



State of Ohio Environmental Protection Agency

**RE: FINAL PERMIT TO INSTALL
WASHINGTON COUNTY**

CERTIFIED MAIL

Street Address:

122 S. Front Street

Lazarus Gov. Center TELE: (614) 644-3020 FAX: (614) 644-2329

Mailing Address:

Lazarus Gov. Center
P.O. Box 1049

Application No: 06-07927

Fac ID: 0684010003

DATE: 3/28/2006

NOVA Chemicals
Mark Cunningham
125 Drags trip Rd.
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, Manager
Permit Issuance and Data Management Section
Division of Air Pollution Control

CC: USEPA

SEDO



**Permit To Install
Terms and Conditions**

**Issue Date: 3/28/2006
Effective Date: 3/28/2006**

FINAL PERMIT TO INSTALL 06-07927

Application Number: 06-07927
Facility ID: 0684010003
Permit Fee: **\$800**
Name of Facility: NOVA Chemicals
Person to Contact: Mark Cunningham
Address: 125 Drags trip Rd.
Belpre, OH 45714

Location of proposed air contaminant source(s) [emissions unit(s)]:

**Township Rd 97
Belpre, Ohio**

Description of proposed emissions unit(s):

Two existing 9.0 MMBTU boilers and two existing 9.8 MMBTU boilers are being retrofitted to fire co-product. Boilers were previously exempt and therefore do not have a PTI.

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

NOVA Chemicals
PTI Application: 06-07927
Issued: 3/28/2006

Facility ID: 0684010003

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)

NOVA Chemicals
PTI Application: 06-07927
Issued: 3/28/2006

Facility ID: 0684010003

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.

NOVA Chemicals
PTI Application: 06-07927
Issued: 3/28/2006

Facility ID: 0684010003

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

<u>Pollutant</u>	<u>Tons Per Year</u>
PE	2.46
SO ₂	8.40
NO _x	24.52
CO	13.84
VOC	2.64

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

A. Applicable Emission 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 emission 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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	
B003 - 9.0 mmBtu/hr natural gas, distillate oil (number 1 and number 2 fuel oil, kerosene and diesel fuel, but excluding number 4 fuel oil), and styrene co-product- fired boiler.	OAC rule 3745-31-05(A)(3)	OAC rule 3745-17-10(C)(1)
		OAC rule 3745-18-06(D)
		OAC rule 3745-21-08(B)
		OAC rule 3745-23-06(B)
	OAC rule 3745-17-07(A)	

Applicable Emission Limitations/Control Measures

Emissions of sulfur dioxide shall not exceed 0.46 lb/hr and 2.01 tons/yr.

Emissions of nitrogen oxides shall not exceed 1.34 lbs/hr and 5.87 tons/yr.

Emissions of carbon monoxide shall not exceed 0.76 lb/hr and 3.33 tons/yr.

Emissions of volatile organic compounds shall not exceed 0.15 lb/hr and 0.66 ton/yr.

Particulate emissions shall not exceed 0.13 lb/hr and 0.57 ton/yr.

There shall be no visible particulate emissions from the stack serving this emissions unit.

See Section A.2.a below.

The visible particulate emission limitation specified by this rule is less stringent than the visible particulate emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

The particulate emission limitation specified by this rule

is less stringent than the particulate emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

The emissions unit is exempt from the sulfur dioxide emission limitation specified by this rule pursuant to OAC rule 3745-18-06(B).

None, see A.2.a below.

None, see A.2.a below.

2. Additional Terms and Conditions

- 2.a** The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in this Permit to Install.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

The permittee has satisfied the "latest available control techniques and operating practices required pursuant to OAC rule 3745-23-06(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in this Permit to Install.

On February 15, 2005, OAC rule 3745-23-06 was rescinded; therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the U.S. EPA approves the revision, the requirement to satisfy the "latest available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

- 2.b** The emissions of hazardous air pollutants (HAPs) from all emissions units at this facility, as identified in Section 112(b) of Title III of the Clean Air Act, shall not exceed 9.9 tons per year for any individual HAP, and 24.9 tons per year for any combination of HAPs, as rolling 12-month summations. The HAPs emitted during the first full calendar month after permit issuance shall be added to the emission total from the previous 11 months of operation to begin the rolling, 12-month summation.
- 2.c** The hourly and annual emission limitations specified in A.1 above are based upon the emissions unit's potentials to emit, therefore, no additional monitoring or record keeping requirements are necessary to ensure compliance with these emission limitations.

B. Operational Restrictions

1. The permittee shall burn only natural gas, distillate oil and/or styrene co-product in this emissions unit.

C. Monitoring and/or Record keeping Requirements

1. The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit. 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 color of the emissions;
- b. the total duration of any visible emission incident; and
- c. any corrective actions taken to eliminate the visible emissions.

2. For each day during which the permittee burns a fuel other than natural gas, distillate oil and/or styrene co-product, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

3. The permittee shall maintain the following monthly information for all of the emissions units at the facility:

- a. the total emissions of each individual HAP, in tons;
- b. the aggregate sum of all HAPs combined, in tons;
- c. the rolling, 12-month summation of each individual HAP, in tons; and
- d. the rolling, 12-month summation of all HAPs combined, in tons.

D. Reporting Requirements

1. 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. The reports shall be submitted to the Director (the Ohio EPA, Southeast District Office) by January 31 and July 31 of each year and shall cover the previous 6-month period.

2. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas, distillate oil and/or styrene co-product was burned in this emissions unit. Each report shall be submitted to the Director (the Ohio EPA, Southeast District Office) within 30 days after the deviation occurs.
3. The permittee shall submit quarterly deviation (excursion) reports that document all exceedances of the rolling, 12-month summations for the HAP emission limitations specified in A.2.b above. The reports shall be submitted to the Director (the Ohio EPA, Southeast District Office) by January 31, April 30, July 31, and October 31 of each year; and each report shall cover the previous calendar quarter.

E. Testing Requirements

1. Compliance with the emission limitations in Section A.1. of these terms and conditions shall be determined in accordance with the following methods:

- a. Emission Limitation:

Emissions of sulfur dioxide shall not exceed 0.46 lb/hr

Applicable Compliance Method:

Compliance may be demonstrated using the following equation:

$$E = 7.1 \text{ lbs}/10^3 \text{ gal} * 64 \text{ gals/hr} = 0.46 \text{ lb/hr}$$

where

7.1 lbs/10³ gal is the emission factor for combustion of distillate oil from AP-42 chapter 1.3, table 1.3-1 (9/98).

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 6.

b. Emission Limitation:

Emissions of sulfur dioxide shall not exceed 2.01 tons/yr.

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable hourly emission rate (0.46 lb/hr) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

c. Emission Limitation:

Emissions of nitrogen oxides shall not exceed 1.34 lbs/hr.

Applicable Compliance Method:

Compliance may be demonstrated using the following equation:

$$E = 20 \text{ lbs}/10^3 \text{ gal} * 67 \text{ gals/hr} = 1.34 \text{ lbs/hr}$$

where

20 lbs/10³ gal is the emission factor for combustion of distillate oil from AP-42 chapter 1.3, table 1.3-1, (9/98).

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 7.

d. Emission Limitation:

Emissions of nitrogen oxides shall not exceed 5.87 tons/yr.

Applicable Compliance Method:

Compliance may be determined by the following equation:

NOVA Chemicals
PTI Application: 06 07027
Issue

Facility ID: 0684010003

Emissions Unit ID: B003

This emission limitation was developed by multiplying the allowable hourly emission rate (1.34 lbs/hr) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

e. Emission Limitation:

Emissions of carbon monoxide shall not exceed 0.76 lb/hr.

Applicable Compliance Method:

Compliance may be demonstrated using the following equation:

$$E = 84 \text{ lbs}/10^6 \text{ ft}^3 * 9,000 \text{ ft}^3/\text{hr} = 0.76 \text{ lb/hr}$$

where

84 lbs/10⁶ ft³ is the emission factor for combustion of natural gas from AP-42 chapter 1.4, table 1.4-1 (7/98).

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 10.

f. Emission Limitation:

Emissions of carbon monoxide shall not exceed 3.33 tons/yr.

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable hourly emission rate (0.76 lb/hr) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

g. Emission Limitation:

Particulate emissions shall not exceed 0.13 lb/hr.

Applicable Compliance Method:

Compliance may be demonstrated using the following equation:

$$E = 2.0 \text{ lbs}/10^3 \text{ gal} * 67 \text{ gals/hr} = 0.13 \text{ lb/hr}$$

where

2.0 lbs/10³ gal is the particulate emission factor for combustion of distillate oil from AP-42 chapter 1.3, table 1.3-1, (9/98).

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 5.

h. Emission Limitation:

Particulate emissions shall not exceed 0.57 ton/yr.

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable hourly emission rate (0.13 lb/hr) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

i. Emission Limitation:

Emissions of volatile organic compounds shall not exceed 0.15 lb/hr.

Applicable Compliance Method:

Compliance may be demonstrated based on the following calculation:

$$E = 67 \text{ gals/hr} * 7.48 \text{ lbs/gal} * (1-0.9997) = 0.15 \text{ lb/hr}$$

where

7.48 is the density of the styrene co-product, 67 gals/hr is the maximum styrene co-product usage rate, and 99.97 is the assumed efficiency of the boiler when combusting the styrene co-product.

If required, the permittee shall demonstrate compliance with this emission

limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 18, 25, or 25A, as appropriate.

j. Emission Limitation:

Emissions of volatile organic compounds shall not exceed 0.66 ton/yr.

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable hourly emission rate (0.15 lb/hr) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

k. Emission Limitation:

There shall be no visible particulate emissions from the stack serving this emissions unit.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Method 22.

F. Miscellaneous Requirements

1. Modeling to demonstrate compliance with the Ohio EPA's "Air Toxic Policy" was not necessary because the emissions unit's maximum annual emissions for each toxic compound will be less than 1.0 ton. OAC Chapter 3745-31 requires permittees to apply for and obtain a new or modified permit to install prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would cause the emissions of any pollutant that has a listed TLV to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new permit to install.

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

A. Applicable Emission 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 emission 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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	
B004 - 9.0 mmBtu/hr natural gas, distillate oil (number 1 and number 2 fuel oil, kerosene and diesel fuel, but excluding number 4 fuel oil), and styrene co-product- fired boiler.	OAC rule 3745-31-05(A)(3)	OAC rule 3745-17-10(C)(1)
		OAC rule 3745-18-06(D)
		OAC rule 3745-21-08(B)
		OAC rule 3745-23-06(B)
	OAC rule 3745-17-07(A)	

NOVA

PTI A

Issued: 3/28/2006

Emissions Unit ID: **B004**

Applicable Emission Limitations/Control Measures

Emissions of sulfur dioxide shall not exceed 0.46 lb/hr and 2.01 tons/yr.

Emissions of nitrogen oxides shall not exceed 1.34 lbs/hr and 5.87 tons/yr.

Emissions of carbon monoxide shall not exceed 0.76 lb/hr and 3.33 tons/yr.

Emissions of volatile organic compounds shall not exceed 0.15 lb/hr and 0.66 ton/yr.

Particulate emissions shall not exceed 0.13 lb/hr and 0.57 ton/yr.

There shall be no visible particulate emissions from the stack serving this emissions unit.

See Section A.2.a below.

The visible particulate emission limitation specified by this rule is less stringent than the visible particulate emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

The particulate emission limitation specified by this rule

is less stringent than the particulate emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

The emissions unit is exempt from the sulfur dioxide emission limitation specified by this rule pursuant to OAC rule 3745-18-06(B).

None, see A.2.a below.

None, see A.2.a below.

2. Additional Terms and Conditions

- 2.a** The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in this Permit to Install.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

The permittee has satisfied the "latest available control techniques and operating practices required pursuant to OAC rule 3745-23-06(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in this Permit to Install.

On February 15, 2005, OAC rule 3745-23-06 was rescinded; therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the U.S. EPA approves the revision, the requirement to satisfy the "latest available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

- 2.b** The emissions of hazardous air pollutants (HAPs) from all emissions units at this facility, as identified in Section 112(b) of Title III of the Clean Air Act, shall not exceed 9.9 tons per year for any individual HAP, and 24.9 tons per year for any combination of HAPs, as rolling 12-month summations. The HAPs emitted during the first full calendar month after permit issuance shall be added to the emission total from the previous 11 months of operation to begin the rolling, 12-month summation.
- 2.c** The hourly and annual emission limitations specified in A.1 above are based upon the emissions unit's potentials to emit, therefore, no additional monitoring or record keeping requirements are necessary to ensure compliance with these emission limitations.

B. Operational Restrictions

1. The permittee shall burn only natural gas, distillate oil and/or styrene co-product in this emissions unit.

C. Monitoring and/or Record keeping Requirements

1. The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit. 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 color of the emissions;
 - b. the total duration of any visible emission incident; and
 - c. any corrective actions taken to eliminate the visible emissions.
2. For each day during which the permittee burns a fuel other than natural gas, distillate oil and/or styrene co-product, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.
3. The permittee shall maintain the following monthly information for all of the emissions units at the facility:
- a. the total emissions of each individual HAP, in tons;
 - b. the aggregate sum of all HAPs combined, in tons;
 - c. the rolling, 12-month summation of each individual HAP, in tons; and
 - d. the rolling, 12-month summation of all HAPs combined, in tons.

D. Reporting Requirements

1. 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 Director (the Ohio EPA, Southeast District Office) by January 31 and July 31 of each year and shall cover the previous 6-month period.

2. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas, distillate oil and/or styrene co-product was burned in this emissions unit. Each report shall be submitted to the Director (the Ohio EPA, Southeast District Office) within 30 days after the deviation occurs.
3. The permittee shall submit quarterly deviation (excursion) reports that document all exceedances of the rolling, 12-month summations for the HAP emission limitations specified in A.2.b above. The reports shall be submitted to the Director (the Ohio EPA, Southeast District Office) by January 31, April 30, July 31, and October 31 of each year; and each report shall cover the previous calendar quarter.

E. Testing Requirements

1. Compliance with the emission limitations in Section A.1. of these terms and conditions shall be determined in accordance with the following methods:
 - a. Emission Limitation:

Emissions of sulfur dioxide shall not exceed 0.46 lb/hr

Applicable Compliance Method:

Compliance may be demonstrated using the following equation:

$$E = 7.1 \text{ lbs}/10^3 \text{ gal} * 64 \text{ gals/hr} = 0.46 \text{ lb/hr}$$

where

7.1 lbs/10³ gal is the emission factor for combustion of distillate oil from AP-42 chapter 1.3, table 1.3-1 (9/98).

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 6.

b. Emission Limitation:

Emissions of sulfur dioxide shall not exceed 2.01 tons/yr.

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable hourly emission rate (0.46 lb/hr) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

c. Emission Limitation:

Emissions of nitrogen oxides shall not exceed 1.34 lbs/hr.

Applicable Compliance Method:

Compliance may be demonstrated using the following equation:

$$E = 20 \text{ lbs}/10^3 \text{ gal} * 67 \text{ gals/hr} = 1.34 \text{ lbs/hr}$$

where

20 lbs/10³ gal is the emission factor for combustion of distillate oil from AP-42 chapter 1.3, table 1.3-1, (9/98).

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 7.

d. Emission Limitation:

Emissions of nitrogen oxides shall not exceed 5.87 tons/yr.

Applicable Compliance Method:

Compliance may be determined by the following equation:

This emission limitation was developed by multiplying the allowable hourly

emission rate (1.34 lbs/hr) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

e. Emission Limitation:

Emissions of carbon monoxide shall not exceed 0.76 lb/hr.

Applicable Compliance Method:

Compliance may be demonstrated using the following equation:

$$E = 84 \text{ lbs}/10^6 \text{ ft}^3 * 9,000 \text{ ft}^3/\text{hr} = 0.76 \text{ lb/hr}$$

where

84 lbs/10⁶ ft³ is the emission factor for combustion of natural gas from AP-42 chapter 1.4, table 1.4-1 (7/98).

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 10.

f. Emission Limitation:

Emissions of carbon monoxide shall not exceed 3.33 tons/yr.

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable hourly emission rate (0.76 lb/hr) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

g. Emission Limitation:

Particulate emissions shall not exceed 0.13 lb/hr.

Applicable Compliance Method:

Compliance may be demonstrated using the following equation:

$$E = 2.0 \text{ lbs}/10^3 \text{ gal} * 67 \text{ gals/hr} = 0.13 \text{ lb/hr}$$

where

2.0 lbs/10³ gal is the particulate emission factor for combustion of distillate oil from AP-42 chapter 1.3, table 1.3-1, (9/98).

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 5, while firing distillate oil.

h. Emission Limitation:

Particulate emissions shall not exceed 0.57 ton/yr.

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable hourly emission rate (0.13 lb/hr) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

i. Emission Limitation:

Emissions of volatile organic compounds shall not exceed 0.15 lb/hr.

Applicable Compliance Method:

Compliance may be demonstrated based on the following calculation:

$$E = 67 \text{ gals/hr} * 7.48 \text{ lbs/gal} * (1-0.9997) = 0.15 \text{ lb/hr}$$

where

7.48 is the density of the styrene co-product, 67 gals/hr is the maximum styrene co-product usage rate, and 99.97 is the assumed efficiency of the boiler when combusting the styrene co-product.

If required, the permittee shall demonstrate compliance with this emission

Emissions Unit ID: **B004**

limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 18, 25, or 25A, as appropriate.

j. Emission Limitation:

Emissions of volatile organic compounds shall not exceed 0.66 ton/yr.

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable hourly emission rate (0.15 lb/hr) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

k. Emission Limitation:

There shall be no visible particulate emissions from the stack serving this emissions unit.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Method 22.

F. Miscellaneous Requirements

1. Modeling to demonstrate compliance with the Ohio EPA's "Air Toxic Policy" was not necessary because the emissions unit's maximum annual emissions for each toxic compound will be less than 1.0 ton. OAC Chapter 3745-31 requires permittees to apply for and obtain a new or modified permit to install prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would cause the emissions of any pollutant that has a listed TLV to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new permit to install.

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

A. Applicable Emission 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 emission 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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>
B005 - 9.8 mmBtu/hr natural gas, distillate oil (number 1 and number 2 fuel oil, kerosene and diesel fuel, but excluding number 4 fuel oil), and styrene co-product- fired boiler.	OAC rule 3745-31-05(A)(3)
	OAC rule 3745-17-10(C)(1)
	OAC rule 3745-18-06(D)
	OAC rule 3745-21-08(B)
	OAC rule 3745-23-06(B)
	OAC rule 3745-17-07(A)

NOVA**PTI A****Issued: 3/28/2006**Emissions Unit ID: **B005**

<u>Applicable Emission Limitations/Control Measures</u>	
Emissions of sulfur dioxide shall not exceed 0.50 lb/hr and 2.19 tons/yr.	limitation specified by this rule is less stringent than the particulate emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
Emissions of nitrogen oxides shall not exceed 1.46 lbs/hr and 6.39 tons/yr.	The emissions unit is exempt from the sulfur dioxide emission limitation specified by this rule pursuant to OAC rule 3745-18-06(B).
Emissions of carbon monoxide shall not exceed 0.82 lb/hr and 3.59 tons/yr.	None, see A.2.a below.
Emissions of volatile organic compounds shall not exceed 0.15 lb/hr and 0.66 ton/yr.	None, see A.2.a below.
Particulate emissions shall not exceed 0.15 lb/hr and 0.66 ton/yr.	
There shall be no visible particulate emissions from the stack serving this emissions unit.	
See Section A.2.a below.	
The visible particulate emission limitation specified by this rule is less stringent than the visible particulate emission limitation established pursuant to OAC rule 3745-31-05(A)(3).	
The particulate emission	

2. Additional Terms and Conditions

- 2.a** The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in this Permit to Install.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

The permittee has satisfied the "latest available control techniques and operating practices required pursuant to OAC rule 3745-23-06(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in this Permit to Install.

On February 15, 2005, OAC rule 3745-23-06 was rescinded; therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the U.S. EPA approves the revision, the requirement to satisfy the "latest available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

- 2.b** The emissions of hazardous air pollutants (HAPs) from all emissions units at this facility, as identified in Section 112(b) of Title III of the Clean Air Act, shall not exceed 9.9 tons per year for any individual HAP, and 24.9 tons per year for any combination of HAPs, as rolling 12-month summations. The HAPs emitted during the first full calendar month after permit issuance shall be added to the emission total from the previous 11 months of operation to begin the rolling, 12-month summation.
- 2.c** The hourly and annual emission limitations specified in A.1 above are based upon the emissions unit's potentials to emit, therefore, no additional monitoring or record keeping requirements are necessary to ensure compliance with these emission limitations.

B. Operational Restrictions

1. The permittee shall burn only natural gas, distillate oil and/or styrene co-product in this emissions unit.

C. Monitoring and/or Record keeping Requirements

1. The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit. 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 color of the emissions;
 - b. the total duration of any visible emission incident; and
 - c. any corrective actions taken to eliminate the visible emissions.
2. For each day during which the permittee burns a fuel other than natural gas, distillate oil and/or styrene co-product, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.
3. The permittee shall maintain the following monthly information for all of the emissions units at the facility:
- a. the total emissions of each individual HAP, in tons;
 - b. the aggregate sum of all HAPs combined, in tons;
 - c. the rolling, 12-month summation of each individual HAP, in tons; and
 - d. the rolling, 12-month summation of all HAPs combined, in tons.

D. Reporting Requirements

1. 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 Director (the Ohio EPA, Southeast District Office) by January 31 and July 31 of each year and shall cover the previous 6-month period.

2. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas, distillate oil and/or styrene co-product was burned in this emissions unit. Each report shall be submitted to the Director (the Ohio EPA, Southeast District Office) within 30 days after the deviation occurs.
3. The permittee shall submit quarterly deviation (excursion) reports that document all exceedances of the rolling, 12-month summations for the HAP emission limitations specified in A.2.b above. The reports shall be submitted to the Director (the Ohio EPA, Southeast District Office) by January 31, April 30, July 31, and October 31 of each year; and each report shall cover the previous calendar quarter.

E. Testing Requirements

1. Compliance with the emission limitations in Section A.1. of these terms and conditions shall be determined in accordance with the following methods:
 - a. Emission Limitation:

Emissions of sulfur dioxide shall not exceed 0.50 lb/hr

Applicable Compliance Method:

Compliance may be demonstrated using the following equation:

$$E = 7.1 \text{ lbs}/10^3 \text{ gal} * 70 \text{ gals/hr} = 0.50 \text{ lb/hr}$$

where

7.1 lbs/10³ gal is the emission factor for combustion of distillate oil from AP-42 chapter 1.3, table 1.3-1 (9/98).

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 6.

b. Emission Limitation:

Emissions of sulfur dioxide shall not exceed 2.19 tons/yr.

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable hourly emission rate (0.50 lb/hr) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

c. Emission Limitation:

Emissions of nitrogen oxides shall not exceed 1.46 lbs/hr.

Applicable Compliance Method:

Compliance may be demonstrated using the following equation:

$$E = 20 \text{ lbs}/10^3 \text{ gal} * 73 \text{ gals/hr} = 1.46 \text{ lbs/hr}$$

where

20 lbs/10³ gal is the emission factor for combustion of distillate oil from AP-42 chapter 1.3, table 1.3-1, (9/98).

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 7.

d. Emission Limitation:

Emissions of nitrogen oxides shall not exceed 6.39 tons/yr.

Applicable Compliance Method:

Compliance may be determined by the following equation:

This emission limitation was developed by multiplying the allowable hourly

emission rate (1.46 lbs/hr) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

e. Emission Limitation:

Emissions of carbon monoxide shall not exceed 0.82 lb/hr.

Applicable Compliance Method:

Compliance may be demonstrated using the following equation:

$$E = 84 \text{ lbs}/10^6 \text{ ft}^3 * 9,800 \text{ ft}^3/\text{hr} = 0.82 \text{ lb/hr}$$

where

84 lbs/10⁶ ft³ is the emission factor for combustion of natural gas from AP-42 chapter 1.4, table 1.4-1 (7/98).

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 10.

f. Emission Limitation:

Emissions of carbon monoxide shall not exceed 3.59 tons/yr.

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable hourly emission rate (0.82 lb/hr) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

g. Emission Limitation:

Particulate emissions shall not exceed 0.15 lb/hr.

Applicable Compliance Method:

Compliance may be demonstrated using the following equation:

Emissions Unit ID: B005

$$E = 2.0 \text{ lbs}/10^3 \text{ gal} * 73 \text{ gals/hr} = 0.15 \text{ lb/hr}$$

where

2.0 lbs/10³ gal is the particulate emission factor for combustion of distillate oil from AP-42 chapter 1.3, table 1.3-1, (9/98).

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 5.

h. Emission Limitation:

Particulate emissions shall not exceed 0.66 ton/yr.

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable hourly emission rate (0.15 lb/hr) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

i. Emission Limitation:

Emissions of volatile organic compounds shall not exceed 0.16 lb/hr.

Applicable Compliance Method:

Compliance may be demonstrated based on the following calculation:

$$E = 73 \text{ gals/hr} * 7.48 \text{ lbs/gal} * (1-0.9997) = 0.16 \text{ lb/hr}$$

where

7.48 is the density of the styrene co-product, 73 gals/hr is the maximum styrene co-product usage rate, and 99.97 is the assumed efficiency of the boiler when combusting the styrene co-product.

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60,

Appendix A, Methods 1 through 4 and 18, 25, or 25A, as appropriate.

j. Emission Limitation:

Emissions of volatile organic compounds shall not exceed 0.70 ton/yr.

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable hourly emission rate (0.16 lb/hr) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

k. Emission Limitation:

There shall be no visible particulate emissions from the stack serving this emissions unit.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Method 22.

F. Miscellaneous Requirements

1. Modeling to demonstrate compliance with the Ohio EPA's "Air Toxic Policy" was not necessary because the emissions unit's maximum annual emissions for each toxic compound will be less than 1.0 ton. OAC Chapter 3745-31 requires permittees to apply for and obtain a new or modified permit to install prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would cause the emissions of any pollutant that has a listed TLV to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new permit to install.

NOVA

PTI A

Issued: 3/28/2006

Emissions Unit ID: B006

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**A. Applicable Emission Limitations and/or Control Requirements**

- 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 emission 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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	
B006 - 9.8 mmBtu/hr natural gas, distillate oil (number 1 and number 2 fuel oil, kerosene and diesel fuel, but excluding number 4 fuel oil), and styrene co-product- fired boiler.	OAC rule 3745-31-05(A)(3)	OAC rule 3745-17-10(C)(1)
		OAC rule 3745-18-06(D)
		OAC rule 3745-21-08(B)
		OAC rule 3745-23-06(B)
	OAC rule 3745-17-07(A)	

NOVA**PTI A****Issued: 3/28/2006**Emissions Unit ID: **B006**

<u>Applicable Emission Limitations/Control Measures</u>	
Emissions of sulfur dioxide shall not exceed 0.50 lb/hr and 2.19 tons/yr.	limitation specified by this rule is less stringent than the particulate emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
Emissions of nitrogen oxides shall not exceed 1.46 lbs/hr and 6.39 tons/yr.	The emissions unit is exempt from the sulfur dioxide emission limitation specified by this rule pursuant to OAC rule 3745-18-06(B).
Emissions of carbon monoxide shall not exceed 0.82 lb/hr and 3.59 tons/yr.	None, see A.2.a below.
Emissions of volatile organic compounds shall not exceed 0.15 lb/hr and 0.66 ton/yr.	None, see A.2.a below.
Particulate emissions shall not exceed 0.15 lb/hr and 0.66 ton/yr.	
There shall be no visible particulate emissions from the stack serving this emissions unit.	
See Section A.2.a below.	
The visible particulate emission limitation specified by this rule is less stringent than the visible particulate emission limitation established pursuant to OAC rule 3745-31-05(A)(3).	
The particulate emission	

2. Additional Terms and Conditions

- 2.a** The permittee has satisfied the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in this Permit to Install.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

The permittee has satisfied the "latest available control techniques and operating practices required pursuant to OAC rule 3745-23-06(B) by committing to comply with the best available technology requirements established pursuant to OAC rule 3745-31-05(A)(3) in this Permit to Install.

On February 15, 2005, OAC rule 3745-23-06 was rescinded; therefore, paragraph (B) is no longer part of the State regulations. However, that rule revision has not yet been submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the U.S. EPA approves the revision, the requirement to satisfy the "latest available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

- 2.b** The emissions of hazardous air pollutants (HAPs) from all emissions units at this facility, as identified in Section 112(b) of Title III of the Clean Air Act, shall not exceed 9.9 tons per year for any individual HAP, and 24.9 tons per year for any combination of HAPs, as rolling 12-month summations. The HAPs emitted during the first full calendar month after permit issuance shall be added to the emission total from the previous 11 months of operation to begin the rolling, 12-month summation.
- 2.c** The hourly and annual emission limitations specified in A.1 above are based upon the emissions unit's potentials to emit, therefore, no additional monitoring or record keeping requirements are necessary to ensure compliance with these emission limitations.

B. Operational Restrictions

1. The permittee shall burn only natural gas, distillate oil and/or styrene co-product in this emissions unit.

C. Monitoring and/or Record keeping Requirements

1. The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit. 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 color of the emissions;
 - b. the total duration of any visible emission incident; and
 - c. any corrective actions taken to eliminate the visible emissions.
2. For each day during which the permittee burns a fuel other than natural gas, distillate oil and/or styrene co-product, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.
3. The permittee shall maintain the following monthly information for all of the emissions units at the facility:
 - a. the total emissions of each individual HAP, in tons;
 - b. the aggregate sum of all HAPs combined, in tons;
 - c. the rolling, 12-month summation of each individual HAP, in tons; and
 - d. the rolling, 12-month summation of all HAPs combined, in tons.

D. Reporting Requirements

1. 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 Director (the Ohio EPA, Southeast District Office) by January 31 and July 31 of each year and shall cover the previous 6-month period.

2. The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas, distillate oil and/or styrene co-product was burned in this emissions unit. Each report shall be submitted to the Director (the Ohio EPA, Southeast District Office) within 30 days after the deviation occurs.
3. The permittee shall submit quarterly deviation (excursion) reports that document all exceedances of the rolling, 12-month summations for the HAP emission limitations specified in A.2.b above. The reports shall be submitted to the Director (the Ohio EPA, Southeast District Office) by January 31, April 30, July 31, and October 31 of each year; and each report shall cover the previous calendar quarter.

E. Testing Requirements

1. Compliance with the emission limitations in Section A.1. of these terms and conditions shall be determined in accordance with the following methods:
 - a. Emission Limitation:

Emissions of sulfur dioxide shall not exceed 0.50 lb/hr

Applicable Compliance Method:

Compliance may be demonstrated using the following equation:

$$E = 7.1 \text{ lbs}/10^3 \text{ gal} * 70 \text{ gals/hr} = 0.50 \text{ lb/hr}$$

where

7.1 lbs/10³ gal is the emission factor for combustion of distillate oil from AP-42 chapter 1.3, table 1.3-1 (9/98).

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 6.

b. Emission Limitation:

Emissions of sulfur dioxide shall not exceed 2.19 tons/yr.

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable hourly emission rate (0.50 lb/hr) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

c. Emission Limitation:

Emissions of nitrogen oxides shall not exceed 1.46 lbs/hr.

Applicable Compliance Method:

Compliance may be demonstrated using the following equation:

$$E = 20 \text{ lbs}/10^3 \text{ gal} * 73 \text{ gals/hr} = 1.46 \text{ lbs/hr}$$

where

20 lbs/10³ gal is the emission factor for combustion of distillate oil from AP-42 chapter 1.3, table 1.3-1, (9/98).

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 7.

d. Emission Limitation:

Emissions of nitrogen oxides shall not exceed 6.39 tons/yr.

Applicable Compliance Method:

Compliance may be determined by the following equation:

This emission limitation was developed by multiplying the allowable hourly emission rate (1.46 lbs/hr) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

e. Emission Limitation:

Emissions of carbon monoxide shall not exceed 0.82 lb/hr.

Applicable Compliance Method:

Compliance may be demonstrated using the following equation:

$$E = 84 \text{ lbs}/10^6 \text{ ft}^3 * 9,800 \text{ ft}^3/\text{hr} = 0.82 \text{ lb/hr}$$

where

84 lbs/10⁶ ft³ is the emission factor for combustion of natural gas from AP-42 chapter 1.4, table 1.4-1 (7/98).

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 10.

f. Emission Limitation:

Emissions of carbon monoxide shall not exceed 3.59 tons/yr.

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable hourly emission rate (0.82 lb/hr) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

g. Emission Limitation:

Particulate emissions shall not exceed 0.15 lb/hr.

Applicable Compliance Method:

Compliance may be demonstrated using the following equation:

Emissions Unit ID: B006

$$E = 2.0 \text{ lbs}/10^3 \text{ gal} * 73 \text{ gals/hr} = 0.15 \text{ lb/hr}$$

where

2.0 lbs/10³ gal is the particulate emission factor for combustion of distillate oil from AP-42 chapter 1.3, table 1.3-1, (9/98).

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 5.

h. Emission Limitation:

Particulate emissions shall not exceed 0.66 ton/yr.

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable hourly emission rate (0.15 lb/hr) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

i. Emission Limitation:

Emissions of volatile organic compounds shall not exceed 0.16 lb/hr.

Applicable Compliance Method:

Compliance may be demonstrated based on the following calculation:

$$E = 73 \text{ gals/hr} * 7.48 \text{ lbs/gal} * (1-0.9997) = 0.16 \text{ lb/hr}$$

where

7.48 is the density of the styrene co-product, 73 gals/hr is the maximum styrene co-product usage rate, and 99.97 is the assumed efficiency of the boiler when combusting the styrene co-product.

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60,

Appendix A, Methods 1 through 4 and 18, 25, or 25A, as appropriate.

j. Emission Limitation:

Emissions of volatile organic compounds shall not exceed 0.70 ton/yr.

Applicable Compliance Method:

This emission limitation was developed by multiplying the allowable hourly emission rate (0.16 lb/hr) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the hourly limitation, compliance shall also be shown with the annual emission limitation.

k. Emission Limitation:

There shall be no visible particulate emissions from the stack serving this emissions unit.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Method 22.

F. Miscellaneous Requirements

1. Modeling to demonstrate compliance with the Ohio EPA's "Air Toxic Policy" was not necessary because the emissions unit's maximum annual emissions for each toxic compound will be less than 1.0 ton. OAC Chapter 3745-31 requires permittees to apply for and obtain a new or modified permit to install prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials, or use of new materials, that would cause the emissions of any pollutant that has a listed TLV to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new permit to install.