



State of Ohio Environmental Protection Agency

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Lazarus Government Center  
50 W. Town St., Suite 700  
Columbus, Ohio 43215

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

4/27/2009

Mr. Alan Sampson  
OMNOVA Solutions Inc.  
165 S. CLEVELAND AVENUE  
MOGADORE, OH 44260

RE: FINAL AIR POLLUTION PERMIT-TO-INSTALL AND OPERATE  
Facility ID: 1667000007  
Permit Number: P0101911  
Permit Type: Renewal  
County: Portage

Certified Mail

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

Dear Permit Holder:

Enclosed please find a final Air Pollution Permit-to-Install and Operate ("PTIO") which will allow you to install, modify, and/or operate the described emissions unit(s) in the manner indicated in the permit. Because this permit contains conditions and restrictions, please read it very carefully.

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

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

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

If you have any questions regarding this permit, please contact the Akron Regional Air Quality Management District. This permit has been posted to the Division of Air Pollution Control (DAPC) Web page [www.epa.state.oh.us/dapc](http://www.epa.state.oh.us/dapc).

Sincerely,

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

Cc: ARAQMD

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





**State of Ohio Environmental Protection Agency  
Division of Air Pollution Control**

**FINAL**

**Air Pollution Permit-to-Install and Operate  
for  
OMNOVA Solutions Inc.**

Facility ID: 1667000007  
Permit Number: P0101911  
Permit Type: Renewal  
Issued: 4/27/2009  
Effective: 4/27/2009  
Expiration: 4/27/2014





State of Ohio Environmental Protection Agency  
Division of Air Pollution Control

**Air Pollution Permit-to-Install and Operate**  
for  
OMNOVA Solutions Inc.

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State of Ohio Environmental Protection Agency  
Division of Air Pollution Control

**Final Permit-to-Install and Operate**  
**Permit Number:** P0101911  
**Facility ID:** 1667000007  
**Effective Date:** 4/27/2009

## Authorization

Facility ID: 1667000007  
Application Number(s): A0033723  
Permit Number: P0101911  
Permit Description: Renewal of FEPTIO for emissions units P004, P013, P014, P101, P103, P105, P106, P110, and P115.  
Permit Type: Renewal  
Permit Fee: \$0.00  
Issue Date: 4/27/2009  
Effective Date: 4/27/2009  
Expiration Date: 4/27/2014  
Permit Evaluation Report (PER) Annual Date: Jan 1 - Dec 31, Due Feb 15  
This document constitutes issuance to:

OMNOVA Solutions Inc.  
165 S. CLEVELAND AVENUE  
MOGADORE, OH 44260

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

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

Akron Regional Air Quality Management District  
146 South High Street, Room 904  
Akron, OH 44308  
(330)375-2480

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

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Chris Korleski  
Director



## Authorization (continued)

Permit Number: P0101911  
Permit Description: Renewal of FEPTIO for emissions units P004, P013, P014, P101, P103, P105, P106, P110, and P115.

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

**Group Name: PTIs 16-1502/1774/1873/1951/2078**

<b>Emissions Unit ID:</b>	<b>P004</b>
Company Equipment ID:	Poly/Degas Process
Superseded Permit Number:	16-1502
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P013</b>
Company Equipment ID:	Wastewater Effluent System
Superseded Permit Number:	16-02078
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P014</b>
Company Equipment ID:	Butadiene Distillation Column
Superseded Permit Number:	16-01951
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P106</b>
Company Equipment ID:	PP In-Mold Coatings
Superseded Permit Number:	16-1873
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P110</b>
Company Equipment ID:	Pilot Plant Polymerization Process #1
Superseded Permit Number:	16-1774
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P115</b>
Company Equipment ID:	Pilot Plant Polymerization Process #6
Superseded Permit Number:	16-1774
General Permit Category and Type:	Not Applicable

**Group Name: no PTI's issued for this group**

<b>Emissions Unit ID:</b>	<b>P101</b>
Company Equipment ID:	PP Latex 30's
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P103</b>
Company Equipment ID:	PP Latex Strippers
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P105</b>
Company Equipment ID:	PP Acrylic Latex
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable



State of Ohio Environmental Protection Agency  
Division of Air Pollution Control

**Final Permit-to-Install and Operate**

**Permit Number:** P0101911

**Facility ID:** 1667000007

**Effective Date:** 4/27/2009

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



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

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

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

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

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

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

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

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

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

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

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

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

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

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



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

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

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

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

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

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

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

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

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

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

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

If you have a reportable malfunction of any emissions unit(s) or any associated air pollution control system, you must report this to the Akron Regional Air Quality Management District in accordance with



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

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

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

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

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

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

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

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

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

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

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



State of Ohio Environmental Protection Agency  
Division of Air Pollution Control

**Final Permit-to-Install and Operate**

**Permit Number:** P0101911

**Facility ID:** 1667000007

**Effective Date:** 4/27/2009

**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.



State of Ohio Environmental Protection Agency  
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**Final Permit-to-Install and Operate**

**Permit Number:** P0101911

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



State of Ohio Environmental Protection Agency  
Division of Air Pollution Control

**Final Permit-to-Install and Operate**

**Permit Number:** P0101911

**Facility ID:** 1667000007

**Effective Date:** 4/27/2009

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.



State of Ohio Environmental Protection Agency  
Division of Air Pollution Control

**Final Permit-to-Install and Operate**

**Permit Number:** P0101911

**Facility ID:** 1667000007

**Effective Date:** 4/27/2009

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



**1. Emissions Unit Group - PTIs 16-1502/1774/1873/1951/2078: P004, P013, P014, P106, P110, P115,**

<b>EU ID</b>	<b>Operations, Property and/or Equipment Description</b>
P004	Latex Polymerization & Degassing Process
P013	Wastewater Steam Stripping Column
P014	Butadiene distillation column, overhead condenser, reflux drum, reboiler, pumps; vented to an existing Process Combustion Corp Thermal Incinerator
P106	Pilot Plant In-Mold/Specialty Coatings and Fluorinated Monomers/Polymers
P110	Pilot Plant Polymerization Process #1
P115	Pilot Plant Polymerization Process #6

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

(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)c., c)(1), d)(1), d)(2), d)(3), d)(4), d)(5), d)(6), d)(7), d)(8), d)(9), e)(1), e)(2), and f)(1).

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3)	5.31 lbs/hr organic compounds (OC); 1.41 lbs/hr of 1,3-butadiene; 1.81 lbs/hr of styrene; and 2.50 lbs/hr of nitrogen oxides (NO <sub>x</sub> ).
b.	OAC rule 3745-21-07(G)(2)	The emission limitations required by OAC rule 3745-21-07(G) are less stringent than the emission limitations established pursuant to OAC rule 3745-31-05(D).  See b)(2)b.
c.	OAC rule 3745-31-05(D) (Synthetic Minor to avoid Title V)	Hourly mass emissions from the thermal oxidizer shall not exceed the following



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p>limits:            The thermal oxidizer shall achieve at least a 98% control efficiency for carbon incinerated to carbon dioxide.</p> <p>Emissions of styrene from the facility shall not exceed 5.0 tpy, based upon a rolling, 12-month summation of the monthly emissions.</p> <p>Organic compound emissions from P004, P013, P014, P101, P103, P105, P106, P110, and P115, combined, shall be vented to the thermal oxidizer; and organic compound emissions from the thermal oxidizer shall not exceed 2.15 tpy, based upon a rolling, 12-month summation of the monthly emissions.</p> <p>Hazardous air pollutant (HAP) emissions from this facility shall not exceed 9.99 tpy for any single HAP and 24.99 tpy for any combination of HAPs, based upon rolling, 12-month summations of the monthly HAPs emissions.</p>

(2) Additional Terms and Conditions

- a. The wastewater "bottoms" stream from the continuous steam stripping equipment may be piped to the existing wastewater effluent basin or directly to the city-owned sewer system below-grade. The basin shall be equipped with a cover, and the emissions from the wastewater beneath the cover shall be vented to the ambient air from a stack at a height of 70 feet above grade.
- b. On February 18, 2008 Ohio EPA rescinded existing rule 3745-21-07 of the Ohio Administrative Code (OAC) and adopted new rule 3745-21-07. The new OAC rule 3745-21-07 does not establish any requirements for this emissions unit. The rule rescindment and new rule shall be federally enforceable on the date the U.S. EPA approves a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the rule rescindment and new OAC rule 3745-21-07, the requirement to comply with OAC rule 3745-21-07 (G) (2) still exists as part of the federally-approved SIP of Ohio. It should be noted that the requirements to comply with OAC rule 3745-21-07(G)(2) shall terminate on the date the U.S. EPA approves the rule rescindment and new rule as a revision of the Ohio SIP.



c) Operational Restrictions

- (1) The thermal oxidizer shall be operated whenever organic compounds may be vented to it.
- (2) Continuous steam stripping equipment shall be employed and maintained to remove organic compounds from the wastewater exiting the condensate pretreatment tanks. Organic compound emissions from the continuous steam stripping equipment shall be vented to the thermal oxidizer.

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 chamber temperature within the thermal oxidizer, during any 3-hour period of time when the emissions unit(s) controlled by the thermal oxidizer is/are in operation, shall not be less than 1,451 degrees Fahrenheit.
- (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. Units shall be in degrees Fahrenheit. The accuracy for each thermocouple, monitor, and recorder shall be guaranteed by the manufacturer to be within  $\pm 1$  percent of the temperature being measured or  $\pm 5$  degrees Fahrenheit, 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. 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 chamber temperature within the thermal oxidizer was less than 1,451 degrees Fahrenheit; 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 chamber 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:

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

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

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.

- (4) The permittee shall operate and maintain equipment to continuously monitor and record organic compound (OC) emissions from the thermal oxidizer in units of the applicable standard. Such continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.13.

The continuous OC monitoring system, which includes the flow monitoring equipment, shall maintain a minimum 95 percent data capture efficiency.

A statement of certification of the existing continuous organic compound monitoring system shall be maintained on site and shall consist of a letter from the Ohio EPA detailing the results of an Agency review of the certification tests and a statement by the Agency that the system is considered certified in accordance with the requirements of 40 CFR Part 60, Appendix B, Performance Specification 6. Proof of certification shall be made available to the Director (the appropriate Ohio EPA District Office or local air agency) upon request.

The permittee shall maintain a written quality assurance/quality control plan for the continuous OC monitoring system designed to ensure continuous valid and representative readings of OC. The plan shall follow the requirements of 40 CFR Part



60, Appendix F, except that the requirement in 40 CFR Part 60, Appendix F, Section 5.1.1 shall not apply if the permittee meets the requirements in f)(2) below. The quality assurance/quality control plan and a logbook dedicated to the continuous OC monitoring system must be kept on site and available for inspection during regular office hours.

To convert the output of the OC monitor from parts per million by volume (ppmv) of methane to ppmv of styrene and butadiene, appropriate response factors for the OC monitor shall be used. The response factor (RF) is defined as the ratio of the known concentration of the target compound (styrene or butadiene) to the observed meter reading when the instrument has been calibrated with the reference compound (methane). The response factor is equal to the true concentration divided by the instrument reading. In order for the RF to be acceptable, it must be determined to be less than 10 before the instrument can be used in the monitoring program. The RF for each combination of reference compound and target compound may be determined by testing or may be obtained from a "reference" source.

- (5) The permittee shall maintain a leak detection and repair program for pumps, valves and flanges in styrene, butadiene, and acrylonitrile service as indicated below:
- a. Except as provided in d)(5)c. below, pumps, valves and flanges in styrene, butadiene, and acrylonitrile service shall be inspected for signs of leakage monthly using visual, audible, and/or olfactory methods.
  - b. Except as provided in d)(5)c. below, pumps and valves in styrene, butadiene, and acrylonitrile service shall be monitored for leaks once each six calendar months in accordance with the method specified in OAC rule 3745-21-10(F).
  - c. Excluded from the above monitoring requirements are any pumps in styrene, butadiene, and acrylonitrile service that are equipped with double mechanical seals. Pumps with double mechanical seals will be inspected for signs of leakage monthly as described in d)(5)a. above. Also, valves that are designated as difficult to inspect or monitor (valves which cannot be monitored without elevating the monitoring personnel more than six feet above a support surface) shall be inspected and monitored once each calendar year.
  - d. Flanges in styrene, butadiene, and acrylonitrile service shall be monitored for leaks once each 12 calendar months in accordance with the method specified in OAC rule 3745-21-10(F).
  - e. A leak is defined as visible frost (from butadiene pumps, valves or flanges) or drips (from styrene or acrylonitrile pumps, valves, or flanges), a strong, distinctive odor (from the pump seal, valve or flange), or an organic vapor analyzer reading in excess of 10,000 parts per million by volume ("ppmv") for pumps, 5,000 ppmv for valves, and 1,000 ppmv for flanges.
  - f. If a leak is discovered, it shall be repaired within 30 calendar days. However, a first attempt at repair shall be made within five calendar days.
  - g. Any pump or valve from which a leak has been detected shall be monitored within five working days of being repaired, using an organic vapor analyzer. A reading below 2,000 ppmv for pumps, 1,000 ppmv for valves, and 500 ppmv for flanges indicates a successful repair.



- (6) The permittee shall maintain records of all data obtained by the continuous OC monitoring system including, but not limited to, parts per million OC on an instantaneous (one minute) basis, emissions of OC in units of the applicable standard in the appropriate averaging period (i.e., hourly; rolling, 3-hour average; monthly; and 12-month rolling summation), hourly emissions of butadiene, hourly emissions of styrene, the results of daily zero/span calibration checks, and the magnitudes of manual calibration adjustments.
- (7) To demonstrate the effectiveness of the leak detection and repair program, the permittee shall maintain the following records:
  - a. A list of identification numbers for all pumps, valves, and flanges in styrene, butadiene, and acrylonitrile service shall be recorded in a log that is kept in a readily accessible location.
  - b. When a leak is detected as described in d)(5)e. above, the following information shall be recorded in the leak repair log:
    - i. The identification number of the leaking equipment.
    - ii. The basis for detection of the leak, for example, monitoring, visual inspection, or sensor.
    - iii. The date on which the leak was detected and the date of each attempt to repair the leaking equipment.
    - iv. The methods of repair applied in each attempt to repair the leaking equipment.
    - v. One of the following entries within five working days after each attempt to repair the leaking equipment:
      - (a) "not monitored," denoting the leaking equipment was presumed to still be leaking and it was not monitored; or
      - (b) if the leaking equipment was monitored with a leak detection instrument, the maximum concentration that was measured, in ppmv.
    - vi. If the leak is not repaired within 30 calendar days after the date on which it was detected, record the following:
      - (a) "repair delayed" and the reason for the delay;
      - (b) if the repair is being delayed until the next process shutdown due to technical infeasibility of repair, the signature of the owner or operator whose decision it was that repair is technically infeasible without a process shutdown;
      - (c) the expected date of successful repair of the leak; and
      - (d) the dates of process unit shutdowns that occur while the leaking equipment is unrepaired.



- vii. The date on which the leak was successfully repaired.
- (8) The permittee shall maintain monthly records of the total facility emissions for each individual HAP and combined HAPs. The permittee also shall maintain monthly records of the rolling, 12-month summation of the total facility emissions for each individual HAP and combined HAPs.
- (9) For emissions units P004, P013, P014, P101, P103, P105, P106, P110, and P115, the permittee shall maintain monthly records of OC emissions from the thermal oxidizer. The permittee also shall maintain monthly records of the rolling, 12-month summation of OC emissions from the thermal oxidizer.
- (10) The federally enforceable permit-to-install and operate (FEPTIO) application for these emissions units, P004, P013, P014, P106, P110, and P115, was evaluated based on the actual materials and the design parameters of the emissions units' exhaust system, as specified by the permittee. The Toxic Air Contaminant Statute, ORC 3704.03(F), was applied to these emissions units 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 units, (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., X hours per day and Y 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):



$$TLV/10 \times 8/X \times 5/Y = 4 TLV/XY = MAGLC$$

- 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: acrylonitrile (CAS 107-13-1)

TLV (mg/m3): 4.34

Maximum Hourly Emission Rate (lbs/hr): 5.31

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 75

MAGLC (ug/m3): 103

The permittee, has demonstrated that emissions of acrylonitrile (1,3-butadiene, hexane, dichloromethane, and styrene), from emissions units P004, P013, P014, P106, P110, and P115, are 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).

- (11) Prior to making any physical changes to or changes in the method of operation of the emissions units, 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 units or 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.

(12) The permittee shall collect, record, and retain the following information for each toxic evaluation conducted to determine compliance with the AToxic Air Contaminant Statute<sup>6</sup>, 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 AToxic Air Contaminant Statute<sup>6</sup>, 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 AToxic Air Contaminant Statute<sup>6</sup>, 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 AToxic Air Contaminant Statute<sup>6</sup>, 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.

(13) 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 AToxic Air Contaminant Statute<sup>6</sup>, 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.

e) Reporting Requirements

(1) 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 period of time (start time and date, and end time and date) when the average combustion chamber temperature within the thermal oxidizer was less than 1,451 degrees Fahrenheit;
  - 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;
  - iii. all exceedances of the rolling, 12-month emission limitation for OC;



- iv. all exceedances of the rolling, 12-month emission limitation for any individual HAP;
  - v. all exceedances of the rolling, 12-month emission limitation for styrene; and
  - vi. all exceedances of the rolling, 12-month emission limitation for combined HAPs.
- b. the probable cause of each deviation (excursion);
  - c. any corrective actions that were taken to remedy the deviations (excursions) or prevent future deviations (excursions); and
  - d. 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).

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

f) **Testing Requirements**

- (1) Compliance with the emission limitation(s) in b)(1) above shall be determined in accordance with the following method(s):
  - a. Emission Limitations:
    - 5.31 lbs/hr of OC
    - 1.41 lbs/hr of 1,3-butadiene
    - 1.81 lbs/hr of styrene



Applicable Compliance Method:

Compliance with the hourly allowable emission limitations above shall be demonstrated through the use of the OC continuous emission monitoring system operated in accordance with 40 CFR Part 60.13 and 40 CFR Part 60, Appendix F as established in d)(4) above.

If required in writing by the Director, the permittee shall demonstrate compliance with the hourly allowable emission limitations based on the results of emission testing conducted in accordance with Methods 1-4 and 18, 25, or 25A, as appropriate, of 40 CFR Part 60, Appendix A.

b. Emission Limitation:

2.50 lbs/hr of NO<sub>x</sub>

Applicable Compliance Method:

If required in writing by the Director, the permittee shall demonstrate compliance with the hourly allowable NO<sub>x</sub> emission limitation based on the results of emission testing conducted in accordance with Methods 1-4 and 7, 7A, or 7E, as appropriate, of 40 CFR Part 60, Appendix A.

c. Emission Limitation:

The thermal oxidizer shall achieve at least a 98% control efficiency for carbon incinerated to carbon dioxide.

Applicable Compliance Method:

Compliance with the allowable control efficiency above shall be demonstrated through the monitoring and record keeping requirements established in d)(1) through d)(3) above.

If required in writing by the Director, the permittee shall demonstrate compliance with the allowable control efficiency based on the results of emission testing conducted in accordance with Methods 1-4 and 25 or 25A, as appropriate, of 40 CFR Part 60, Appendix A.

d. Emission Limitation:

Emissions of styrene from the facility shall not exceed 5.0 tpy, based upon a rolling, 12-month summation of the monthly emissions.

Applicable Compliance Method:

Compliance with the annual allowable styrene emission limitation above shall be determined in accordance with the methodology specified in the document dated December 31, 1995 and entitled, "Methodology for Determining Monthly Styrene Emissions from the GenCorp, Inc. Facility in Mogadore," prepared by the Ohio EPA and GenCorp, Inc., and any subsequent modifications that are mutually agreeable to the Ohio EPA, the Akron Regional Air Quality Management District,



and GenCorp, Inc. and in accordance with the record keeping requirements established in d)(8) above.

e. Emission Limitation:

Organic compound emissions from P004, P013, P014, P101, P103, P105, P106, P110, and P115 shall be vented to the thermal oxidizer; and organic compound emissions from the thermal oxidizer shall not exceed 2.15 tpy, based upon a rolling, 12-month summation of the monthly emissions.

Applicable Compliance Method:

Compliance with the annual allowable OC emission limitation above shall be demonstrated through the record keeping requirements established in d)(9) above and through the use of the OC continuous emission monitoring system operated in accordance with 40 CFR Part 60.13 and 40 CFR Part 60, Appendix F as established in d)(4) above.

f. Emission Limitations:

HAP emissions from this facility shall not exceed 9.99 tpy for any single HAP and 24.99 tpy for any combination of HAPs, based upon a rolling, 12-month summation of the monthly emissions

Applicable Compliance Method:

Compliance with the annual allowable HAP emission limitations shall be demonstrated through the record keeping requirements established in d)(8) above and the following:

- i. To demonstrate compliance with annual HAP limitations for 1,3-butadiene, the hourly average concentration of organic compounds from the thermal oxidizer (measured as methane) will be converted to the equivalent concentration of 1,3-butadiene by employing an appropriate response factor (see the procedures in d)(4) above). The resulting concentration of 1,3-butadiene, in parts per million by volume (ppmv), will be multiplied by the hourly average stack gas flow rate. Using the ideal gas law, the hourly mass emissions of 1,3-butadiene will then be calculated. The monthly and annual mass emissions from the thermal oxidizer will be the sum of all the hourly mass emission values for the calendar month and calendar year. Fugitive emissions of 1,3-butadiene will be determined using the EPA Correlation Approach, as described in Section 2.3.3 (Page 2-24) of the reference document, "Protocol for Equipment Leak Emission Estimates" (the Protocol), dated November, 1995 (Report No. EPA-453/R-95-017), and monitoring results from the leak detection and repair program detailed in d)(5) and d)(7) above. The thermal oxidizer emissions and fugitive emissions will be summed to obtain the total facility emissions of 1,3-butadiene for each month and each year. Should more accurate emission factors be developed during the current permit cycle, the permittee shall use them, provided the new emission factors are mutually agreeable to the Ohio EPA, the Akron Regional Air Quality Management District, and OMNOVA Solutions, Inc.



- ii. To demonstrate compliance with the annual HAP emission limitation for styrene, the permittee shall use the methodology specified in the document dated December 31, 1995 and entitled, "Methodology for Determining Monthly Styrene Emissions from the GenCorp, Inc. Facility in Mogadore," prepared by the Ohio EPA and GenCorp, Inc., and any subsequent modifications that are mutually agreeable to the Ohio EPA, the Akron Regional Air Quality Management District, and OMNOVA Solutions, Inc.
  - iii. To demonstrate compliance with the monthly and annual HAP limitations for all other individual HAPs, except 1,3-butadiene and styrene, the monthly and annual actual emissions for each of these other HAPs shall be used and shall be calculated as indicated in the document entitled, "Mogadore Air Emissions Inventory", as submitted to the Akron RAQMD on August 28, 1996 (or the latest update to that document).
  - iv. To demonstrate compliance with the annual limitation for combined HAPs, the mass emissions of each HAP, as described in f)(1)f.i., f)(1)f.ii., and f)(1)f.iii. above, shall be summed to obtain the total facility emissions, except that stack emissions from the thermal oxidizer shall be counted as 1,3-butadiene or styrene, whichever mass quantity is greater.
- (2) By passing a quarterly cylinder gas audit (CGA) of the continuous emissions monitoring system (CEMS) in accordance with the requirements of 40 CFR Part 60, Appendix F, Section 5.1.2, the CEMS shall be deemed to be in compliance with d)(4) above. As long as all four of the quarterly CGA for the year are passed, the permittee shall not be required to conduct an annual relative accuracy test audit (RATA) of the CEMS, as required in 40 CFR Part 60, Appendix F, Section 5.1.1.
- g) Miscellaneous Requirements
- (1) None.



**2. Emissions Unit Group - no PTI's issued for this group: P101, P103, P105,**

<b>EU ID</b>	<b>Operations, Property and/or Equipment Description</b>
P101	Pilot Plant 30-gallon Reactors
P103	Pilot Plant Latex Strippers
P105	Pilot Plant Acrylic Latex Polymerization

- 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)c., c)(1), d)(1), d)(2), d)(3), d)(4), d)(5), d)(6), d)(7), d)(8), d)(9), e)(1), e)(2), and f)(1).
- b) Applicable Emissions Limitations and/or Control Requirements
- (1) The specific operations(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(D) (Synthetic Minor to avoid Title V)	Organic compound emissions from P004, P013, P014, P101, P103, P105, P106, P110, and P115 shall be vented to the thermal oxidizer.  Organic compound emissions from P004, P013, P014, P101, P103, P105, P106, P110, and P115, combined, shall be vented to the thermal oxidizer; and organic compound emissions from the thermal oxidizer shall not exceed 2.15 tpy, based upon a rolling, 12-month summation of the monthly emissions.  The thermal oxidizer shall achieve at least a 98% control efficiency for carbon incinerated to carbon dioxide.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p>Emissions of styrene from the facility shall not exceed 5.0 tpy, based upon a rolling, 12-month summation of the monthly emissions.</p> <p>Hazardous air pollutant (HAP) emissions from this facility shall not exceed 9.99 tpy for any single HAP and 24.99 tpy for any combination of HAPs, based upon a rolling, 12-month summation of the monthly emissions.</p>
b.	OAC rule 3745-21-07(G)	<p>The emission limitations required by OAC rule 3745-21-07(G) are less stringent than the emission limitations established pursuant to OAC rule 3745-35-07.</p> <p>See b)(2)b.</p>

(2) Additional Terms and Conditions

- a. The wastewater "bottoms" stream from the continuous steam stripping equipment may be piped to the existing wastewater effluent basin or directly to the city-owned sewer system below-grade. The basin shall be equipped with a cover, and the emissions from the wastewater beneath the cover shall be vented to the ambient air from a stack at a height of 70 feet above grade.
- b. On February 18, 2008 Ohio EPA rescinded existing rule 3745-21-07 of the Ohio Administrative Code (OAC) and adopted new rule 3745-21-07. The new OAC rule 3745-21-07 does not establish any requirements for this emissions unit. The rule rescindment and new rule shall be federally enforceable on the date the U.S. EPA approves a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the rule rescindment and new OAC rule 3745-21-07, the requirement to comply with OAC rule 3745-21-07 (G) (2) still exists as part of the federally-approved SIP of Ohio. It should be noted that the requirements to comply with OAC rule 3745-21-07(G)(2) shall terminate on the date the U.S. EPA approves the rule rescindment and new rule as a revision of the Ohio SIP.

c) Operational Restrictions

- (1) The thermal oxidizer shall be operated whenever organic compounds may be vented to it.
- (2) Continuous steam stripping equipment shall be employed and maintained to remove organic compounds from the wastewater exiting the condensate pretreatment tanks. Organic compound emissions from the continuous steam stripping equipment shall be vented to the thermal oxidizer.



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 chamber temperature within the thermal oxidizer, during any 3-hour period of time when the emissions unit(s) controlled by the thermal oxidizer is/are in operation, shall not be less than 1,451 degrees Fahrenheit.
- (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. Units shall be in degrees Fahrenheit. The accuracy for each thermocouple, monitor, and recorder shall be guaranteed by the manufacturer to be within  $\pm 1$  percent of the temperature being measured or  $\pm 5$  degrees Fahrenheit, 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. 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 chamber temperature within the thermal oxidizer was less than 1,451 degrees Fahrenheit; 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 chamber 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:

- a. a description of the corrective action;
- b. the date corrective action was completed;



- c. the date and time the deviation ended;
- d. the total period of time (in minutes) during which there was a deviation;
- e. the temperature readings immediately after the corrective action was implemented; and
- f. the name(s) of the personnel who performed the work.

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

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.

- (4) The permittee shall operate and maintain equipment to continuously monitor and record organic compound (OC) emissions from the thermal oxidizer in units of the applicable standard. Such continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.13.

The continuous OC monitoring system, which includes the flow monitoring equipment, shall maintain a minimum 95 percent data capture efficiency.

A statement of certification of the existing continuous organic compound monitoring system shall be maintained on site and shall consist of a letter from the Ohio EPA detailing the results of an Agency review of the certification tests and a statement by the Agency that the system is considered certified in accordance with the requirements of 40 CFR Part 60, Appendix B, Performance Specification 6. Proof of certification shall be made available to the Director (the appropriate Ohio EPA District Office or local air agency) upon request.

The permittee shall maintain a written quality assurance/quality control plan for the continuous OC monitoring system designed to ensure continuous valid and representative readings of OC. The plan shall follow the requirements of 40 CFR Part 60, Appendix F, except that the requirement in 40 CFR Part 60, Appendix F, Section 5.1.1 shall not apply if the permittee meets the requirements in f)(2) below. The quality assurance/quality control plan and a logbook dedicated to the continuous OC monitoring system must be kept on site and available for inspection during regular office hours.

To convert the output of the OC monitor from parts per million by volume (ppmv) of methane to ppmv of styrene and butadiene, appropriate response factors for the OC monitor shall be used. The response factor (RF) is defined as the ratio of the known concentration of the target compound (styrene or butadiene) to the observed meter reading when the instrument has been calibrated with the reference compound (methane). The response factor is equal to the true concentration divided by the



instrument reading. In order for the RF to be acceptable, it must be determined to be less than 10 before the instrument can be used in the monitoring program. The RF for each combination of reference compound and target compound may be determined by testing or may be obtained from a "reference" source.

- (5) The permittee shall maintain a leak detection and repair program for pumps, valves and flanges in styrene, butadiene, and acrylonitrile service as indicated below:
  - a. Except as provided in d)(5)c. below, pumps, valves and flanges in styrene, butadiene, and acrylonitrile service shall be inspected for signs of leakage monthly using visual, audible, and/or olfactory methods.
  - b. Except as provided in d)(5)c. below, pumps and valves in styrene, butadiene, and acrylonitrile service shall be monitored for leaks once each six calendar months in accordance with the method specified in OAC rule 3745-21-10(F).
  - c. Excluded from the above monitoring requirements are any pumps in styrene, butadiene, and acrylonitrile service that are equipped with double mechanical seals. Pumps with double mechanical seals will be inspected for signs of leakage monthly as described in d)(5)a. above. Also, valves that are designated as difficult to inspect or monitor (valves which cannot be monitored without elevating the monitoring personnel more than six feet above a support surface) shall be inspected and monitored once each calendar year.
  - d. Flanges in styrene, butadiene, and acrylonitrile service shall be monitored for leaks once each 12 calendar months in accordance with the method specified in OAC rule 3745-21-10(F).
  - e. A leak is defined as visible frost (from butadiene pumps, valves or flanges) or drips (from styrene or acrylonitrile pumps, valves, or flanges), a strong, distinctive odor (from the pump seal, valve or flange), or an organic vapor analyzer reading in excess of 10,000 parts per million by volume ("ppmv") for pumps, 5,000 ppmv for valves, and 1,000 ppmv for flanges.
  - f. If a leak is discovered, it shall be repaired within 30 calendar days. However, a first attempt at repair shall be made within five calendar days.
  - g. Any pump or valve from which a leak has been detected shall be monitored within five working days of being repaired, using an organic vapor analyzer. A reading below 2,000 ppmv for pumps, 1,000 ppmv for valves, and 500 ppmv for flanges indicates a successful repair.
- (6) The permittee shall maintain records of all data obtained by the continuous OC monitoring system including, but not limited to, parts per million OC on an instantaneous (one minute) basis, emissions of OC in units of the applicable standard in the appropriate averaging period (i.e., hourly; rolling, 3-hour average; monthly; and 12-month rolling summation), hourly emissions of butadiene, hourly emissions of styrene, the results of daily zero/span calibration checks, and the magnitudes of manual calibration adjustments.
- (7) To demonstrate the effectiveness of the leak detection and repair program, the permittee shall maintain the following records:



- a. A list of identification numbers for all pumps, valves, and flanges in styrene, butadiene, and acrylonitrile service shall be recorded in a log that is kept in a readily accessible location.
- b. When a leak is detected as described in d)(5)e. above, the following information shall be recorded in the leak repair log:
  - i. The identification number of the leaking equipment.
  - ii. The basis for detection of the leak, for example, monitoring, visual inspection, or sensor.
  - iii. The date on which the leak was detected and the date of each attempt to repair the leaking equipment.
  - iv. The methods of repair applied in each attempt to repair the leaking equipment.
  - v. One of the following entries within five working days after each attempt to repair the leaking equipment:
    - (a) "not monitored," denoting the leaking equipment was presumed to still be leaking and it was not monitored; or
    - (b) if the leaking equipment was monitored with a leak detection instrument, the maximum concentration that was measured, in ppmv.
  - vi. If the leak is not repaired within 30 calendar days after the date on which it was detected, record the following:
    - (a) "repair delayed" and the reason for the delay;
    - (b) if the repair is being delayed until the next process shutdown due to technical infeasibility of repair, the signature of the owner or operator whose decision it was that repair is technically infeasible without a process shutdown;
    - (c) the expected date of successful repair of the leak; and
    - (d) the dates of process unit shutdowns that occur while the leaking equipment is unrepaired.
  - vii. The date on which the leak was successfully repaired.
- (8) The permittee shall maintain monthly records of the total facility emissions for each individual HAP and combined HAPs. The permittee also shall maintain monthly records of the rolling, 12-month summation of the total facility emissions for each individual HAP and combined HAPs.
- (9) For emissions units P004, P013, P014, P101, P103, P105, P106, P110, and P115, the permittee shall maintain monthly records of OC emissions from the thermal oxidizer.



The permittee also shall maintain monthly records of the rolling, 12-month summation of OC emissions from the thermal oxidizer.

e) Reporting Requirements

(1) 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 3-hour average combustion chamber temperature within the thermal oxidizer was less than 1,451 degrees Fahrenheit;
  - 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;
  - iii. all exceedances of the rolling, 12-month emission limitation for OC;
  - iv. all exceedances of the rolling, 12-month emission limitation for any individual HAP;
  - v. all exceedances of the rolling, 12-month emission limitation for styrene; and
  - vi. all exceedances of the rolling, 12-month emission limitation for combined HAPs.
- b. the probable cause of each deviation (excursion);
- c. any corrective actions that were taken to remedy the deviations (excursions) or prevent future deviations (excursions); and
- d. 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).

(2) 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.



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

f) Testing Requirements

(1) Compliance with the emission limitation(s) in b)(1) above shall be determined in accordance with the following method(s):

a. Emission Limitation:

The thermal oxidizer shall achieve at least a 98% control efficiency for carbon incinerated to carbon dioxide.

Applicable Compliance Method:

Compliance with the allowable control efficiency above shall be demonstrated through the monitoring and record keeping requirements established in d)(1) through d)(3) above.

If required in writing by the Director (the appropriate District Office or local air agency), the permittee shall demonstrate compliance with the allowable control efficiency based on the results of emission testing conducted in accordance with Methods 1-4 and 25 or 25A, as appropriate, of 40 CFR Part 60, Appendix A.

b. Emission Limitation:

Emissions of styrene from the facility shall not exceed 5.0 tpy, based upon a rolling, 12-month summation of the monthly emissions.

Applicable Compliance Method:

Compliance with the annual allowable styrene emission limitation above shall be determined in accordance with the methodology specified in the document dated December 31, 1995 and entitled, "Methodology for Determining Monthly Styrene Emissions from the GenCorp, Inc. Facility in Mogadore," prepared by the Ohio EPA and GenCorp, Inc., and any subsequent modifications that are mutually agreeable to the Ohio EPA, the Akron Regional Air Quality Management District, and GenCorp, Inc. and in accordance with the record keeping requirements established in d)(8) above.

c. Emission Limitation:

Organic compound emissions from P004, P013, P014, P101, P103, P105, P106, P110, and P115, combined, shall be vented to the thermal oxidizer; and organic compound emissions from the thermal oxidizer shall not exceed 2.15 tpy, based upon a rolling, 12-month summation of the monthly emissions.



Applicable Compliance Method:

Compliance with the annual allowable OC emission limitation above shall be demonstrated through the record keeping requirements established in d)(9) above and through the use of the OC continuous emission monitoring system operated in accordance with 40 CFR Part 60.13 and 40 CFR Part 60, Appendix F as established in d)(4) above.

d. Emission Limitation:

HAP emissions from this facility shall not exceed 9.99 tpy for any single HAP and 24.99 tpy for any combination of HAPs, based upon a rolling, 12-month summation of the monthly emissions

Applicable Compliance Method:

Compliance with the annual allowable HAP emission limitations shall be demonstrated through the record keeping requirements established in d)(8) above and the following:

- i. To demonstrate compliance with annual HAP limitations for 1,3-butadiene, the hourly average concentration of organic compounds from the thermal oxidizer (measured as methane) will be converted to the equivalent concentration of 1,3-butadiene by employing an appropriate response factor (see the procedures in d)(4) above). The resulting concentration of 1,3-butadiene, in parts per million by volume (ppmv), will be multiplied by the hourly average stack gas flow rate. Using the ideal gas law, the hourly mass emissions of 1,3-butadiene will then be calculated. The monthly and annual mass emissions from the thermal oxidizer will be the sum of all the hourly mass emission values for the calendar month and calendar year. Fugitive emissions of 1,3-butadiene will be determined using the EPA Correlation Approach, as described in Section 2.3.3 (Page 2-24) of the reference document, "Protocol for Equipment Leak Emission Estimates" (the Protocol), dated November, 1995 (Report No. EPA-453/R-95-017), and monitoring results from the leak detection and repair program detailed in d)(5) and d)(7) above. The thermal oxidizer emissions and fugitive emissions will be summed to obtain the total facility emissions of 1,3-butadiene for each month and each year. Should more accurate emission factors be developed during the current permit cycle, the permittee shall use them, provided the new emission factors are mutually agreeable to the Ohio EPA, the Akron Regional Air Quality Management District, and OMNOVA Solutions, Inc.
- ii. To demonstrate compliance with the annual HAP emission limitation for styrene, the permittee shall use the methodology specified in the document dated December 31, 1995 and entitled, "Methodology for Determining Monthly Styrene Emissions from the GenCorp, Inc. Facility in Mogadore," prepared by the Ohio EPA and GenCorp, Inc., and any subsequent modifications that are mutually agreeable to the Ohio EPA, the Akron Regional Air Quality Management District, and OMNOVA Solutions, Inc.



- iii. To demonstrate compliance with the monthly and annual HAP limitations for all other individual HAPs, except 1,3-butadiene and styrene, the monthly and annual actual emissions for each of these other HAPs shall be used and shall be calculated as indicated in the document entitled, "Mogadore Air Emissions Inventory", as submitted to the Akron RAQMD on August 28, 1996 (or the latest update to that document).
  - iv. To demonstrate compliance with the annual limitation for combined HAPs, the mass emissions of each HAP, as described in f)(1)f.i., f)(1)f.ii., and f)(1)f.iii. above, shall be summed to obtain the total facility emissions, except that stack emissions from the thermal oxidizer shall be counted as 1,3-butadiene or styrene, whichever mass quantity is greater.
- (2) By passing a quarterly cylinder gas audit (CGA) of the continuous emissions monitoring system (CEMS) in accordance with the requirements of 40 CFR Part 60, Appendix F, Section 5.1.2, the CEMS shall be deemed to be in compliance with d)(4) above. As long as all four of the quarterly CGA for the year are passed, the permittee shall not be required to conduct an annual relative accuracy test audit (RATA) of the CEMS, as required in 40 CFR Part 60, Appendix F, Section 5.1.1.
- g) Miscellaneous Requirements
- (1) None.