



State of Ohio Environmental Protection Agency

**RE: FINAL PERMIT TO INSTALL
HAMILTON 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: 14-05845

Fac ID: 1431140861

DATE: 6/29/2006

Ford Motor Co - Sharonville
William Pietrzyk
3000 Sharon Rd
Cincinnati, OH 45241-1924

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

HCDES



**Permit To Install
Terms and Conditions**

**Issue Date: 6/29/2006
Effective Date: 6/29/2006**

FINAL PERMIT TO INSTALL 14-05845

Application Number: 14-05845
Facility ID: 1431140861
Permit Fee: **\$1400**
Name of Facility: Ford Motor Co - Sharonville
Person to Contact: William Pietrzyk
Address: 3000 Sharon Rd
Cincinnati, OH 45241-1924

Location of proposed air contaminant source(s) [emissions unit(s)]:
**3000 Sharon Rd
Cincinnati, Ohio**

Description of proposed emissions unit(s):
Chapter 31 modification to PTI 14-05645.

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

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Part I - GENERAL TERMS AND CONDITIONS

A. State and Federally Enforceable Permit-To-Install General Terms and Conditions

1. Monitoring and Related Recordkeeping and Reporting Requirements

- a. Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall maintain records that include the following, where applicable, for any required monitoring under this permit:
 - i. The date, place (as defined in the permit), and time of sampling or measurements.
 - ii. The date(s) analyses were performed.
 - iii. The company or entity that performed the analyses.
 - iv. The analytical techniques or methods used.
 - v. The results of such analyses.
 - vi. The operating conditions existing at the time of sampling or measurement.
- b. 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.
- c. Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall submit required reports in the following manner:
 - i. Reports of any required monitoring and/or recordkeeping of federally enforceable information shall be submitted to the appropriate Ohio EPA District Office or local air agency.
 - ii. Quarterly written reports of (i) any deviations from federally enforceable emission limitations, operational restrictions, and control device operating parameter limitations, excluding deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06, that have been detected by the testing, monitoring and recordkeeping requirements specified in this permit, (ii) the probable cause of such deviations, and (iii) any corrective actions or preventive measures taken, shall be made to the appropriate Ohio EPA District Office or local air agency. The written

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reports shall be submitted (i.e., postmarked) quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. See B.9 below if no deviations occurred during the quarter.

- iii. Written reports, which identify any deviations from the federally enforceable monitoring, recordkeeping, and reporting requirements contained in this permit shall be submitted (i.e., postmarked) to the appropriate Ohio EPA District Office or local air agency every six months, by January 31 and July 31 of each year for the previous six calendar months. If no deviations occurred during a six-month period, the permittee shall submit a semi-annual report, which states that no deviations occurred during that period.
 - iv. If this permit is for an emissions unit located at a Title V facility, then each written report shall be signed by a responsible official certifying that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.
- d. The permittee shall report actual emissions pursuant to OAC Chapter 3745-78 for the purpose of collecting Air Pollution Control Fees.

2. 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, i.e., upset, 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. (The definition of an upset condition shall be the same as that used in OAC rule 3745-15-06(B)(1) for a malfunction.) The verbal and written reports shall be submitted pursuant to 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 emission unit(s) that is (are) served by such control system(s).

3. Risk Management Plans

If the permittee is required to develop and register a risk management plan pursuant to section 112(r) of the Clean Air Act, as amended, 42 U.S.C. 7401 et seq. ("Act"), the permittee shall comply with the requirement to register such a plan.

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4. Title IV Provisions

If the permittee is subject to the requirements of 40 CFR Part 72 concerning acid rain, the permittee shall ensure that any affected emissions unit complies with those requirements. Emissions exceeding any allowances that are lawfully held under Title IV of the Act, or any regulations adopted thereunder, are prohibited.

5. Severability Clause

A determination that any term or condition of this permit is invalid shall not invalidate the force or effect of any other term or condition thereof, except to the extent that any other term or condition depends in whole or in part for its operation or implementation upon the term or condition declared invalid.

6. General Requirements

- a. The permittee must comply with all terms and conditions of this permit. Any noncompliance with the federally enforceable terms and conditions of this permit constitutes a violation of the Act, and is grounds for enforcement action or for permit revocation, revocation and re-issuance, or modification
- b. It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the federally enforceable terms and conditions of this permit.
- c. This permit may be modified, revoked, or revoked and reissued, for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or revocation, or of a notification of planned changes or anticipated noncompliance does not stay any term and condition of this permit.
- d. This permit does not convey any property rights of any sort, or any exclusive privilege.
- e. 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 or revoking this permit or to determine compliance with this permit. Upon request, the permittee shall also furnish to the Director or an authorized representative of the Director, copies of records required to be kept by this permit. For information claimed to be confidential in the submittal to the Director, if the Administrator of the U.S. EPA requests such information, the permittee may furnish such records directly to the Administrator along with a claim of confidentiality.

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7. 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 any permit-to-install. The permittee shall pay all applicable permit-to-operate fees within thirty days of the issuance of the invoice.

8. Federal and State Enforceability

Only those terms and conditions designated in this permit as federally enforceable, that are required under the Act, or any its applicable requirements, including relevant provisions designed to limit the potential to emit of a source, are enforceable by the Administrator of the U.S. EPA and the State and by citizens (to the extent allowed by section 304 of the Act) under the Act. All other terms and conditions of this permit shall not be federally enforceable and shall be enforceable under State law only.

9. Compliance Requirements

- a. Any document (including reports) required to be submitted and required by a federally applicable requirement in this permit shall include a certification by a responsible official that, based on information and belief formed after reasonable inquiry, the statements in the document are true, accurate, and complete.
- b. Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Director of the Ohio EPA or an authorized representative of the Director to:
 - i. At reasonable times, enter upon the permittee's premises where a source is located or the emissions-related activity is conducted, or where records must be kept under the conditions of this permit.
 - ii. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit, subject to the protection from disclosure to the public of confidential information consistent with ORC section 3704.08.
 - iii. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.

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- iv. As authorized by the Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit and applicable requirements.
- c. The permittee shall submit progress reports to the appropriate Ohio EPA District Office or local air agency concerning any schedule of compliance for meeting an applicable requirement. Progress reports shall be submitted semiannually, or more frequently if specified in the applicable requirement or by the Director of the Ohio EPA. Progress reports shall contain the following:
 - i. Dates for achieving the activities, milestones, or compliance required in any schedule of compliance, and dates when such activities, milestones, or compliance were achieved.
 - ii. An explanation of why any dates in any schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.

10. Permit-To-Operate Application

- a. If the permittee is required to apply for a Title V permit pursuant to OAC Chapter 3745-77, the permittee shall submit a complete Title V permit application or a complete Title V permit modification application within twelve (12) months after commencing operation of the emissions units covered by this permit. However, if the proposed new or modified source(s) would be prohibited by the terms and conditions of an existing Title V permit, a Title V permit modification must be obtained before the operation of such new or modified source(s) pursuant to OAC rule 3745-77-04(D) and OAC rule 3745-77-08(C)(3)(d).
- b. If the permittee is required to apply for permit(s) pursuant to OAC Chapter 3745-35, the source(s) identified in this permit is (are) permitted to operate for a period of up to one year from the date the source(s) commenced operation. 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 source(s) covered by this permit.

11. 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.

12. Air Pollution Nuisance

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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.

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13. Permit-To-Install

A permit-to-install must be obtained pursuant to OAC Chapter 3745-31 prior to "installation" of "any air contaminant source" as defined in OAC rule 3745-31-01, or "modification", as defined in OAC rule 3745-31-01, of any emissions unit included in this permit.

B. State Only Enforceable Permit-To-Install General Terms and Conditions

1. Compliance Requirements

The emissions unit(s) identified in this Permit 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 of state-only enforceable 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 state-only required 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 (i.e., postmarked) quarterly, 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. 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

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of any transfer of this permit.

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4. Authorization To Install or Modify

If applicable, authorization to install or modify any new or existing emissions unit included in this permit shall terminate within eighteen months of the effective date of the permit 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.

5. Construction of New Sources(s)

This permit does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. This permit does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the application and terms and conditions of this permit. 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 this permit does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Issuance of this permit 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.

6. 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.

7. Applicability

This Permit to Install is applicable only to the emissions unit(s) identified in the Permit To Install. Separate application must be made to the Director for the installation or modification of any other emissions unit(s).

8. Construction Compliance Certification

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If applicable, the applicant shall provide Ohio EPA with a written certification (see enclosed form if applicable) 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.

9. Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations (See Section A of This Permit)

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., postmarked), by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters.

C. 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>
NOx	2.52
CO	0.42
VOC	12.53

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PTI Application: 11 05815
Issue

Facility ID: 1431140861

Emissions Unit ID: P176

Part II - FACILITY SPECIFIC TERMS AND CONDITIONS

A. State and Federally Enforceable Permit To Install Facility Specific Terms and Conditions

None

B. State Only Enforceable Permit To Install Facility Specific Terms and Conditions

None

Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. State and Federally Enforceable Section

I. 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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P176 - 6R Carburization Furnace 01 with Thermal Oxidizer	OAC rule 3745-31-05(A)(3)	The emissions limitations below are for the carburization furnace and thermal oxidizer combined: Nitrogen Oxides (NOx) emissions shall not exceed 0.15 lb/hr and 0.36 TPY. Carbon Monoxide (CO) emissions shall not exceed 0.026 lb/hr and 0.06 TPY. Volatile Organic Compound (VOC) emissions shall not exceed 0.84 lb/hr and 1.79 TPY. The requirements of this rule also include compliance with the requirements of OAC rule 3745-21-08(B) and 3745-23-06(B).
	OAC rule 3745-21-08(B)	See terms and conditions A.I.2.c, A.II.1 and A.II.2.
	OAC rule 3745-23-06(B)	See term and condition A.I.2.d
		See term and condition A.I.2.e

2. Additional Terms and Conditions

- 2.a Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by the use

of a thermal oxidizer to control the VOC emissions and the mass emissions limitations.

- 2.b** The hourly emissions limitations outlined in term and condition A.1 are based upon the emissions unit's Potential to Emit (PTE). Therefore, no hourly records are required to demonstrate compliance with these limits.
- 2.c** The permittee shall maintain a control device (thermal oxidizer) capable of achieving an overall control efficiency of at least 96% for VOC emissions.
- 2.d** 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.

- 2.e** The permittee shall satisfy the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06(B) by complying 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 and therefore no longer a 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 3745-23-06, the requirement to satisfy "latest available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

II. Operational Restrictions

1. The average combustion temperature within the thermal oxidizer, for any 3-hour block of time when the emissions unit is in operation, shall be maintained above a minimum temperature of 1,517°F.

2. The maximum annual propane use for this emissions unit shall not exceed 127,020 pounds.

III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal oxidizer when the emissions is in 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:

- a. All 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer, when the emissions unit was in operation was less than 1,517°F; and
 - b. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.
2. The permittee shall maintain monthly records of the propane usage rate, in pounds and 1000 gallons, and summarize these records at the end of each calendar year.

IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which identify all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer does not comply with the temperature limitation specified in term and condition A.II.1.
2. The permittee shall submit an annual deviation report by January 31 to Hamilton County Environmental Services that identifies any exceedance of the annual propane usage rate for the previous calendar year.
3. The deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the General Terms and Conditions of this permit.

V. Testing Requirements

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1. Compliance with the emissions limitations specified in this permit shall be determined in accordance with the following methods:

- a. Emissions Limitations:

0.84 lb/hr VOC

1.79 TPY VOC

Applicable Compliance Method for emissions due to carburizing furnace:

The hourly emissions shall be determined by multiplying the emission factor of 0.0281 lb VOC/lb propane, based on emissions test data submitted by Ford Motor Company on June 5, 2006, as supplemental information to PTI application 14-05845 received on May 12, 2006, by the maximum hourly rate of 30 lbs propane/hr.

Applicable Compliance Method for emissions due to gas-fired thermal oxidizer:

The hourly emissions shall be determined by multiplying the emissions factor, 5.5 lbs/mmscf by the maximum natural gas use, in scf/hr. The emissions factors were provided in USEPA AP-42, Fifth Edition, Section 1.4 Natural Gas Combustion, Table 1.4-2 (revised 7/1998).

The annual VOC emissions rate was determined by the following equation: (0.0281 lb VOC/lb propane) x (127,020 lbs propane/year) x 1 ton/2000 lbs + (0.006 TPY from the gas-fired oxidizer).

b. Emissions Limitations:

0.15 lb/hr NOx
0.36 TPY NOx

Applicable Compliance Method for NOx emissions due to carburizing furnace:

The hourly emissions shall be determined by multiplying the emission factor of 19 lbs/1000 gallons propane found in USEPA AP-42, Fifth Edition, Section 1.5 Liquefied Petroleum Gas Combustion, Table 1.5-1 (10/1996) by the maximum hourly rate of 7.2 gallons propane/hr and then adding the emissions from gas combustion in the oxidizer as provided below.

Applicable Compliance Method for NOx emissions due to gas-fired oxidizer:

The emissions rate of 0.016 lb NOx/hr is based on Eclipse Combustion Emission Data Request letter dated 10/26/04 submitted by the permittee in the application for PTI 14-05645 submitted November 3, 2004.

The annual NOx emission rate was determined by the following equation: (hourly NOx emission rate from the furnace of 0.137 lb/hr) x (1 hr/30 lbs propane) x (127,020 lbs propane/yr) x (1 ton/2000 lbs) + (140 lbs NOx/yr from the oxidizer) x (1 ton/2000 lbs).

c. Emissions Limitations:

0.026 lb/hr CO
0.06 TPY CO

Applicable Compliance Method for CO emissions due to carburizing furnace:

The hourly emissions shall be determined by multiplying the emission factor of 3.2 lbs/1000 gallons propane found in USEPA AP-42, Fifth Edition, Section 1.5 Liquified Petroleum Gas Combustion, Table 1.5-1 (10/1996) by the maximum hourly rate of 7.2 gallons propane/hr and then adding the emissions from gas combustion in the oxidizer as provided below.

Applicable Compliance Method for CO emissions due to gas-fired oxidizer:

The emissions limitation of 0.003 lb CO/hr is based on Eclipse Combustion Emission Data Request letter dated 10/26/04 submitted by the permittee in the application for PTI 14-05645 submitted November 3, 2004.

The annual CO emission rate was determined by the following equation: (hourly CO emission rate from the furnace of 0.023 lb/hr) x (1 hr/30 lbs propane) x (127,020 lbs propane/yr) x (1 ton/2000 lbs) + (26 lbs CO/yr from the oxidizer) x (1 ton/2000 lbs).

2. The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:
 - a. The emission testing shall be conducted within 3 months after startup of this emissions unit.
 - b. The emission testing shall be conducted to demonstrate compliance with the overall control efficiency limitation for VOC and the VOC emission limitation.
 - c. The test method(s) which must be employed to demonstrate compliance with the overall control efficiency limitations for VOC and the VOC emission limitation are specified below. Alternative U.S. EPA approved test methods may be used with prior approval from the Hamilton County Department of Environmental Services.

Methods 25 and 25A, 40 CFR Part 60, Appendix A

- d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Hamilton County Department of Environmental Services.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Hamilton County Department of Environmental Services. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and

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date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Hamilton County Department of Environmental Services refusal to accept the results of the emission test(s).

Personnel from the Hamilton County Department of Environmental Services shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Hamilton County

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Department of Environmental Services within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Hamilton County Department of Environmental Services.

3. Compliance with the operational restriction in term and condition A.II.1 shall be determined by the record keeping requirements specified in term and condition A.III.1.
4. Compliance with the operational restriction in term and condition A.II.2 shall be determined by the record keeping requirements specified in term and condition A.III.2.

VI. Miscellaneous Requirements

1. The terms and conditions in this permit to install shall supersede the terms and conditions in Permit to Install 14-05645, as issued on January 11, 2005.

Ford |

PTI A

Issued: 6/29/2006

Emissions Unit ID: P176

B. State Only Enforceable Section**I. 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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P176 - 6R Carburization Furnace 01 with Thermal Oxidizer	OAC rule 3745-31-05	None

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

1. The permit to install for these emissions units P176 through P182 was evaluated based on the actual 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 Toxic Policy") was applied to this emissions unit for each toxic pollutant, using data from the permit to install application, and modeling was performed for the toxic pollutant(s) emitted at over a ton per year using the SCREEN 3.0 model or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the use of the SCREEN 3.0 (or other approved) model, was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC), calculated as required in Engineering Guide #70. The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Ethylene

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Emissions Unit ID: P176

TLV (mg/m3): 229
Maximum Hourly Emission Rate (lbs/hr): 2.23
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 162
MAGLC (ug/m3): 5452

Pollutant: 1,3-Butadiene
TLV (mg/m3): 4.4
Maximum Hourly Emission Rate (lbs/hr): 0.098
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 7
MAGLC (ug/m3): 105

Pollutant: Benzene
TLV (mg/m3): 1.6
Maximum Hourly Emission Rate (lbs/hr): 0.434
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 32
MAGLC (ug/m3): 38

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 Toxic 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 Toxic Policy" will still be satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

- a. changes in the composition of the materials used or the use of new materials, that would result in the emission of a compound or chemical with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled, as documented in the most current version of the American Conference of Governmental Industrial Hygienists' (ACGIH's) handbook entitled "TLVs and BEIs" ("Threshold Limit Values for Chemical Substances and Physical Agents, Biological Exposure Indices");
- 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 Toxic 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 solely due to the emissions of any type of toxic air contaminant not previously emitted, and a modification of the existing permit to install will not be

required, even if the toxic air contaminant emissions are greater than the de minimis level in OAC rule 3745-15-05. If the change(s) meet(s) the definition of a "modification" under other provisions of the rule, then the permittee shall obtain a final permit to install prior to the change.

The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy":

- a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);
- b. documentation of the evaluation and determination that the changed emissions unit still satisfies the "Air Toxic 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 Toxic Policy" for the change.

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

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Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. State and Federally Enforceable Section

I. 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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P177 - 6F Carburization Furnace 02 with Thermal Oxidizer	OAC rule 3745-31-05(A)(3)	The emissions limitations below are for the carburization furnace and thermal oxidizer combined: Nitrogen Oxides (NOx) emissions shall not exceed 0.15 lb/hr and 0.36 TPY. Carbon Monoxide (CO) emissions shall not exceed 0.026 lb/hr and 0.06 TPY. Volatile Organic Compound (VOC) emissions shall not exceed 0.84 lb/hr and 1.79 TPY. The requirements of this rule also include compliance with the requirements of OAC rule 3745-21-08(B) and 3745-23-06(B).
	OAC rule 3745-21-08(B)	See terms and conditions A.I.2.c, A.II.1 and A.II.2.
	OAC rule 3745-23-06(B)	See term and condition A.I.2.d

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See term and condition
A.1.2.e

2. Additional Terms and Conditions

- 2.a** Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by the use of a thermal oxidizer to control the VOC emissions and the mass emissions limitations.
- 2.b** The hourly emissions limitations outlined in term and condition A.1 are based upon the emissions unit's Potential to Emit (PTE). Therefore, no hourly records are required to demonstrate compliance with these limits.
- 2.c** The permittee shall maintain a control device (thermal oxidizer) capable of achieving an overall control efficiency of at least 96% for VOC emissions.
- 2.d** 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.

- 2.e** The permittee shall satisfy the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06(B) by complying 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 and therefore no longer a 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 3745-23-06, the requirement to satisfy "latest available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

II. Operational Restrictions

- 1. The average combustion temperature within the thermal oxidizer, for any 3-hour block

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of time when the emissions unit is in operation, shall be maintained above a minimum temperature of 1,517°F.

2. The maximum annual propane use for this emissions unit shall not exceed 127,020 pounds.

III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal oxidizer when the emissions is in 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:

- a. All 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer, when the emissions unit was in operation was less than 1,517°F; and
 - b. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.
2. The permittee shall maintain monthly records of the propane usage rate, in pounds and 1000 gallons, and summarize these records at the end of each calendar year.

IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which identify all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer does not comply with the temperature limitation specified in term and condition A.II.1.
2. The permittee shall submit an annual deviation report by January 31 to Hamilton County Environmental Services that identifies any exceedance of the annual propane usage rate for the previous calendar year.
3. The deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the General Terms and Conditions of this permit.

Emissions Unit ID: P177

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Facility ID: 1431140861**V. Testing Requirements**

1. Compliance with the emissions limitations specified in this permit shall be determined in accordance with the following methods:

- a. Emissions Limitations:

0.84 lb/hr VOC

1.79 TPY VOC

Applicable Compliance Method for emissions due to carburizing furnace:

The hourly emissions shall be determined by multiplying the emission factor of 0.0281 lb VOC/lb propane, based on emissions test data submitted by Ford Motor Company on June 5, 2006, as supplemental information to PTI application 14-05845 received on May 12, 2006, by the maximum hourly rate of 30 lbs propane/hr.

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Applicable Compliance Method for emissions due to gas-fired thermal oxidizer:

The hourly emissions shall be determined by multiplying the emissions factor, 5.5 lbs/mmscf by the maximum natural gas use, in scf/hr. The emissions factors were provided in USEPA AP-42, Fifth Edition, Section 1.4 Natural Gas Combustion, Table 1.4-2 (revised 7/1998).

The annual VOC emissions rate was determined by the following equation: (0.0281 lb VOC/lb propane) x (127,020 lbs propane/year) x 1 ton/2000 lbs + (0.006 TPY from the gas-fired oxidizer).

b. Emissions Limitations:

0.15 lb/hr NOx
0.36 TPY NOx

Applicable Compliance Method for NOx emissions due to carburizing furnace:

The hourly emissions shall be determined by multiplying the emission factor of 19 lbs/1000 gallons propane found in USEPA AP-42, Fifth Edition, Section 1.5 Liquefied Petroleum Gas Combustion, Table 1.5-1 (10/1996) by the maximum hourly rate of 7.2 gallons propane/hr and then adding the emissions from gas combustion in the oxidizer as provided below.

Applicable Compliance Method for NOx emissions due to gas-fired oxidizer:

The emissions rate of 0.016 lb NOx/hr is based on Eclipse Combustion Emission Data Request letter dated 10/26/04 submitted by the permittee in the application for PTI 14-05645 submitted November 3, 2004.

The annual NOx emission rate was determined by the following equation: (hourly NOx emission rate from the furnace of 0.137 lb/hr) x (1 hr/30 lbs propane) x (127,020 lbs propane/yr) x (1 ton/2000 lbs) + (140 lbs NOx/yr from the oxidizer) x (1 ton/2000 lbs).

c. Emissions Limitations:

0.026 lb/hr CO
0.06 TPY CO

Applicable Compliance Method for CO emissions due to carburizing furnace:

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The hourly emissions shall be determined by multiplying the emission factor of 3.2 lbs/1000 gallons propane found in USEPA AP-42, Fifth Edition, Section 1.5 Liquefied Petroleum Gas Combustion, Table 1.5-1 (10/1996) by the maximum hourly rate of 7.2 gallons propane/hr and then adding the emissions from gas combustion in the oxidizer as provided below.

Applicable Compliance Method for CO emissions due to gas-fired oxidizer:

The emissions limitation of 0.003 lb CO/hr is based on Eclipse Combustion Emission Data Request letter dated 10/26/04 submitted by the permittee in the application for PTI 14-05645 submitted November 3, 2004.

The annual CO emission rate was determined by the following equation: (hourly CO emission rate from the furnace of 0.023 lb/hr) x (1 hr/30 lbs propane) x (127,020 lbs propane/yr) x (1 ton/2000 lbs) + (26 lbs CO/yr from the oxidizer) x (1 ton/2000 lbs).

2. The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:
 - a. The emission testing shall be conducted within 3 months after startup of this emissions unit.
 - b. The emission testing shall be conducted to demonstrate compliance with the overall control efficiency limitation for VOC and the VOC emission limitation.
 - c. The test method(s) which must be employed to demonstrate compliance with the overall control efficiency limitations for VOC and the VOC emission limitation are specified below. Alternative U.S. EPA approved test methods may be used with prior approval from the Hamilton County Department of Environmental Services.

Methods 25 and 25A, 40 CFR Part 60, Appendix A

- d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Hamilton County Department of Environmental Services.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Hamilton County Department of Environmental Services. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and

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date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Hamilton County Department of Environmental Services refusal to accept the results of the emission test(s).

Personnel from the Hamilton County Department of Environmental Services shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Hamilton County

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Department of Environmental Services within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Hamilton County Department of Environmental Services.

3. Compliance with the operational restriction in term and condition A.II.1 shall be determined by the record keeping requirements specified in term and condition A.III.1.
4. Compliance with the operational restriction in term and condition A.II.2 shall be determined by the record keeping requirements specified in term and condition A.III.2.

VI. Miscellaneous Requirements

1. The terms and conditions in this permit to install shall supersede the terms and conditions in Permit to Install 14-05645, as issued on January 11, 2005.

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B. State Only Enforceable Section

I. Applicable Emissions 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 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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P177 - 6F Carburization Furnace 02 with Thermal Oxidizer	OAC rule 3745-31-05	None

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

- The permit to install for these emissions units P176 through P182 was evaluated based on the actual 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 Toxic Policy") was applied to this emissions unit for each toxic pollutant, using data from the permit to install application, and modeling was performed for the toxic pollutant(s) emitted at over a ton per year using the SCREEN 3.0 model or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the use of the SCREEN 3.0 (or other approved) model, was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC), calculated as required in Engineering Guide #70. The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Ethylene

Emissions Unit ID: P177

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TLV (mg/m3): 229
Maximum Hourly Emission Rate (lbs/hr): 2.23
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 162
MAGLC (ug/m3): 5452

Pollutant: 1,3-Butadiene
TLV (mg/m3): 4.4
Maximum Hourly Emission Rate (lbs/hr): 0.098
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 7
MAGLC (ug/m3): 105

Pollutant: Benzene
TLV (mg/m3): 1.6
Maximum Hourly Emission Rate (lbs/hr): 0.434
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 32
MAGLC (ug/m3): 38

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 Toxic 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 Toxic Policy" will still be satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

- a. changes in the composition of the materials used or the use of new materials, that would result in the emission of a compound or chemical with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled, as documented in the most current version of the American Conference of Governmental Industrial Hygienists' (ACGIH's) handbook entitled "TLVs and BEIs" ("Threshold Limit Values for Chemical Substances and Physical Agents, Biological Exposure Indices");
- 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 Toxic 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 solely due to the emissions of any type of toxic air contaminant

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not previously emitted, and a modification of the existing permit to install will not be required, even if the toxic air contaminant emissions are greater than the de minimis level in OAC rule 3745-15-05. If the change(s) meet(s) the definition of a "modification" under other provisions of the rule, then the permittee shall obtain a final permit to install prior to the change.

The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy":

- a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);
- b. documentation of the evaluation and determination that the changed emissions unit still satisfies the "Air Toxic 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 Toxic Policy" for the change.

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. State and Federally Enforceable Section

I. 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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P178 - 6F Carburization Furnace 03 with Thermal Oxidizer	OAC rule 3745-31-05(A)(3)	The emissions limitations below are for the carburization furnace and thermal oxidizer combined: Nitrogen Oxides (NOx) emissions shall not exceed 0.15 lb/hr and 0.36 TPY. Carbon Monoxide (CO) emissions shall not exceed 0.026 lb/hr and 0.06 TPY. Volatile Organic Compound (VOC) emissions shall not exceed 0.84 lb/hr and 1.79 TPY. The requirements of this rule also include compliance with the requirements of OAC rule 3745-21-08(B) and 3745-23-06(B).
	OAC rule 3745-21-08(B)	See terms and conditions A.I.2.c, A.II.1 and A.II.2.
	OAC rule 3745-23-06(B)	See term and condition A.I.2.d

See term and condition
A.1.2.e

2. Additional Terms and Conditions

- 2.a** Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by the use of a thermal oxidizer to control the VOC emissions and the mass emissions limitations.
- 2.b** The hourly emissions limitations outlined in term and condition A.1 are based upon the emissions unit's Potential to Emit (PTE). Therefore, no hourly records are required to demonstrate compliance with these limits.
- 2.c** The permittee shall maintain a control device (thermal oxidizer) capable of achieving an overall control efficiency of at least 96% for VOC emissions.
- 2.d** 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.

- 2.e** The permittee shall satisfy the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06(B) by complying 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 and therefore no longer a 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 3745-23-06, the requirement to satisfy "latest available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

II. Operational Restrictions

- 1.** The average combustion temperature within the thermal oxidizer, for any 3-hour block of time when the emissions unit is in operation, shall be maintained above a minimum

temperature of 1,517°F.

2. The maximum annual propane use for this emissions unit shall not exceed 127,020 pounds.

III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal oxidizer when the emissions is in 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:

- a. All 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer, when the emissions unit was in operation was less than 1,517°F; and
 - b. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.
2. The permittee shall maintain monthly records of the propane usage rate, in pounds and 1000 gallons, and summarize these records at the end of each calendar year.

IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which identify all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer does not comply with the temperature limitation specified in term and condition A.II.1.
2. The permittee shall submit an annual deviation report by January 31 to Hamilton County Environmental Services that identifies any exceedance of the annual propane usage rate for the previous calendar year.
3. The deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the General Terms and Conditions of this permit.

V. Testing Requirements

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Facility ID: 1431140861

Emissions Unit ID: P178

1. Compliance with the emissions limitations specified in this permit shall be determined in accordance with the following methods:

- a. Emissions Limitations:

0.84 lb/hr VOC

1.79 TPY VOC

Applicable Compliance Method for emissions due to carburizing furnace:

The hourly emissions shall be determined by multiplying the emission factor of 0.0281 lb VOC/lb propane, based on emissions test data submitted by Ford Motor Company on June 5, 2006, as supplemental information to PTI application 14-05845 received on May 12, 2006, by the maximum hourly rate of 30 lbs propane/hr.

Applicable Compliance Method for emissions due to gas-fired thermal oxidizer:

The hourly emissions shall be determined by multiplying the emissions factor, 5.5 lbs/mmscf by the maximum natural gas use, in scf/hr. The emissions factors were provided in USEPA AP-42, Fifth Edition, Section 1.4 Natural Gas Combustion, Table 1.4-2 (revised 7/1998).

The annual VOC emissions rate was determined by the following equation: (0.0281 lb VOC/lb propane) x (127,020 lbs propane/year) x 1 ton/2000 lbs + (0.006 TPY from the gas-fired oxidizer).

b. Emissions Limitations:

0.15 lb/hr NOx
0.36 TPY NOx

Applicable Compliance Method for NOx emissions due to carburizing furnace:

The hourly emissions shall be determined by multiplying the emission factor of 19 lbs/1000 gallons propane found in USEPA AP-42, Fifth Edition, Section 1.5 Liquefied Petroleum Gas Combustion, Table 1.5-1 (10/1996) by the maximum hourly rate of 7.2 gallons propane/hr and then adding the emissions from gas combustion in the oxidizer as provided below.

Applicable Compliance Method for NOx emissions due to gas-fired oxidizer:

The emissions rate of 0.016 lb NOx/hr is based on Eclipse Combustion Emission Data Request letter dated 10/26/04 submitted by the permittee in the application for PTI 14-05645 submitted November 3, 2004.

The annual NOx emission rate was determined by the following equation: (hourly NOx emission rate from the furnace of 0.137 lb/hr) x (1 hr/30 lbs propane) x (127,020 lbs propane/yr) x (1 ton/2000 lbs) + (140 lbs NOx/yr from the oxidizer) x (1 ton/2000 lbs).

c. Emissions Limitations:

0.026 lb/hr CO
0.06 TPY CO

Applicable Compliance Method for CO emissions due to carburizing furnace:

The hourly emissions shall be determined by multiplying the emission factor of 3.2 lbs/1000 gallons propane found in USEPA AP-42, Fifth Edition, Section 1.5 Liquified Petroleum Gas Combustion, Table 1.5-1 (10/1996) by the maximum hourly rate of 7.2 gallons propane/hr and then adding the emissions from gas combustion in the oxidizer as provided below.

Applicable Compliance Method for CO emissions due to gas-fired oxidizer:

The emissions limitation of 0.003 lb CO/hr is based on Eclipse Combustion Emission Data Request letter dated 10/26/04 submitted by the permittee in the application for PTI 14-05645 submitted November 3, 2004.

The annual CO emission rate was determined by the following equation: (hourly CO emission rate from the furnace of 0.023 lb/hr) x (1 hr/30 lbs propane) x (127,020 lbs propane/yr) x (1 ton/2000 lbs) + (26 lbs CO/yr from the oxidizer) x (1 ton/2000 lbs).

2. The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:
 - a. The emission testing shall be conducted within 3 months after startup of this emissions unit.
 - b. The emission testing shall be conducted to demonstrate compliance with the overall control efficiency limitation for VOC and the VOC emission limitation.
 - c. The test method(s) which must be employed to demonstrate compliance with the overall control efficiency limitations for VOC and the VOC emission limitation are specified below. Alternative U.S. EPA approved test methods may be used with prior approval from the Hamilton County Department of Environmental Services.

Methods 25 and 25A, 40 CFR Part 60, Appendix A

- d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Hamilton County Department of Environmental Services.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Hamilton County Department of Environmental Services. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and

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date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Hamilton County Department of Environmental Services refusal to accept the results of the emission test(s).

Personnel from the Hamilton County Department of Environmental Services shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Hamilton County Department of Environmental Services within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Hamilton County Department of Environmental Services.

3. Compliance with the operational restriction in term and condition A.II.1 shall be determined by the record keeping requirements specified in term and condition A.III.1.
4. Compliance with the operational restriction in term and condition A.II.2 shall be determined by the record keeping requirements specified in term and condition A.III.2.

VI. Miscellaneous Requirements

1. The terms and conditions in this permit to install shall supersede the terms and conditions in Permit to Install 14-05645, as issued on January 11, 2005.

Ford |

PTI A

Issued: 6/29/2006

Emissions Unit ID: P178

B. State Only Enforceable Section

I. 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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P178 - 6F Carburization Furnace 03 with Thermal Oxidizer	OAC rule 3745-31-05	None

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

1. The permit to install for these emissions units P176 through P182 was evaluated based on the actual 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 Toxic Policy") was applied to this emissions unit for each toxic pollutant, using data from the permit to install application, and modeling was performed for the toxic pollutant(s) emitted at over a ton per year using the SCREEN 3.0 model or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the use of the SCREEN 3.0 (or other approved) model, was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC), calculated as required in Engineering Guide #70. The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Ethylene

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TLV (mg/m3): 229
Maximum Hourly Emission Rate (lbs/hr): 2.23
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 162
MAGLC (ug/m3): 5452

Pollutant: 1,3-Butadiene
TLV (mg/m3): 4.4
Maximum Hourly Emission Rate (lbs/hr): 0.098
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 7
MAGLC (ug/m3): 105

Pollutant: Benzene
TLV (mg/m3): 1.6
Maximum Hourly Emission Rate (lbs/hr): 0.434
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 32
MAGLC (ug/m3): 38

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 Toxic 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 Toxic Policy" will still be satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

- a. changes in the composition of the materials used or the use of new materials, that would result in the emission of a compound or chemical with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled, as documented in the most current version of the American Conference of Governmental Industrial Hygienists' (ACGIH's) handbook entitled "TLVs and BEIs" ("Threshold Limit Values for Chemical Substances and Physical Agents, Biological Exposure Indices");
- 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 Toxic 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 solely due to the emissions of any type of toxic air contaminant not previously emitted, and a modification of the existing permit to install will not be

required, even if the toxic air contaminant emissions are greater than the de minimis level in OAC rule 3745-15-05. If the change(s) meet(s) the definition of a "modification" under other provisions of the rule, then the permittee shall obtain a final permit to install prior to the change.

The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy":

- a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);
- b. documentation of the evaluation and determination that the changed emissions unit still satisfies the "Air Toxic 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 Toxic Policy" for the change.

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

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Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. State and Federally Enforceable Section

I. 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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P179 - 6F Carburization Furnace 04 with Thermal Oxidizer	OAC rule 3745-31-05(A)(3)	The emissions limitations below are for the carburization furnace and thermal oxidizer combined: Nitrogen Oxides (NOx) emissions shall not exceed 0.15 lb/hr and 0.36 TPY. Carbon Monoxide (CO) emissions shall not exceed 0.026 lb/hr and 0.06 TPY. Volatile Organic Compound (VOC) emissions shall not exceed 0.84 lb/hr and 1.79 TPY. The requirements of this rule also include compliance with the requirements of OAC rule 3745-21-08(B) and 3745-23-06(B).
	OAC rule 3745-21-08(B)	See terms and conditions A.I.2.c, A.II.1 and A.II.2.
	OAC rule 3745-23-06(B)	See term and condition A.I.2.d

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See term and condition
A.1.2.e

2. Additional Terms and Conditions

- 2.a** Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by the use of a thermal oxidizer to control the VOC emissions and the mass emissions limitations.
- 2.b** The hourly emissions limitations outlined in term and condition A.1 are based upon the emissions unit's Potential to Emit (PTE). Therefore, no hourly records are required to demonstrate compliance with these limits.
- 2.c** The permittee shall maintain a control device (thermal oxidizer) capable of achieving an overall control efficiency of at least 96% for VOC emissions.
- 2.d** 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.

- 2.e** The permittee shall satisfy the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06(B) by complying 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 and therefore no longer a 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 3745-23-06, the requirement to satisfy "latest available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

II. Operational Restrictions

- 1. The average combustion temperature within the thermal oxidizer, for any 3-hour block

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of time when the emissions unit is in operation, shall be maintained above a minimum temperature of 1,517°F.

2. The maximum annual propane use for this emissions unit shall not exceed 127,020 pounds.

III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal oxidizer when the emissions is in 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:

- a. All 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer, when the emissions unit was in operation was less than 1,517°F; and
 - b. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.
2. The permittee shall maintain monthly records of the propane usage rate, in pounds and 1000 gallons, and summarize these records at the end of each calendar year.

IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which identify all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer does not comply with the temperature limitation specified in term and condition A.II.1.
2. The permittee shall submit an annual deviation report by January 31 to Hamilton County Environmental Services that identifies any exceedance of the annual propane usage rate for the previous calendar year.
3. The deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the General Terms and Conditions of this permit.

Emissions Unit ID: P179

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Facility ID: 1431140861**V. Testing Requirements**

1. Compliance with the emissions limitations specified in this permit shall be determined in accordance with the following methods:

- a. Emissions Limitations:

0.84 lb/hr VOC

1.79 TPY VOC

Applicable Compliance Method for emissions due to carburizing furnace:

The hourly emissions shall be determined by multiplying the emission factor of 0.0281 lb VOC/lb propane, based on emissions test data submitted by Ford Motor Company on June 5, 2006, as supplemental information to PTI application 14-05845 received on May 12, 2006, by the maximum hourly rate of 30 lbs propane/hr.

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Applicable Compliance Method for emissions due to gas-fired thermal oxidizer:

The hourly emissions shall be determined by multiplying the emissions factor, 5.5 lbs/mmscf by the maximum natural gas use, in scf/hr. The emissions factors were provided in USEPA AP-42, Fifth Edition, Section 1.4 Natural Gas Combustion, Table 1.4-2 (revised 7/1998).

The annual VOC emissions rate was determined by the following equation: (0.0281 lb VOC/lb propane) x (127,020 lbs propane/year) x 1 ton/2000 lbs + (0.006 TPY from the gas-fired oxidizer).

b. Emissions Limitations:

0.15 lb/hr NOx
0.36 TPY NOx

Applicable Compliance Method for NOx emissions due to carburizing furnace:

The hourly emissions shall be determined by multiplying the emission factor of 19 lbs/1000 gallons propane found in USEPA AP-42, Fifth Edition, Section 1.5 Liquefied Petroleum Gas Combustion, Table 1.5-1 (10/1996) by the maximum hourly rate of 7.2 gallons propane/hr and then adding the emissions from gas combustion in the oxidizer as provided below.

Applicable Compliance Method for NOx emissions due to gas-fired oxidizer:

The emissions rate of 0.016 lb NOx/hr is based on Eclipse Combustion Emission Data Request letter dated 10/26/04 submitted by the permittee in the application for PTI 14-05645 submitted November 3, 2004.

The annual NOx emission rate was determined by the following equation: (hourly NOx emission rate from the furnace of 0.137 lb/hr) x (1 hr/30 lbs propane) x (127,020 lbs propane/yr) x (1 ton/2000 lbs) + (140 lbs NOx/yr from the oxidizer) x (1 ton/2000 lbs).

c. Emissions Limitations:

0.026 lb/hr CO
0.06 TPY CO

Applicable Compliance Method for CO emissions due to carburizing furnace:

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The hourly emissions shall be determined by multiplying the emission factor of 3.2 lbs/1000 gallons propane found in USEPA AP-42, Fifth Edition, Section 1.5 Liquefied Petroleum Gas Combustion, Table 1.5-1 (10/1996) by the maximum hourly rate of 7.2 gallons propane/hr and then adding the emissions from gas combustion in the oxidizer as provided below.

Applicable Compliance Method for CO emissions due to gas-fired oxidizer:

The emissions limitation of 0.003 lb CO/hr is based on Eclipse Combustion Emission Data Request letter dated 10/26/04 submitted by the permittee in the application for PTI 14-05645 submitted November 3, 2004.

The annual CO emission rate was determined by the following equation: (hourly CO emission rate from the furnace of 0.023 lb/hr) x (1 hr/30 lbs propane) x (127,020 lbs propane/yr) x (1 ton/2000 lbs) + (26 lbs CO/yr from the oxidizer) x (1 ton/2000 lbs).

2. The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:
 - a. The emission testing shall be conducted within 3 months after startup of this emissions unit.
 - b. The emission testing shall be conducted to demonstrate compliance with the overall control efficiency limitation for VOC and the VOC emission limitation.
 - c. The test method(s) which must be employed to demonstrate compliance with the overall control efficiency limitations for VOC and the VOC emission limitation are specified below. Alternative U.S. EPA approved test methods may be used with prior approval from the Hamilton County Department of Environmental Services.

Methods 25 and 25A, 40 CFR Part 60, Appendix A

- d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Hamilton County Department of Environmental Services.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Hamilton County Department of Environmental Services. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and

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date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Hamilton County Department of Environmental Services refusal to accept the results of the emission test(s).

Personnel from the Hamilton County Department of Environmental Services shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Hamilton County Department of Environmental Services within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Hamilton County Department of Environmental Services.

3. Compliance with the operational restriction in term and condition A.II.1 shall be determined by the record keeping requirements specified in term and condition A.III.1.
4. Compliance with the operational restriction in term and condition A.II.2 shall be determined by the record keeping requirements specified in term and condition A.III.2.

VI. Miscellaneous Requirements

1. The terms and conditions in this permit to install shall supersede the terms and conditions in Permit to Install 14-05645, as issued on January 11, 2005.

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B. State Only Enforceable Section

I. 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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P179 - 6F Carburization Furnace 04 with Thermal Oxidizer	OAC rule 3745-31-05	None

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

1. The permit to install for these emissions units P176 through P182 was evaluated based on the actual 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 Toxic Policy") was applied to this emissions unit for each toxic pollutant, using data from the permit to install application, and modeling was performed for the toxic pollutant(s) emitted at over a ton per year using the SCREEN 3.0 model or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the use of the SCREEN 3.0 (or other approved) model, was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC), calculated as required in Engineering Guide #70. The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Ethylene
 TLV (mg/m3): 229

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Maximum Hourly Emission Rate (lbs/hr): 2.23
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 162
MAGLC (ug/m3): 5452

Pollutant: 1,3-Butadiene
TLV (mg/m3): 4.4
Maximum Hourly Emission Rate (lbs/hr): 0.098
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 7
MAGLC (ug/m3): 105

Pollutant: Benzene
TLV (mg/m3): 1.6
Maximum Hourly Emission Rate (lbs/hr): 0.434
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 32
MAGLC (ug/m3): 38

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 Toxic 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 Toxic Policy" will still be satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

- a. changes in the composition of the materials used or the use of new materials, that would result in the emission of a compound or chemical with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled, as documented in the most current version of the American Conference of Governmental Industrial Hygienists' (ACGIH's) handbook entitled "TLVs and BEIs" ("Threshold Limit Values for Chemical Substances and Physical Agents, Biological Exposure Indices");
- 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 Toxic 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 solely due to the emissions of any type of toxic air contaminant not previously emitted, and a modification of the existing permit to install will not be

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required, even if the toxic air contaminant emissions are greater than the de minimis level in OAC rule 3745-15-05. If the change(s) meet(s) the definition of a "modification" under other provisions of the rule, then the permittee shall obtain a final permit to install prior to the change.

The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy":

- a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);
- b. documentation of the evaluation and determination that the changed emissions unit still satisfies the "Air Toxic 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 Toxic Policy" for the change.

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Ford |

PTI A

Issued: 6/29/2006

Emissions Unit ID: P180

Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. State and Federally Enforceable Section

I. 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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P180 - 6F Carburization Furnace 05 with Thermal Oxidizer	OAC rule 3745-31-05(A)(3)	The emissions limitations below are for the carburization furnace and thermal oxidizer combined: Nitrogen Oxides (NOx) emissions shall not exceed 0.15 lb/hr and 0.36 TPY. Carbon Monoxide (CO) emissions shall not exceed 0.026 lb/hr and 0.06 TPY. Volatile Organic Compound (VOC) emissions shall not exceed 0.84 lb/hr and 1.79 TPY. The requirements of this rule also include compliance with the requirements of OAC rule 3745-21-08(B) and 3745-23-06(B).
	OAC rule 3745-21-08(B)	See terms and conditions A.I.2.c, A.II.1 and A.II.2.
	OAC rule 3745-23-06(B)	See term and condition A.I.2.d

See term and condition
A.1.2.e

2. Additional Terms and Conditions

- 2.a** Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by the use of a thermal oxidizer to control the VOC emissions and the mass emissions limitations.
- 2.b** The hourly emissions limitations outlined in term and condition A.1 are based upon the emissions unit's Potential to Emit (PTE). Therefore, no hourly records are required to demonstrate compliance with these limits.
- 2.c** The permittee shall maintain a control device (thermal oxidizer) capable of achieving an overall control efficiency of at least 96% for VOC emissions.
- 2.d** 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.

- 2.e** The permittee shall satisfy the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06(B) by complying 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 and therefore no longer a 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 3745-23-06, the requirement to satisfy "latest available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

II. Operational Restrictions

- 1.** The average combustion temperature within the thermal oxidizer, for any 3-hour block of time when the emissions unit is in operation, shall be maintained above a minimum

temperature of 1,517°F.

2. The maximum annual propane use for this emissions unit shall not exceed 127,020 pounds.

III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal oxidizer when the emissions is in 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:

- a. All 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer, when the emissions unit was in operation was less than 1,517°F; and
 - b. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.
2. The permittee shall maintain monthly records of the propane usage rate, in pounds and 1000 gallons, and summarize these records at the end of each calendar year.

IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which identify all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer does not comply with the temperature limitation specified in term and condition A.II.1.
2. The permittee shall submit an annual deviation report by January 31 to Hamilton County Environmental Services that identifies any exceedance of the annual propane usage rate for the previous calendar year.
3. The deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the General Terms and Conditions of this permit.

V. Testing Requirements

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1. Compliance with the emissions limitations specified in this permit shall be determined in accordance with the following methods:

- a. Emissions Limitations:

0.84 lb/hr VOC

1.79 TPY VOC

Applicable Compliance Method for emissions due to carburizing furnace:

The hourly emissions shall be determined by multiplying the emission factor of 0.0281 lb VOC/lb propane, based on emissions test data submitted by Ford Motor Company on June 5, 2006, as supplemental information to PTI application 14-05845 received on May 12, 2006, by the maximum hourly rate of 30 lbs propane/hr.

Applicable Compliance Method for emissions due to gas-fired thermal oxidizer:

The hourly emissions shall be determined by multiplying the emissions factor, 5.5 lbs/mmscf by the maximum natural gas use, in scf/hr. The emissions factors were provided in USEPA AP-42, Fifth Edition, Section 1.4 Natural Gas Combustion, Table 1.4-2 (revised 7/1998).

The annual VOC emissions rate was determined by the following equation: (0.0281 lb VOC/lb propane) x (127,020 lbs propane/year) x 1 ton/2000 lbs + (0.006 TPY from the gas-fired oxidizer).

b. Emissions Limitations:

0.15 lb/hr NO_x
0.36 TPY NO_x

Applicable Compliance Method for NO_x emissions due to carburizing furnace:

The hourly emissions shall be determined by multiplying the emission factor of 19 lbs/1000 gallons propane found in USEPA AP-42, Fifth Edition, Section 1.5 Liquefied Petroleum Gas Combustion, Table 1.5-1 (10/1996) by the maximum hourly rate of 7.2 gallons propane/hr and then adding the emissions from gas combustion in the oxidizer as provided below.

Applicable Compliance Method for NO_x emissions due to gas-fired oxidizer:

The emissions rate of 0.016 lb NO_x/hr is based on Eclipse Combustion Emission Data Request letter dated 10/26/04 submitted by the permittee in the application for PTI 14-05645 submitted November 3, 2004.

The annual NO_x emission rate was determined by the following equation: (hourly NO_x emission rate from the furnace of 0.137 lb/hr) x (1 hr/30 lbs propane) x (127,020 lbs propane/yr) x (1 ton/2000 lbs) + (140 lbs NO_x/yr from the oxidizer) x (1 ton/2000 lbs).

c. Emissions Limitations:

0.026 lb/hr CO
0.06 TPY CO

Applicable Compliance Method for CO emissions due to carburizing furnace:

The hourly emissions shall be determined by multiplying the emission factor of 3.2 lbs/1000 gallons propane found in USEPA AP-42, Fifth Edition, Section 1.5 Liquified Petroleum Gas Combustion, Table 1.5-1 (10/1996) by the maximum hourly rate of 7.2 gallons propane/hr and then adding the emissions from gas combustion in the oxidizer as provided below.

Applicable Compliance Method for CO emissions due to gas-fired oxidizer:

The emissions limitation of 0.003 lb CO/hr is based on Eclipse Combustion Emission Data Request letter dated 10/26/04 submitted by the permittee in the application for PTI 14-05645 submitted November 3, 2004.

The annual CO emission rate was determined by the following equation: (hourly CO emission rate from the furnace of 0.023 lb/hr) x (1 hr/30 lbs propane) x (127,020 lbs propane/yr) x (1 ton/2000 lbs) + (26 lbs CO/yr from the oxidizer) x (1 ton/2000 lbs).

2. The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:
 - a. The emission testing shall be conducted within 3 months after startup of this emissions unit.
 - b. The emission testing shall be conducted to demonstrate compliance with the overall control efficiency limitation for VOC and the VOC emission limitation.
 - c. The test method(s) which must be employed to demonstrate compliance with the overall control efficiency limitations for VOC and the VOC emission limitation are specified below. Alternative U.S. EPA approved test methods may be used with prior approval from the Hamilton County Department of Environmental Services.

Methods 25 and 25A, 40 CFR Part 60, Appendix A

- d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Hamilton County Department of Environmental Services.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Hamilton County Department of Environmental Services. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and

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date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Hamilton County Department of Environmental Services refusal to accept the results of the emission test(s).

Personnel from the Hamilton County Department of Environmental Services shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Hamilton County Department of Environmental Services within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Hamilton County Department of Environmental Services.

3. Compliance with the operational restriction in term and condition A.II.1 shall be determined by the record keeping requirements specified in term and condition A.III.1.
4. Compliance with the operational restriction in term and condition A.II.2 shall be determined by the record keeping requirements specified in term and condition A.III.2.

VI. Miscellaneous Requirements

1. The terms and conditions in this permit to install shall supersede the terms and conditions in Permit to Install 14-05645, as issued on January 11, 2005.

Ford |

PTI A

Issued: 6/29/2006

Emissions Unit ID: P180

B. State Only Enforceable Section**I. 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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P180 - 6F Carburization Furnace 05 with Thermal Oxidizer	OAC rule 3745-31-05	None

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

1. The permit to install for these emissions units P176 through P182 was evaluated based on the actual 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 Toxic Policy") was applied to this emissions unit for each toxic pollutant, using data from the permit to install application, and modeling was performed for the toxic pollutant(s) emitted at over a ton per year using the SCREEN 3.0 model or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the use of the SCREEN 3.0 (or other approved) model, was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC), calculated as required in Engineering Guide #70. The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Ethylene

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TLV (mg/m3): 229
Maximum Hourly Emission Rate (lbs/hr): 2.23
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 162
MAGLC (ug/m3): 5452

Pollutant: 1,3-Butadiene
TLV (mg/m3): 4.4
Maximum Hourly Emission Rate (lbs/hr): 0.098
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 7
MAGLC (ug/m3): 105

Pollutant: Benzene
TLV (mg/m3): 1.6
Maximum Hourly Emission Rate (lbs/hr): 0.434
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 32
MAGLC (ug/m3): 38

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 Toxic 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 Toxic Policy" will still be satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

- a. changes in the composition of the materials used or the use of new materials, that would result in the emission of a compound or chemical with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled, as documented in the most current version of the American Conference of Governmental Industrial Hygienists' (ACGIH's) handbook entitled "TLVs and BEIs" ("Threshold Limit Values for Chemical Substances and Physical Agents, Biological Exposure Indices");
- 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 Toxic 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 solely due to the emissions of any type of toxic air contaminant not previously emitted, and a modification of the existing permit to install will not be

required, even if the toxic air contaminant emissions are greater than the de minimis level in OAC rule 3745-15-05. If the change(s) meet(s) the definition of a "modification" under other provisions of the rule, then the permittee shall obtain a final permit to install prior to the change.

The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy":

- a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);
- b. documentation of the evaluation and determination that the changed emissions unit still satisfies the "Air Toxic 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 Toxic Policy" for the change.

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

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Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. State and Federally Enforceable Section

I. 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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P181 - 6F Carburization Furnace 06 with Thermal Oxidizer	OAC rule 3745-31-05(A)(3)	The emissions limitations below are for the carburization furnace and thermal oxidizer combined: Nitrogen Oxides (NOx) emissions shall not exceed 0.15 lb/hr and 0.36 TPY. Carbon Monoxide (CO) emissions shall not exceed 0.026 lb/hr and 0.06 TPY. Volatile Organic Compound (VOC) emissions shall not exceed 0.84 lb/hr and 1.79 TPY. The requirements of this rule also include compliance with the requirements of OAC rule 3745-21-08(B) and 3745-23-06(B).
	OAC rule 3745-21-08(B)	See terms and conditions A.I.2.c, A.II.1 and A.II.2.
	OAC rule 3745-23-06(B)	See term and condition A.I.2.d

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See term and condition
A.1.2.e

2. Additional Terms and Conditions

- 2.a** Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by the use of a thermal oxidizer to control the VOC emissions and the mass emissions limitations.
- 2.b** The hourly emissions limitations outlined in term and condition A.1 are based upon the emissions unit's Potential to Emit (PTE). Therefore, no hourly records are required to demonstrate compliance with these limits.
- 2.c** The permittee shall maintain a control device (thermal oxidizer) capable of achieving an overall control efficiency of at least 96% for VOC emissions.
- 2.d** 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.

- 2.e** The permittee shall satisfy the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06(B) by complying 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 and therefore no longer a 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 3745-23-06, the requirement to satisfy "latest available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

II. Operational Restrictions

- 1. The average combustion temperature within the thermal oxidizer, for any 3-hour block

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of time when the emissions unit is in operation, shall be maintained above a minimum temperature of 1,517°F.

2. The maximum annual propane use for this emissions unit shall not exceed 127,020 pounds.

III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal oxidizer when the emissions is in 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:

- a. All 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer, when the emissions unit was in operation was less than 1,517°F; and
 - b. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.
2. The permittee shall maintain monthly records of the propane usage rate, in pounds and 1000 gallons, and summarize these records at the end of each calendar year.

IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which identify all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer does not comply with the temperature limitation specified in term and condition A.II.1.
2. The permittee shall submit an annual deviation report by January 31 to Hamilton County Environmental Services that identifies any exceedance of the annual propane usage rate for the previous calendar year.
3. The deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the General Terms and Conditions of this permit.

Emissions Unit ID: P181

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Facility ID: 1431140861**V. Testing Requirements**

1. Compliance with the emissions limitations specified in this permit shall be determined in accordance with the following methods:

- a. Emissions Limitations:

0.84 lb/hr VOC

1.79 TPY VOC

Applicable Compliance Method for emissions due to carburizing furnace:

The hourly emissions shall be determined by multiplying the emission factor of 0.0281 lb VOC/lb propane, based on emissions test data submitted by Ford Motor Company on June 5, 2006, as supplemental information to PTI application 14-05845 received on May 12, 2006, by the maximum hourly rate of 30 lbs propane/hr.

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Applicable Compliance Method for emissions due to gas-fired thermal oxidizer:

The hourly emissions shall be determined by multiplying the emissions factor, 5.5 lbs/mmscf by the maximum natural gas use, in scf/hr. The emissions factors were provided in USEPA AP-42, Fifth Edition, Section 1.4 Natural Gas Combustion, Table 1.4-2 (revised 7/1998).

The annual VOC emissions rate was determined by the following equation: (0.0281 lb VOC/lb propane) x (127,020 lbs propane/year) x 1 ton/2000 lbs + (0.006 TPY from the gas-fired oxidizer).

b. Emissions Limitations:

0.15 lb/hr NOx
0.36 TPY NOx

Applicable Compliance Method for NOx emissions due to carburizing furnace:

The hourly emissions shall be determined by multiplying the emission factor of 19 lbs/1000 gallons propane found in USEPA AP-42, Fifth Edition, Section 1.5 Liquefied Petroleum Gas Combustion, Table 1.5-1 (10/1996) by the maximum hourly rate of 7.2 gallons propane/hr and then adding the emissions from gas combustion in the oxidizer as provided below.

Applicable Compliance Method for NOx emissions due to gas-fired oxidizer:

The emissions rate of 0.016 lb NOx/hr is based on Eclipse Combustion Emission Data Request letter dated 10/26/04 submitted by the permittee in the application for PTI 14-05645 submitted November 3, 2004.

The annual NOx emission rate was determined by the following equation: (hourly NOx emission rate from the furnace of 0.137 lb/hr) x (1 hr/30 lbs propane) x (127,020 lbs propane/yr) x (1 ton/2000 lbs) + (140 lbs NOx/yr from the oxidizer) x (1 ton/2000 lbs).

c. Emissions Limitations:

0.026 lb/hr CO
0.06 TPY CO

Applicable Compliance Method for CO emissions due to carburizing furnace:

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The hourly emissions shall be determined by multiplying the emission factor of 3.2 lbs/1000 gallons propane found in USEPA AP-42, Fifth Edition, Section 1.5 Liquefied Petroleum Gas Combustion, Table 1.5-1 (10/1996) by the maximum hourly rate of 7.2 gallons propane/hr and then adding the emissions from gas combustion in the oxidizer as provided below.

Applicable Compliance Method for CO emissions due to gas-fired oxidizer:

The emissions limitation of 0.003 lb CO/hr is based on Eclipse Combustion Emission Data Request letter dated 10/26/04 submitted by the permittee in the application for PTI 14-05645 submitted November 3, 2004.

The annual CO emission rate was determined by the following equation: (hourly CO emission rate from the furnace of 0.023 lb/hr) x (1 hr/30 lbs propane) x (127,020 lbs propane/yr) x (1 ton/2000 lbs) + (26 lbs CO/yr from the oxidizer) x (1 ton/2000 lbs).

2. The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:
 - a. The emission testing shall be conducted within 3 months after startup of this emissions unit.
 - b. The emission testing shall be conducted to demonstrate compliance with the overall control efficiency limitation for VOC and the VOC emission limitation.
 - c. The test method(s) which must be employed to demonstrate compliance with the overall control efficiency limitations for VOC and the VOC emission limitation are specified below. Alternative U.S. EPA approved test methods may be used with prior approval from the Hamilton County Department of Environmental Services.

Methods 25 and 25A, 40 CFR Part 60, Appendix A

- d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Hamilton County Department of Environmental Services.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Hamilton County Department of Environmental Services. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and

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date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Hamilton County Department of Environmental Services refusal to accept the results of the emission test(s).

Personnel from the Hamilton County Department of Environmental Services shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Hamilton County Department of Environmental Services within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Hamilton County Department of Environmental Services.

3. Compliance with the operational restriction in term and condition A.II.1 shall be determined by the record keeping requirements specified in term and condition A.III.1.
4. Compliance with the operational restriction in term and condition A.II.2 shall be determined by the record keeping requirements specified in term and condition A.III.2.

VI. Miscellaneous Requirements

1. The terms and conditions in this permit to install shall supersede the terms and conditions in Permit to Install 14-05645, as issued on January 11, 2005.

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B. State Only Enforceable Section

I. 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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P181 - 6F Carburization Furnace 06 with Thermal Oxidizer	OAC rule 3745-31-05	None

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

1. The permit to install for these emissions units P176 through P182 was evaluated based on the actual 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 Toxic Policy") was applied to this emissions unit for each toxic pollutant, using data from the permit to install application, and modeling was performed for the toxic pollutant(s) emitted at over a ton per year using the SCREEN 3.0 model or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the use of the SCREEN 3.0 (or other approved) model, was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC), calculated as required in Engineering Guide #70. The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Ethylene

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TLV (mg/m³): 229
Maximum Hourly Emission Rate (lbs/hr): 2.23
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m³): 162
MAGLC (ug/m³): 5452

Pollutant: 1,3-Butadiene
TLV (mg/m³): 4.4
Maximum Hourly Emission Rate (lbs/hr): 0.098
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m³): 7
MAGLC (ug/m³): 105

Pollutant: Benzene
TLV (mg/m³): 1.6
Maximum Hourly Emission Rate (lbs/hr): 0.434
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m³): 32
MAGLC (ug/m³): 38

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 Toxic 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 Toxic Policy" will still be satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

- a. changes in the composition of the materials used or the use of new materials, that would result in the emission of a compound or chemical with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled, as documented in the most current version of the American Conference of Governmental Industrial Hygienists' (ACGIH's) handbook entitled "TLVs and BEIs" ("Threshold Limit Values for Chemical Substances and Physical Agents, Biological Exposure Indices");
- 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 Toxic 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 solely due to the emissions of any type of toxic air contaminant

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not previously emitted, and a modification of the existing permit to install will not be required, even if the toxic air contaminant emissions are greater than the de minimis level in OAC rule 3745-15-05. If the change(s) meet(s) the definition of a "modification" under other provisions of the rule, then the permittee shall obtain a final permit to install prior to the change.

The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy":

- a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);
- b. documentation of the evaluation and determination that the changed emissions unit still satisfies the "Air Toxic 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 Toxic Policy" for the change.

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

Ford |

PTI A

Issued: 6/29/2006

Emissions Unit ID: P182

Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**A. State and Federally Enforceable Section****I. Applicable Emissions 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 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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P182 - 6F Carburization Furnace 07 with Thermal Oxidizer	OAC rule 3745-31-05(A)(3)	The emissions limitations below are for the carburization furnace and thermal oxidizer combined: Nitrogen Oxides (NO _x) emissions shall not exceed 0.15 lb/hr and 0.36 TPY. Carbon Monoxide (CO) emissions shall not exceed 0.026 lb/hr and 0.06 TPY. Volatile Organic Compound (VOC) emissions shall not exceed 0.84 lb/hr and 1.79 TPY. The requirements of this rule also include compliance with the requirements of OAC rule 3745-21-08(B) and 3745-23-06(B).
	OAC rule 3745-21-08(B)	See terms and conditions A.I.2.c, A.II.1 and A.II.2.
	OAC rule 3745-23-06(B)	See term and condition A.I.2.d

See term and condition
A.1.2.e

2. Additional Terms and Conditions

- 2.a** Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by the use of a thermal oxidizer to control the VOC emissions and the mass emissions limitations.
- 2.b** The hourly emissions limitations outlined in term and condition A.1 are based upon the emissions unit's Potential to Emit (PTE). Therefore, no hourly records are required to demonstrate compliance with these limits.
- 2.c** The permittee shall maintain a control device (thermal oxidizer) capable of achieving an overall control efficiency of at least 96% for VOC emissions.
- 2.d** 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.

- 2.e** The permittee shall satisfy the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06(B) by complying 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 and therefore no longer a 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 3745-23-06, the requirement to satisfy "latest available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

II. Operational Restrictions

- 1.** The average combustion temperature within the thermal oxidizer, for any 3-hour block of time when the emissions unit is in operation, shall be maintained above a minimum

temperature of 1,517°F.

2. The maximum annual propane use for this emissions unit shall not exceed 127,020 pounds.

III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal oxidizer when the emissions is in 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:

- a. All 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer, when the emissions unit was in operation was less than 1,517°F; and
 - b. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.
2. The permittee shall maintain monthly records of the propane usage rate, in pounds and 1000 gallons, and summarize these records at the end of each calendar year.

IV. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which identify all 3-hour blocks of time during which the average combustion temperature within the thermal oxidizer does not comply with the temperature limitation specified in term and condition A.II.1.
2. The permittee shall submit an annual deviation report by January 31 to Hamilton County Environmental Services that identifies any exceedance of the annual propane usage rate for the previous calendar year.
3. The deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the General Terms and Conditions of this permit.

V. Testing Requirements

Ford Motor Co. - Sharonville
PTI Application: 14-05845
Issue

Facility ID: 1431140861

Emissions Unit ID: P182

1. Compliance with the emissions limitations specified in this permit shall be determined in accordance with the following methods:

- a. Emissions Limitations:

0.84 lb/hr VOC

1.79 TPY VOC

Applicable Compliance Method for emissions due to carburizing furnace:

The hourly emissions shall be determined by multiplying the emission factor of 0.0281 lb VOC/lb propane, based on emissions test data submitted by Ford Motor Company on June 5, 2006, as supplemental information to PTI application 14-05845 received on May 12, 2006, by the maximum hourly rate of 30 lbs propane/hr.

Applicable Compliance Method for emissions due to gas-fired thermal oxidizer:

The hourly emissions shall be determined by multiplying the emissions factor, 5.5 lbs/mmscf by the maximum natural gas use, in scf/hr. The emissions factors were provided in USEPA AP-42, Fifth Edition, Section 1.4 Natural Gas Combustion, Table 1.4-2 (revised 7/1998).

The annual VOC emissions rate was determined by the following equation: (0.0281 lb VOC/lb propane) x (127,020 lbs propane/year) x 1 ton/2000 lbs + (0.006 TPY from the gas-fired oxidizer).

b. Emissions Limitations:

0.15 lb/hr NO_x
0.36 TPY NO_x

Applicable Compliance Method for NO_x emissions due to carburizing furnace:

The hourly emissions shall be determined by multiplying the emission factor of 19 lbs/1000 gallons propane found in USEPA AP-42, Fifth Edition, Section 1.5 Liquefied Petroleum Gas Combustion, Table 1.5-1 (10/1996) by the maximum hourly rate of 7.2 gallons propane/hr and then adding the emissions from gas combustion in the oxidizer as provided below.

Applicable Compliance Method for NO_x emissions due to gas-fired oxidizer:

The emissions rate of 0.016 lb NO_x/hr is based on Eclipse Combustion Emission Data Request letter dated 10/26/04 submitted by the permittee in the application for PTI 14-05645 submitted November 3, 2004.

The annual NO_x emission rate was determined by the following equation: (hourly NO_x emission rate from the furnace of 0.137 lb/hr) x (1 hr/30 lbs propane) x (127,020 lbs propane/yr) x (1 ton/2000 lbs) + (140 lbs NO_x/yr from the oxidizer) x (1 ton/2000 lbs).

c. Emissions Limitations:

0.026 lb/hr CO
0.06 TPY CO

Applicable Compliance Method for CO emissions due to carburizing furnace:

The hourly emissions shall be determined by multiplying the emission factor of 3.2 lbs/1000 gallons propane found in USEPA AP-42, Fifth Edition, Section 1.5 Liquified Petroleum Gas Combustion, Table 1.5-1 (10/1996) by the maximum hourly rate of 7.2 gallons propane/hr and then adding the emissions from gas combustion in the oxidizer as provided below.

Applicable Compliance Method for CO emissions due to gas-fired oxidizer:

The emissions limitation of 0.003 lb CO/hr is based on Eclipse Combustion Emission Data Request letter dated 10/26/04 submitted by the permittee in the application for PTI 14-05645 submitted November 3, 2004.

The annual CO emission rate was determined by the following equation: (hourly CO emission rate from the furnace of 0.023 lb/hr) x (1 hr/30 lbs propane) x (127,020 lbs propane/yr) x (1 ton/2000 lbs) + (26 lbs CO/yr from the oxidizer) x (1 ton/2000 lbs).

2. The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:
 - a. The emission testing shall be conducted within 3 months after startup of this emissions unit.
 - b. The emission testing shall be conducted to demonstrate compliance with the overall control efficiency limitation for VOC and the VOC emission limitation.
 - c. The test method(s) which must be employed to demonstrate compliance with the overall control efficiency limitations for VOC and the VOC emission limitation are specified below. Alternative U.S. EPA approved test methods may be used with prior approval from the Hamilton County Department of Environmental Services.

Methods 25 and 25A, 40 CFR Part 60, Appendix A

- d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Hamilton County Department of Environmental Services.

Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Hamilton County Department of Environmental Services. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and

Ford Motor Co. - Sharonville
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Issue:

Facility ID: 1431140861

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date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Hamilton County Department of Environmental Services refusal to accept the results of the emission test(s).

Personnel from the Hamilton County Department of Environmental Services shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Hamilton County Department of Environmental Services within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Hamilton County Department of Environmental Services.

3. Compliance with the operational restriction in term and condition A.II.1 shall be determined by the record keeping requirements specified in term and condition A.III.1.
4. Compliance with the operational restriction in term and condition A.II.2 shall be determined by the record keeping requirements specified in term and condition A.III.2.

VI. Miscellaneous Requirements

1. The terms and conditions in this permit to install shall supersede the terms and conditions in Permit to Install 14-05645, as issued on January 11, 2005.

Ford |

PTI A

Issued: 6/29/2006

Emissions Unit ID: P182

B. State Only Enforceable Section**I. 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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P182 - 6F Carburization Furnace 07 with Thermal Oxidizer	OAC rule 3745-31-05	None

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

1. The permit to install for these emissions units P176 through P182 was evaluated based on the actual 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 Toxic Policy") was applied to this emissions unit for each toxic pollutant, using data from the permit to install application, and modeling was performed for the toxic pollutant(s) emitted at over a ton per year using the SCREEN 3.0 model or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result(s) from the use of the SCREEN 3.0 (or other approved) model, was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC), calculated as required in Engineering Guide #70. The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Ethylene

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Issue

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Emissions Unit ID: P182

TLV (mg/m3): 229
Maximum Hourly Emission Rate (lbs/hr): 2.23
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 162
MAGLC (ug/m3): 5452

Pollutant: 1,3-Butadiene
TLV (mg/m3): 4.4
Maximum Hourly Emission Rate (lbs/hr): 0.098
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 7
MAGLC (ug/m3): 105

Pollutant: Benzene
TLV (mg/m3): 1.6
Maximum Hourly Emission Rate (lbs/hr): 0.434
Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 32
MAGLC (ug/m3): 38

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 Toxic 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 Toxic Policy" will still be satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

- a. changes in the composition of the materials used or the use of new materials, that would result in the emission of a compound or chemical with a lower Threshold Limit Value (TLV) than the lowest TLV previously modeled, as documented in the most current version of the American Conference of Governmental Industrial Hygienists' (ACGIH's) handbook entitled "TLVs and BEIs" ("Threshold Limit Values for Chemical Substances and Physical Agents, Biological Exposure Indices");
- 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 Toxic 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 solely due to the emissions of any type of toxic air contaminant not previously emitted, and a modification of the existing permit to install will not be

required, even if the toxic air contaminant emissions are greater than the de minimis level in OAC rule 3745-15-05. If the change(s) meet(s) the definition of a "modification" under other provisions of the rule, then the permittee shall obtain a final permit to install prior to the change.

The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy":

- a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);
- b. documentation of the evaluation and determination that the changed emissions unit still satisfies the "Air Toxic 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 Toxic Policy" for the change.

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None