State of Ohio Environmental Protection Agency

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Certified Mail

9/10/2008

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

DIANNA STUMP
HUMTOWN PATTERN CO
44708 COLUMBIANA-WATERFORD RD
COLUMBIANA, OH 44408

RE: FINAL AIR POLLUTION PERMIT-TO-INSTALL AND OPERATE
Facility ID: 0215000242
Permit Number: 02-22913
Permit Type: Renewal
County: Columbiana

Dear Permit Holder:

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

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

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

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

If you have any questions regarding this permit, please contact the Ohio EPA DAPC, Northeast District Office. This permit has been posted to the Division of Air Pollution Control (DAPC) Web page www.epa.state.oh.us/dapc.

Sincerely,

Michael W. Ahern

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

Cc: Ohio EPA-NEDO

State of Ohio Environmental Protection Agency
Division of Air Pollution Control

FINAL

Air Pollution Permit-to-Install and Operate
for
HUMTOWN PATTERN CO

Facility ID: 0215000242
Permit Number: 02-22913
Permit Type: Renewal
Issued: 9/10/2008
Effective: 9/10/2008
Expiration: 9/10/2013

State of Ohio Environmental Protection Agency
Division of Air Pollution Control

Air Pollution Permit-to-Install and Operate
for
HUMTOWN PATTERN CO

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Authorization

Facility ID: 0215000242
Application Number(s): A0002053
Permit Number: 02-22913
Permit Description: Modification to PTI 02-19424 to change the compliance requirements.
Permit Type: Renewal
Permit Fee: $0.00
Issue Date: 9/10/2008
Effective Date: 9/10/2008
Expiration Date: 9/10/2013
Permit Evaluation Report (PER) Annual Date: Apr 1 - Mar 31, Due May 15

This document constitutes issuance to:

HUMTOWN PATTERN CO
44708 COL-WATERFORD RD
COLUMBIANA, OH 44408

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

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

Ohio EPA DAPC, Northeast District Office
2110 East Aurora Road
Twinsburg, OH 43087
(330)425-9171

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

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Chris Korleski
Director

Authorization (continued)

Permit Number: 02-22913
Permit Description: Modification to PTI 02-19424 to change the compliance requirements.

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

Emissions Unit ID:	**P001**
Company Equipment ID:	Mold Core Station No. 1
Superseded Permit Number:	02-19424
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	**P018**
Company Equipment ID:	Mold Core Station No. 18
Superseded Permit Number:	02-19424
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	**P020**
Company Equipment ID:	Mold Core Station No. 20
Superseded Permit Number:	02-19424
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	**P021**
Company Equipment ID:	Mixer No. 2 and 3
Superseded Permit Number:	02-19424
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	**P022**
Company Equipment ID:	Mixer No. 1
Superseded Permit Number:	02-19424
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	**P023**
Company Equipment ID:	Pepset Mixer/Mold Core Station
Superseded Permit Number:	02-19424
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	**P026**
Company Equipment ID:	Mold Core Station No. 26
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable

A. Standard Terms and Conditions

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

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

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

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

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

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

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

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

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

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

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

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

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

   This permit expires on the date identified at the beginning of this permit document (see "Authorization" page above) and you must submit a renewal application to renew the permit. Ohio EPA will send a renewal notice to you approximately six months prior to the expiration date of this permit. However, it is

very important that you submit a complete renewal permit application (postmarked prior to expiration of this permit) even if you do not receive the renewal notice.

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

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

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

7. What reports must I submit under this permit?

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

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

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

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

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

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

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

If you have a reportable malfunction of any emissions unit(s) or any associated air pollution control system, you must report this to the Ohio EPA DAPC, Northeast District Office in accordance with OAC rule 3745-15-06(B). Malfunctions that must be reported are those that result in emissions that exceed permitted emission levels. It is your responsibility to evaluate control equipment breakdowns and operational upsets to determine if a reportable malfunction has occurred.

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

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

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

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

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

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

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

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

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

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

change in ownership or operator. Any transferee of this permit must assume the responsibilities of the transferor permit holder.

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

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

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

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

B. Facility-Wide Terms and Conditions

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

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

      (1) None.

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

      (1) None.

C. Emissions Unit Terms and Conditions

1. P001, Mold Core Station No. 1

Operations, Property and/or Equipment Description:

Mold Core Station No. 1

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

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

a. d)(6), d)(7), and d)(8)

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

a. b), c), d)(1), d)(2), d)(3), d(4), d)(5), e) and f)

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(D)	See b)(2)a, b)(2)b & b)(2)c. Visible particulate emissions from the scrubber stack shall not exceed a 10% opacity as a 6-minute average.
b.	OAC rule 3745-17-07(A)(1)	The visible particulate emission limitation specified by this rule is less stringent than the limitation established pursuant to OAC rule 3745-31-05(C).
c.	OAC rule 3745 -17-11(B)(1)	The particulate emission limitation specified by this rule is less stringent than the limitation established pursuant to OAC rule 3745-31-05(C).
d.	OAC rule 3745-21-07(G)(2)	Organic compound (OC) emissions shall not exceed 8 lbs per hour and 40 lbs per day. See b)(2)d & b)(2)e.

(2) Additional Terms and Conditions

a. Volatile organic compound (VOC) emissions from emissions units P001 combined with similar mold core stations receiving mixed sand from Mixer #1 (P022), shall not exceed 11.96 tons VOC, as propane, per rolling 12-months.

b. Particulate emissions (PE) from emissions unit P001 combined with similar mold core stations receiving mixed sand from mixer #1 (P022), shall not exceed 0.73 ton per rolling 12-months.

c. Naphthalene emissions from emissions unit P001 combined with similar mold core stations receiving mixed sand from mixer #1 (P022), shall not exceed 0.30 ton per rolling 12-months.

d. The OC emission limitation of 8 pounds per hour and 40 pounds per day shall cease to be effective and federally enforceable on the date the U.S. EPA approves the current OAC rule 3745-21-07(G) as a revision to the Ohio SIP for organic compounds. After the rule is added to the Ohio SIP, the emission limitations of 8 pounds per hour and 40 pounds per day shall be void.

e. A production rate of 2,461 pounds sand per hour is the best estimate for the maximum capacity for this emissions unit. This rate was derived from actual production records. At the maximum production rate of 2,461 pounds sand per hour the calculated VOC emissions from P001 are 0.71 pound per hour and 17.04 pounds per 24-hour day. Assuming all organic compounds are volatile organic compounds, compliance with the 8 lb OC/hr and 40 lbs OC/day limits is achieved.

c) Operational Restrictions

(1) The maximum sand usage for emissions unit P001 combined with all similar mold core stations receiving mixed sand from mixer #1 (P022), as measured at mixer #1 (P022), shall not exceed 41,602 tons per rolling 12-months.

(2) The building housing all the emissions units (mixers, mold core stations and pepset station) shall be maintained under negative pressure and at a minimum pressure differential that is not less than 0.01 inch of water, as to ensure that all emissions generated within the building are vented to the sulfuric acid packed bed wet scrubber whenever any of the emissions units in the building are in operation.

(3) The emissions from all mold core stations using the Phenolic Urethane Cold Box process are to be vented to a sulfuric acid packed bed wet scrubber.

(4) The sulfuric acid scrubber system shall be used while any mold core station using the Phenolic Urethane Cold Box process is in operation.

(5) The scrubber solution flow rate shall be continuously maintained at a value of not less than 150 gallons per minute at all times while any mold core station using the Phenolic Urethane Cold Box process is in operation.

(6) The fluid level in the scrubber solution holding tanks shall be maintained above 11 inches.

(7) The pH of the scrubber solution holding tanks shall be maintained at or below 4.5.

(8) An interlock system shall be employed at the loading dock doors so that the doors may not open unless a truck is parked at the opening, under normal operating conditions.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall operate and maintain a system to continuously monitor and record hourly the following information:

a. the scrubber solution flow rate, in gallons per minute;

b. the pH of the scrubber solution; and

c. the fluid level in the scrubber solution holding tanks.

(2) The permittee shall install, maintain and operate monitoring devices and a recorder which simultaneously measure and record the pressure inside and outside the building enclosure. The monitoring and recording device shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

(3) The permittee shall maintain the following daily record:

a. the difference in pressure between the building enclosure and the surrounding area; and

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

(4) The permittee shall maintain the following monthly record:

a. The amount of sand, in tons, as measured at mixer #1 (P022), that is supplied to emissions unit P001 and all other similar mold core stations using the Phenolic Urethane Cold Box process.

b. The amount of sand, in tons, as measured at mixer #1 (P022), that is supplied to emissions unit P001 and all other similar mold core stations using the Phenolic Urethane Cold Box process over the past 12 rolling months.

c. The calculated VOC emissions per rolling 12-months from emissions unit P001 combined with all other similar mold core stations using the Phenolic Urethane Cold Box process that receive mixed sand from mixer #1 (P022), using the following equation:

E = S x EF x ton/2,000 lbs x 0.5

where:

E = VOC emissions per rolling 12-months

S = Amount of sand mixed at mixer #1 (P022) during the past 12 rolling months

EF = Emission Factor is 1.15 lbs VOC/ton sand, as propane. Emission Factor derived from stack testing on September 21, 2006.

0.5 = Assumption is that 50% of VOC emissions are released from the sand/binder mixers and 50% are released at the mold core stations.

d. The types of resin used and the amount of each resin used, in tons, at mixer #1 (P022) during each month, and the summation of the amount of each resin used over the past 12 months.

e. The calculated Naphthalene emissions per rolling 12-months from emissions unit P001 combined with all other similar mold core stations using the Phenolic Urethane Cold Box process that receive mixed sand from mixer #1 (P022), using the following equation:

Naphthalene = Summation of [R x %wt x %Rel x 0.50] for each resin containing Naphthalene that was used over the past 12 rolling months.

where:

Naphthalene = Naphthalene emissions, in tons per rolling 12-months

R = Amount of resin containing Naphthalene, in tons, over the past 12 rolling months

%wt = percent of Naphthalene, by weight, in the resin

% Rel = Value representing % Naphthalene released in the Phenolic Urethane Cold Box Process, expressed as a decimal in the equation. Value taken from "Form R, Reporting of Binder Chemicals Used in Foundries, Second Edition, 1998." Value for the Phenolic Urethane Cold Box Process is 3.25% or 0.0325.

0.50 = Assumption is that 50% of Naphthalene emissions are released from the sand/binder mixers and 50% are released at the mold core stations.

f. The calculated particulate emissions per rolling 12-months from emissions unit P001 combined with all other similar mold core stations using the Phenolic

Urethane Cold Box process that receive mixed sand from mixer #1 (P022), using the following equation:

E = S x EF x ton/2,000 lbs x 0.1

where:

E = particulate emissions per rolling 12-months

S = Amount of sand mixed at mixer #1 (P022) during the past 12 rolling months

EF = Emission Factor is 0.35 lb PE/ton sand. Emission Factor is from Table 2.8-1 of Ohio EPA's RACM guideline.

0.1 = Assumption is that 10% of particulate emissions are released from the mold core stations and 90% are released at the sand/binder mixers.

(5) The permittee shall maintain the following annual records:

a. the annual operating hours of the scrubber system; and

b. the total amount of acid employed in the scrubber, in gallons.

(6) The permit to install for this emissions unit and the other emissions units in this project 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 for each pollutant emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the “worst case” pollutant:

Pollutant: Naphthalene
Maximum Hourly Emission Rate: 1.55 lbs/hr *
TLV: 52,430 ug/m^3
MAGLC = TLV/42: 1,248.3 ug/m^3
Predicted 1-Hour Maximum Ground-Level Concentration: 20.14 ug/m^3

*Emission rate is combined naphthalene emissions from P021, P022, P023 and all associated mold core stations at the time of this permit application.

(7) 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 (typically for coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value previously modeled;

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

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

If the permittee determines that the “Air 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(VV)(1)(a)(ii), and a modification of the existing permit to install will not be required. If the change(s) is (are) defined as a modification under other provisions of the modification definition (other than (VV)(1)(a)(ii)), then the permittee shall obtain a final permit to install prior to the change.

(8) 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 its evaluation and determination that the changed emissions unit still satisfies the “Air Toxic Policy”; and

d. 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.

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports that identify the following:

a. all periods of time when the sulfuric acid scrubber system was not in use while this emissions unit was in operation;

b. all periods of time during which the 1) scrubber solution flow rate is below 150 gallons per minute, 2) fluid level in the scrubber solution holding tanks is below 11 inches, and 3) scrubber solution pH is above 4.5;

c. all periods of time during which the differential pressure between the inside and outside of the building enclosure was less than 0.01 inch of water;

d. all periods of time during which the interlock system for the loading dock doors did not work, or was not in operation;

e. any month during the quarter when the amount of sand, in tons, as measured at mixer #1 (P022), that is supplied to emissions unit P001 and all other similar mold core stations using the Phenolic Urethane Cold Box process, as calculated in d)(4), exceeds 41,602 tons per rolling 12-months;

f. any month during the quarter when the VOC emissions from emissions unit P001 combined with similar mold core stations receiving mixed sand from mixer #1 (P022), as calculated in d)(4), exceeds 11.96 tons per rolling 12-months;

g. any month during the quarter when the Naphthalene emissions from emissions unit P001 combined with similar mold core stations receiving mixed sand from mixer #1 (P022), as calculated in d)(4), exceeds 0.30 ton per rolling 12-months;

h. any month during the quarter when the particulate emissions from emissions unit P001 combined with similar mold core stations receiving mixed sand from mixer #1 (P022), as calculated in d)(4), exceeds 0.73 ton per rolling 12-months; and

i. the probable cause of each deviation and the corrective actions or preventive measures that were taken to remedy the deviations.

The written reports shall be submitted (postmarked) quarterly to the Ohio EPA Northeast District Office, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters.

If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report which states that no deviations occurred during the quarter.

(2) The permittee shall submit annual reports that identify the following:

a. the annual operating hours of the scrubber system; and

b. the total amount of acid employed in the scrubber (in gallons).

The annual report shall cover each calendar year, January 1 - December 31, and shall be submitted to the Ohio EPA Northeast District Office by January 31 of each year.

(3) An annual permit evaluation report will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the annual permit evaluation report in the form and manner provide by the director by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than 12 months for each air contaminant source identified in this permit.

f) Testing Requirements

(1) <u>Emission Limitation</u>:
Visible particulate emissions from the scrubber stack shall not exceed a 10% opacity as a 6-minute average.

Applicable Compliance Method:
If required by Ohio EPA, compliance with the allowable visible particulate emission limitation shall be determined in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

(2) Emission Limitation:
VOC emissions from emissions unit P001 combined with similar mold core stations receiving mixed sand from mixer #1 (P022), shall not exceed 11.96 tons VOC, as propane, per rolling 12-months.

Applicable Compliance Method:
Compliance with the above emission limitation shall be demonstrated by the monitoring and record keeping requirements specified in d)(4).

(3) Emission Limitation:
Naphthalene emissions from emissions unit P001 combined with similar mold core stations receiving mixed sand from mixer #1 (P022), shall not exceed 0.30 ton per rolling 12-months.

Applicable Compliance Method:
Compliance with the above emission limitation shall be demonstrated by the monitoring and record keeping requirements specified in d)(4).

(4) Emission Limitation:
Particulate emissions from emissions unit P001 combined with similar mold core stations receiving mixed sand from mixer #1 (P022), shall not exceed 0.73 ton per rolling 12-months.

Applicable Compliance Method:
Compliance with the above emission limitation shall be demonstrated by the monitoring and record keeping requirements specified in d)(4).

g) Miscellaneous Requirements

(1) The terms and conditions of this permit supercede those contained in PTI #02-19424 issued on June 27, 2006 for this emissions unit.

2. P018, Mold Core Station No. 18

Operations, Property and/or Equipment Description:

Mold Core Station No. 18

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

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

b. d)(6), d)(7) and d)(8)

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

a. b), c), d)(1), d)(2), d)(3), d(4), d)(5), e) and f)

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(D)	See b)(2)a, b)(2)b & b(2)c. Visible particulate emissions from the scrubber stack shall not exceed a 10% opacity as a 6-minute average.
b.	OAC rule 3745-17-07(A)(1)	The visible particulate emission limitation specified by this rule is less stringent than the limitation established pursuant to OAC rule 3745-31-05(C).
c.	OAC rule 3745 -17-11(B)(1)	The particulate emission limitation specified by this rule is less stringent than the limitation established pursuant to OAC rule 3745-31-05(C).
d.	OAC rule 3745-21-07(G)(2)	Organic compound (OC) emissions shall not exceed 8 lbs per hour and 40 lbs per day. See b)(2)d & e.

(2) Additional Terms and Conditions

a. Volatile organic compound (VOC) emissions from emissions units P018 combined with similar mold core stations receiving mixed sand from mixers #2 & #3 (P021), shall not exceed 10.41 tons VOC, as propane, per rolling 12-months.

b. Particulate emissions (PE) from emissions unit P018 combined with similar mold core stations receiving mixed sand from mixers #2 & #3 (P021), shall not exceed 0.63 ton per rolling 12-months.

c. Naphthalene emissions from emissions unit P018 combined with similar mold core stations receiving mixed sand from mixers #2 & #3 (P021), shall not exceed 0.26 ton per rolling 12-months.

d. The OC emission limitation of 8 pounds per hour and 40 pounds per day shall cease to be effective and federally enforceable on the date the U.S. EPA approves the current OAC rule 3745-21-07(G) as a revision to the Ohio SIP for organic compounds. After the rule is added to the Ohio SIP, the emission limitations of 8 pounds per hour and 40 pounds per day shall be void.

e. A production rate of 2,756 pounds sand per hour is the best estimate for the maximum capacity for this emissions unit. This rate was derived from actual production records. At the maximum production rate of 2,756 pounds sand per hour the calculated VOC emissions from P018 are 0.79 pound per hour and 18.96 pounds per 24-hour day. Assuming all organic compounds are volatile organic compounds, compliance with the 8 lb OC/hr and 40 lbs OC/day limits is achieved.

c) Operational Restrictions

(1) The maximum sand usage for emissions unit P018 combined with all similar mold core stations receiving mixed sand from mixers #2 & #3 (P021), as measured at mixers #2 & #3 (P021), shall not exceed 36,213 tons per rolling 12-months.

(2) The building housing all the emissions units (mixers, mold core stations, and pepset station) shall be maintained under negative pressure and at a minimum pressure differential that is not less than 0.01 inch of water, as to ensure that all emissions generated within the building are vented to the sulfuric acid packed bed wet scrubber whenever any of the emissions units in the building are in operation.

(3) The emissions from all mold core stations using the Phenolic Urethane Cold Box process are to be vented to a sulfuric acid packed bed wet scrubber.

(4) The sulfuric acid scrubber system shall be used while any mold core station using the Phenolic Urethane Cold Box process is in operation.

(5) The scrubber solution flow rate shall be continuously maintained at a value of not less than 150 gallons per minute at all times while any mold core station using the Phenolic Urethane Cold Box process is in operation.

(6) The fluid level in the scrubber solution holding tanks shall be maintained above 11 inches.

(7) The pH of the scrubber solution holding tanks shall be maintained at or below 4.5.

(8) An interlock system shall be employed at the loading dock doors so that the doors may not open unless a truck is parked at the opening, under normal operating conditions.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall operate and maintain a system to continuously monitor and record hourly the following information:

a. the scrubber solution flow rate, in gallons per minute;

b. the pH of the scrubber solution; and

c. the fluid level in the scrubber solution holding tanks.

(2) The permittee shall install, maintain and operate monitoring devices and a recorder which simultaneously measure and record the pressure inside and outside the building enclosure. The monitoring and recording device shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

(3) The permittee shall maintain the following daily record:

a. the difference in pressure between the building enclosure and the surrounding area; and

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

(4) The permittee shall maintain the following monthly record:

a. The amount of sand, in tons, as measured at mixers #2 & #3 (P021), that is supplied to emissions unit P018 and all other similar mold core stations using the Phenolic Urethane Cold Box process.

b. The amount of sand, in tons, as measured at mixers #2 & #3 (P021), that is supplied to emissions unit P018 and all other similar mold core stations using the Phenolic Urethane Cold Box process over the past 12 rolling months.

c. The calculated VOC emissions per rolling 12-months from emissions unit P018 combined with all other similar mold core stations using the Phenolic Urethane Cold Box process that receive mixed sand from mixers #2 & #3 (P021), using the following equation:

$$E = S \times EF \times \text{ton}/2{,}000 \text{ lbs} \times 0.5$$

where:

E = VOC emissions per rolling 12-months

S = Amount of sand mixed at mixers #2 & #3 (P021) during the past 12 rolling months

EF = Emission Factor is 1.15 lbs VOC/ton sand, as propane. Emission Factor derived from stack testing on September 21, 2006.

0.5 = Assumption is that 50% of VOC emissions are released from the sand/binder mixers and 50% are released at the mold core stations.

d. The types of resin used and the amount of each resin used, in tons, at mixers #2 & #3 (P021) during each month, and the summation of the amount of each resin used over the past 12 months.

e. The calculated Naphthalene emissions per rolling 12-months from emissions unit P018 combined with all other similar mold core stations using the Phenolic Urethane Cold Box process that receive mixed sand from mixers #2 & #3 (P021), using the following equation:

Naphthalene = Summation of [R x %wt x %Rel x 0.50] for each resin containing Naphthalene that was used over the past 12 rolling months.

where:

Naphthalene = Naphthalene emissions, in tons per rolling 12-months

R = Amount of resin containing Naphthalene, in tons, over the past 12 rolling months

%wt = percent of Naphthalene, by weight, in the resin

% Rel = Value representing % Naphthalene released in the Phenolic Urethane Cold Box Process, expressed as a decimal in the equation. Value taken from "Form R, Reporting of Binder Chemicals Used in Foundries, Second Edition, 1998." Value for the Phenolic Urethane Cold Box Process is 3.25% or 0.0325.

0.50 = Assumption is that 50% of Naphthalene emissions are released from the sand/binder mixers and 50% are released at the mold core stations.

f. The calculated particulate emissions per rolling 12-months from emissions unit P018 combined with all other similar mold core stations using the Phenolic Urethane Cold Box process that receive mixed sand from mixers #2 & #3 (P021), using the following equation:

E = S x EF x ton/2,000 lbs x 0.1

where:

E = particulate emissions per rolling 12-months

S = Amount of sand mixed at mixers #2 & #3 (P021) during the past 12 rolling months

EF = Emission Factor is 0.35 lb PE/ton sand. Emission Factor is from Table 2.8-1 of Ohio EPA's RACM guideline.

0.1 = Assumption is that 10% of particulate emissions are released from the mold core stations and 90% are released at the sand/binder mixers.

(5) The permittee shall maintain the following annual records:

a. the annual operating hours of the scrubber system; and

b. the total amount of acid employed in the scrubber, in gallons.

(6) The permit to install for this emissions unit and the other emissions units in this project 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 for each pollutant emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the “worst case” pollutant:

Pollutant: Naphthalene

Maximum Hourly Emission Rate: 1.55 lbs/hr *

TLV: 52,430 ug/m^3

MAGLC = TLV/42: 1,248.3 ug/m^3

Predicted 1-Hour Maximum Ground-Level Concentration: 20.14 ug/m^3

* Emission rate is combined naphthalene emissions from P021, P022, P023 and all associated mold core stations at the time of this permit application.

(7) 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 (typically for coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value previously modeled;

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

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

If the permittee determines that the "Air 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(VV)(1)(a)(ii), and a modification of the existing permit to install will not be required. If the change(s) is (are) defined as a modification under other provisions of the modification definition (other than (VV)(1)(a)(ii)), then the permittee shall obtain a final permit to install prior to the change.

(8) 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 its 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.

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports that identify the following:

a. all periods of time when the sulfuric acid scrubber system was not in use while this emissions unit was in operation;

b. all periods of time during which the 1) scrubber solution flow rate is below 150 gallons per minute, 2) fluid level in the scrubber solution holding tanks is below 11 inches, and 3) scrubber solution pH is above 4.5;

c. all periods of time during which the differential pressure between the inside and outside of the building enclosure was less than 0.01 inch of water;

d. all periods of time during which the interlock system for the loading dock doors did not work, or was not in operation;

e. any month during the quarter when the amount of sand, in tons, as measured at mixers #2 & #3 (P021), that is supplied to emissions unit P018 and all other similar mold core stations using the Phenolic Urethane Cold Box process, as calculated in d)(4), exceeds 36,213 tons per rolling 12-months;

f. any month during the quarter when the VOC emissions from emissions unit P018 combined with similar mold core stations receiving mixed sand from mixers #2 & #3 (P021), as calculated in d)(4), exceeds 10.41 tons per rolling 12-months;

g. any month during the quarter when the Naphthalene emissions from emissions unit P018 combined with similar mold core stations receiving mixed sand from mixers #2 & #3 (P021), as calculated in d)(4), exceeds 0.26 ton per rolling 12-months; and

h. any month during the quarter when the particulate emissions from emissions unit P018 combined with similar mold core stations receiving mixed sand from mixers #2 & #3 (P021), as calculated in d)(4), exceeds 0.63 ton per rolling 12-months; and

i. the probable cause of each deviation and the corrective actions or preventive measures that were taken to remedy the deviations.

The written reports shall be submitted (postmarked) quarterly to the Ohio EPA Northeast District Office, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters.

If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report which states that no deviations occurred during the quarter.

(2) The permittee shall submit annual reports that identify the following:

a. the annual operating hours of the scrubber system; and

b. the total amount of acid employed in the scrubber (in gallons).

The annual report shall cover each calendar year, January 1 - December 31, and shall be submitted to the Ohio EPA Northeast District Office by January 31 of each year.

(3) An annual permit evaluation report will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the annual permit evaluation report in the form and manner provide by the director by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than 12 months for each air contaminant source identified in this permit.

f) Testing Requirements

(1) <u>Emission Limitation</u>:

Visible particulate emissions from the scrubber stack shall not exceed a 10% opacity as a 6-minute average.

<u>Applicable Compliance Method</u>:

If required by Ohio EPA, compliance with the allowable visible particulate emission limitation shall be determined in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

(2) Emission Limitation:

VOC emissions from emissions units P018 combined with similar mold core stations receiving mixed sand from mixer #2 & #3 (P021), shall not exceed 10.41 tons VOC, as propane, per rolling 12-months.

Applicable Compliance Method:

Compliance with the above emission limitation shall be demonstrated by the monitoring and record keeping requirements specified in d)(4).

(3) Emission Limitation:

Naphthalene emissions from emissions unit P018 combined with similar mold core stations receiving mixed sand from mixers #2 & #3 (P021), shall not exceed 0.26 ton per rolling 12-months.

Applicable Compliance Method:

Compliance with the above emission limitation shall be demonstrated by the monitoring and record keeping requirements specified in d)(4).

(4) Emission Limitation:

Particulate emissions from emissions unit P018 combined with similar mold core stations receiving mixed sand from mixers #2 & #3 (P021), shall not exceed 0.63 ton per rolling 12-months.

Applicable Compliance Method:

Compliance with the above emission limitation shall be demonstrated by the monitoring and record keeping requirements specified in d)(4).

g) Miscellaneous Requirements

(1) The terms and conditions of this permit supercede those contained in PTI #02-19424 issued on June 27, 2006 for this emissions unit.

3. P020, Mold Core Station No. 20

Operations, Property and/or Equipment Description:

Mold Core Station No. 20

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

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

a. d)(6), d)(7) and d)(8)

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

a. b), c), d)(1), d)(2), d)(3), d)(4), d)(5), e) and f)

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(D)	See b)(2)a, b)(2)b & b)(2)c. Visible particulate emissions from the scrubber stack shall not exceed a 10% opacity as a 6-minute average.
b.	OAC rule 3745-17-07(A)(1)	The visible particulate emission limitation specified by this rule is less stringent than the limitation established pursuant to OAC rule 3745-31-05(C).
c.	OAC rule 3745 -17-11(B)(1)	The particulate emission limitation specified by this rule is less stringent than the limitation established pursuant to OAC rule 3745-31-05(C).
d.	OAC rule 3745-21-07(G)(2)	Organic compound (OC) emissions shall not exceed 8 lbs per hour and 40 lbs per day. See b)(2)d & b)(2)e.

(2) Additional Terms and Conditions

a. Volatile organic compound (VOC) emissions from emissions units P020 combined with similar mold core stations receiving mixed sand from mixers #2 & #3 (P021), shall not exceed 10.41 tons VOC, as propane, per rolling 12-months.

b. Particulate emissions (PE) from emissions unit P020, and similar mold core stations receiving mixed sand from mixers #2 & #3 (P021), shall not exceed 0.63 ton per rolling 12-months.

c. Naphthalene emissions from emissions unit P020 combined with similar mold core stations receiving mixed sand from mixers #2 & #3 (P021), shall not exceed 0.26 ton per rolling 12-months.

d. The OC emission limitation of 8 pounds per hour and 40 pounds per day shall cease to be effective and federally enforceable on the date the U.S. EPA approves the current OAC rule 3745-21-07(G) as a revision to the Ohio SIP for organic compounds. After the rule is added to the Ohio SIP, the emission limitations of 8 pounds per hour and 40 pounds per day shall be void.

e. A production rate of 1,969 pounds sand per hour is the best estimate for the maximum capacity for this emissions unit. This rate was derived from actual production records. At the maximum production rate of 1,969 pounds sand per hour the calculated VOC emissions from P020 are 0.15 pound per hour and 13.68 pounds per 24-hour day. Assuming all organic compounds are volatile organic compounds, compliance with the 8 lb OC/hr and 40 lbs OC/day limits is achieved.

c) Operational Restrictions

(1) The maximum sand usage for emissions unit P020 combined with all similar mold core stations receiving mixed sand from mixers #2 & #3 (P021), as measured at mixers #2 & #3 (P021), shall not exceed 36,213 tons per rolling 12-months.

(2) The building housing all the emissions units (mixers, mold core stations, and pepset station) shall be maintained under negative pressure and at a minimum pressure differential that is not less than 0.01 inch of water, as to ensure that all emissions generated within the building are vented to the sulfuric acid packed bed wet scrubber whenever any of the emissions units in the building are in operation.

(3) The emissions from all mold core stations using the Phenolic Urethane Cold Box process are to be vented to a sulfuric acid packed bed wet scrubber.

(4) The sulfuric acid scrubber system shall be used while any mold core station using the Phenolic Urethane Cold Box process is in operation.

(5) The scrubber solution flow rate shall be continuously maintained at a value of not less than 150 gallons per minute at all times while any mold core station using the Phenolic Urethane Cold Box process is in operation.

(6) The fluid level in the scrubber solution holding tanks shall be maintained above 11 inches.

(7) The pH of the scrubber solution holding tanks shall be maintained at or below 4.5.

(8) An interlock system shall be employed at the loading dock doors so that the doors may not open unless a truck is parked at the opening, under normal operating conditions.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall operate and maintain a system to continuously monitor and record hourly the following information:

a. the scrubber solution flow rate, in gallons per minute;

b. the pH of the scrubber solution; and

c. the fluid level in the scrubber solution holding tanks.

(2) The permittee shall install, maintain and operate monitoring devices and a recorder which simultaneously measure and record the pressure inside and outside the building enclosure. The monitoring and recording device shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

(3) The permittee shall maintain the following daily record:

a. the difference in pressure between the building enclosure and the surrounding area; and

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

(4) The permittee shall maintain the following monthly record:

a. The amount of sand, in tons, as measured at mixers #2 & #3 (P021), that is supplied to emissions unit P020 and all other similar mold core stations using the Phenolic Urethane Cold Box process.

b. The amount of sand, in tons, as measured at mixers #2 & #3 (P021), that is supplied to emissions unit P020 and all other similar mold core stations using the Phenolic Urethane Cold Box process over the past 12 rolling months.

c. The calculated VOC emissions per rolling 12-months from emissions unit P020 combined with all other similar mold core stations using the Phenolic Urethane Cold Box process that receive mixed sand from mixers #2 & #3 (P021), using the following equation:

$$E = S \times EF \times \text{ton}/2{,}000 \text{ lbs} \times 0.5$$

where:

E = VOC emissions per rolling 12-months

S = Amount of sand mixed at mixers #2 & #3 (P021) during the past 12 rolling months

EF = Emission Factor is 1.15 lbs VOC/ton sand, as propane. Emission Factor derived from stack testing on September 21, 2006.

0.5 = Assumption is that 50% of VOC emissions are released from the sand/binder mixers and 50% are released at the mold core stations.

d. The types of resin used and the amount of each resin used, in tons, at mixers #2 & #3 (P021) during each month, and the summation of the amount of each resin used over the past 12 months.

e. The calculated Naphthalene emissions per rolling 12-months from emissions unit P001 combined with all other similar mold core stations using the Phenolic Urethane Cold Box process that receive mixed sand from mixer #1 (P022), using the following equation:

Naphthalene = Summation of [R x %wt x %Rel x 0.50] for each resin containing Naphthalene that was used over the past 12 rolling months.

where:

Naphthalene = Naphthalene emissions, in tons per rolling 12-months

R = Amount of resin containing Naphthalene, in tons, over the past 12 rolling months

%wt = percent of Naphthalene, by weight, in the resin

% Rel = Value representing % Naphthalene released in the Phenolic Urethane Cold Box Process, expressed as a decimal in the equation. Value taken from "Form R, Reporting of Binder Chemicals Used in Foundries, Second Edition, 1998." Value for the Phenolic Urethane Cold Box Process is 3.25% or 0.0325.

0.50 = Assumption is that 50% of Naphthalene emissions are released from the sand/binder mixers and 50% are released at the mold core stations.

f. The calculated particulate emissions per rolling 12-months from emissions unit P020 combined with all other similar mold core stations using the Phenolic Urethane Cold Box process that receive mixed sand from mixers #2 & #3 (P021), using the following equation:

E = S x EF x ton/2,000 lbs x 0.1

where:

E = particulate emissions per rolling 12-months

S = Amount of sand mixed at mixers #2 & #3 (P021) during the past 12 rolling months

EF = Emission Factor is 0.35 lbs PE/ton sand. Emission Factor is from Table 2.8-1 of Ohio EPA's RACM guideline.

0.1 = Assumption is that 10% of particulate emissions are released from the mold core stations and 90% are released at the sand/binder mixers.

(5) The permittee shall maintain the following annual records:

a. the annual operating hours of the scrubber system; and

b. the total amount of acid employed in the scrubber, in gallons.

(6) The permit to install for this emissions unit and the other emissions units in this project 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 for each pollutant emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the “worst case” pollutant:

Pollutant: Naphthalene

Maximum Hourly Emission Rate: 1.55 lbs/hr *

TLV: 52,430 ug/m^3

MAGLC = TLV/42: 1,248.3 ug/m^3

Predicted 1-Hour Maximum Ground-Level Concentration: 20.14 ug/m^3

* Emission rate is combined naphthalene emissions from P021, P022, P023 and all associated mold core stations at the time of this permit application.

(7) 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 (typically for coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value previously modeled;

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

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

If the permittee determines that the "Air 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(VV)(1)(a)(ii), and a modification of the existing permit to install will not be required. If the change(s) is (are) defined as a modification under other provisions of the modification definition (other than (VV)(1)(a)(ii)), then the permittee shall obtain a final permit to install prior to the change.

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

b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air 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.

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports that identify the following:

a. all periods of time when the sulfuric acid scrubber system was not in use while this emissions unit was in operation;

b. all periods of time during which the 1) scrubber solution flow rate is below 150 gallons per minute, 2) fluid level in the scrubber solution holding tanks is below 11 inches, and 3) scrubber solution pH is above 4.5;

c. all periods of time during which the differential pressure between the inside and outside of the building enclosure was less than 0.01 inch of water;

d. all periods of time during which the interlock system for the loading dock doors did not work, or was not in operation;

e. any month during the quarter when the amount of sand, in tons, as measured at mixers #2 & #3 (P021), that is supplied to emissions unit P020 and all other similar mold core stations using the Phenolic Urethane Cold Box process, as calculated in d)(4), exceeds 36,213 tons per rolling 12-months;

f. any month during the quarter when the VOC emissions from emissions unit P020 combined with similar mold core stations receiving mixed sand from mixers #2 & #3 (P021), as calculated in d)(4), exceeds 10.41 tons per rolling 12-months;

g. any month during the quarter when the Naphthalene emissions from emissions unit P020 combined with similar mold core stations receiving mixed sand from mixers #2 & #3 (P021), as calculated in d)(4), exceeds 0.26 ton per rolling 12-months; and

h. any month during the quarter when the particulate emissions from emissions unit P020 combined with similar mold core stations receiving mixed sand from mixers #2 & #3 (P021), as calculated in d)(4), exceeds 0.63 ton per rolling 12-months; and

i. the probable cause of each deviation and the corrective actions or preventive measures that were taken to remedy the deviations.

The written reports shall be submitted (postmarked) quarterly to the Ohio EPA Northeast District Office, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters.

If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report which states that no deviations occurred during the quarter.

(2) The permittee shall submit annual reports that identify the following:

a. the annual operating hours of the scrubber system; and

b. the total amount of acid employed in the scrubber (in gallons).

The annual report shall cover each calendar year, January 1 - December 31, and shall be submitted to the Ohio EPA Northeast District Office by January 31 of each year.

(3) An annual permit evaluation report will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the annual permit evaluation report in the form and manner provide by the director by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than 12 months for each air contaminant source identified in this permit.

f) Testing Requirements

(1) <u>Emission Limitation</u>:

Visible particulate emissions from the scrubber stack shall not exceed a 10% opacity as a 6-minute average.

<u>Applicable Compliance Method</u>:

If required by Ohio EPA, compliance with the allowable visible particulate emission limitation shall be determined in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

(2) Emission Limitation:

VOC emissions from emissions units P020 combined with similar mold core stations receiving mixed sand from mixer #2 & #3 (P021), shall not exceed 10.41 tons VOC, as propane, per rolling 12-months.

Applicable Compliance Method:

Compliance with the above emission limitation shall be demonstrated by the monitoring and record keeping requirements specified in d)(4).

(3) Emission Limitation:

Naphthalene emissions from emissions unit P020 combined with similar mold core stations receiving mixed sand from mixers #2 & #3 (P021), shall not exceed 0.26 ton per rolling 12-months.

Applicable Compliance Method:

Compliance with the above emission limitation shall be demonstrated by the monitoring and record keeping requirements specified in d)(4).

(4) Emission Limitation:

Particulate emissions from emissions unit P020 combined with similar mold core stations receiving mixed sand from mixers #2 & #3 (P021), shall not exceed 0.63 ton per rolling 12-months.

Applicable Compliance Method:

Compliance with the above emission limitation shall be demonstrated by the monitoring and record keeping requirements specified in d)(4).

g) Miscellaneous Requirements

(1) The terms and conditions of this permit supercede those contained in PTI #02-19424 issued on June 27, 2006 for this emissions unit.

4. P021, Mixer No. 2 and 3

Operations, Property and/or Equipment Description:

Mixer No. 2 and 3

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

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

a. d)(4), d)(5), and d)(6)

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

b. b), c), d)(1), d)(2), d(3), e) and f)

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(D)	Volatile organic compound (VOC) emissions shall not exceed 10.41 tons, as propane, per rolling 12-months. Particulate emissions (PE) shall not exceed 5.70 tons per rolling 12-months. Naphthalene emissions shall not exceed 0.26 ton per rolling 12-months. Visible particulate emissions from the scrubber stack shall not exceed a 10% opacity as a six-minute average. See b)(2)a.
b.	OAC rule 3745-17-07(A)(1)	The visible particulate emission limitation specified by this rule is less stringent than the limitation established pursuant to OAC rule 3745-31-05(D).

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
c.	OAC rule 3745-17-11(B)(1)	The particulate emission limitation specified by this rule is less stringent than the limitation established pursuant to OAC rule 3745-31-05(D).
d.	OAC rule 3745-21-07(G)(2)	Exempt. See b)(2)b.

(2) Additional Terms and Conditions

a. The maximum sand production in this emissions unit shall not exceed 36,213 tons per rolling 12-months.

b. This emissions unit is not subject to OAC rule 3745-21-07(G)(2) as determined by the Ohio Supreme Court in Ashland Chem. Co. v. Jones (2001), 92 Ohio St.3.d 234, i.e. this emissions unit does not employ, apply, evaporate or dry liquid organic materials. The requirements of OAC rule 3745-21-07(G)(2) shall cease to be effective and federally enforceable on the date the U.S. EPA approves the current OAC rule 3745-21-07(G) as a revision to the Ohio SIP for organic compounds.

c) Operational Restrictions

(1) The building housing all the emissions units (mixers, mold core stations, and pepset station) shall be maintained under negative pressure and at a minimum pressure differential that is not less than 0.01 inch of water, as to ensure that all emissions generated within the building are vented to the sulfuric acid packed bed wet scrubber whenever any of the emissions units in the building are in operation.

(2) An interlock system shall be employed at the loading dock doors so that the doors may not open unless a truck is parked at the opening, under normal operating conditions.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall install, maintain and operate monitoring devices and a recorder which simultaneously measure and record the pressure inside and outside the building enclosure. The monitoring and recording device shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

(2) The permittee shall maintain a daily record of the difference in pressure between the building enclosure and the surrounding area.

(3) The permittee shall maintain the following monthly record:

a. The amount of sand used, in tons;

b. The amount of sand used, in tons, over the past 12 rolling months.

c. The calculated VOC emissions per rolling 12-months from P021, using the following equation:

E = S x EF x ton/2,000 lbs x 0.50

where:

E = VOC emissions per rolling 12-months

S = Amount of sand used, in tons, during the past 12 rolling months

EF = Emission Factor is 1.15 lbs VOC/ton sand, as propane. Emission Factor derived from stack testing on September 21, 2006.

0.50 = Assumption is that 50% of VOC emissions are released from the sand/binder mixers and 50% are released at the mold core stations.

d. The types of resin used and the amount of each resin used, in tons, at mixers #2 & #3 (P021) during each month, and the summation of the amount of each resin used over the past 12 months.

e. The calculated Naphthalene emissions per rolling 12-months from P021, using the following equation:

Naphthalene = Summation of [R x %wt x %Rel x 0.50] for each resin containing Naphthalene that was used over the past 12 rolling months.

where:

Naphthalene = Naphthalene emissions, in tons per rolling 12-months

R = Amount of resin containing Naphthalene, in tons, over the past 12 rolling months

%wt = percent of Naphthalene, by weight, in the resin

% Rel = Value representing % Naphthalene released in the Phenolic Urethane Cold Box Process, expressed as a decimal in the equation. Value taken from "Form R, Reporting of Binder Chemicals Used in Foundries, Second Edition, 1998." Value for the Phenolic Urethane Cold Box Process is 3.25% or 0.0325.

0.50 = Assumption is that 50% of Naphthalene emissions are released from the sand/binder mixers and 50% are released at the mold core stations.

f. The calculated particulate emissions per rolling 12-months from P021, using the following equation:

E = S x EF x ton/2,000 lbs x 0.9

where:

E = particulate emissions per rolling 12-months

S = Amount of sand mixed, in tons, during the past 12 rolling months

EF = Emission Factor is 0.35 lbs PE/ton sand. Emission Factor is from Table 2.8-1 of Ohio EPA's RACM guideline.

0.9 = Assumption is that 90% of particulate emissions are released at the sand/binder mixers and 10% of particulate emissions are released from the mold core stations.

(4) The permit to install for this emissions unit and the other emissions units in this project 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 for each pollutant emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant:

Pollutant: Naphthalene
Maximum Hourly Emission Rate: 1.55 lbs/hr *
TLV: 52,430 ug/m^3
MAGLC = TLV/42: 1,248.3 ug/m^3
Predicted 1-Hour Maximum Ground-Level Concentration: 20.14 ug/m^3

* Emission rate is combined naphthalene emissions from P021, P022, P023 and all associated mold corestations at the time of this permit application.

(5) 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 (typically for coatings or cleanup materials), or the use of new materials, that would result in the emission

of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value previously modeled;

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

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

If the permittee determines that the “Air 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(VV)(1)(a)(ii), and a modification of the existing permit to install will not be required. If the change(s) is (are) defined as a modification under other provisions of the modification definition (other than (VV)(1)(a)(ii)), then the permittee shall obtain a final permit to install prior to the change.

(6) 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 its 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.

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports that identify the following:

a. all periods of time during which the differential pressure between the inside and outside of the building enclosure was less than 0.01 inch of water;

b. all periods of time during which the interlock system for the loading dock doors did not work, or was not in operation;

c. any month during the quarter when the amount of sand used exceeded 36,213 tons per rolling 12-months;

d. any month during the quarter when the VOC emissions from this emissions unit

P021, as calculated in Section C.3, exceeds 10.41 tons per rolling 12-months;

e. any month during the quarter when the Naphthalene emissions from this emissions unit P021, as calculated in Section C.3, exceeds 0.26 ton per rolling 12-months; and

f. any month during the quarter when the particulate emissions from this emissions unit P021, as calculated in Section C.3, exceeds 5.70 tons per rolling 12-months.

g. the probable cause of each deviation and the corrective actions or preventive measures that were taken to remedy the deviations.

The written reports shall be submitted (postmarked) quarterly to the Ohio EPA Northeast District Office, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters.

If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report which states that no deviations occurred during the quarter.

(2) An annual permit evaluation report will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the annual permit evaluation report in the form and manner provide by the director by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than 12 months for each air contaminant source identified in this permit.

f) Testing Requirements

(1) Emission Limitation:

Visible particulate emissions from the scrubber stack shall not exceed a 10% opacity as a 6-minute average.

Applicable Compliance Method:
If required by Ohio EPA, compliance with the allowable visible particulate emission limitation shall be determined in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

(2) Emission Limitation:

VOC emissions shall not exceed 10.41 tons, as propane, per rolling 12-months.

Applicable Compliance Method:

Compliance with the above emission limitation shall be demonstrated by the monitoring and record keeping requirements specified in d)(3).

(3) Emission Limitation:

Particulate emissions (PE) shall not exceed 5.70 tons per rolling 12-months.

Applicable Compliance Method:
Compliance with the above emission limitation shall be demonstrated by the monitoring and record keeping requirements specified in d)(3).

(4) Emission Limitation:

Naphthalene emissions shall not exceed 0.26 ton per rolling 12-months.

Applicable Compliance Method:
Compliance with the above emission limitation shall be demonstrated by the monitoring and record keeping requirements specified in d)(3).

g) Miscellaneous Requirements

(1) The terms and conditions of this permit supercede those contained in PTI #02-19424 issued on June 27, 2006 for this emissions unit.

5. P022, Mixer No. 1

Operations, Property and/or Equipment Description:

Mixer No. 1

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

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

d)(4), d)(5), and d)(6)

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

b), c), d)(1), d)(2), d)(3), e) and f)

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(D)	Volatile organic compound (VOC) emissions shall not exceed 11.96 tons, as propane, per rolling 12-months. Particulate emissions (PE) shall not exceed 6.55 tons per rolling 12-months. Naphthalene emissions shall not exceed 0.30 ton per rolling 12-months. Visible particulate emissions from the scrubber stack shall not exceed a 10% opacity as a 6-minute average. See b)(2)a.
b.	OAC rule 3745-17-07(A)(1)	The visible particulate emission limitation specified by this rule is less stringent than the limitation established pursuant to OAC rule 3745-31-05(D).
c.	OAC rule 3745-17-11(B)(1)	The particulate emission limitation

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		specified by this rule is less stringent than the limitation established pursuant to OAC rule 3745-31-05(D).
d.	OAC rule 3745-21-07(G)(2)	Exempt. See b)(2)b.

(2) Additional Terms and Conditions

a. The maximum sand production in this emissions unit shall not exceed 41,602 tons per rolling 12-months.

b. This emissions unit is not subject to OAC rule 3745-21-07(G)(2) as determined by the Ohio Supreme Court in Ashland Chem. Co. v. Jones (2001), 92 Ohio St.3.d 234, i.e. this emissions unit does not employ, apply, evaporate or dry liquid organic materials. The requirements of OAC rule 3745-21-07(G)(2) shall cease to be effective and federally enforceable on the date the U.S. EPA approves the current OAC rule 3745-21-07(G) as a revision to the Ohio SIP for organic compounds.

c) Operational Restrictions

(1) The building housing all the emissions units (mixers, mold core stations and pepset station) shall be maintained under negative pressure and at a minimum pressure differential that is not less than 0.01 inch of water, as to ensure that all emissions generated within the building are vented to the sulfuric acid packed bed wet scrubber whenever any of the emissions units in the building are in operation.

(2) An interlock system shall be employed at the loading dock doors so that the doors may not open unless a truck is parked at the opening, under normal operating conditions.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall install, maintain and operate monitoring devices and a recorder which simultaneously measure and record the pressure inside and outside the building enclosure. The monitoring and recording device shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

(2) The permittee shall maintain a daily record of the difference in pressure between the building enclosure and the surrounding area.

(3) The permittee shall maintain the following monthly record:

a. The amount of sand used, in tons;

b. The amount of sand used, in tons, over the past 12 rolling months.

c. The calculated VOC emissions per rolling 12-months from P022, using the following equation:

E = S x EF x ton/2,000 lbs x 0.50

where:

E = VOC emissions per rolling 12-months

S = Amount of sand used, in tons, during the past 12 rolling months

EF = Emission Factor is 1.15 lbs VOC/ton sand, as propane. Emission Factor derived from stack testing on September 21, 2006.

0.50 = Assumption is that 50% of VOC emissions are released from the sand/binder mixers and 50% are released at the mold core stations.

d. The types of resin used and the amount of each resin used, in tons, at mixers #2 & #3 (P022) during each month, and the summation of the amount of each resin used over the past 12 months.

e. The calculated Naphthalene emissions per rolling 12-months using the following equation:

Naphthalene = Summation of [R x %wt x %Rel x 0.50] for each resin containing Naphthalene that was used over the past 12 rolling months.

where:

Naphthalene = Naphthalene emissions, in tons per rolling 12-months

R = Amount of resin containing Naphthalene, in tons, over the past 12 rolling months

%wt = percent of Naphthalene, by weight, in the resin

% Rel = Value representing % Naphthalene released in the Phenolic Urethane Cold Box Process, expressed as a decimal in the equation. Value taken from "Form R, Reporting of Binder Chemicals Used in Foundries, Second Edition, 1998." Value for the Phenolic Urethane Cold Box Process is 3.25% or 0.0325.

0.50 = Assumption is that 50% of Naphthalene emissions are released from the sand/binder mixers and 50% are released at the mold core stations.

f. The calculated particulate emissions per rolling 12-months from P022, using the following equation:

E = S x EF x ton/2,000 lbs x 0.9

where:

E = particulate emissions per rolling 12-months

S = Amount of sand mixed, in tons, during the past 12 rolling months

EF = Emission Factor is 0.35 lbs PE/ton sand. Emission Factor is from Table 2.8-1 of Ohio EPA's RACM guideline.

0.9 = Assumption is that 90% of particulate emissions are released at the sand/binder mixers and 10% of particulate emissions are released from the mold core stations.

(4) The permit to install for this emissions unit and the other emissions units in this project 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 for each pollutant emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant:

Pollutant: Naphthalene
Maximum Hourly Emission Rate: 1.55 lbs/hr *
TLV: 52,430 ug/m^3
MAGLC = TLV/42: 1,248.3 ug/m^3
Predicted 1-Hour Maximum Ground-Level Concentration: 20.14 ug/m^3

* Emission rate is combined naphthalene emissions from P021, P022, P023 and all associated mold core stations at the time of this permit application.

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

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

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

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

If the permittee determines that the "Air 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(VV)(1)(a)(ii), and a modification of the existing permit to install will not be required. If the change(s) is (are) defined as a modification under other provisions of the modification definition (other than (VV)(1)(a)(ii)), then the permittee shall obtain a final permit to install prior to the change.

(6) 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 its 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.

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports that identify the following:

a. all periods of time during which the differential pressure between the inside and outside of the building enclosure was less than 0.01 inch of water;

b. all periods of time during which the interlock system for the loading dock doors did not work, or was not in operation;

c. any month during the quarter when the amount of sand used exceeded 41,602 tons per rolling 12-months;

d. any month during the quarter when the VOC emissions from this emissions unit P022, as calculated in Section C.3, exceeds 11.96 tons per rolling 12-months;

e. any month during the quarter when the Naphthalene emissions from this emissions unit P022, as calculated in Section C.3, exceeds 0.30 ton per rolling 12-months;

f. any month during the quarter when the particulate emissions from this emissions unit P022, as calculated in Section C.3, exceeds 6.55 tons per rolling 12-months.

The written reports shall be submitted (postmarked) quarterly to the Ohio EPA Northeast District Office, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters.

If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report which states that no deviations occurred during the quarter.

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

f) Testing Requirements

(1) Emission Limitation:
Visible particulate emissions from the scrubber stack shall not exceed a 10% opacity as a 6-minute average.

Applicable Compliance Method:
If required by Ohio EPA, compliance with the allowable visible particulate emission limitation shall be determined in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

(2) Emission Limitation:
VOC emissions shall not exceed 11.96 tons, as propane, per rolling 12-months.

Applicable Compliance Method:
Compliance with the above emission limitation shall be demonstrated by the monitoring and record keeping requirements specified in d)(3).

(3) Emission Limitation:
Particulate emissions (PE) shall not exceed 6.55 tons per rolling 12-months.

Applicable Compliance Method:
Compliance with the above emission limitation shall be demonstrated by the monitoring and record keeping requirements specified in d)(3).

(4) Emission Limitation:
Naphthalene emissions shall not exceed 0.30 ton per rolling 12-months.

Applicable Compliance Method:
Compliance with the above emission limitation shall be demonstrated by the monitoring and record keeping requirements specified in d)(3).

g) Miscellaneous Requirements

(1) The terms and conditions of this permit supercede those contained in PTI #02-19424 issued on June 27, 2006 for this emissions unit.

6. P023, Pepset Mixer/Mold Core Station

Operations, Property and/or Equipment Description:

Pepset Mixer /Mold Core Station

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

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

a. d)(4), d)(5) and d)(6)

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

a. b), c), d)(1), d)(2), d)(3), f) and g)

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3)	Volatile organic compound (VOC) emissions shall not exceed 30.27 tons per year. Particulate emissions (PE) shall not exceed 9.06 tons per year. Naphthalene emissions shall not exceed 4.54 tons per year. See b)(2)a & b)(2)b.
b.	OAC rule 3745-21-07(G)(2)	Exempt. See b)(2)c.

(2) Additional Terms and Conditions

a. Emissions from this emissions unit are fugitive, and emitted into the building. Emissions are indirectly captured by the hoods over the mold core stations within the building and vented to the sulfuric acid packed bed wet scrubber.

b. Emission limitations were calculated using the maximum design capacity of 51,748 tons sand per year.

c. Emissions unit P023 is a phenolic urethane no bake process. OAC rule 3745-21-07(G)(9)(i) states that the provisions of paragraph (G) of the rule shall not apply to the use of a phenolic urethane no bake resin binder system in foundry core making and mold making operations. The requirements of OAC rule 3745-21-07(G)(2) shall cease to be effective and federally enforceable on the date the U.S. EPA approves the current OAC rule 3745-21-07(G) as a revision to the Ohio SIP for organic compounds.

c) Operational Restrictions

(1) The building housing all the emissions units (mixers, mold core stations and pepset station) shall be maintained under negative pressure and at a minimum pressure differential that is not less than 0.01 inch of water, as to ensure that all emissions generated within the building are vented to the sulfuric acid packed bed wet scrubber whenever any of the emissions units in the building are in operation.

(2) An interlock system shall be employed at the loading dock doors so that the doors may not open unless a truck is parked at the opening, under normal operating conditions.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall install, maintain and operate monitoring devices and a recorder which simultaneously measure and record the pressure inside and outside the building enclosure. The monitoring and recording device shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

(2) The permittee shall maintain a daily record of the difference in pressure between the building enclosure and the surrounding area.

(3) The permittee shall maintain the following monthly record:

a. The amount of sand used, in tons;

b. The amount of sand used, in tons, over the past 12 rolling months.

c. The calculated VOC emissions per rolling 12-months from P023, using the following equation:

$$E = S \times EF \times \text{ton}/2{,}000 \text{ lbs}$$

where:

E = VOC emissions per rolling 12-months

S = Amount of sand used, in tons, during the past 12 rolling months

EF = Emission Factor is 1.17 lbs VOC/ton sand, taken from the February 16, 1998 Ohio EPA memo regarding "New Emissions Factors for Core/Mold making operations, Part 1." Emission factor is for the phenolic urethane no-bake system.

d. The types of resin used and the amount of each resin used, in tons, at this emissions unit P023 during each month, and the summation of the amount of each resin used over the past 12 months.

e. The calculated Naphthalene emissions per rolling 12-months using the following equation:

Naphthalene = Summation of [R x %wt x %Rel] for each resin containing Naphthalene that was used over the past 12 rolling months.

where:

Naphthalene = Naphthalene emissions, in tons per rolling 12-months

R = Amount of resin containing Naphthalene, in tons, over the past 12 rolling months

%wt = percent of Naphthalene, by weight, in the resin

% Rel = Value representing % Naphthalene released in the Phenolic Urethane No Bake Process (P023), expressed as a decimal in the equation. Value taken from "Form R, Reporting of Binder Chemicals Used in Foundries, Second Edition, 1998." Value for the Phenolic Urethane No Bake Process is 5.85% or 0.0585.

f. The calculated particulate emissions per rolling 12-months from P023, using the following equation:

E = S x EF x ton/2,000 lbs

where:

E = particulate emissions per rolling 12-months

S = Amount of sand mixed, in tons, during the past 12 rolling months

EF = Emission Factor is 0.35 lbs PE/ton sand. Emission Factor is from Table 2.8-1 of Ohio EPA's RACM guideline.

(4) The permit to install for this emissions unit and the other emissions units in this project 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 for each pollutant emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the “worst case” pollutant:

Pollutant: Naphthalene

Maximum Hourly Emission Rate: 1.55 lbs/hr *

TLV: 52,430 ug/m^3

MAGLC = TLV/42: 1,248.3 ug/m^3

Predicted 1-Hour Maximum Ground-Level Concentration: 20.14 ug/m^3

* Emission rate is combined naphthalene emissions from P021, P022, P023 and all associated mold core stations at the time of this permit application.

(5) 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 (typically for coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value previously modeled;

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

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

If the permittee determines that the "Air 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(VV)(1)(a)(ii), and a modification of the existing permit to install will not be required. If the change(s) is (are) defined as a modification under other provisions of the modification definition (other than (VV)(1)(a)(ii)), then the permittee shall obtain a final permit to install prior to the change.

(6) 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 its 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.

e) Reporting Requirements

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

f) Testing Requirements

(1) Emission Limitation:

VOC emissions shall not exceed 30.27 tons per year.

Applicable Compliance Method:
Compliance with the above emission limitation shall be demonstrated by the monitoring and record keeping requirements specified in d)(3).

(2) Emission Limitation:
PE shall not exceed 9.06 tons per year.

Applicable Compliance Method:
Compliance with the above emission limitation shall be demonstrated by the monitoring and record keeping requirements specified in d)(3).

(3) Emission Limitation:
Naphthalene emissions shall not exceed 4.54 tons per year.

Applicable Compliance Method:
Compliance with the above emission limitation shall be demonstrated by the monitoring and record keeping requirements specified in d)(3).

g) Miscellaneous Requirements

(1) The terms and conditions of this permit supercede those contained in PTI #02-19424 issued on June 27, 2006 for this emissions unit.

7. P026, Mold Core Station No. 26

Operations, Property and/or Equipment Description:

Mold Core Station No. 26

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

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

a. d)(6), d)(7), and d)(8)

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

a. b), c), d)(1), d)(2), d)(3), d)(4), d)(5), e) and f)

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(D)	See b)(2)a, b)(2)b & b)(2)c. Visible particulate emissions from the scrubber stack shall not exceed a 10% opacity as a 6-minute average.
b.	OAC rule 3745-17-07(A)(1)	The visible particulate emission limitation specified by this rule is less stringent than the limitation established pursuant to OAC rule 3745-31-05(D).
c.	OAC rule 3745 -17-11(B)(1)	The particulate emission limitation specified by this rule is less stringent than the limitation established pursuant to OAC rule 3745-31-05(D).
d.	OAC rule 3745-21-07(G)(2)	Organic compound (OC) emissions shall not exceed 8 lbs per hour and 40 lbs per day. See b)(2)d and b)(2)e.

(2) Additional Terms and Conditions

a. Volatile organic compound (VOC) emissions from emissions unit P026 combined with similar mold core stations receiving mixed sand from mixers #2 & #3 (P021), shall not exceed 10.41 tons VOC, as propane, per rolling 12-months.

b. Particulate emissions (PE) from emissions unit P026 combined with similar mold core stations receiving mixed sand from mixers #2 & #2 (P021), shall not exceed 0.63 ton per rolling 12-months.

c. Naphthalene emissions from emissions unit P026 combined with similar mold core stations receiving mixed sand from mixers #2 & #2 (P021), shall not exceed 0.26 ton per rolling 12-months.

d. The OC emission limitation of 8 pounds per hour and 40 pounds per day shall cease to be effective and federally enforceable on the date the U.S. EPA approves the current OAC rule 3745-21-07(G) as a revision to the Ohio SIP for organic compounds. After the rule is added to the Ohio SIP, the emission limitations of 8 pounds per hour and 40 pounds per day shall be void.

e. A production rate of 1,460 pounds sand per hour is the best estimate for the maximum capacity for this emissions unit. This rate was derived from actual production records. At the maximum production rate of 1,460 pounds sand per hour the calculated VOC emissions from P026 are 0.42 pound per hour and 10.08 pounds per 24-hour day. Assuming all organic compounds are volatile organic compounds, compliance with the 8 lb OC/hr and 40 lbs OC/day limits is achieved.

c) Operational Restrictions

(1) The maximum sand usage for emissions unit P026 combined with all similar mold core stations receiving mixed sand from mixers #2 & #3 (P021), as measured at mixers #2 & #3 (P021), shall not exceed 36,213 tons per rolling 12-months.

(2) The building housing all the emissions units (mixers, mold core stations and pepset station) shall be maintained under negative pressure and at a minimum pressure differential that is not less than 0.01 inch of water, as to ensure that all emissions generated within the building are vented to the sulfuric acid packed bed wet scrubber whenever any of the emissions units in the building are in operation.

(3) The emissions from all mold core stations using the Phenolic Urethane Cold Box process are to be vented to a sulfuric acid packed bed wet scrubber.

(4) The sulfuric acid scrubber system shall be used while any mold core station using the Phenolic Urethane Cold Box process is in operation.

(5) The scrubber solution flow rate shall be continuously maintained at a value of not less than 150 gallons per minute at all times while any mold core station using the Phenolic Urethane Cold Box process is in operation.

(6) The fluid level in the scrubber solution holding tanks shall be maintained above 11 inches.

(7) The pH of the scrubber solution holding tanks shall be maintained at or below 4.5.

(8) An interlock system shall be employed at the loading dock doors so that the doors may not open unless a truck is parked at the opening, under normal operating conditions.

d) Monitoring and/or Record keeping Requirements

(1) The permittee shall operate and maintain a system to continuously monitor and record hourly the following information:

a. the scrubber solution flow rate, in gallons per minute;

b. the pH of the scrubber solution; and

c. the fluid level in the scrubber solution holding tanks.

(2) The permittee shall install, maintain and operate monitoring devices and a recorder which simultaneously measure and record the pressure inside and outside the building enclosure. The monitoring and recording device shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

(3) The permittee shall maintain the following daily record:

a. the difference in pressure between the building enclosure and the surrounding area; and

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

(4) The permittee shall maintain the following monthly record:

a. The amount of sand, in tons, as measured at mixers #2 & #3 (P021), that is supplied to emissions unit P026 and all other similar mold core stations using the Phenolic Urethane Cold Box process.

b. The amount of sand, in tons, as measured at mixers #2 & #3 (P021), that is supplied to emissions unit P026 and all other similar mold core stations using the Phenolic Urethane Cold Box process over the past 12 rolling months.

c. The calculated VOC emissions per rolling 12-months from emissions unit P026 combined with all other similar mold core stations using the Phenolic Urethane Cold Box process that receive mixed sand from mixers #2 & #3 (P021), using the following equation:

$$E = S \times EF \times \text{ton}/2{,}000 \text{ lbs} \times 0.5$$

where:

E = VOC emissions per rolling 12-months

S = Amount of sand mixed at mixers #2 & #3 (P021) during the past 12 rolling months

EF = Emission Factor is 1.15 lbs VOC/ton sand, as propane. Emission Factor derived from stack testing on September 21, 2006.

0.5 = Assumption is that 50% of VOC emissions are released from the sand/binder mixers and 50% are released at the mold core stations.

d. The types of resin used and the amount of each resin used, in tons, at mixers #2 & #3 (P021) during each month, and the summation of the amount of each resin used over the past 12 months.

e. The calculated Naphthalene emissions per rolling 12-months from emissions unit P026 combined with all other similar mold core stations using the Phenolic Urethane Cold Box process that receive mixed sand from mixers #2 & #3 (P021), using the following equation:

Naphthalene = Summation of [R x %wt x %Rel x 0.50] for each resin containing Naphthalene that was used over the past 12 rolling months.

where:

Naphthalene = Naphthalene emissions, in tons per rolling 12-months

R = Amount of resin containing Naphthalene, in tons, over the past 12 rolling months

%wt = percent of Naphthalene, by weight, in the resin

% Rel = Value representing % Naphthalene released in the Phenolic Urethane Cold Box Process, expressed as a decimal in the equation. Value taken from "Form R, Reporting of Binder Chemicals Used in Foundries, Second Edition, 1998." Value for the Phenolic Urethane Cold Box Process is 3.25% or 0.0325.

0.50 = Assumption is that 50% of Naphthalene emissions are released from the sand/binder mixers and 50% are released at the mold core stations.

f. The calculated particulate emissions per rolling 12-months from emissions unit P026 combined with all other similar mold core stations using the Phenolic Urethane Cold Box process that receive mixed sand from mixers #2 & #3 (P021), using the following equation:

E = S x EF x ton/2,000 lbs x 0.1

where:

E = particulate emissions per rolling 12-months

S = Amount of sand mixed at mixers #2 & #3 (P021) during the past 12 rolling months

EF = Emission Factor is 0.35 lbs PE/ton sand. Emission Factor is from Table 2.8-1 of Ohio EPA's RACM guideline.

0.1 = Assumption is that 10% of particulate emissions are released from the mold core stations and 90% are released at the sand/binder mixers.

(5) The permittee shall maintain the following annual records:

a. the annual operating hours of the scrubber system; and

b. the total amount of acid employed in the scrubber, in gallons.

(6) The permit to install for this emissions unit and the other emissions units in this project 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 for each pollutant emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant:

Pollutant: Naphthalene

Maximum Hourly Emission Rate: 1.55 lbs/hr *

TLV: 52,430 ug/m^3

MAGLC = TLV/42: 1,248.3 ug/m^3

Predicted 1-Hour Maximum Ground-Level Concentration: 20.14 ug/m^3

* Emission rate is combined naphthalene emissions from P021, P022, P023 and all associated mold core stations at the time of this permit application.

(7) 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 (typically for coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value previously modeled;

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

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

If the permittee determines that the "Air 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(VV)(1)(a)(ii), and a modification of the existing permit to install will not be required. If the change(s) is (are) defined as a modification under other provisions of the modification definition (other than (VV)(1)(a)(ii)), then the permittee shall obtain a final permit to install prior to the change.

(8) 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 its 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.

e) Reporting Requirements

(1) The permittee shall submit quarterly deviation (excursion) reports that identify the following:

a. all periods of time when the sulfuric acid scrubber system was not in use while this emissions unit was in operation;

b. all periods of time during which the 1) scrubber solution flow rate is below 150 gallons per minute, 2) fluid level in the scrubber solution holding tanks is below 11 inches, and 3) scrubber solution pH is above 4.5;

c. all periods of time during which the differential pressure between the inside and outside of the building enclosure was less than 0.01 inch of water;

d. all periods of time during which the interlock system for the loading dock doors did not work, or was not in operation;

e. any month during the quarter when the amount of sand, in tons, as measured at mixers #2 & #3 (P021), that is supplied to emissions unit P026 and all other similar mold core stations using the Phenolic Urethane Cold Box process, as calculated in d)(4), exceeds 36,213 tons per rolling 12-months;

f. any month during the quarter when the VOC emissions from emissions unit P026 combined with similar mold core stations receiving mixed sand from mixers #2 & #3 (P021), as calculated in d)(4), exceeds 10.41 tons per rolling 12-months;

g. any month during the quarter when the Naphthalene emissions from emissions unit P026 combined with similar mold core stations receiving mixed sand from mixers #2 & #3 (P021), as calculated in d)(4), exceeds 0.26 ton per rolling 12-months; and

h. any month during the quarter when the particulate emissions from emissions unit P026 combined with similar mold core stations receiving mixed sand from mixers #2 & #3 (P021), as calculated in d)(4), exceeds 0.63 ton per rolling 12-months.

i. the probable cause of each deviation and the corrective actions or preventive measures that were taken to remedy the deviations.

The written reports shall be submitted (postmarked) quarterly to the Ohio EPA Northeast District Office, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters.

If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report which states that no deviations occurred during the quarter.

(2) The permittee shall submit annual reports that identify the following:

a. the annual operating hours of the scrubber system; and

b. the total amount of acid employed in the scrubber (in gallons).

The annual report shall cover each calendar year, January 1 - December 31, and shall be submitted to the Ohio EPA Northeast District Office by January 31 of each year.

(3) An annual permit evaluation report will be mailed to the permittee at the end of the reporting period specified in the Authorization section of this permit. The permittee shall submit the annual permit evaluation report in the form and manner provide by the director by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than 12 months for each air contaminant source identified in this permit.

f) Testing Requirements

(1) Emission Limitation:

Visible particulate emissions from the scrubber stack shall not exceed a 10% opacity as a 6-minute average.

Applicable Compliance Method:

If required by Ohio EPA, compliance with the allowable visible particulate emission limitation shall be determined in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

(2) Emission Limitation:

VOC emissions from emissions units P026 combined with similar mold core stations receiving mixed sand from mixer #2 & #3 (P021), shall not exceed 10.41 tons VOC, as propane, per rolling 12-months.

Applicable Compliance Method:

Compliance with the above emission limitation shall be demonstrated by the monitoring and record keeping requirements specified in d)(4).

(3) Emission Limitation:

Naphthalene emissions from emissions unit P026 combined with similar mold core stations receiving mixed sand from mixers #2 & #3 (P021), shall not exceed 0.26 ton per rolling 12-months.

Applicable Compliance Method:

Compliance with the above emission limitation shall be demonstrated by the monitoring and record keeping requirements specified in d)(4).

(4) Emission Limitation:

Particulate emissions from emissions unit P026 combined with similar mold core stations receiving mixed sand from mixers #2 & #3 (P021), shall not exceed 0.63 ton per rolling 12-months.

(10) Applicable Compliance Method:

Compliance with the above emission limitation shall be demonstrated by the monitoring and record keeping requirements specified in d)(4).

g) Miscellaneous Requirements

(1) The terms and conditions of this permit supercede those contained in PTI #02-19424 issued on June 27, 2006 for this emissions unit.