



State of Ohio Environmental Protection Agency

Street Address:

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

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

Mailing Address:

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

**RE: FINAL PERMIT TO INSTALL  
FRANKLIN COUNTY  
Application No: 01-08896  
Fac ID: 0125040020**

**CERTIFIED MAIL**

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

**DATE: 8/9/2005**

Columbus Steel Castings Co  
Robert Hoffee  
2211 Parsons Ave  
Columbus, OH 43207

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

The Ohio EPA is urging companies to investigate pollution prevention and energy conservation. Not only will this reduce pollution and energy consumption, but it can also save you money. If you would like to learn ways you can save money while protecting the environment, please contact our Office of Pollution Prevention at (614) 644-3469.

You are hereby notified that this action by the Director is final and may be appealed to the Ohio Environmental Review Appeals Commission pursuant to Chapter 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. It must be filed within thirty (30) days after the notice of the Directors action. A copy of the appeal must be served on the Director of the Ohio Environmental Protection Agency within three (3) days of filing with the Commission. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

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

Sincerely,

*Michael W. Ahern*

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

CC: USEPA

CDO



**Permit To Install  
Terms and Conditions**

**Issue Date: 8/9/2005  
Effective Date: 8/9/2005**

**FINAL PERMIT TO INSTALL 01-08896**

Application Number: 01-08896  
Facility ID: 0125040020  
Permit Fee: **\$1500**  
Name of Facility: Columbus Steel Castings Co  
Person to Contact: Robert Hoffee  
Address: 2211 Parsons Ave  
Columbus, OH 43207

Location of proposed air contaminant source(s) [emissions unit(s)]:  
**2211 Parsons Ave  
Columbus, Ohio**

Description of proposed emissions unit(s):  
**PUCB core machines 2 and 3.**

The above named entity is hereby granted a Permit to Install for the above described emissions unit(s) pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this permit does not constitute expressed or implied approval or agreement that, if constructed or modified in accordance with the plans included in the application, the above described emissions unit(s) of environmental pollutants will operate in compliance with applicable State and Federal laws and regulations, and does not constitute expressed or implied assurance that if constructed or modified in accordance with those plans and specifications, the above described emissions unit(s) of pollutants will be granted the necessary permits to operate (air) or NPDES permits as applicable.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Director

## Part I - GENERAL TERMS AND CONDITIONS

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

#### 1. Monitoring and Related Recordkeeping and Reporting Requirements

- a. Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall maintain records that include the following, where applicable, for any required monitoring under this permit:
  - i. The date, place (as defined in the permit), and time of sampling or measurements.
  - ii. The date(s) analyses were performed.
  - iii. The company or entity that performed the analyses.
  - iv. The analytical techniques or methods used.
  - v. The results of such analyses.
  - vi. The operating conditions existing at the time of sampling or measurement.
- b. Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include, but not be limited to, all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.
- c. Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall submit required reports in the following manner:
  - i. Reports of any required monitoring and/or recordkeeping of federally enforceable information shall be submitted to the appropriate Ohio EPA District Office or local air agency.
  - ii. Quarterly written reports of (i) any deviations from federally enforceable emission limitations, operational restrictions, and control device operating parameter limitations, excluding deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06, that have been detected by the testing, monitoring and recordkeeping requirements specified in this permit, (ii) the probable cause of such deviations, and (iii) any corrective actions or preventive measures taken, shall be made to the appropriate Ohio EPA District Office or local air agency. The written

reports shall be submitted (i.e., postmarked) quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. See B.8 below if no deviations occurred during the quarter.

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

## **2. Scheduled Maintenance/Malfunction Reporting**

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction, i.e., upset, of any emissions units or any associated air pollution control system(s) shall be reported to the appropriate Ohio EPA District Office or local air agency in accordance with paragraph (B) of OAC rule 3745-15-06. (The definition of an upset condition shall be the same as that used in OAC rule 3745-15-06(B)(1) for a malfunction.) The verbal and written reports shall be submitted pursuant to OAC rule 3745-15-06.

Except as provided in that rule, any scheduled maintenance or malfunction necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emission unit(s) that is (are) served by such control system(s).

## **3. Risk Management Plans**

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

**4. Title IV Provisions**

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

**5. Severability Clause**

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

**6. General Requirements**

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

**7. Fees**

The permittee shall pay fees to the Director of the Ohio EPA in accordance with ORC section 3745.11 and OAC Chapter 3745-78. The permittee shall pay all applicable permit-to-install fees within 30 days after the issuance of any permit-to-install. The permittee shall pay all applicable permit-to-operate fees within thirty days of the issuance of the invoice.

**8. Federal and State Enforceability**

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

**9. Compliance Requirements**

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

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

#### **10. Permit-To-Operate Application**

- a. If the permittee is required to apply for a Title V permit pursuant to OAC Chapter 3745-77, the permittee shall submit a complete Title V permit application or a complete Title V permit modification application within twelve (12) months after commencing operation of the emissions units covered by this permit. However, if the proposed new or modified source(s) would be prohibited by the terms and conditions of an existing Title V permit, a Title V permit modification must be obtained before the operation of such new or modified source(s) pursuant to OAC rule 3745-77-04(D) and OAC rule 3745-77-08(C)(3)(d).
- b. If the permittee is required to apply for permit(s) pursuant to OAC Chapter 3745-35, the source(s) identified in this permit is (are) permitted to operate for a period of up to one year from the date the source(s) commenced operation. Permission to operate is granted only if the facility complies with all requirements contained in this permit and all applicable air pollution laws, regulations, and policies. Pursuant to OAC Chapter 3745-35, the permittee shall submit a complete operating permit application within ninety (90) days after commencing operation of the source(s) covered by this permit.

#### **11. Best Available Technology**

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

#### **12. Air Pollution Nuisance**

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

**13. Permit-To-Install**

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

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

**1. Compliance Requirements**

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

**2. Reporting Requirements**

The permittee shall submit required reports in the following manner:

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

**3. Permit Transfers**

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

**4. Authorization To Install or Modify**

If applicable, authorization to install or modify any new or existing emissions unit included in this permit shall terminate within eighteen months of the effective date of the permit if the owner or operator has not undertaken a continuing program of installation or modification or has not entered into a binding contractual obligation to undertake and complete within a reasonable time a continuing program of installation or modification. This deadline may be extended by up to 12 months if application is made to the Director within a reasonable time before the termination date and the party shows good cause for any such extension.

**5. Construction of New Sources(s)**

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

**6. Public Disclosure**

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

**7. Applicability**

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

**8. Construction Compliance Certification**

If applicable, the applicant shall provide Ohio EPA with a written certification (see enclosed form if applicable) that the facility has been constructed in accordance with the permit-to-install application and the terms and conditions of the permit-to-install. The

certification shall be provided to Ohio EPA upon completion of construction but prior to startup of the source.

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

If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly (i.e., postmarked), by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters.

**C. Permit-To-Install Summary of Allowable Emissions**

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

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

<u>Pollutant</u>	<u>Tons Per Year</u>
PE	0.08
VOC	9.8

**Part II - FACILITY SPECIFIC TERMS AND CONDITIONS**

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

None

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

None

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

**A. State and Federally Enforceable Section**

**I. Applicable Emissions Limitations and/or Control Requirements**

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P056 - Cold Box Core Machine 2 vented to baghouse and wet acid scrubber	OAC rule 3745-31-05(A)(3)	<p>Particulate matter* (PE) from this emissions unit shall not exceed 0.01 pound per hour and 0.04 ton per year.</p> <p>Volatile organic compound (VOC) emission released from this emissions unit shall not exceed 2.04 pounds per hour.</p> <p>See section A.I.2.d below.</p> <p>Triethylamine (TEA) emission from the scrubber stack serving this emissions unit shall not exceed 1 ppmv or the TEA emissions from each cold box core machine (100%) shall be reduced by a minimum 99%, as determined when scrubbing with fresh acid solution. See sections A.2.a and A.II.2 - 6 below.</p> <p>Visible PE from any stack shall not exceed 20% opacity, as a 6-minute average.</p> <p>There shall be no visible emission (VE) of particulate matter from either the sand bin or the ribbon blender during production of cores in this emissions unit.</p> <p>The requirements of this rule also include compliance with the</p>

	requirements of OAC rule 3745-31-05(C).
40 CFR Part 63, Subpart EEEEE	See section A.I.2.a below.
OAC rule 3745-31-05(C) (synthetic minor to avoid non-attainment review)	VOC emissions from this emissions unit shall not exceed 4.9 tons per rolling, 12-month period.
OAC rule 3745-21-07(G)(2)	See section A.II.1 below.
OAC rule 3745-17-11(B)	See section A.I.2.b below.
OAC rule 3745-17-08(A)	See section A.I.2.c below.
	The emission limitation specified by this rule is less stringent than limit established pursuant OAC rule 3745-31-05.
	*all PE is considered to be particulate matter less than 10 microns.

## 2. Additional Terms and Conditions

- 2.a** As an existing source under provisions in 40 CFR 63.2, the permittee shall comply with the maximum achievable control technology (MACT) provisions under 40 CFR Part 63, Subpart EEEEE for the cold box core machine by April 22, 2007, unless an extension is granted under 40 CFR Part 63, Subpart A.
- 2.b** This emissions unit is exempt from the requirements of OAC rule 3745-21-07(G) pursuant to OAC rule 3745-21-07(G)(9)(h) [the use of a phenolic urethane cold box resin binder system in foundry core-making and mold-making operations with a minimum 98% scrubber control efficiency]. This exemption was adopted by the Director of Ohio EPA and became effective June 15, 1999.
- 2.c** The uncontrolled mass rate of PE\* from this emissions unit is less than 10 pounds/hour. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply.
- 2.d** The hourly emission limitations outlined above is based on the emissions unit's potential to emit (PTE). Therefore, no records are required to demonstrate compliance with those limitations.

## II. Operational Restrictions

1. The maximum annual core production for this emissions unit shall not exceed 14,440 tons, based upon a rolling, 12-month summation of the core production.

To ensure enforceability during the first 12 calendar months of operation, following the issuance of this permit, the permittee shall not exceed the core production levels specified in the following table:

<u>Months</u>	<u>Maximum Allowable Cumulative Core Production, in tons</u>
1	1,200
1-2	2,400
1-3	3,600
1-4	4,800
1-5	6,000
1-6	7,200
1-7	8,400
1-8	9,600
1-9	10,800
1-10	12,000
1-11	13,200
1-12	14,400

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

2. The permittee shall vent all TEA emissions to the wet acid scrubber, whenever this emissions unit is in operation. The core-blower machine shall employ an electrical lock-out system to ensure maximum capture and control of TEA emissions during core blowing machine production. A malfunction of either the Dakota scrubber blower fan or recirculating liquid pump shall cause an electrical lockout that prevents core production.
3. The pH of the scrubber water shall be maintained at a value not to exceed a pH of 4.5, while the emissions unit is producing cold-box cores..
4. The pressure drop across the wet acid scrubber shall be continuously maintained within the range of 2 to 8 inches of water, at all times while the emissions unit is in operation.
5. The scrubber water flow rate shall be continuously maintained at a value of not less than the minimum level established during the performance test in gallons per minute at all times while the emissions unit is in operation.
6. The permittee shall vent all PE generated during pneumatic transport from the sand bin to a bag house, whenever this emissions unit is in operation. The pressure drop across the

bag house shall be maintained within the range of 2 to 10 inches of water, while the emissions unit is in operation .

### **III. Monitoring and/or Recordkeeping Requirements**

1. The permittee shall maintain monthly records of the following information:
  - a. the core production rate for each month; and
  - b. beginning after the first 12 calendar months of operation following the issuance of this permit, the rolling, monthly summation of the core production rates.

Also, during the first 12 calendar months of operation following the issuance of this permit, the permittee shall record the cumulative core production rate for each calendar month.

2. The permittee shall properly install, operate and maintain equipment to continuously monitor and record the pH of the scrubber water while the emissions unit is in operation. The pH monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall collect and record the following information each day:

- a. the pH of the scrubber water, on once per 8 hour shift basis; and
  - b. a log or record of operating time for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.
3. The permittee shall properly install, operate and maintain equipment to continuously monitor the static pressure drop across the wet scrubber and the scrubber water flow rate while the emissions unit is in operation. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall collect and record the following information each day, when the emission unit is in operation:

- a. the pressure drop across the scrubber, in inches of water,;
  - b. the scrubber water flow rate, in gallons per minute, ; and
  - c. a log or record of operating time for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.
4. The permittee shall properly operate and maintain equipment to monitor the pressure drop across the bag house, while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual. The permittee shall record the following in an operations log on daily basis:

- a. the pressure drop across the bag house for each day when the emission unit was in operation; and
  - b. a log or record of the downtime for the control device and monitoring equipment, when the emissions unit was in operation.
5. The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
- a. the color of the emissions;
  - b. the total duration of any visible emission incident; and
  - c. any corrective actions taken to eliminate the visible emissions.
6. The permittee shall perform monthly inspections of the capture system for TEA vented from the cold box core machine. This inspection must include observations of the physical appearance of the equipment (e.g., presence of holes in the ductwork or hoods, flow constrictions caused by dents or accumulated dust in the ductwork, and fan erosion).

If defects or deficiencies are observed, the permittee shall also maintain a record in the operations log that includes an identification of the defect or deficiency, the date observed and the date that the defect or deficiency was repaired.

#### **IV. Reporting Requirements**

1. In accordance with paragraph A.1.c.ii of the General Terms and Conditions the permittee shall submit quarterly deviation (excursion) reports that identify:
  - a. all exceedances of the rolling, 12-month core production limitation and, for the first 12 calendar months of operation following the issuance of this permit, all exceedances of the maximum allowable cumulative core production levels, specified in section II.1, above;
  - b. all periods of time during which the scrubber water pH did not comply with the pH requirements specified in section A.II.3 above;
  - c. all periods of time during which the static pressure drop across the wet scrubber was not maintained at or above the required level;
  - d. all periods of time during which the scrubber water flow was not maintained at or above the required level; and

- e. all periods of time during which the pressure drop across the bag house did not comply with the allowable range.
2. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from any stack serving this emissions unit, and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Director (the Ohio EPA, Central District Office) by January 31 and July 31 of each year and shall cover the previous 6-month period.
  3. The permittee shall submit a monitoring plan for control of TEA emissions that is subject to approval by Ohio EPA that includes the following:
    - a. a description of the control device (wet acid scrubber);
    - b. a report of emission test verifying the performance of the control device for reducing emissions of TEA to the levels required in section A.I.1, above;
    - c. a copy of the operation and maintenance plan, with a requirement to repair any defect or deficiency identified through monthly inspections as soon as practicable;
    - d. a list of appropriate operating parameters that will be monitored to maintain continuous compliance with the applicable emissions limitation; and
    - e. the operating parameter limits based on monitoring data collected during the performance emission test.

## **V. Testing Requirements**

1. Compliance with the emission limitations in section A.I.1 of these terms and conditions shall be determined in accordance with the following methods:
  - a. Emission Limitation:  
Visible PE from any stack shall not exceed 20% opacity, as a 6-minute average.  
  
Applicable Compliance Method:  
If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR, Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).
  - b. Emission Limitation:  
Triethylamine (TEA) emission from the scrubber stack serving this emissions unit shall not exceed 1 ppmv or the TEA emissions from each cold box core machine (100% capture) shall be reduced by a minimum 99%, as determined when scrubbing with fresh acid solution.  
  
Applicable Compliance Method:  
The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

- i. The emission testing shall be conducted within 6 months after emissions unit startup.
- ii. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for TEA from the scrubber stack serving this emissions unit (1 ppmv) or the control efficiency limitation of at least 99% for TEA from the cold box core machine (100% capture), as determined when scrubbing with fresh acid solution as well as to establish an acceptable liquid flow rate in gallon per minute in the wet acid scrubber.
- iii. The following test methods shall be employed to demonstrate compliance with the allowable mass emission rate: for TEA, Method 18 of 40 CFR, Part 60, Appendix A - if applicable. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.
- iv. The tests shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, Central District Office (CDO).

The control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) shall be determined in accordance with the test methods and procedures specified in OAC rule 3745-21-10 or the approved alternative test protocol. The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.

Not later than 30 days prior to the proposed test dates, the permittee shall submit an "Intent to Test" notification to the Ohio EPA, CDO. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the times and dates of the tests, and the persons who will be conducting the tests. Failure to submit such notification for review and approval prior to the tests may result in the Ohio EPA, CDO's refusal to accept the results of the emission tests.

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

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

- c. Emission limitation:  
VOC emission from this emissions unit shall not exceed 2.04 pounds per hour.
- Applicable Compliance Method:  
Compliance with the hourly emission limitation may be calculated using an OCMA emission factor of 0.68 lb of VOC/ton sand multiplied by the maximum process weight rate of 3 tons sand per hour to equal 2.04 lbs/hr.
- d. Emission Limitation:  
VOC emission from this emissions unit shall not exceed 4.9 tons per rolling, 12-month period.
- Applicable Compliance Method:  
Compliance with the annual emission limitation shall be demonstrated by record keeping required in section III.1, compliance with annual production restriction shall assure compliance with the annual emission limitation: 14,400 tons of sand/yr \* 0.68 lb of VOC/ton sand \* 1 ton/2,000 lbs = 4.9 tons of VOC/yr.
- e. Emission Limitation:  
PE from this emissions unit shall not exceed 0.01 pound per hour.
- Applicable Compliance Method:  
Compliance with the hourly emission limitation may be demonstrated by calculation derived from RACM emission factor Table 2.8-1 at the maximum process weight rate as follows:  
 $(0.3 \text{ lb of PE/ton sand RACM})(3.0 \text{ tons of sand/hr})(100\% \text{ capture})(1 - 0.99 \text{ control}) = 0.01 \text{ lb PE/hr}$
- f. Emission Limitation:  
PE from this emissions unit shall not exceed 0.04 ton per year.
- Applicable Compliance Method:  
Compliance with the annual emission limitation may be assured as long as compliance is maintained with the hourly emission limitation and shall be calculated as follows:  
 $0.01 \text{ lb of PE/hr} * 8,760 \text{ hrs/yr} * 1 \text{ ton/2,000 lbs} = 0.04 \text{ ton of PE/yr}$

## **VI. Miscellaneous Requirements**

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

**B. State Only Enforceable Section**

**I. Applicable Emissions Limitations and/or Control Requirements**

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P056 - Cold Box Core Machine 2 vented to baghouse and the Dakota wet acid scrubber	None	None

**2. Additional Terms and Conditions**

2.a None

**II. Operational Restrictions**

None

**III. Monitoring and/or Recordkeeping Requirements**

None

**IV. Reporting Requirements**

None

**V. Testing Requirements**

None

**VI. Miscellaneous Requirements**

None

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

**A. State and Federally Enforceable Section**

**I. Applicable Emissions Limitations and/or Control Requirements**

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P057 - Cold Box Core Machine 3 vented to baghouse and Dakota wet acid scrubber	OAC rule 3745-31-05(A)(3)	<p>Particulate matter* (PE) from this emissions unit shall not exceed 0.01 pound per hour and 0.04 ton per year.</p> <p>Volatile organic compound (VOC) emission released from this emissions unit shall not exceed 2.04 pounds per hour.</p> <p>See section A.I.2.d below.</p> <p>Triethylamine (TEA) emission from the scrubber stack serving this emissions unit shall not exceed 1 ppmv or the TEA emissions from each cold box core machine (100% capture) shall be reduced by a minimum 99%, as determined when scrubbing with fresh acid solution. See sections A.2.a and A.II.2 - 6 below.</p> <p>Visible PE from any stack shall not exceed 20% opacity, as a 6-minute average.</p> <p>There shall be no visible emission (VE) of particulate matter from either the sand bin or the ribbon blender during production of cores in this emissions unit.</p>

	The requirements of this rule also include compliance with the requirements of OAC rule 3745-31-05(C).
40 CFR Part 63, Subpart EEEEE	See section A.I.2.a below.
OAC rule 3745-31-05(C) (synthetic minor to avoid non-attainment review)	VOC emissions from this emissions unit shall not exceed 4.9 tons per rolling, 12-month period.
OAC rule 3745-21-07(G)(2)	See section A.II.1 below.
OAC rule 3745-17-11(B)	See section A.I.2.b below.
OAC rule 3745-17-08(A)	See section A.I.2.c below.
	The emission limitation specified by this rule is less stringent than limit established pursuant OAC rule 3745-31-05.
	*all PE is considered to be particulate matter less than 10 microns.

**2. Additional Terms and Conditions**

- 2.a** As an existing source under provisions in 40 CFR 63.2, the permittee shall comply with the maximum achievable control technology (MACT) provisions under 40 CFR Part 63, Subpart EEEEE for the cold box core machine by April 22, 2007, unless an extension is granted under 40 CFR Part 63, Subpart A.
- 2.b** This emissions unit is exempt from the requirements of OAC rule 3745-21-07(G) pursuant to OAC rule 3745-21-07(G)(9)(h) [the use of a phenolic urethane cold box resin binder system in foundry core-making and mold-making operations with a minimum 98% scrubber control efficiency]. This exemption was adopted by the Director of Ohio EPA and became effective June 15, 1999.
- 2.c** The uncontrolled mass rate of PE\* from this emissions unit is less than 10 pounds/hour. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply.
- 2.d** The hourly emission limitations outlined above is based on the emissions unit's potential to emit (PTE). Therefore, no records are required to demonstrate compliance with those limitations.

## II. Operational Restrictions

1. The maximum annual core production for this emissions unit shall not exceed 14,440 tons, based upon a rolling, 12-month summation of the core production.

To ensure enforceability during the first 12 calendar months of operation, following the issuance of this permit, the permittee shall not exceed the core production levels specified in the following table:

<u>Months</u>	<u>Maximum Allowable Cumulative Core Production, in tons</u>
1	1,200
1-2	2,400
1-3	3,600
1-4	4,800
1-5	6,000
1-6	7,200
1-7	8,400
1-8	9,600
1-9	10,800
1-10	12,000
1-11	13,200
1-12	14,400

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

2. The permittee shall vent all TEA emissions to the wet acid scrubber, whenever this emissions unit is in operation. The core-blower machine shall employ an electrical lock-out system to ensure maximum capture and control of TEA emissions during core blowing machine production. A malfunction of either the Dakota scrubber blower fan or recirculating liquid pump shall cause an electrical lockout that prevents core production.
3. The pH of the scrubber water shall be maintained at a value not to exceed a pH of 4.5, while the emissions unit is producing cold-box cores.
4. The pressure drop across the wet acid scrubber shall be continuously maintained within the range of 2 to 8 inches of water, at all times while the emissions unit is in operation.
5. The scrubber water flow rate shall be continuously maintained at a value of not less than the minimum level established during the performance test in gallons per minute at all times while the emissions unit is in operation.
6. The permittee shall vent all PE generated during pneumatic transport to the sand bin to a bag house, whenever this emissions unit is in operation. The pressure drop across the bag

house shall be maintained within the range of 2 to 10 inches of water, while the emissions unit is in operation.

### **III. Monitoring and/or Recordkeeping Requirements**

1. The permittee shall maintain monthly records of the following information:
  - a. the core production rate for each month; and
  - b. beginning after the first 12 calendar months of operation following the issuance of this permit, the rolling, monthly summation of the core production rates.

Also, during the first 12 calendar months of operation following the issuance of this permit, the permittee shall record the cumulative core production rate for each calendar month.

2. The permittee shall properly install, operate and maintain equipment to continuously monitor and record the pH of the scrubber liquor while the emissions unit is in operation. The pH monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall collect and record the following information each day:

- a. the pH of the scrubber liquor, on once per 8 hour shift basis; and
  - b. a log or record of operating time for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.
3. The permittee shall properly install, operate and maintain equipment to continuously monitor the static pressure drop across the scrubber and the scrubber water flow rate while the emissions unit is in operation. The monitoring devices and any recorders shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions and operating manuals.

The permittee shall collect and record the following information each day when the emission unit was in operation:

- a. the pressure drop across the scrubber, in inches of water;
  - b. the scrubber water flow rate, in gallons per minute; and
  - c. a log or record of operating time for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.
4. The permittee shall properly operate and maintain equipment to monitor the pressure drop across the bag house, while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual. The permittee shall record the following in an operations log on daily basis:

- a. the pressure drop across the bag house for each day when the emission unit was in operation; and
  - b. a log or record of the downtime for the control device and monitoring equipment, when the emissions unit was in operation.
5. The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
- a. the color of the emissions;
  - b. the total duration of any visible emission incident; and
  - c. any corrective actions taken to eliminate the visible emissions.
6. The permittee shall perform monthly inspections of the capture system for TEA vented from the cold box core machine. This inspection must include observations of the physical appearance of the equipment (e.g., presence of holes in the ductwork or hoods, flow constrictions caused by dents or accumulated dust in the ductwork, and fan erosion).

If defects or deficiencies are observed, the permittee shall also maintain a record in the operations log that includes an identification of the defect or deficiency, the date observed and the date that the defect or deficiency was repaired.

#### **IV. Reporting Requirements**

1. In accordance with paragraph A.1.c.ii of the General Terms and Conditions the permittee shall submit quarterly deviation (excursion) reports that identify:
  - a. all exceedances of the rolling, 12-month core production limitation and, for the first 12 calendar months of operation following the issuance of this permit, all exceedances of the maximum allowable cumulative core production levels, specified in section II.1, above;
  - b. all periods of time during which the scrubber water pH did not comply with the pH requirements specified in section A.II.3 above;
  - c. all periods of time during which the static pressure drop across the wet scrubber was not maintained at or above the required level;
  - d. all periods of time during which the scrubber water flow was not maintained at or above the required level; and

- e. all periods of time during which the pressure drop across the bag house did not comply with the allowable range.
2. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from any stack serving this emissions unit, and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Director (the Ohio EPA, Central District Office) by January 31 and July 31 of each year and shall cover the previous 6-month period.
  3. The permittee shall submit a monitoring plan for control of TEA emissions that is subject to approval by Ohio EPA that includes the following:
    - a. a description of the control device (liquid acid scrubber);
    - b. a report of emission test verifying the performance of the control device for reducing emissions of TEA to the levels required in section A.2.b, above;
    - c. a copy of the operation and maintenance plan, with a requirements to repair any defect or deficiency identified through monthly inspections as soon as practicable;
    - d. a list of appropriate operating parameters that will be monitored to maintain continuous compliance with the applicable emissions limitation; and
    - e. the operating parameter limits based on monitoring data collected during the performance emission test.

## **V. Testing Requirements**

1. Compliance with the emission limitations in section A.I.1 of these terms and conditions shall be determined in accordance with the following methods:
  - a. **Emission Limitation:**  
Visible PE from any stack shall not exceed 20% opacity, as a 6-minute average.  
  
**Applicable Compliance Method:**  
If required, compliance shall be determined through visible emissions observations performed in accordance with 40 CFR, Part 60, Appendix A, Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).
  - b. **Emission Limitation:**  
Triethylamine (TEA) emission from the scrubber stack serving this emissions unit shall not exceed 1 ppmv or the TEA emissions from each cold box core machine(100% capture) shall be reduced by a minimum 99%, as determined when scrubbing with fresh acid solution.

Applicable Compliance Method:

The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

- i. The emission testing shall be conducted within 6 months after emissions unit startup.
- ii. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for TEA from the scrubber stack serving this emissions unit (1 ppmv) or the control efficiency limitation of at least 99% for TEA from the cold box core machine (100% capture), as determined when scrubbing with fresh acid solution as well as to establish an acceptable liquid flow rate in gallon per minute in the wet acid scrubber.
- iii. The following test methods shall be employed to demonstrate compliance with the allowable mass emission rate: for TEA, Method 18 of 40 CFR, Part 60, Appendix A - if applicable. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.
- iv. The tests shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the Ohio EPA, Central District Office (CDO).

The control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) shall be determined in accordance with the test methods and procedures specified in OAC rule 3745-21-10 or the approved alternative test protocol. The test methods and procedures selected shall be based on a consideration of the diversity of the organic species present and their total concentration, and on a consideration of the potential presence of interfering gases.

Not later than 30 days prior to the proposed test dates, the permittee shall submit an "Intent to Test" notification to the Ohio EPA, CDO. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the times and dates of the tests, and the persons who will be conducting the tests. Failure to submit such notification for review and approval prior to the tests may result in the Ohio EPA, CDO's refusal to accept the results of the emission tests.

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

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

- c. Emission limitation:  
VOC emissions from this emissions unit shall not exceed 2.04 pound per hour.

Applicable Compliance Method:

Compliance with the hourly emission limitation may be calculated at the maximum process weight rate using an OCMA emission factor of 0.68 lb of VOC/ton sand multiplied by the process weight rate of 3 tons sand/hr to equal 2.04 lbs/hr.

- d. Emission Limitation:  
VOC emissions from this emissions unit shall not exceed 4.9 tons per rolling, 12-month period.

Applicable Compliance Method:

Compliance with the annual emission limitation shall be demonstrated by record keeping required in section III.2, compliance with the annual limitation should be ensured:  $14,400 \text{ tons sand/yr} * 0.68 \text{ lb of VOC/ton sand} * 1 \text{ ton}/2,000 \text{ lbs} = 4.9 \text{ tons of VOC/yr}$ .

- e. Emission Limitation:  
PE from this emissions unit shall not exceed 0.01 pound per hour.

Applicable Compliance Method:

Compliance with the hourly emission limitation may be demonstrated by calculation derived from RACM emission factor Table 2.8-1 at the maximum process weight rate as follows:  
 $(0.3 \text{ lb of PE/ton sand RACM})(3.0 \text{ tons sand/hr})(100\% \text{ capture})(1 - 0.99 \text{ control}) = 0.01 \text{ lb PE/hr plus}$

- f. Emission Limitation:  
PE from this emissions unit shall not exceed 0.04 ton per year.

Applicable Compliance Method:

Compliance with the annual emission limitation may be assured as long as compliance is maintained with the hourly emission limitation and shall be calculated as follows:

$0.01 \text{ lb of PE/hr} * 8,760 \text{ hrs/yr} * 1 \text{ ton}/2,000 \text{ lbs} = 0.04 \text{ ton of PE/yr}$

## **VI. Miscellaneous Requirements**

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

**B. State Only Enforceable Section**

**I. Applicable Emissions Limitations and/or Control Requirements**

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P057 - Cold Box Core Machine 3 vented to baghouse and the Dakota wet acid scrubber	None	None

**2. Additional Terms and Conditions**

2.a None

**II. Operational Restrictions**

None

**III. Monitoring and/or Recordkeeping Requirements**

None

**IV. Reporting Requirements**

None

**V. Testing Requirements**

None

**VI. Miscellaneous Requirements**

None