State of Ohio Environmental Protection Agency

Street Address:
Lazarus Gov. Center
122 S. Front Street
Columbus, OH 43215

TELE: (614) 644-3020 **FAX:** (614) 644-2329

Mailing Address:
Lazarus Gov. Center
P.O. Box 1049
Columbus, OH 43216-1049

RE: FINAL PERMIT TO INSTALL
WASHINGTON COUNTY
Application No: 06-07443
Fac ID: 0684010003

DATE: 10/14/2004

CERTIFIED MAIL

Y	TOXIC REVIEW
	PSD
Y	SYNTHETIC MINOR
	CEMS
	MACT
	NSPS
	NESHAPS
	NETTING
	MAJOR NON-ATTAINMENT
Y	MODELING SUBMITTED
	GASOLINE DISPENSING FACILITY

NOVA Chemicals
Mark Cunningham
Township Rd 97
Belpre, OH 45714

Enclosed please find an Ohio EPA Permit to Install which will allow you to install the described source(s) in a manner indicated in the permit. Because this permit contains several conditions and restrictions, I urge you to read it carefully.

The Ohio EPA is urging 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 Pollution Prevention at (614) 644-3469.

You are hereby notified that this action by the Director is final and may be appealed to the Ohio Environmental Review Appeals Commission pursuant to Chapter 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. It must be filed within thirty (30) days after the notice of the Directors action. A copy of the appeal must be served on the Director of the Ohio Environmental Protection Agency within three (3) days of filing with the Commission. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

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

Sincerely,

Michael W. Ahern

Michael W. Ahern, Manager
Permit Issuance and Data Management Section
Division of Air Pollution Control

CC: USEPA SEDO

STATE OF OHIO ENVIRONMENTAL PROTECTION AGENCY

Permit To Install	**Issue Date: 10/14/2004**
Terms and Conditions	**Effective Date: 10/14/2004**

FINAL PERMIT TO INSTALL 06-07443

Application Number:	06-07443
Facility ID:	0684010003
Permit Fee:	**$1000**
Name of Facility:	NOVA Chemicals
Person to Contact:	Mark Cunningham
Address:	Township Rd 97 Belpre, OH 45714

Location of proposed air contaminant source(s) [emissions unit(s)]:
Township Rd 97
Belpre, **Ohio**

Description of proposed emissions unit(s):
Zylar Line.

The above named entity is hereby granted a Permit to Install for the above described emissions unit(s) 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 above described emissions unit(s) of environmental pollutants will operate in compliance with applicable State and Federal laws and regulations, and does not constitute expressed or implied assurance that if constructed or modified in accordance with those plans and specifications, the above described emissions unit(s) of pollutants will be granted the necessary permits to operate (air) or NPDES permits as applicable.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Director

Part I - GENERAL TERMS AND CONDITIONS

A. Permit to Install General Terms and Conditions

1. Compliance Requirements

The emissions unit(s) identified in this Permit to Install shall remain in full compliance with all applicable State laws and regulations and the terms and conditions of this permit.

2. Reporting Requirements

The permittee shall submit required reports in the following manner:

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

b. Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviations (excursions) from emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and recordkeeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the appropriate Ohio EPA District Office or local air agency. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

3. Records Retention Requirements

Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include, but not be limited to, all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.

4. Inspections and Information Requests

The Director of the Ohio EPA, or an authorized representative of the Director, may, subject to the safety requirements of the permittee and without undue delay, enter upon the premises of this source at any reasonable time for purposes of making inspections, conducting tests, examining records or reports pertaining to any emission of air contaminants, and determining compliance with any applicable State air pollution laws and regulations and the terms and conditions of this permit. The permittee shall furnish to the Director of the Ohio EPA, or an authorized representative of the Director, upon receipt of a written request and within a reasonable time, any information that may

be requested to determine whether cause exists for modifying, reopening or revoking this permit or to determine compliance with this permit. Upon verbal or written request, the permittee shall also furnish to the Director of the Ohio EPA, or an authorized representative of the Director, copies of records required to be kept by this permit.

5. Scheduled Maintenance/Malfunction Reporting

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction of any emissions units or any associated air pollution control system(s) shall be reported to the appropriate Ohio EPA District Office or local air agency in accordance with paragraph (B) of OAC rule 3745-15-06. Except as provided in that rule, any scheduled maintenance or malfunction necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emissions unit(s) that is (are) served by such control system(s).

6. Permit Transfers

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

7. Air Pollution Nuisance

The air contaminants emitted by the emissions units covered by this permit shall not cause a public nuisance, in violation of OAC rule 3745-15-07.

8. Termination of Permit to Install

This Permit to Install shall terminate within eighteen months of the effective date of the Permit to Install if the owner or operator has not undertaken a continuing program of installation or modification or has not entered into a binding contractual obligation to undertake and complete within a reasonable time a continuing program of installation or modification. This deadline may be extended by up to 12 months if application is made to the Director within a reasonable time before the termination date and the party shows good cause for any such extension.

9. Construction of New Sources(s)

The proposed emissions unit(s) shall be constructed in strict accordance with the plans and application submitted for this permit to the Director of the Ohio Environmental Protection Agency. There may be no deviation from the approved plans without the express, written approval of the Agency. Any deviations from the approved plans or the above conditions may lead to such sanctions

and penalties as provided under Ohio law. Approval of these plans does not constitute an assurance that the proposed facilities will operate in compliance with all Ohio laws and regulations. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed sources cannot meet the requirements of this permit or cannot meet applicable standards.

If the construction of the proposed emissions unit(s) has already begun or has been completed prior to the date the Director of the Environmental Protection Agency approves the permit application and plans, the approval does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the approved plans. The action of beginning and/or completing construction prior to obtaining the Director's approval constitutes a violation of OAC rule 3745-31-02. Furthermore, issuance of the Permit to Install does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Approval of the plans in any case is not to be construed as an approval of the facility as constructed and/or completed. Moreover, issuance of the Permit to Install is not to be construed as a waiver of any rights that the Ohio Environmental Protection Agency (or other persons) may have against the applicant for starting construction prior to the effective date of the permit. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed facilities cannot meet the requirements of this permit or cannot meet applicable standards.

10. Public Disclosure

The facility is hereby notified that this permit, and all agency records concerning the operation of this permitted source, are subject to public disclosure in accordance with OAC rule 3745-49-03.

11. Applicability

This Permit To Install is applicable only to the emissions unit(s) identified in the Permit To Install. Separate Permit To Install for the installation or modification of any other emissions unit(s) are required for any emissions unit for which a Permit To Install is required.

12. Best Available Technology

As specified in OAC Rule 3745-31-05, all new sources must employ Best Available Technology (BAT). Compliance with the terms and conditions of this permit will fulfill this requirement.

13. Source Operation and Operating Permit Requirements After Completion of Construction

This facility is permitted to operate each source described by this Permit to Install for a period of up to one year from the date the source commenced operation. This permission to operate is granted only if the facility complies with all requirements contained in this permit and all applicable air pollution laws, regulations, and policies. Pursuant to OAC Chapter 3745-35, the permittee shall submit a complete operating permit application within ninety (90) days after commencing operation of the emissions unit(s) covered by this permit.

14. Construction Compliance Certification

The applicant shall provide Ohio EPA with a written certification (see enclosed form) that the facility has been constructed in accordance with the Permit to Install application and the terms and conditions of the Permit to Install. The certification shall be provided to Ohio EPA upon completion of construction but prior to startup of the source.

15. Fees

The permittee shall pay fees to the Director of the Ohio EPA in accordance with ORC section 3745.11 and OAC Chapter 3745-78. The permittee shall pay all applicable Permit to Install fees within 30 days after the issuance of this Permit to Install.

B. Permit to Install Summary of Allowable Emissions

The following information summarizes the total allowable emissions, by pollutant, based on the individual allowable emissions of each air contaminant source identified in this permit.

SUMMARY (for informational purposes only)
TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS

Pollutant	Tons Per Year
VOC	5.44
Styrene	2.16
Methyl Methacrylate	3.05
Toluene	0.08
Total HAPs	5.28

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. Applicable Emissions Limitations and/or Control Requirements

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

Operations, Property, and/or Equipment	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
P014 - Zylar process unit including three reactors, rubber dissolver, associated process equipment, and flare.	OAC rule 3745-31-05(C)	Emissions of volatile organic compounds (VOC) shall not exceed 1.41 lbs/hr as a 3-hour average. Emissions of styrene shall not exceed 0.66 lb/hr as a 3-hour average. Emissions of methyl methacrylate shall not exceed 0.7 lb/hr as a 3-hour average. Emissions of toluene shall not exceed 0.02 lb/hr as a 3-hour average. Emissions of total hazardous air pollutants (HAP) shall not exceed 1.38 lbs/hr as a 3-hour average. See terms A.2.b. through A.2.h. The permittee has committed to comply with the requirements of OAC rule 3745-21-09(DD) as BAT, and shall maintain a leak detection and repair progam in accordance with the terms and conditions of this permit, except that the provisions of OAC rule 3745-21-09 (DD)(5)(b) (pertaining to the sampling of process fluid) shall not apply to process streams that are partially or totally polymerized.

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	OAC rule 3745-31-05 (C)	Compliance with the terms and conditions of this permit shall be considered to limit fugitive emissions for equipment leaks from P014 to less than the lbs/hr and tons/year emission limits specified in Additional Term and Condition 2.e, consistent with the calculations presented in the permittee's application. Emissions of volatile organic compounds (VOC) shall not exceed 5.44 tons per rolling, 12-month summation. Emissions of styrene shall not exceed 2.16 tons per rolling, 12-month summation. Emissions of methyl methacrylate shall not exceed 3.05 tons per rolling, 12-month summation. Emissions of toluene shall not exceed 0.08 ton per rolling, 12-month summation. Emissions of total hazardous air pollutants (HAP) shall not exceed 5.28 tons per rolling, 12-month summation. See B.2, below.

2. Additional Terms and Conditions

2.a The allowable emissions of HAPs, as identified in Section 112(b) of Title III of the Clean Air Act, from all emissions units at this facility shall not exceed 9.9 TPY for any single HAP and 24.9 TPY for any combination of HAPs. Compliance with the above limitations shall be based upon a rolling, 12-month summation. The permittee has existing records to demonstrate compliance with the rolling, 12-month summation limitation.

2.b With the exception of the rubber dissolver, the permittee shall connect the process vents from the reaction sections of this emissions unit to the flare and/or process

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heater(s)/boilers(s), designed and operated as described in Additional Terms and Conditions 2.g and 2.h.

2.c The emission rate for the components of this emission unit, vented to the flare and/or the process heater(s)/boiler(s) shall not exceed the following, as measured at the control device outlet:

i. Styrene - 0.14 pound per hour as a 3-hour average and 0.63 tons per year;

ii. Methyl methacrylate - 0.66 pound per hour as a 3-hour average and 2.89 tons per year; and

iii. Total HAPs - 0.8 pound per hour as a 3-hour average and 3.52 tons per year

2.d The emission rate from the rubber dissolver component of this emission unit shall not exceed the following, as measured at the rubber dissolver vent:

i. Styrene - 0.46 pound per hour as a 3-hour average and 1.26 tons per year; and

ii. Total HAPs - 0.46 pound per hour as a 3-hour average and 1.26 tons per year

2.e The combined fugitive emission rates from leaks of process equipment serving this emission unit shall not exceed the following:

i. Styrene - 0.06 pound per hour and 0.27 tons per year;

ii. Methyl methacrylate - 0.04 pound per hour and 0.16 tons per year;

iii. Toluene - 0.02 pound per hour and 0.08 tons per year; and

iv. Total HAPs - 0.12 pound per hour and 0.5 tons per year.

2.f The total combined emission rates for this emission unit (emissions from the outlet of the control device + emissions from the rubber dissolver + fugitive emissions leaks of process equipment serving this unit) shall not exceed the following:

i. Styrene - 0.66 pounds per hour as a 3-hour average and 2.16 tons per year;

ii. Methyl methacrylate - 0.7 pound per hour as a 3-hour average and 3.05 tons per year;

iii. Toluene - 0.02 pound per hour as a 3-hour average and 0.08 tons per year; and

iv. Total HAPs - 1.38 pound per hour as a 3-hour average and 5.28 tons per year

2.g When the flare is used as the control device, it shall comply with the following requirements:

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i. The flare shall be operated and maintained in conformance with the manufacturer's design specifications;

ii. The flare shall be operated at all times when emissions are vented to it;

iii. The flare shall be designed and operated so that there are no visible emissions except for periods not to exceed a total of 5 minutes during any 2 consecutive hours;

iv. The flare shall be operated with a flame present at all times when emissions are vented to it;

v. The air-assisted flare shall be designed and operated with an exit velocity less than the velocity, Vmax, as determined by the method specified in Paragraph 40 CFR 60.18(f)(6); and

vi. The flare shall maintain at all times a destruction efficiency of at least 98% by weight.

2.h When the process heater/boiler is used as the control device, it shall comply with the following requirements:

i. The heater/boiler shall be operated and maintained in conformance with the manufacturer's design specifications.

ii. Any heater/boiler with design capacity greater than 150 MMBtu/hr shall reduce emissions of VOC by introducing the vent stream into the flame zone of the boiler or process heater.

iii. Any heater/boiler with design capacity less than 150 MMBtu/hr shall reduce emissions of VOC by 98 weight percent, or to a concentration of 20 parts per million by volume (ppmv) on a dry basis, whichever is less stringent. If the permittee elects to comply with the 20-ppmv standard, the concentration shall include a correction to 3 percent oxygen only when supplemental combustion air is used to combust the vent stream.

B. Operational Restrictions

1. The permittee shall not start operation of emissions unit P014 until emissions units P009 and P010 have been permanently shut down.

2. The maximum annual production shall not exceed 64 million pounds per year, as a rolling, 12-month summation.

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To ensure enforceability during the first 12 calendar months of operation following the start of operation for emissions unit P014, the permittee shall not exceed the production rates specified in the following table:

Month(s)	Maximum Allowable Cumulative Production (million pounds)
1	10.7
1-2	21.3
1-3	32
1-4	37.3
1-5	42.7
1-6	48
1-7	51.2
1-8	54.4
1-9	57.6
1-10	59.7
1-11	61.9
1-12	64

After the first 12 calendar months of operation following the issuance of this permit, compliance with the annual production limitation shall be based upon a rolling, 12-month summation of the monthly production figures.

3. When the flare is the control device, it shall be operated at a combustion temperature no less than 50°F below the combustion temperature established during the most recent compliance test.

4. When a process heater/boiler is the control device, it shall be operated at a combustion temperature no less than 50°F below the average combustion temperature established during the most recent compliance test. The temperature shall be measured between the radiant section and the convection zone for watertube boilers and between the furnace (combustion zone) and the firetubes for firetube boilers.

5. A pilot flame shall be maintained in the flare at all times of emission unit operation.

C. Monitoring and/or Record keeping Requirements

1. The permittee shall collect and record the following information each month for the entire facility:

a. The name and identification of each HAP employed.

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b. The amount of each HAP employed, in pounds.

c. The total individual HAP emissions, for each individual HAP employed, in pounds or tons per month.

d. The total combined HAP emissions from all HAPs employed, in pounds or tons per month.

e. The updated rolling, 12-month summation of emissions for each individual HAP*, in pounds or tons. This shall include the information for the current month and the preceding eleven calendar months; and

f. The updated rolling, 12-month summation of emissions for the total combined HAP*, in pounds or tons. This shall include the information for the current month and the preceding eleven calendar months.

*A listing of HAPs can be found in Section 112(b) of the Clean Air Act. This information does not have to be kept on an emissions unit - by- emissions unit basis.

2. The permittee shall maintain monthly records of the following information for emissions unit P014:

a. The monthly production, in million pounds.

b. For the first twelve calendar months following the startup of this emission unit, the cumulative production calculated by adding the monthly production for all months since startup.

c. After the first twelve calendar months following the startup of this emissions unit, the rolling, 12-month summation of the monthly production numbers, calculated by adding the current month's production to the monthly production for the preceding eleven calendar months.

3. The permittee shall operate and maintain a device (including, but not limited to, a thermocouple, an ultraviolet beam sensor, or an infrared sensor) capable of continuously detecting the presence of the flare pilot flame. All monitoring equipment shall be calibrated, maintained, and operated according to the manufacturer's specifications.

4. The permittee shall keep up-to-date records of the flare design (i.e., steam-assisted, air-assisted, or non-assisted).

5. The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the flare when the emissions unit is in

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operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

The permittee shall collect and record the following information for each day when the flare is used as the control device:

a. All 3-hour blocks of time during which the average combustion temperature of the flare, when the emissions unit was in operation, was more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance;

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

c. Flare operating temperature;

d. Annual hours of operation of the process flare;

e. All periods during which the flare was not operating and emissions were vented to it;

f. All periods during which there was no pilot flame; and

g. The operating times for the flare and the continuous monitoring equipment for flame presence.

6. The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the process heater/boiler when the emissions unit is in operation. The temperature monitoring device shall be installed between the radiant section and the convection zone if a watertube boiler is used or between the combustion zone and firetubes if a firetube boiler is used. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.

The permittee shall collect and record the following information for each day when the process heater/boiler is used as the control device:

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a. All 3-hour blocks of time during which the average combustion temperature within the process heater/boiler, when the emissions unit was in operation, was more than 50 degrees Fahrenheit below the average temperature during the most recent emission test that demonstrated the emissions unit was in compliance.

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

c. Process heater/boiler operating temperature; and

d. Annual hours of operation of the process heater/boiler.

7. The permittee shall perform weekly checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from all the stacks serving this emissions unit, including the flare. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. The location and color of the emissions;

b. Whether the emissions are representative of normal operations;

c. If the emissions are not representative of normal operations, the cause of the abnormal emissions;

d. The total duration of any visible emission incident; and

e. Any corrective actions taken to eliminate the visible emissions.

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

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8. Equipment Leaks

As a program to meet the requirements of Best Available Technology, the permitee has agreed to follow the requirements for a leak detection and repair program found in OAC rule 3745-21-09(DD).

a. The permittee shall collect and maintain the information required for the LDAR program specified under OAC rule 3745-21-09(DD).

b. Except as otherwise provided in Paragraphs (DD)(2)(c) and (DD)(2)(d) of OAC rule 3745-21-09, equipment shall be monitored for leaks in accordance with the method specified in Paragraph (F) of OAC rule 3745-21-10, as follows:

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

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

iii. Any of 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:

(a) Any pump in heavy liquid service;

(b) Any valve in heavy liquid service;

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

(d) Any flange or other connector.

iv. Any equipment in which a leak is detected as described in Paragraph (DD)(2)(g) of OAC rule 3745-21-09 shall be monitored within five working days after each attempt to repair, unless the owner or operator believes that the equipment was not successfully repaired.

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c. For any valve in gas/vapor service or in light liquid service, an alternative monitoring schedule may be employed in lieu of the monitoring schedule specified in Paragraph (DD)(2)(b)(ii) of OAC rule 3745-21-09 as follows:

i. The valve is designated as difficult to monitor and is monitored each calendar year, provided the following conditions are met:

(a) Construction of the process unit commenced prior to May 9, 1986.

(b) The owner or operator of the valve demonstrates that the valve cannot be monitored without elevating the monitoring personnel more than 6 feet above a support surface.

(c) The owner or operator of the valve has a written plan that requires monitoring of the valve at least once per year.

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

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

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

iii. The valve is subject to an alternative monitoring schedule based on a skip period as specified in Paragraph (DD)(12) of OAC rule 3745-21-09.

d. Excluded from the monitoring requirements of Paragraph (DD)(2)(b) of OAC rule 3745-21-09 is the following equipment:

i. Any pump that has no externally actuated shaft penetrating the pump housing and that is designated for no detectable emissions as provided IN Paragraph (DD)(8) of OAC rule 3745-21-09;

ii. Any pump that is equipped with a dual mechanical seal which has a barrier fluid system and sensor that comply with the requirements specified in Paragraph (DD)(8) of OAC rule 3745-21-09;

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iii. Any pump that is equipped with a closed vent system capable of capturing and transporting any leakage from the pump seal to control equipment, provided the closed vent system and the control equipment comply with the requirements specified in Paragraphs (DD)(9) and (DD)(10) of OAC rule 3745-21-09;

iv. Any valve that has no externally actuated stem penetrating the valve and that is designated for no detectable emissions as provided in Paragraph (DD)(7) of OAC rule 3745-21-09; and

v. Any valve that is subject to the alternative monitoring standard for valves based on the percentage of valves leaking as provided in Paragraph (DD)(13) of OAC rule 3745-21-09.

e. Any pump in light liquid service shall be checked by visual inspection each calendar week for indications of liquids dripping from the pump seal, unless the pump is equipped with a closed vent system capable of transporting any leakage from the pump seal to control equipment and the closed vent system and control equipment comply with the requirements specified in Paragraphs (DD)(9) and (DD)(10) of OAC rule 3745-21-09.

f. Any sensor employed pursuant to Paragraph (DD)(2)(d)(ii) or (DD)(3)(b) of OAC rule 3745-21-09 shall be checked daily, unless the sensor is equipped with an audible alarm.

g. A leak is detected when:

i. A concentration of 10,000 ppmv or greater is measured from a potential leak interface of any equipment that is monitored for leaks using the method in Paragraph (F) of OAC rule 3745-21-10 of the Administrative Code;

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

iii. A sensor employed pursuant to Paragraph (DD)(2)(d)(ii) or (DD)(3)(b) of OAC rule 3745-21-09 indicates failure of the seal system, the barrier fluid system, or both.

h. When a leak is detected as described in Paragraph (DD)(2)(g) of OAC rule 3745-21-09, the following procedures shall be followed:

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

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ii. A record of the leak and any attempt to repair the leak is entered into the leak repair log kept pursuant to Paragraph (DD)(2)(k) of OAC rule 3745-21-09.

iii. The identification tag attached to the leaking equipment, other than a valve that is monitored pursuant to Paragraph (DD)(2)(b)(ii) of OAC rule 3745-21-09, may be removed after the leaking equipment is repaired.

iv. The identification tag attached to a leaking valve that is monitored pursuant to Paragraph (DD)(2)(n)(ii) of OAC rule 3745-21-09 may be removed after the leaking valve is repaired, monitored for leaks for two consecutive months as specified in Paragraph (DD)(2)(b)(ii) of OAC rule 3745-21-09, and found to have no detected leaks during those two consecutive months.

i. When a leak is detected as described in Paragraph (DD)(2)(g) of OAC rule 3745-21-09, the leaking equipment shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except for a delay of repair as provided in Paragraph (DD)(11) of OAC rule 3745-21-09. Leaking equipment shall be deemed repaired if the maximum concentration measured pursuant to Paragraph (DD)(2)(b)(iv) of OAC rule 3745-21-09 is less than 10,000 ppmv.

j. When a leak is detected as described in Paragraph (DD)(2)(g) of OAC rule 3745-21-09, a first attempt at repair shall be made no later than 5 calendar days after the leak is detected; and the first attempts at repair shall include, but are not limited to, the following best practices where practicable:

i. Tightening of bonnet bolts;

ii. Replacement of bonnet bolts;

iii. Tightening of packing gland nuts; and

iv. Injection of lubricant into lubricated packing.

k. When a leak is detected as described in Paragraph (DD)(2)(g) of OAC rule 3745-21-09(DD), the following information shall be recorded in a leak repair log:

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

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

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

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

v. One of the following entries within 5 working days after each attempt to repair the leaking equipment:

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

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

(i) The actual reading in ppmv; or

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

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

(iv) If the leak is not repaired within 15 calendar days after the date on which it was detected:

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

b) If repair is being delayed until the next process unit shutdown due to technical infeasibility of repair, the signature of the 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;

d) The dates of process unit shutdowns that occurred.

The leak repair log shall be retained by the owner or operator of the process unit in a readily accessible location in accordance with the General Terms and Conditions of this permit.

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9. The permit to install was evaluated based on the actual materials (typically coatings and cleanup materials) and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxics Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Acceptable Ground Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Styrene
TLV (ug/m^3): 85,200
Maximum Average Hourly Emission Rate (lbs/hr): 0.14 (flare) and 2.72 (rubber dissolver – worst case hour)
Predicted 1-hour Maximum Ground Level Concentration (ug/m^3): 1,211
MAGLC (ug/m^3): 2,030

Pollutant: Methyl methacrylate
TLV (ug/m^3): 204,760
Maximum Average Hourly Emission Rate (lbs/hr): 0.66 (flare) and 1.44 (T006 - Tank 2075)
(Emissions units P014 and T006, combined)
Predicted 1-hour Maximum Ground Level Concentration (ug/m^3): 821.6
MAGLC (ug/m^3): 4,880

Pollutant: Butyl Acrylate
TLV (ug/m^3): 10,480
Maximum Average Hourly Emission Rate (lbs/hr): 0.02 (flare)
Predicted 1-hour Maximum Ground Level Concentration (ug/m^3): 0.044
MAGLC (ug/m^3): 250

Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxics Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxics Policy" will still be still satisfied. If, upon evaluation, the permittee determines that the "Air Toxics Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxics Policy" include the following:

a. Changes in the composition of the materials used (typically for coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the

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handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value previously modeled;

b. Changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and

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

If the permittee determines that the "Air Toxics Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01(VV)(1)(a)(ii), and a modification of the existing permit to install will not be required. If the change(s) is (are) defined as a modification under other provisions of the modification definition (other than (VV)(1)(a)(ii)), then the permittee shall obtain a final permit to install prior to the change.

10. The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the emissions unit, if changed as outlined above, will still satisfy the "Air Toxics Policy:"

a. A description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);

b. Documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxics Policy"; and

c. Where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxics Policy" for the change.

D. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports which identify all exceedances of the rolling, 12-month production limitation specified in Section A.II.2 of this permit.

2. The permittee shall submit quarterly deviation (excursion) reports which identify all times when the process heater/boiler is operated at a combustion temperature greater than 50°F below the average combustion temperature established during the most recent compliance test.

3. The permittee shall submit quarterly deviation (excursion) reports which include the following information:

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a. All periods during which the flare was not operating and emissions were vented to it;

b. All periods during which there was no pilot flame; and

c. The operating times for the flare and the continuous monitoring equipment for flame presence.

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

5. The deviation reports shall be submitted in accordance with the reporting requirements of the General Terms and Conditions of this permit.

E. Testing Requirements

1. Emission Limitation:

1.41 lbs/hr average VOC;
5.44 TPY VOC as a rolling, 12-month summation;
0.66 lb/hr styrene;
2.16 TPY styrene as a rolling, 12-month summation;
0.7 lb/hr methyl methacrylate;
3.05 TPY methyl methacrylate as a rolling, 12-month summation;
1.38 lbs/hr total HAPs;
5.28 TPY total haps as a rolling, 12-month summation.

Compliance Method:

a. Compliance with the TPY limits VOC, styrene, methyl methacrylate, and total HAPs (excluding fugitive emissions from process equipment leaks) shall be based on the record keeping requirement in term C.2 and the following emission factors:

i. 0.3 lb VOC/ton production;

ii. 0.12 lb styrene/ton production;

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iii. 0.18 lb methyl methacrylate/ton production;

iv. 0.3 lb total HAPs/ton production.

These emission factors take into account a 98% control efficiency for the flare and/or process heater(s)/boiler(s).

b. Compliance with the lb/hr and ton/yr emission limits for VOC, styrene, methyl methacrylate, toluene, and total HAPs from leaks of process equipment serving this unit shall be based on the emission estimates obtained from the most recent semiannual Leak Detection and Repair (LDAR) report required pursuant to this permit. These calculations shall be performed in accordance with the methodology detailed in Section 7 of the document entitled "Analysis of Facilty-Wide Potential to Emit" prepard by IT Corporation, dated February 13, 1996.

The lb/hr and ton/yr emission limits for styrene, methyl methacrylate, toluene, and total HAPs (as specified in Additional Term and Condition 2.e) represent the highest expected fugitive emission rates from equipment leaks for process equipment serving this emission unit. These emission limits were developed based on the maximum number of leaking components in each chemical (HAP) service (developed from 1994 screening program data)and the maximum expected screening value for each type of component (developed from screening program data from 1991 - 1994).

Fugitive emissions were calculated for each component type in each type of chemical service using the USEPA Correlation Approach (EPA-453/R 93-026, Table 2-7) and additional correlations for pumps in styrene, toluene, and total non-specified HAP service developed from a 1991 bagging study of pumps at the facility.

If required, compliance shall be determined through stack testing of the flare.

2. Additional Term and Condition:

The flare shall be designed and operated so that there are no visible emissions except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.

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Compliance Method:

Compliance shall be determined through monitoring, record keeping, and reporting requirements (C.7 and D.4) and in accordance with Test Method 22 as set forth in "Appendix on Test Methods" in 40 CFR, Part 60.

F. Miscellaneous Requirements

None

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