LDAR program that complies with the requirements of OAC rule 3745-21-09(DD).

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).

[OAC 3745-21-09(DD)(1)]

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).

[OAC 3745-21-09(DD)(2)(a)].

d. The following definitions shall apply to the LDAR program:

i. “In gas/vapor service” means that the piece of equipment contains or contacts process fluid that is in the gaseous state at operating conditions;

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

iii. "In light liquid service" means that the piece of equipment contains or contacts process fluid that meets the conditions specified in (O)(3) of rule 3745-21-10 of the Administrative Code;

iv. "In situ sampling system" means a nonextractive sampler or an in-line sampler;

v. "In vacuum service" means that the piece of equipment is operating at an internal pressure that is at least 0.7 pound per square inch below ambient pressure; and

vi. "In VOC service" means that the piece of equipment contains or contacts a process fluid that is at least 10 percent VOC by weight.

e. The permittee shall vent the process vent stream to a catalytic incinerator that is designed and operated either to reduce the VOC emissions vented to it with an efficiency of at least 98 percent, by weight, or to emit VOC at a concentration less than 20 parts per million, dry basis.

f. Neither 40 CFR Part 60, Subpart VV nor 40 CFR Part 60, Subpart III are applicable to this emission unit because the increase in the emission rate granted in permit-to-install (PTI) 01-12019 resulted from process improvements that did not constitute a "modification" under 40 CFR 60.14(e)(2) or 60.481(a) in that the process improvements were accomplished without making a "capital expenditure." Prior to the 2006 PTI modification, the new source performance standards (NSPS) regulations were not applicable because this process was installed prior to the applicability dates of January 5, 1981 (as listed in 40 CFR Part 60, Subpart VV) and October 21, 1983 (as listed in 40 CFR 60.617(b)).

c) Operational Restrictions

(1) The catalytic incinerator shall be operated and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals. The conversion efficiency of the catalyst shall be at least 98% at a test temperature that is equal to that temperature at which the inlet to the catalyst bed is set.

[OAC rule 3745-31-05(D)]

(2) 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.

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

(3) 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.

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

(4) 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 500 ppmv.

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

(5) 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 <u>exceptions</u>:

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. thepermittee 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.

[OAC 3745-21-09(DD)(3)(a) through (e)]

(6) 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.

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

(7) 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).

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

(8) 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.

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

(9) 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 <u>not</u> 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.

(10) 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 average temperature of the exhaust gases immediately before the catalyst bed, for any 3-hour block of time when the emissions unit(s) controlled by the catalytic incinerator is/are in operation, shall not be more than 50 degrees Fahrenheit (or equivalent to 27.8 degrees Celsius) below the average temperature measured during the most recent performance test that demonstrated the emissions unit was in compliance. The acceptable average temperature difference across the catalyst bed, for any 3-hour block of time (when the emissions unit is in operation), shall not be less than 80 percent of the average temperature difference measured during the most recent performance test that demonstrated the emissions unit was in compliance.

(2) The permittee shall properly install, operate, and maintain continuous temperature monitors and recorder(s) that measure and record(s) the temperature immediately upstream and downstream of the incinerator's catalyst bed when the emissions unit(s) is/are in operation, including periods of startup and shutdown. Units shall be in degrees Celsius. The accuracy for each thermocouple, monitor, and recorder shall be guaranteed by the manufacturer to be within ± 1 percent of the temperature being measured or ± 5 degrees Celsius, whichever is greater. The temperature monitors and recorder(s) shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and the operating manuals, with any modifications deemed necessary by the permittee. The permittee shall collect and record the following information each day the emissions unit(s) is/are in operation:

a. all 3-hour blocks of time, when the emissions unit(s) controlled by the catalytic incinerator was/were in operation, during which the average temperature of the exhaust gases immediately before the catalyst bed was more than 27.8 degrees Celsius below the average temperature measured during the most recent performance test that demonstrated the emissions unit(s) was/were in compliance;

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

c. a log (date and total time) of the downtime or bypass of the capture (collection) system and catalytic incinerator control, and/or downtime of the monitoring equipment, when the associated emissions unit(s) was/were in operation.

The permittee may use a temperature chart recorder or equivalent recording device as the log that documents the temperature differential across the catalyst bed. These records shall be maintained at the facility for a period of no less than 3 years.

(3) Excluding periods of startup and shutdown, whenever the monitored average temperature of the exhaust gases immediately before the catalyst bed and/or the average temperature difference across the catalyst bed deviates from the range or limit established in accordance with this permit, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:

a. the date and time the deviation began;

b. the magnitude of the deviation at that time;

c. the date the investigation was conducted;

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

e. the findings and recommendations.

In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable range(s)/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:

f. a description of the corrective action;

g. the date corrective action was completed;

h. the date and time the deviation ended;

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

j. the temperature of the exhaust gases immediately before the catalyst and the average temperature difference across the catalyst bed immediately after the corrective action was implemented; and

k. 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.

The temperature ranges 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 temperature range(s) based upon information obtained during future performance tests that demonstrate compliance with the allowable emission rate(s) of the controlled pollutant(s). In addition, approved revisions to the temperature range(s) 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) 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.

[OAC 3745-21-09(DD)(2)(b)(ii)]

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.

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

(5) 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. thepermittee 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. thepermittee 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).

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

(6) 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.

[OAC 3745-21-09(DD)(12)(a) through (f)] for [OAC 3745-21-09(DD)(2)(c)(iii)]

(7) 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.

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

(8) 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.

[OAC 3745-21-09(DD)(12)(a), (b), and (h)]

(9) 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 <u>not</u> "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).

[OAC 3745-21-09(DD)(13)(a) through (e)] for [OAC 3745-21-09(DD)(2)(d)(v)]

(10) 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.

[OAC 3745-21-09(DD)(13)(d) and (g)]

(11) 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).

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

(12) 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).

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

(13) 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.

[OAC 3745-21-09(DD)(2)(f)] for [OAC 3745-21-09(DD)(8)]

(14) A leak is detected when:

a. a concentration of 500 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.

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

(15) 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 500 ppmv”; or

(c) a record stating that the measured concentration was “above 500 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.

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

(16) 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.

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

(17) 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.

[OAC 3745-21-09(DD)(14)(a) and (g)]

(18) 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).

[OAC 3745-21-09(DD)(17)(a)]

(19) 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).

[OAC 3745-21-09(DD)(17)(b)]

(20) The federally enforceable permit-to-install and operate (FEPTIO) application for this emissions unit, P003, was evaluated based on the actual materials and the design parameters of the emissions unit's(s’) exhaust system, as specified by the permittee. The Toxic Air Contaminant Statute, ORC 3704.03(F), was applied to this/these emissions unit(s) for each toxic air contaminant listed in OAC rule 3745-114-01, using data from the permit application; and modeling was performed for each toxic air contaminant(s) emitted at over one ton per year using an air dispersion model such as SCREEN3, AERMOD, or ISCST3, or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the approved air dispersion model, was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC), calculated as described in the Ohio EPA guidance document entitled Review of New Sources of Air Toxic Emissions, Option A, as follows:

a. the exposure limit, expressed as a time-weighted average concentration for a conventional 8-hour workday and a 40-hour workweek, for each toxic compound(s) emitted from the emissions unit(s), (as determined from the raw materials processed and/or coatings or other materials applied) has been documented from one of the following sources and in the following order of preference (TLV was and shall be used, if the chemical is listed):

i. threshold limit value (TLV) from the American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices; or

ii. STEL (short term exposure limit) or the ceiling value from the American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices; the STEL or ceiling value is multiplied by 0.737 to convert the 15-minute exposure limit to an equivalent 8-hour TLV.

b. The TLV is divided by ten to adjust the standard from the working population to the general public (TLV/10).

c. This standard is/was then adjusted to account for the duration of the exposure or the operating hours of the emissions unit(s), i.e., 24 hours per day and 7 days per week, from that of 8 hours per day and 5 days per week. The resulting calculation was (and shall be) used to determine the Maximum Acceptable Ground-Level Concentration (MAGLC):

TLV/10 x 8/X x 5/Y = 4 TLV/XY = MAGLC

d. The following summarizes the results of dispersion modeling for the significant toxic contaminants (emitted at 1 or more tons/year) or worst case toxic contaminant(s):

Toxic Contaminant: formaldehyde and carbon monoxide.

TLV (mg/m3): 0.37 for formaldehyde and 29 for carbon monoxide

Maximum Hourly Emission Rate (lbs/hr):

0.27 for formaldehyde and 9.03 for carbon monoxide

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

6.5 for formaldehyde and 217.4 for carbon monoxide

MAGLC (ug/m3): 6.5 for formaldehyde; 690 for carbon monoxide

The permittee, has demonstrated that emissions of formaldehyde and carbon monoxide, from emissions unit(s) P003, is calculated to be less than eighty per cent of the maximum acceptable ground level concentration (MAGLC); any new raw material or processing agent shall not be applied without evaluating each component toxic air contaminant in accordance with the Toxic Air Contaminant Statute, ORC 3704.03(F).

[ORC 3704.03(F)(3)(c) and F(4)], [OAC rule 3745-114-01], Option A, Engineering Guide #70

(21) Prior to making any physical changes to or changes in the method of operation of the emissions unit(s), that could impact the parameters or values that were used in the predicted 1-hour maximum ground-level concentration, the permittee shall re-model the change(s) to demonstrate that the MAGLC has not been exceeded. Changes that can affect the parameters/values used in determining the 1-hour maximum ground-level concentration include, but are not limited to, the following:

a. changes in the composition of the materials used or the use of new materials, that would result in the emission of a new toxic air contaminant with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled;

b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any toxic air contaminant listed in OAC rule 3745-114-01, that was modeled from the initial (or last) application; and

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

If the permittee determines that the Toxic Air Contaminant Statute will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01 solely due to a non-restrictive change to a parameter or process operation, where compliance with the Toxic Air Contaminant Statute, ORC 3704.03(F), has been documented. If the change(s) meet(s) the definition of a “modification”, the permittee shall apply for and obtain a final FEPTIO prior to the

change. The Director may consider any significant departure from the operations of the emissions unit, described in the permit application, as a modification that results in greater emissions than the emissions rate modeled to determine the ground level concentration; and he/she may require the permittee to submit a permit application for the increased emissions.

[ORC 3704.03(F)(3)(c) and F(4)], [OAC rule 3745-114-01], Option A, Engineering Guide #70

(22) The permittee shall collect, record, and retain the following information for each toxic evaluation conducted to determine compliance with the Toxic Air Contaminant Statute, ORC 3704.03(F):

a. a description of the parameters/values used in each compliance demonstration and the parameters or values changed for any re-evaluation of the toxic(s) modeled (the composition of materials, new toxic contaminants emitted, change in stack/exhaust parameters, etc.);

b. the Maximum Acceptable Ground-Level Concentration (MAGLC) for each significant toxic contaminant or worst-case contaminant, calculated in accordance with the Toxic Air Contaminant Statute, ORC 3704.03(F);

c. a copy of the computer model run(s), that established the predicted 1-hour maximum ground-level concentration that demonstrated the emissions unit(s) to be in compliance with the Toxic Air Contaminant Statute, ORC 3704.03(F), initially and for each change that requires re-evaluation of the toxic air contaminant emissions; and

d. the documentation of the initial evaluation of compliance with the Toxic Air Contaminant Statute, ORC 3704.03(F), and documentation of any determination that was conducted to re-evaluate compliance due to a change made to the emissions unit(s) or the materials applied.

[ORC 3704.03(F)(3)(c) and F(4)], [OAC rule 3745-114-01], Option A, Engineering Guide #70

(23) The permittee shall maintain a record of any change made to a parameter or value used in the dispersion model, used to demonstrate compliance with the Toxic Air Contaminant Statute, ORC 3704.03(F), through the predicted 1-hour maximum ground-level concentration. The record shall include the date and reason(s) for the change and if the change would increase the ground-level concentration.

[ORC 3704.03(F)(3)(c) and F(4)], [OAC rule 3745-114-01], Option A, Engineering Guide #70

e) Reporting Requirements

(1) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.

(2) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be completed electronically and submitted via the Ohio EPA eBusiness Center: Air Services by the due date identified in the Authorization section of this permit.

The permit evaluation report shall cover a reporting period of no more than twelve-months for each air contaminant source identified in this permit.

(3) The permittee shall include any changes made to a parameter or value used in the dispersion model, that was used to demonstrate compliance with the Toxic Air Contaminant Statute, ORC 3704.03(F), through the predicted 1-hour maximum ground-level concentration, in the annual Permit Evaluation Report (PER). If no changes to the emissions, emissions unit(s), or the exhaust stack have been made, then the report shall include a statement to this effect.

[ORC 3704.03(F)(3)(c) and F(4)], [OAC rule 3745-114-01], Option A, Engineering Guide #70

(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, <u>excluding</u>:

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, <u>excluding</u>:

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, <u>excluding</u>:

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.

[OAC 3745-21-09(DD)(2)(m)] and [OAC 3745-21-09(DD)(15)(a), (c), and (d)]

(5) The permittee shall submit quarterly deviation (excursion) reports that identify:

a. all deviations (excursions) of the following emission limitations, operational restrictions and/or control device operating parameter limitations that restrict the potential to emit (PTE) of any regulated air pollutant and have been detected by the monitoring, record keeping and/or testing requirements in this permit:

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

ii. any period of time (start time and date, and end time and date) when the emissions unit(s) was/were in operation and the process emissions were not vented to the catalytic incinerator the probable cause of each deviation (excursion);

b. any corrective actions that were taken to remedy the deviations (excursions) or prevent future deviations (excursions); and

c. the magnitude and duration of each deviation (excursion).

If no deviations (excursions) occurred during a calendar quarter, the permittee shall submit a report that states that no deviations (excursions) occurred during the quarter.

The quarterly reports shall be submitted, electronically through Ohio EPA Air Services, each year by January 31 (covering October to December), April 30 (covering January to March), July 31 (covering April to June), and October 31 (covering July to September), unless an alternative schedule has been established and approved by the Director (the appropriate District Office or local air agency).

f) Testing Requirements

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

a. <u>Emission Limitation:</u>

The permittee shall vent the process vent stream to a catalytic incinerator that is designed and operated either to reduce the VOC emissions vent to it either by at least 98 percent, by weight, or to emit VOC at a concentration less than 20 parts per million, dry basis.

<u>Applicable Compliance Method:</u>

The permittee conducted U.S. EPA Methods 10, 25A, and 320 testing on stack emissions from this emission unit on September 13, 2011, and submitted a comprehensive written report demonstrating compliance with the emissions limitations to the Ohio EPA, Central District Office on October 17, 2011. Compliance was demonstrated during the stack test with a methanol feed rate of 18.1 gallons per minute.

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

i. The emission testing shall be conducted approximately 2.5 years after permit issuance and within 6 months prior to the permitexpiration.

ii. The emission testing shall be conducted to demonstrate compliance with the allowable hourly mass emission rate(s) for methanol, formaldehyde, volatile organic compounds (VOCs), and carbon monoxide emissions, as well as the control efficiency of VOC across the catalytic incinerator.

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

Methods 1-4 located in 40 CFR Part 60, Appendix A
Method 25 or 25A located in 40 CFR Part 60, Appendix A; and
Method 320 located in 40 CFR Part 63, Appendix A.

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

The control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) shall be determined in accordance with the test methods and procedures specified in 3745-21-10 or an alternative test protocol approved by the Ohio EPA. The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.

iv. The test(s) shall be conducted under those representative conditions that challenge to the fullest extent possible a facility's ability to meet the applicable emissions limits and/or control requirements, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency. Although this generally consists of operating the emissions unit at its maximum material input/production rates and results in the highest emission rate of the tested pollutant, there may be circumstances where a lower emissions loading is deemed the most challenging control scenario. Failure to test under these conditions is justification for not accepting the test results as a demonstration of compliance.

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

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

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

b. Emission Limitation:

Methanol emission from the catalytic incinerator stack shall not exceed 0.14 lb/hr and 0.64 tons/yr

Applicable Compliance Method:

The permittee shall demonstrate compliance with the hourly emission limitation through emission testing required in f)(1)a.

Provided compliance with the hourly limitation is shown, compliance with the annual limitation will be assumed.

c. Emission Limitation:

Formaldehyde emissions from the catalytic incinerator stack shall not exceed 0.27 lb/hr and 1.18 ton/yr.

Applicable Compliance Method:

The permittee shall demonstrate compliance with the hourly emission limitation through emission testing required in f)(1)a.

Provided compliance with the hourly limitation is shown, compliance with the annual limitation will be assumed.

d. Emission Limitation:

VOC emissions from the catalytic incinerator stack shall not exceed 2.17 lbs/hr and 9.52 tons/yr.

Applicable Compliance Method:

The permittee shall demonstrate compliance with the hourly emission limitation through emission testing required in f)(1)a.

Provided compliance with the hourly limitation is shown, compliance with the annual limitation will be assumed.

e. Emission Limitation:

Carbon monoxide emissions from the catalytic incinerator stack shall not exceed 9.03 lbs/hr and 39.57 tons/yr.

Applicable Compliance Method:

The permittee shall demonstrate compliance with the hourly emission limitation through emission testing required in f)(1)a.

Provided compliance with the hourly limitation is shown, compliance with the annual limitation will be assumed.

f. Emission Limitation:

Total fugitive VOC emissions from the methanol feed system and process piping associated with Plant No. 1 (P001) and Plant No. 2 (P003) shall not exceed 0.53 ton of methanol and 0.15 ton of formaldehyde per year

Applicable Compliance Method:

Compliance with the annual fugitive VOC emissions shall be determined by calculations provided in the permit application. There is an emission factor for each category of components that may leak, i.e. valves, connectors and pumps in light liquid, heavy liquid and gas/vapor service. The total number of components for that category is then multiplied by the emission factor and any applicable emission reductions for a light liquid and a heavy liquid. The emissions shall be calculated for both methanol and formaldehyde.

g) Miscellaneous Requirements

(1) None.

3. T065, T85 (former P801)

Operations, Property and/or Equipment Description:

413,000 gallon methanol storage tank

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

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

a. None.

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

a. b)(1)a., b)(2)a., and e)(4)a.ii.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(D) (Synthetic minor to avoid Title V and MACT)	Methanol emissions from the formaldehyde plant #1 thermal oxidizer shall not exceed 1.40 pounds per hour and 6.12 tons per year. Carbon monoxide (CO) emissions from the formaldehyde plant #1 thermal oxidizer stack shall not exceed 6.61 pounds per hour and 28.94 tons per year. See b)(2)a – b)(2)d., d)(1) – d)(3), e)(4), and e)(5).

(2) Additional Terms and Conditions

a. The tank emissions shall be vented to a vapor collection system to capture vapors generated during transfer and storage of methanol. The vapor collection

system shall vent to fresh air inlet of formaldehyde plant 1 and, during formaldehyde plant down time, to the resin plant thermal oxidizer.

b. The vapor collection system is vented to the fresh air intake of the formaldehyde plant 1, which would achieve greater than 99% reduction efficiency. The worse-case PTE is based upon a maximum annual throughput of 28,748,727 gallons (94, 871 tons) of methanol and the 98% control efficiency requirement for the emissions vented to the resin plant thermal oxidizer.

c. The permittee shall not permit methanol to be spilled or handled in any other manner that would result in evaporation.

d. The permittee shall monitor the pumps and valves in the methanol system according to the leak detection and repair program for the formaldehyde plants. A calculated methanol emission component of fugitive emissions is quantified in section A.1.a of plant 1 (P001) and plant 2 (P003).

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) In order to maintain compliance with the applicable emission limitation(s) contained in this permit, the acceptable average combustion temperature within the thermal oxidizer, for any 3-hour block of time when the emissions unit(s) controlled by the thermal oxidizer is in operation, shall not be more than 50 degrees Fahrenheit (or equivalent to 27.8 degrees Celsius) below the average temperature measured during the most recent performance test that demonstrated the emissions unit was in compliance.

(2) The permittee shall properly install, operate, and maintain a continuous temperature monitor and recorder that measures and records the combustion temperature within the thermal oxidizer when the emissions unit(s) is/are in operation, including periods of startup and shutdown. Units shall be in degrees Celsius. The accuracy for each thermocouple, monitor, and recorder shall be guaranteed by the manufacturer to be within ± 1 percent of the temperature being measured or ± 5 degrees Celsius, whichever is greater. The temperature monitor and recorder shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and the operating manuals, with any modifications deemed necessary by the permittee. The permittee shall collect and record the following information each day the emissions unit(s) is/are in operation:

a. all 3-hour blocks of time, when the emissions unit(s) controlled by the thermal oxidizer was/were in operation, during which the average combustion temperature within the thermal oxidizer was more than 27.8 degrees Celsius below the average temperature measured during the most recent performance test that demonstrated the emissions unit(s) was/were in compliance; and

b. a log (date and total time) of the downtime or bypass of the capture (collection) system and thermal oxidizer, and/or downtime of the monitoring equipment, when the associated emissions unit(s) was/were in operation.

(3) Whenever the monitored average combustion temperature within the thermal oxidizer deviates from the range or limit established in accordance with this permit, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:

a. the date and time the deviation began;

b. the magnitude of the deviation at that time;

c. the date the investigation was conducted;

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

e. the findings and recommendations.

In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable range/limit 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:

f. a description of the corrective action;

g. the date corrective action was completed;

h. the date and time the deviation ended;

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

j. the temperature readings immediately after the corrective action was implemented; and

k. 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.

The temperature range/limit is 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 temperature range/limit based upon information obtained during future performance tests that demonstrate compliance with the allowable emission rate(s) for the controlled

pollutant(s). In addition, approved revisions to the temperature range/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.

[OAC rule 3745-31-05(D)]

e) Reporting Requirements

(1) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.

(2) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be completed electronically and submitted via the Ohio EPA eBusiness Center: Air Services 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.

[OAC rule 3745-15-03(B)(2)] and [OAC rule 3745-15-03(D)]

(3) The permittee shall submit annual reports to Ohio EPA, which at a minimum specify the total methanol and formaldehyde emissions from emission unit, for the previous year (January 1 through December 31). The reports shall be submitted by April 15 of each year. This reporting requirement may be satisfied by including and identifying the specific emission data for this emission unit in the annual Fee Emission Report (FER).

(4) The permittee shall submit quarterly deviation (excursion) reports that identify:

a. all deviations (excursions) of the following emission limitations, operational restrictions and/or control device operating parameter limitations that restrict the potential to emit (PTE) of any regulated air pollutant and have been detected by the monitoring, record keeping and/or testing requirements in this permit:

i. each period of time (start time and date, and end time and date) when the average combustion temperature within the thermal oxidizer was outside of the acceptable range;

ii. 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 thermal oxidizer, the probable cause of each deviation (excursion);

b. any corrective actions that were taken to remedy the deviations (excursions) or prevent future deviations (excursions); and

c. the magnitude and duration of each deviation (excursion).

If no deviations (excursions) occurred during a calendar quarter, the permittee shall submit a report that states that no deviations (excursions) occurred during the quarter.

The quarterly reports shall be submitted, electronically through Ohio EPA Air Services, each year by January 31 (covering October to December), April 30 (covering January to March), July 31 (covering April to June), and October 31 (covering July to September), unless an alternative schedule has been established and approved by the Director (the appropriate District Office or local air agency).

[OAC rule 3745-15-03(B)(1)(b)] and [OAC rule 3745-15-03(C)]

f) Testing Requirements

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

a. Emission Limitation:

The permittee shall vent the emissions from these emission units to a thermal oxidizer that is designed and operated either to reduce the VOC emissions vent to it either by at least 98 percent, by weight, or to emit VOC at a concentration less than 20 parts per million, dry basis.

Applicable Compliance Method:

The permittee conducted U.S. EPA Methods 10, 25A, and 320 testing on stack emissions from this emission unit on September 14, 2011, and submitted a comprehensive written report demonstrating compliance with the emissions limitations to the Ohio EPA, Central District Office on October 17, 2011.

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

i. The emission testing shall be conducted approximately 2.5 years after permit issuance and within 6 months prior to the permitexpiration.

ii. The emission testing shall be conducted to demonstrate compliance with the allowable hourly mass emission rate(s) for methanol, formaldehyde, volatile organic compounds (VOCs), and carbon monoxide emissions, as well as the control efficiency of VOC across the thermal oxidizer.

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

Methods 1-4 located in 40 CFR Part 60, Appendix A
Method 25 or 25A located in 40 CFR Part 60, Appendix A; and
Method 320 located in 40 CFR Part 63, Appendix A.

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

The control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) shall be determined in accordance with the test methods and procedures specified in 3745-21-10 or an alternative test protocol approved by the Ohio EPA. The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.

iv. The test(s) shall be conducted under those representative conditions that challenge to the fullest extent possible a facility's ability to meet the applicable emissions limits and/or control requirements, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency. Although this generally consists of operating the emissions unit at its maximum material input/production rates and results in the highest emission rate of the tested pollutant, there may be circumstances where a lower emissions loading is deemed the most challenging control scenario. Failure to test under these conditions is justification for not accepting the test results as a demonstration of compliance.

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

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

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

b. <u>Emission Limitation</u>:

Methanol emission from the resin plant thermal oxidizer stack shall not exceed 0.175 lb/hr and 0.765 ton/yr

Applicable Compliance Method:

The permittee shall demonstrate compliance with the hourly emission limitation through emission testing required in f)(1)a.

Provided compliance with the hourly limitation is shown, compliance with the annual limitation will be assumed.

c. Emission Limitation:

Formaldehyde emissions from the resin plant thermal oxidizer stack shall not exceed 0.191 lb/hr and 0.835 ton/yr.

Applicable Compliance Method:

The permittee shall demonstrate compliance with the hourly emission limitation through emission testing required in f)(1)a.

Provided compliance with the hourly limitation is shown, compliance with the annual limitation will be assumed.

d. Emission Limitation:

Carbon monoxide emissions from the resin plant thermal oxidizer stack shall not exceed 4.2 lbs/hr and 18.4 tons/yr.

Applicable Compliance Method:

The permittee shall demonstrate compliance with the hourly emission limitation through emission testing required in f)(1)a.

Provided compliance with the hourly limitation is shown, compliance with the annual limitation will be assumed.

g) Miscellaneous Requirements

(1) None.

4. Emissions Unit Group -Kettles: P004,P006,

EU ID	Operations, Property and/or Equipment Description
P004	Resin Kettle K1, 13,000 gallon
P006	Resin Kettle K3, 2,000 gallon

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)(1)a., b)(2)a. – b)(2)c., and e)(4)a.ii.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(D) (Synthetic minor to avoid Title V and MACT)	Methanol emissions from the resin plant thermal oxidizer stack shall not exceed 0.175 lb/hr and 0.765 ton/yr. Formaldehyde emissions from the resin plant thermal oxidizer stack shall not exceed 0.191 lb/hr and 0.735 ton/yr. Phenol emissions from the resin plant thermal oxidizer stack shall not exceed 0.107 lb/hr and 0.467 ton/yr. Carbon monoxide emissions from the resin plant thermal oxidizer stack shall not exceed 4.2 lbs/hr and 18.4 tons/yr. See b)(2)a. – b)(2)c.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
b.	OAC rule 3745-15-07(A)	See b)(2)d.

(2) Additional Terms and Conditions

a. The kettle VOC emissions shall be vented to a vapor collection system that achieves and maintains a 100% capture efficiency at all times organic liquids are transferred and processed. The vapor collection system shall vent all VOC emissions to the resin plan thermal oxidizer; the thermal oxidizer shall achieve and maintain either a destruction efficiency of at least 98%, by weight, or an outlet VOC emission concentration of less than 20 parts per million by volume, dry basis

[OAC rule 3745-31-05(D)]

b. All of the VOC emissions from the following emission units shall be vented to the resin plant thermal oxidizer: J003, J004, P004, P006, T013 – T016, T019 – T021, T024, T025, T027, T028, T031 - T036, T039 – T046, T048, T049, T051 – T056, T042 – T046, T048, T049, T051 – T062, T065, and T080 – T082.

c. The permittee shall not produce more than 1,125,482 gallons of phenolic resins with residual methanol and 10,129,336 gallons of novalac resins per year in emission units P004 and P006.

d. The permittee shall maintain a Kettle Emergency Evacuation Containment (KEEC) system in compliance with the design specifications submitted under a cover letter dated April 1, 1998, to the Office of Director, Ohio EPA. A vapor tight connection above the kettle rupture discs shall capture and cool vapors and liquids released during an emergency and direct the contents to an adequately-sized quench tank.

The permittee shall ensure that this emissions unit is always connected to the KEEC system and that this system is functional prior to adding raw materials to the kettle.

If any event causes a rupture disc to open, releasing material to the KEEC system quench tank, all resin production in the kettles shall be stabilized and no new batches shall be started or restarted until any necessary repairs are made and the KEEC system quench tank is drained and prepared for normal kettle operations.

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) In order to maintain compliance with the applicable emission limitation(s) contained in this permit, the acceptable average combustion temperature within the thermal oxidizer,

for any 3-hour block of time when the emissions unit(s) controlled by the thermal oxidizer is/are in operation, shall not be more than 50 degrees Fahrenheit (or equivalent to 27.8 degrees Celsius) below the average temperature measured during the most recent performance test that demonstrated the emissions unit(s) was/were in compliance.

(2) The permittee shall properly install, operate, and maintain a continuous temperature monitor and recorder that measures and records the combustion temperature within the thermal oxidizer when the emissions unit(s) is/are in operation, including periods of startup and shutdown. Units shall be in degrees Celsius. The accuracy for each thermocouple, monitor, and recorder shall be guaranteed by the manufacturer to be within ± 1 percent of the temperature being measured or ± 5 degrees Celsius, whichever is greater. The temperature monitor and recorder shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and the operating manuals, with any modifications deemed necessary by the permittee. The permittee shall collect and record the following information each day the emissions unit(s) is/are in operation:

a. all 3-hour blocks of time, when the emissions unit(s) controlled by the thermal oxidizer was/were in operation, during which the average combustion temperature within the thermal oxidizer was more than 27.8 degrees Celsius below the average temperature measured during the most recent performance test that demonstrated the emissions unit(s) was/were in compliance; and

b. a log (date and total time) of the downtime or bypass of the capture (collection) system and thermal oxidizer, and/or downtime of the monitoring equipment, when the associated emissions unit(s) was/were in operation.

These records shall be maintained at the facility for a period of three years.

(3) The permittee shall maintain a record of each instance during which the rupture disc opened while the kettle was pressurized, the probable cause for kettle overpressurization, and an estimate of HAP emissions as a result of the release.

(4) Whenever the monitored average combustion temperature within the thermal oxidizer deviates from the range or limit established in accordance with this permit, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:

a. the date and time the deviation began;

b. the magnitude of the deviation at that time;

c. the date the investigation was conducted;

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

e. the findings and recommendations.

In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable range/limit specified in this permit, unless the

permitteedetermines 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:

f. a description of the corrective action;

g. the date corrective action was completed;

h. the date and time the deviation ended;

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

j. the temperature readings immediately after the corrective action was implemented; and

k. 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.

The temperature range/limit is 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 temperature range/limit based upon information obtained during future performance tests that demonstrate compliance with the allowable emission rate(s) for the controlled pollutant(s). In addition, approved revisions to the temperature range/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.

e) Reporting Requirements

(1) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.

(2) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be completed electronically and submitted via the Ohio EPA eBusiness Center: Air Services 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.

[OAC rule 3745-15-03(B)(2)] and [OAC rule 3745-15-03(D)]

(3) The permittee shall submit annual reports to Ohio EPA, which at a minimum specify the total methanol, formaldehyde, and phenol emissions from the resin thermal oxidizer unit, for the previous year (January 1 through December 31). The reports shall be submitted by April 15 of each year. This reporting requirement may be satisfied by including and identifying the specific emission data for this emission unit in the annual Fee Emission Report (FER).

(4) The permittee shall submit quarterly deviation (excursion) reports that identify:

a. all deviations (excursions) of the following emission limitations, operational restrictions and/or control device operating parameter limitations that restrict the potential to emit (PTE) of any regulated air pollutant and have been detected by the monitoring, record keeping and/or testing requirements in this permit:

i. each period of time (start time and date, and end time and date) when the average combustion temperature within the thermal oxidizer was outside of the acceptable range;

ii. 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 thermal oxidizerthe probable cause of each deviation (excursion);

b. any corrective actions that were taken to remedy the deviations (excursions) or prevent future deviations (excursions); and

c. the magnitude and duration of each deviation (excursion).

If no deviations (excursions) occurred during a calendar quarter, the permittee shall submit a report that states that no deviations (excursions) occurred during the quarter.

The quarterly reports shall be submitted, electronically through Ohio EPA Air Services, each year by January 31 (covering October to December), April 30 (covering January to March), July 31 (covering April to June), and October 31 (covering July to September), unless an alternative schedule has been established and approved by the Director (the appropriate District Office or local air agency).

[OAC rule 3745-15-03(B)(1)(b)] and [OAC rule 3745-15-03(C)]

f) Testing Requirements

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

a. <u>Emission Limitation:</u>

The permittee shall vent the emissions from these emission units to a thermal oxidizer that is designed and operated either to reduce the VOC emissions vent to it either by at least 98 percent, by weight, or to emit VOC at a concentration less than 20 parts per million, dry basis.

<u>Applicable Compliance Method:</u>

The permittee conducted U.S. EPA Methods 10, 25A, and 320 testing on stack emissions from this emission unit on September 14, 2011, and submitted a comprehensive written report demonstrating compliance with the emissions limitations to the Ohio EPA, Central District Office on October 17, 2011.

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

i. The emission testing shall be conducted approximately 2.5 years after permit issuance and within 6 months prior to the permitexpiration.

ii. The emission testing shall be conducted to demonstrate compliance with the allowable hourly mass emission rate(s) for methanol, formaldehyde, volatile organic compounds (VOCs), and carbon monoxide emissions, as well as the control efficiency of VOC across the thermal oxidizer.

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

Methods 1-4 located in 40 CFR Part 60, Appendix A
Method 25 or 25A located in 40 CFR Part 60, Appendix A; and
Method 320 located in 40 CFR Part 63, Appendix A.

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

The control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) shall be determined in accordance with the test methods and procedures specified in 3745-21-10 or an alternative test protocol approved by the Ohio EPA. The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.

iv. The test(s) shall be conducted under those representative conditions that challenge to the fullest extent possible a facility's ability to meet the applicable emissions limits and/or control requirements, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency. Although this generally consists of operating the emissions unit at its maximum material input/production rates and results in the highest emission rate of the tested pollutant, there may be circumstances where a lower emissions loading is deemed the most challenging control scenario. Failure to test under these conditions is justification for not accepting the test results as a demonstration of compliance.

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

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

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

b. Emission Limitation:

Methanol emission from the resin plant thermal oxidizer stack shall not exceed 0.175 lb/hr and 0.765 ton/yr

Applicable Compliance Method:

The permittee shall demonstrate compliance with the hourly emission limitation through emission testing required in f)(1)a.

Provided compliance with the hourly limitation is shown, compliance with the annual limitation will be assumed.

c. Emission Limitation:

Formaldehyde emissions from the resin plant thermal oxidizer stack shall not exceed 0.191 lb/hr and 0.835 ton/yr.

Applicable Compliance Method:

The permittee shall demonstrate compliance with the hourly emission limitation through emission testing required in f)(1)a.

Provided compliance with the hourly limitation is shown, compliance with the annual limitation will be assumed.

d. Emission Limitation:

Phenol emissions from the resin plant thermal oxidizer stack shall not exceed 0.107 lb/hr and 0.467 ton/yr.

Applicable Compliance Method:

The permittee shall demonstrate compliance with the hourly emission limitation through emission testing required in f)(1)a.

Provided compliance with the hourly limitation is shown, compliance with the annual limitation will be assumed.

e. Emission Limitation:

Carbon monoxide emissions from the resin plant thermal oxidizer stack shall not exceed 4.2 lbs/hr and 18.4 tons/yr.

Applicable Compliance Method:

The permittee shall demonstrate compliance with the hourly emission limitation through emission testing required in f)(1)a.

Provided compliance with the hourly limitation is shown, compliance with the annual limitation will be assumed.

g) Miscellaneous Requirements

(1) None.

5. Emissions Unit Group -Loading stations 1 and 4: J003,J004,

EU ID	Operations, Property and/or Equipment Description
J003	Loading station No. 4 -- truck loading of aqueous thermosetting resin control by thermal oxidizer
J004	Loading station No. 1 - truck loading of formaldehyde and urea formaldehyde controlled by thermal oxidizer

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. See b)(1)a., b)(2)a. – b)(2)c, and e)(4)a.ii.

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(D) (Synthetic minor to avoid Title V and MACT)	**J003** Methanol emissions from the resin plant thermal oxidizer stack shall not exceed 0.175 lb/hr and 0.765 ton/yr. Formaldehyde emissions from the resin plant thermal oxidizer stack shall not exceed 0.191 lb/hr and 0.835 ton/yr. Phenol emissions from the resin plant thermal oxidizer stack shall not exceed 0.107 lb/hr and 0.467 ton/yr. Carbon monoxide emissions from the thermal oxidizer stack shall not exceed 4.2 lbs/hr and 18.4 tons/yr.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		J004 Methanol emissions from the resin plant thermal oxidizer stack shall not exceed 0.175 lb/hr and 0.765 ton/yr. Formaldehyde emissions from the resin plant thermal oxidizer stack shall not exceed 0.191 lb/hr and 0.835 ton/yr. Carbon monoxide emissions from the thermal oxidizer stack shall not exceed 4.2 lbs/hr and 18.4 tons/yr. See b)(2)a. – b)(2)c, and e)(4)a.ii.

(2) Additional Terms and Conditions

a. All of the VOC emissions from the following emission units shall be vented to the resin plant thermal oxidizer: J003, J004, P004, P006, T013 – T016, T019 – T021, T024, T025, T027, T028, T031 - T036, T039 – T046, T048, T049, T051 – T056, T042 – T046, T048, T049, T051 – T062, T065, and T080 – T082.

b. Loading rack #1 shall be equipped with a vapor collection system whereby during the transfer of formaldehyde and urea-formaldehyde product to any delivery vessel, all vapors displaced from the delivery vessel during loading are vented only to the resin plant thermal oxidizer.

Loading rack #4 shall be equipped with a vapor collection system whereby during the transfer of novalac resin product to any delivery system, all vapors displaced from the delivery vessel during loading are vented only to the vapor collection system.

The vapor collection system shall vent to the resin plant thermal oxidizer, and the thermal oxidizer shall achieve and maintain either a minimum 98% destruction efficiency, by weight, or an outlet concentration of less than 20 parts per million (ppm), by volume, dry basis.

c. All resin product loading lines and vapor lines shall be equipped with fittings that are vapor tight. The vapor collection system shall vent to the resin plant thermal oxidizer and maintain a minimum 100 percent capture efficiency.

d. A means shall be provided to prevent drainage of formaldehyde product from the loading device when it is not in use or to accomplish complete drainage before the loading device is disconnected.

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) In order to maintain compliance with the applicable emission limitation(s) contained in this permit, the acceptable average combustion temperature within the thermal oxidizer, for any 3-hour block of time when the emissions unit(s) controlled by the thermal oxidizer is in operation, shall not be more than 50 degrees Fahrenheit (or equivalent to 27.8 degrees Celsius) below the average temperature measured during the most recent performance test that demonstrated the emissions unit was in compliance.

(2) The permittee shall properly install, operate, and maintain a continuous temperature monitor and recorder that measures and records the combustion temperature within the thermal oxidizer when the emissions unit(s) is/are in operation, including periods of startup and shutdown. Units shall be in degrees Celsius. The accuracy for each thermocouple, monitor, and recorder shall be guaranteed by the manufacturer to be within ± 1 percent of the temperature being measured or ± 5 degrees Celsius, whichever is greater. The temperature monitor and recorder shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and the operating manuals, with any modifications deemed necessary by the permittee. The permittee shall collect and record the following information each day the emissions unit(s) is/are in operation:

a. all 3-hour blocks of time, when the emissions unit(s) controlled by the thermal oxidizer was/were in operation, during which the average combustion temperature within the thermal oxidizer was more than 27.8 degrees Celsius below the average temperature measured during the most recent performance test that demonstrated the emissions unit(s) was/were in compliance; and

b. a log (date and total time) of the downtime or bypass of the capture (collection) system and thermal oxidizer, and/or downtime of the monitoring equipment, when the associated emissions unit(s) was/were in operation.

(3) Whenever the monitored average combustion temperature within the thermal oxidizer deviates from the range or limit established in accordance with this permit, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:

a. the date and time the deviation began;

b. the magnitude of the deviation at that time;

c. the date the investigation was conducted;

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

e. the findings and recommendations.

In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable range/limit 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:

f. a description of the corrective action;

g. the date corrective action was completed;

h. the date and time the deviation ended;

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

j. the temperature readings immediately after the corrective action was implemented; and

k. 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.

The temperature range/limit is 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 temperature range/limit based upon information obtained during future performance tests that demonstrate compliance with the allowable emission rate(s) for the controlled pollutant(s). In addition, approved revisions to the temperature range/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.

e) Reporting Requirements

(1) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.

(2) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be completed electronically and submitted via the Ohio EPA eBusiness Center: Air Services 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.

[OAC rule 3745-15-03(B)(2)] and [OAC rule 3745-15-03(D)]

(3) The permittee shall submit annual reports to Ohio EPA, which at a minimum specify the total methanol and formaldehyde emissions from emission unit, for the previous year (January 1 through December 31). The reports shall be submitted by April 15 of each year. This reporting requirement may be satisfied by including and identifying the specific emission data for this emission unit in the annual Fee Emission Report (FER).

(4) The permittee shall submit quarterly deviation (excursion) reports that identify:

a. all deviations (excursions) of the following emission limitations, operational restrictions and/or control device operating parameter limitations that restrict the potential to emit (PTE) of any regulated air pollutant and have been detected by the monitoring, record keeping and/or testing requirements in this permit:

i. each period of time (start time and date, and end time and date) when the average combustion temperature within the thermal oxidizer was outside of the acceptable range;

ii. 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 thermal oxidizer, the probable cause of each deviation (excursion);

b. any corrective actions that were taken to remedy the deviations (excursions) or prevent future deviations (excursions); and

c. the magnitude and duration of each deviation (excursion).

If no deviations (excursions) occurred during a calendar quarter, the permittee shall submit a report that states that no deviations (excursions) occurred during the quarter.

The quarterly reports shall be submitted, electronically through Ohio EPA Air Services, each year by January 31 (covering October to December), April 30 (covering January to March), July 31 (covering April to June), and October 31 (covering July to September), unless an alternative schedule has been established and approved by the Director (the appropriate District Office or local air agency).

[OAC rule 3745-15-03(B)(1)(b)] and [OAC rule 3745-15-03(C)]

f) Testing Requirements

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

a. <u>J003 and J004 Emission Limitation:</u>

The permittee shall vent the emissions from these emission units to a thermal oxidizer that is designed and operated either to reduce the VOC emissions vent to it either by at least 98 percent, by weight, or to emit VOC at a concentration less than 20 parts per million, dry basis.

Applicable Compliance Method:

The permittee conducted U.S. EPA Methods 10, 25A, and 320 testing on stack emissions from this emission unit on September 14, 2011, and submitted a comprehensive written report demonstrating compliance with the emissions limitations to the Ohio EPA, Central District Office on October 17, 2011.

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

i. The emission testing shall be conducted approximately 2.5 years after permit issuance and within 6 months prior to the permitexpiration.

ii. The emission testing shall be conducted to demonstrate compliance with the allowable hourly mass emission rate(s) for methanol, formaldehyde, volatile organic compounds (VOCs), and carbon monoxide emissions, as well as the control efficiency of VOC across the thermal oxidizer.

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

Methods 1-4 located in 40 CFR Part 60, Appendix A
Method 25 or 25A located in 40 CFR Part 60, Appendix A; and
Method 320 located in 40 CFR Part 63, Appendix A.

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

The control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) shall be determined in accordance with the test methods and procedures specified in 3745-21-10 or an alternative test protocol approved by the Ohio EPA. The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.

iv. The test(s) shall be conducted under those representative conditions that challenge to the fullest extent possible a facility's ability to meet the applicable emissions limits and/or control requirements, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency. Although this generally consists of operating the emissions unit at its maximum material input/production rates and results in the highest emission rate of the tested pollutant, there may be circumstances where a lower emissions loading is deemed the most challenging control scenario. Failure to test under these conditions is justification for not accepting the test results as a demonstration of compliance.

v. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall

describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

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

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

b. J003 and J004 Emission Limitation:

Methanol emission from the resin plant thermal oxidizer stack shall not exceed 0.175 lb/hr and 0.765 ton/yr

Applicable Compliance Method:

The permittee shall demonstrate compliance with the hourly emission limitation through emission testing required in f)(1)a.

Provided compliance with the hourly limitation is shown, compliance with the annual limitation will be assumed.

c. J003 and J004 Emission Limitation:

Formaldehyde emissions from the resin plant thermal oxidizer stack shall not exceed 0.191 lb/hr and 0.835 ton/yr.

Applicable Compliance Method:

The permittee shall demonstrate compliance with the hourly emission limitation through emission testing required in f)(1)a.

Provided compliance with the hourly limitation is shown, compliance with the annual limitation will be assumed.

d. J003 Emission Limitation:

Phenol emissions from the resin plant thermal oxidizer stack shall not exceed 0.107 lb/hr and 0.467 ton/yr.

Applicable Compliance Method:

The permittee shall demonstrate compliance with the hourly emission limitation through emission testing required in f)(1)a.

Provided compliance with the hourly limitation is shown, compliance with the annual limitation will be assumed.

e. J003 and J004 Emission Limitation:

Carbon monoxide emissions from the resin plant thermal oxidizer stack shall not exceed 4.2 lbs/hr and 18.4 tons/yr.

Applicable Compliance Method:

The permittee shall demonstrate compliance with the hourly emission limitation through emission testing required in f)(1)a.

Provided compliance with the hourly limitation is shown, compliance with the annual limitation will be assumed.

g) Miscellaneous Requirements

(1) None.