



2/26/2015

Certified Mail

Renee Olney  
 Liberty Casting Co  
 550 Liberty Rd  
 Delaware, OH 43015

RE: FINALAIR POLLUTION PERMIT-TO-INSTALL  
 Facility ID: 0121010003  
 Permit Number: P0117801  
 Permit Type: Initial Installation  
 County: Delaware

Yes	TOXIC REVIEW
No	PSD
Yes	SYNTHETIC MINOR TO AVOID MAJOR NSR
No	CEMS
Yes	MACT/GACT
No	NSPS
No	NESHAPS
No	NETTING
No	MAJOR NON-ATTAINMENT
No	MODELING SUBMITTED
No	MAJOR GHG
No	SYNTHETIC MINOR TO AVOID MAJOR GHG

Dear Permit Holder:

Enclosed please find a final Ohio Environmental Protection Agency (EPA) Air Pollution Permit-to-Install (PTI) which will allow you to install or modify the described emissions unit(s) in a manner indicated in the permit. Because this permit contains several conditions and restrictions, we urge you to read it carefully. Because this permit contains conditions and restrictions, please read it very carefully. In this letter you will find the information on the following topics:

- **How to appeal this permit**
- **How to save money, reduce pollution and reduce energy consumption**
- **How to give us feedback on your permitting experience**
- **How to get an electronic copy of your permit**

**How to appeal this permit**

The issuance of this PTI is a final action of the Director and may be appealed to the Environmental Review Appeals Commission pursuant to Section 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. The appeal must be filed with the Commission within thirty (30) days after notice of the Director's action. The appeal must be accompanied by a filing fee of \$70.00, made payable to "Ohio Treasurer Josh Mandel," which the Commission, in its discretion, may reduce if by affidavit you demonstrate that payment of the full amount of the fee would cause extreme hardship. Notice of the filing of the appeal shall be filed with the Director within three (3) days of filing with the Commission. Ohio EPA requests that a copy of the appeal be served upon the Ohio Attorney General's Office, Environmental Enforcement Section. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Environmental Review Appeals Commission  
 77 South High Street, 17th Floor  
 Columbus, OH 43215

## **How to save money, reduce pollution and reduce energy consumption**

The Ohio EPA is encouraging 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 Compliance Assistance and Pollution Prevention at (614) 644-3469. Additionally, all or a portion of the capital expenditures related to installing air pollution control equipment under this permit may be eligible for financing and State tax exemptions through the Ohio Air Quality Development Authority (OAQDA) under Ohio Revised Code Section 3706. For more information, see the OAQDA website: [www.ohioairquality.org/clean\\_air](http://www.ohioairquality.org/clean_air)

## **How to give us feedback on your permitting experience**

Please complete a survey at [www.epa.ohio.gov/survey.aspx](http://www.epa.ohio.gov/survey.aspx) and give us feedback on your permitting experience. We value your opinion.

## **How to get an electronic copy of your permit**

This permit can be accessed electronically via the eBusiness Center: Air Services in Microsoft Word format or in Adobe PDF on the Division of Air Pollution Control (DAPC) Web page, [www.epa.ohio.gov/dapc](http://www.epa.ohio.gov/dapc) by clicking the "Search for Permits" link under the Permitting topic on the Programs tab.

If you have any questions, please contact Ohio EPA DAPC, Central District Office at (614)728-3778 or the Office of Compliance Assistance and Pollution Prevention at (614) 644-3469.

Sincerely,



Erica R. Engel-Ishida, Manager  
Permit Issuance and Data Management Section, DAPC

Cc: U.S. EPA  
Ohio EPA-CDO



**FINAL**

**Division of Air Pollution Control  
Permit-to-Install  
for  
Liberty Casting Co**

Facility ID:	0121010003
Permit Number:	P0117801
Permit Type:	Initial Installation
Issued:	2/26/2015
Effective:	2/26/2015





**Division of Air Pollution Control**  
**Permit-to-Install**  
for  
Liberty Casting Co

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## Authorization

Facility ID: 0121010003  
Facility Description: Gray iron foundry located at 550 South Liberty Road, Delaware, Ohio.  
Application Number(s): A0051280, A0051488, A0051660, A0052199, A0052795, A0052834  
Permit Number: P0117801  
Permit Description: Initial installation of inoculation stations, mold making lines, pouring and cooling lines, shakeout and despruing, sand bins, bond/premix bins, coremaking lines, core wash lines, saw and grinding operations, (3) tumbleblasts, (4) ladle preheaters, and (2) annealing ovens. The proposed emissions units will serve the clay bonded sand mold making operations and phenolic urethane no-bake core making operations for the production of gray iron.  
Permit Type: Initial Installation  
Permit Fee: \$31,200.00  
Issue Date: 2/26/2015  
Effective Date: 2/26/2015

This document constitutes issuance to:

Liberty Casting Co  
550 Liberty Rd  
Delaware, OH 43015

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

Ohio Environmental Protection Agency (EPA) District Office or local air agency responsible for processing and administering your permit:

Ohio EPA DAPC, Central District Office  
50 West Town Street, 6th Floor  
P.O. Box 1049  
Columbus, OH 43216-1049  
(614)728-3778

The above named entity is hereby granted a Permit-to-Install for the 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 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

  
Craig W. Butler  
Director



## Authorization (continued)

Permit Number: P0117801

Permit Description: Initial installation of inoculation stations, mold making lines, pouring and cooling lines, shakeout and despruing, sand bins, bond/premix bins, coremaking lines, core wash lines, saw and grinding operations, (3) tumbleblasts, (4) ladle preheaters, and (2) annealing ovens. The proposed emissions units will serve the clay bonded sand mold making operations and phenolic urethane no-bake core making operations for the production of gray iron.

Permits for the following Emissions Unit(s) or groups of Emissions Units are in this document as indicated below:

- |                                   |                         |
|-----------------------------------|-------------------------|
| <b>Emissions Unit ID:</b>         | <b>P096</b>             |
| Company Equipment ID:             | Sand Handling & Cooling |
| Superseded Permit Number:         |                         |
| General Permit Category and Type: | Not Applicable          |
| <b>Emissions Unit ID:</b>         | <b>P101</b>             |
| Company Equipment ID:             | Core Wash Operations    |
| Superseded Permit Number:         |                         |
| General Permit Category and Type: | Not Applicable          |
| <b>Emissions Unit ID:</b>         | <b>P103</b>             |
| Company Equipment ID:             | Ladle Preheaters (4)    |
| Superseded Permit Number:         |                         |
| General Permit Category and Type: | Not Applicable          |
| <b>Emissions Unit ID:</b>         | <b>P107</b>             |
| Company Equipment ID:             | Table Cut-Off Saw #1    |
| Superseded Permit Number:         |                         |
| General Permit Category and Type: | Not Applicable          |
| <b>Emissions Unit ID:</b>         | <b>P108</b>             |
| Company Equipment ID:             | Annealing Oven          |
| Superseded Permit Number:         |                         |
| General Permit Category and Type: | Not Applicable          |

**Group Name: Core Making**

<b>Emissions Unit ID:</b>	<b>P099</b>
Company Equipment ID:	Core Making Craft CB-22 #1
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P100</b>
Company Equipment ID:	Palmer Bioset Core Mixer
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable



**Group Name: Inoculation**

<b>Emissions Unit ID:</b>	<b>P088</b>
Company Equipment ID:	Inoculation Stations A & B
Superseded Permit Number:	
General Permit Category andType:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P089</b>
Company Equipment ID:	Inoculation Station A
Superseded Permit Number:	
General Permit Category andType:	Not Applicable

**Group Name: Mold Lines**

<b>Emissions Unit ID:</b>	<b>P090</b>
Company Equipment ID:	FBO Line Molding
Superseded Permit Number:	
General Permit Category andType:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P093</b>
Company Equipment ID:	HSP Molding
Superseded Permit Number:	
General Permit Category andType:	Not Applicable

**Group Name: Pouring and Cooling**

<b>Emissions Unit ID:</b>	<b>P091</b>
Company Equipment ID:	FBO Pouring
Superseded Permit Number:	
General Permit Category andType:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P094</b>
Company Equipment ID:	HSP Pouring
Superseded Permit Number:	
General Permit Category andType:	Not Applicable

**Group Name: Sand Silos**

<b>Emissions Unit ID:</b>	<b>P097</b>
Company Equipment ID:	New Sand Bin
Superseded Permit Number:	
General Permit Category andType:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P098</b>
Company Equipment ID:	Premix Additive Bin
Superseded Permit Number:	
General Permit Category andType:	Not Applicable

**Group Name: Shakeout and Despruing**

<b>Emissions Unit ID:</b>	<b>P092</b>
Company Equipment ID:	FBO Desprue
Superseded Permit Number:	
General Permit Category andType:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P095</b>
Company Equipment ID:	HSP Shakeout
Superseded Permit Number:	
General Permit Category andType:	Not Applicable



**Final Permit-to-Install**  
Liberty Casting Co  
**Permit Number:** P0117801  
**Facility ID:** 0121010003  
**Effective Date:** 2/26/2015

**Group Name: Tumbleblast**

<b>Emissions Unit ID:</b>	<b>P104</b>
Company Equipment ID:	14 CF Tumbleblast #1
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P105</b>
Company Equipment ID:	14 CF Tumbleblast #2
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P106</b>
Company Equipment ID:	28 Cu Ft Tumbleblast
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable



**Final Permit-to-Install**  
Liberty Casting Co  
**Permit Number:** P0117801  
**Facility ID:** 0121010003  
**Effective Date:** 2/26/2015

## **A. Standard Terms and Conditions**



## **1. Federally Enforceable Standard Terms and Conditions**

- a) All Standard Terms and Conditions are federally enforceable, with the exception of those listed below which are enforceable under State law only:
  - (1) Standard Term and Condition A.2.a), Severability Clause
  - (2) Standard Term and Condition A.3.c) through A. 3.e) General Requirements
  - (3) Standard Term and Condition A.6.c) and A. 6.d), Compliance Requirements
  - (4) Standard Term and Condition A.9., Reporting Requirements
  - (5) Standard Term and Condition A.10., Applicability
  - (6) Standard Term and Condition A.11.b) through A.11.e), Construction of New Source(s) and Authorization to Install
  - (7) Standard Term and Condition A.14., Public Disclosure
  - (8) Standard Term and Condition A.15., Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations
  - (9) Standard Term and Condition A.16., Fees
  - (10) Standard Term and Condition A.17., Permit Transfers

## **2. Severability Clause**

- a) 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.
- b) All terms and conditions designated in parts B and C of this permit are federally enforceable as a practical matter, if they are required under the Act, or any of 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. Terms and conditions in parts B and C of this permit shall not be federally enforceable and shall be enforceable under State law only, only if specifically identified in this permit as such.

## **3. General Requirements**

- a) 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.

#### **4. Monitoring and Related Record Keeping 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:
  - (1) The date, place (as defined in the permit), and time of sampling or measurements.
  - (2) The date(s) analyses were performed.
  - (3) The company or entity that performed the analyses.
  - (4) The analytical techniques or methods used.
  - (5) The results of such analyses.
  - (6) 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:
  - (1) Reports of any required monitoring and/or recordkeeping of federally enforceable information shall be submitted to the Ohio EPA DAPC, Central District Office.



- (2) 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 Ohio EPA DAPC, Central District Office. 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 A.15. below if no deviations occurred during the quarter.
  - (3) Written reports, which identify any deviations from the federally enforceable monitoring, recordkeeping, and reporting requirements contained in this permit shall be submitted to the Ohio EPA DAPC, Central District Office 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.
  - (4) This permit is for an emissions unit located at a Title V facility. 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.

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

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction, i.e., upset, of any emissions units or any associated air pollution control system(s) shall be reported to the Ohio EPA DAPC, Central District Office 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).

## **6. Compliance Requirements**

- a) All applications, notifications or reports required by terms and conditions in this permit to be submitted or "reported in writing" are to be submitted to Ohio EPA through the Ohio EPA's eBusiness Center: Air Services web service ("Air Services"). Ohio EPA will accept hard copy submittals on an as-needed basis if the permittee cannot submit the required documents through the Ohio EPA eBusiness Center. In the event of an alternative hard copy submission in lieu of the eBusiness Center, the post-marked date or the date the document is delivered in person will be recognized as the date submitted. Electronic submission of applications, notifications or reports required to be submitted to Ohio EPA fulfills the requirement to submit the required information to the Director, the appropriate Ohio EPA District Office or contracted



local air agency, and/or any other individual or organization specifically identified as an additional recipient identified in this permit unless otherwise specified. Consistent with OAC rule 3745-15-03, the electronic signature date shall constitute the date that the required application, notification or report is considered to be "submitted". Any document requiring signature may be represented by entry of the personal identification number (PIN) by responsible official as part of the electronic submission process or by the scanned attestation document signed by the Authorized Representative that is attached to the electronically submitted written report.

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:
  - (1) 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.
  - (2) 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.
  - (3) Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.
  - (4) 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 Ohio EPA DAPC, Central District Office 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:
  - (1) Dates for achieving the activities, milestones, or compliance required in any schedule of compliance, and dates when such activities, milestones, or compliance were achieved.
  - (2) 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.

## **7. Best Available Technology**

As specified in OAC Rule 3745-31-05, new sources that must employ Best Available Technology (BAT) shall comply with the Applicable Emission Limitations/Control Measures identified as BAT for each subject emissions unit.



**8. 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.

**9. 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 Ohio EPA DAPC, Central District Office.
- 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 Ohio EPA DAPC, Central District Office. 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, 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.)

**10. 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) not exempt from the requirement to obtain a Permit-to-Install.

**11. Construction of New Sources(s) and Authorization to Install**

- a) 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.
- b) If applicable, authorization to install any new 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 has not entered into a binding contractual obligation to undertake and complete within a reasonable time a continuing program of installation. 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 permittee shows good cause for any such extension.

- c) The permittee may notify Ohio EPA of any emissions unit that is permanently shut down (i.e., 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) by submitting a certification from the authorized official that identifies the date on which the emissions unit was permanently shut down. Authorization to operate the affected emissions unit shall cease upon the date certified by the authorized official that the emissions unit was permanently shut down. At a minimum, notification of permanent shut down shall be made or confirmed by marking the affected emissions unit(s) as "permanently shut down" in "Air Services" along with the date the emissions unit(s) was permanently removed and/or disabled. Submitting the facility profile update electronically will constitute notifying the Director of the permanent shutdown of the affected emissions unit(s).
- d) The provisions of this permit shall cease to be enforceable for each affected emissions unit after the date on which an emissions unit is permanently shut down (i.e., 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). All records relating to any permanently shutdown emissions unit, generated while the emissions unit was in operation, must be maintained in accordance with law. All reports required by this permit must be submitted for any period an affected emissions unit operated prior to permanent shut down. At a minimum, the permit requirements must be evaluated as part of the reporting requirements identified in this permit covering the last period the emissions unit operated.

Unless otherwise exempted, no emissions unit certified by the responsible official as being permanently shut down may resume operation without first applying for and obtaining a permit pursuant to OAC Chapter 3745-31 and OAC Chapter 3745-77 if the restarted operation is subject to one or more applicable requirements.

- e) The permittee shall comply with any residual requirements related to this permit, such as the requirement to submit a deviation report, air fee emission report, or other any reporting required by this permit for the period the operating provisions of this permit were enforceable, or as required by regulation or law. All reports shall be submitted in a form and manner prescribed by the Director. All records relating to this permit must be maintained in accordance with law.

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

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 operation of the proposed new or modified source(s) as authorized by this permit would be prohibited by the terms and conditions of an existing Title V permit, a Title V permit modification of such new or modified source(s) pursuant to OAC rule 3745-77-04(D) and OAC rule 3745-77-08(C)(3)(d) must be obtained before operating the source in a manner that would violate the existing Title V permit requirements.



**13. Construction Compliance Certification**

The applicant shall identify the following dates in the "Air Services" facility profile for each new emissions unit identified in this permit.

- a) Completion of initial installation date shall be entered upon completion of construction and prior to start-up.
- b) Commence operation after installation or latest modification date shall be entered within 90 days after commencing operation of the applicable emissions unit.

**14. 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.

**15. Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations**

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

**16. 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.

**17. Permit Transfers**

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The new owner must update and submit the ownership information via the "Owner/Contact Change" functionality in "Air Services" once the transfer is legally completed. The change must be submitted through "Air Services" within thirty days of the ownership transfer date.

**18. 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.

**19. 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.



**Final Permit-to-Install**  
Liberty Casting Co  
**Permit Number:** P0117801  
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**Effective Date:** 2/26/2015

## **B. Facility-Wide Terms and Conditions**



**Final Permit-to-Install**  
Liberty Casting Co  
**Permit Number:** P0117801  
**Facility ID:** 0121010003  
**Effective Date:** 2/26/2015

1. All the following facility-wide terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only:
  - a) None.
2. The following emissions units in this permit are subject to National Emissions Standards for Hazardous Air Pollutants (NESHAP) 40 CFR Part 63, Subpart EEEEE, Maximum Achievable Control Standards (MACT): P088, P089, P091, P092, P094, P095, P096, P099, P100, P101, P103, P104, P105, P106, P107, and P108. The complete NESHAP/MACT requirements, including the NESHAP/MACT General Provisions, may be accessed via the internet from the Electronic Code of Federal Regulations (e-CFR) website <http://ecfr.gpoaccess.gov> or by contacting the appropriate Ohio EPA District Office or local air agency.



**Final Permit-to-Install**  
Liberty Casting Co  
**Permit Number:** P0117801  
**Facility ID:** 0121010003  
**Effective Date:** 2/26/2015

## **C. Emissions Unit Terms and Conditions**



**1. P096, Sand Handling & Cooling**

**Operations, Property and/or Equipment Description:**

Sand handling and cooling for both HSP and FBO lines.

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) b)(1)b. and b)(2)d.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(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 are identified below. 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)  [Synthetic minor to avoid PSD applicability]	Particulate matter (PM) stack and fugitive emissions shall not exceed 3.15 tons per rolling, 12-month summation.  Particulate matter less than 10 microns in diameter (PM10) stack and fugitive emissions shall not exceed 2.88 tons per rolling, 12-month summation.  Particulate matter less than 2.5 microns in diameter (PM2.5) stack and fugitive emissions shall not exceed 1.87 tons per rolling, 12-month summation.  See b)(2)a. – c. and c)(1)
b.	OAC rule 3745-31-05(A)(3), as effective 06/30/08	See b)(1)a. and b)(2)a. – d.
c.	OAC rule 3745-31-05(A)(3)(a)(ii), as effective 06/30/08	See b)(2)e.i.
d.	OAC rule 3745-17-07(A)	Visible particulate emissions from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.
e.	OAC rule 3745-17-07(B)	See b)(2)f.
f.	OAC rule 3745-17-08(B)	See b)(2)g.
g.	OAC rule 3745-17-11(A)(2)	The emissions limitation established by this rule is less stringent than the



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		emissions limitation established by OAC rule 3745-31-05(A)(3).  See b)(2)e.ii.
h.	40 CFR Part 63, Subpart EEEEE  [In accordance with 40 CFR 63.7682 this facility is an existing iron foundry subject to the emission limitations/control measures specified in this section]	For each building or structure housing any iron foundry emissions source at the iron foundry, you must not discharge any fugitive emissions that exhibit opacity greater than 20% (6-minute average), except for one 6-minute average per hour that does not exceed 27% opacity.  See b)(2)h., c)(2), d)(5), e)(5), and f)(2)
i.	40 CFR Part 63, Subpart A	Table I of 40 CFR Part 63, Subpart EEEEE, <i>Applicability of General Provisions to Subpart EEEEE</i> identifies which parts of the General Provisions in 40 CFR 63.1-15 apply.

(2) Additional Terms and Conditions

- a. The emissions from this emissions unit shall be vented to a baghouse at all times the emissions units are in operation.  
  
[Authority for term: OAC rule 3745-31-05(D)]
- b. The baghouse serving the emissions unit shall achieve an outlet concentration of 0.003 grains per dry standard cubic foot (gr/dscf) for PM, PM10, and PM2.5.  
  
[Authority for term: OAC rule 3745-31-05(D)]
- c. The permittee shall use a capture hood with 99.5% capture efficiency.  
  
[Authority for term: OAC rule 3745-31-05(D)]
- d. This Best Available Technology (BAT) emission limit applies until U.S. EPA approves Ohio Administrative Code (OAC) rule 3745-31-05(A)(3)(a)(ii) (the less than 10 tons per year BAT exemption) into the Ohio State Implementation Plan (SIP).  
  
[Authority for term: OAC rule 3745-31-05(A)(3), as effective 06/30/2008]
- e. These requirements apply once U.S. EPA approves OAC rule 3745-31-05(A)(3)(a)(ii) (the less than 10 tons per year BAT exemption) as part of the Ohio SIP.



i. The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the PM, PM10, and PM2.5 emissions from this air contaminant source since the calculated annual emission rate for PM, PM10, and PM2.5 is less than 10 tons/year, taking into account the federally enforceable rule limit of 4,500 hours per year, based upon a rolling, 12-month summation under OAC rule 3745-31-05(D), capture efficiency, and outlet concentration .

ii. Particulate emissions shall not exceed 43.6 pounds per hour.

[Authority for term: OAC rule 3745-31-05(A)(3)(a)(ii), as effective 06/30/2008]

f. The emissions units are exempt from OAC rule 3745-17-07(B)(1) pursuant to OAC rule 3745-17-07(B)(11)(e).

g. This facility is not located in an Appendix A area as described in OAC rule 3745-17-08; therefore, OAC rule 3745-17-08(B) does not apply to the fugitive emissions from these emissions units.

h. The permittee shall comply with the applicable requirements necessary to demonstrate compliance with 40 CFR Part 63, Subpart EEEEE.

63.7734(a)(7)	Initial compliance demonstration for fugitive emissions from foundry operations.
63.7743(a)(7), (12)	Continuous compliance with the fugitive emissions limitation.
63.7746	Other requirements to demonstrate continuous compliance.
63.7760	Other requirements and information.
63.7761	Other requirements and information.

[Authority for term: 40 CFR Part 63, Subpart EEEEE]

c) Operational Restrictions

(1) The maximum annual hours of operation for the emissions unit shall not exceed 4,500 operational hours, based upon a rolling, 12-month summation of the operational hours. To ensure enforceability during the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the permittee shall not exceed the operating hours specified in the following table:

<u>Month(s)</u>	<u>Maximum Allowable Operational Hours</u>
1	375
1-2	750
1-3	1,125
1-4	1,500



1-5	1,875
1-6	2,250
1-7	2,625
1-8	3,000
1-9	3,375
1-10	3,750
1-11	4,125
1-12	4,500

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

[Authority for term: OAC rule 3745-77-07(A)(1) and OAC rule 3745-31-05(D)]

- (2) The permittee shall comply with the applicable operational restrictions necessary to demonstrate compliance with 40 CFR Part 63, Subpart EEEEE.

63.7710(a)	Operational and maintenance (general)
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[Authority for term: 40 CFR Part 63, Subpart EEEEE]

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall maintain monthly records of the following information:
  - a. the number of hours operated each month;
  - b. beginning after the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the rolling, 12-month summation of the operating hours; and
  - c. the amount of sand processed;
  - d. the monthly PM, PM10, and PM2.5 fugitive and stack emissions rates;
  - e. the rolling, 12-month summation of PM, PM10, and PM2.5 stack and fugitive emissions, in tons based on the calculation in f)(1)a. – c. below.

The updated rolling, 12-month summation of the total PM, PM10, and PM2.5 emissions shall include the information for the current month and the preceding eleven calendar months.

Also, during the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the permittee shall record the cumulative operating hours for each calendar month.

[Authority for term: OAC rule 3745-77-07(C) and OAC rule 3745-31-05(D)]



- (2) The pressure drop across the baghouse shall be maintained within the range of 1 to 9 inches of water while the emissions units are in operation.

[Authority for term: OAC rule 3745-77-07(C) and OAC rule 3745-31-05(D)]

- (3) The permittee shall properly install, operate, and maintain equipment to continuously monitor the pressure drop, in inches of water, across the baghouse when the controlled emissions unit is in operation, including periods of startup and shutdown. The permittee shall record the pressure drop across the baghouse on daily basis. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s), with any modifications deemed necessary by the permittee.

Whenever the monitored value for the pressure drop deviates from the limit or range established in accordance with this permit, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:

- a. the date and time the deviation began;
- b. the magnitude of the deviation at that time;
- c. the date the investigation was conducted;
- d. the name(s) of the personnel who conducted the investigation; and
- e. the findings and recommendations.

In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable range specified in this permit, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken:

- a. a description of the corrective action;
- b. the date corrective action was completed;
- c. the date and time the deviation ended;
- d. the total period of time (in minutes) during which there was a deviation;
- e. the pressure drop readings immediately after the corrective action was implemented; and
- f. the name(s) of the personnel who performed the work.

Investigation and records required by this paragraph do not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.



This range or limit on the pressure drop across the baghouse is effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by Ohio EPA, Central District Office. The permittee may request revisions to the permitted limit or range for the pressure drop based upon information obtained during future testing that demonstrate compliance with the allowable particulate emission rate for the controlled emissions units. In addition, approved revisions to the range or limit will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of a minor permit modification.

[Authority for term: OAC rule 3745-77-07(C) and OAC rule 3745-31-05(D)]

- (4) 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. whether the emissions are representative of normal operations;
  - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
  - d. the total duration of any visible emissions incident; and
  - e. any corrective actions taken to minimize or eliminate the visible emissions.

If visible emissions are present, a visible emissions incident has occurred. The observer does not have to document the exact start and end times for the visible emissions incident under item (d) above or continue the daily check until the incident has ended. The observer may indicate that the visible emissions incident was continuous during the observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

[Authority for term: OAC rule 3745-77-07(C) and OAC rule 3745-17-07(A)(1)]

- (5) The permittee shall comply with the applicable monitoring and/or recordkeeping requirements necessary to demonstrate compliance with 40 CFR Part 63, Subpart EEEEE.



63.7752(a), (c)	Recordkeeping
63.7753	What form records must be kept in and how long

[Authority for term: 40 CFR Part 63, Subpart EEEEE]

e) Reporting Requirements

- (1) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA’s eBusiness Center: Air Services online web portal.

[Authority for term: OAC rule 3745-77-07(A)(3)(c)]

- (2) The permittee shall submit quarterly deviation (excursion) reports that identify the following:
  - a. all exceedances of the rolling, 12-month limitation on operating hours; and for the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, all exceedances of the maximum allowable cumulative operating hours;
  - b. all exceedances of the rolling, 12-month summation of PM, PM10, and PM2.5 stack and fugitive emissions;
  - c. each period of time (start time and date, end time and date) when the pressure drop across the baghouse was outside of the acceptable range;
  - d. any period of time (start time and date, end time and date) when the emissions unit was in operation and the process emissions were not vented to the baghouse;
  - e. each incident of deviation in e)(2)c. and/or e)(2)d. where a prompt investigation was not conducted;
  - f. each incident of deviation described in e)(2)c. and/or e)(2)d. where a prompt corrective action, that would bring the pressure drop into compliance with the acceptable range, was determined to be necessary and was not taken; and
  - g. each incident of deviation described in e)(2)c. and/or e)(2)d. where proper records were not maintained for the investigation and/or the corrective action(s), as identified in the monitoring and recordkeeping requirements of this permit.

The permittee shall identify any exceedances of the limitations established in Sections c)(1) for the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit.



The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(A)(3)(c) and OAC rule 3745-31-05(D)]

- (3) The permittee shall submit semiannual written reports that identify:
  - a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and
  - b. any corrective actions taken to minimize or eliminate the visible particulate emissions.

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

[Authority for term: OAC rule 3745-77-07(A)(3)(c) and OAC rule 3745-17-07(A)(1)]

- (4) The permittee shall also submit annual reports that specify the total PM, PM10, and PM2.5 emissions from this emissions unit. This report shall be submitted by April 15<sup>th</sup> of each year. This reporting requirement may be satisfied by including and identifying the specific emission data for this emissions unit in the annual Fee Emission Report.

[Authority for term: OAC rule 3745-77-07(A)(3)(c)]

- (5) The permittee shall comply with the applicable reporting requirements necessary to demonstrate compliance with 40 CFR Part 63, Subpart EEEEE.

63.7746	Reporting requirements for deviations
63.7750	What notifications must be submitted and when
63.7751	What reports must be submitted and when

[Authority for term: 40 CFR Part 63, Subpart EEEEE]

f) Testing Requirements

- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:
  - a. Emission Limitation:  
  
PM stack and fugitive emissions shall not exceed 3.15 ton per rolling, 12-month summation



Applicable Compliance Method:

Compliance with the emission limitation shall be determined by the summation of stack and fugitive emissions.

---

*The monthly **stack** emissions shall be based on the following equation:*

$$PM = (P) * (EF) * (\text{ton}/2000 \text{ lbs})$$

where,

PM = PM emissions (monthly)

P = hours of operation (monthly hours of operation as determined in d)(1)a.)

EF = 0.59 lb PM/hr (as determined by the following equation:  $[(0.003 \text{ gr/dscf}) * (\text{lb}/7000) * (22,800 \text{ dscfm}) * (60 \text{ min/hr})]$ )

*where,*

*22,800 dscfm = air flow established by PTI Application A0051280*

The monthly emissions shall be based on the hourly emission rate determined during the emission testing conducted per f)(3) and the monthly hours of operation.

---

*The monthly **fugitive** emission shall be based on the following equation:*

$$PM = (P) * (EF) * (\text{ton}/2000 \text{ lbs})$$

where,

PM = PM emissions (monthly)

P = hours of operation (monthly hours of operation as determined in d)(1)a.)

EF = 0.81 lb PM/hr, as determined by the following equation:  $(45 \text{ tons sand/hr}) * (3.6 \text{ lbs PM/ton sand}) * (1-0.995)$

*where,*

*45 tons sand/hr = maximum hourly throughput rate established by PTI Application A0051280*

*3.6 lbs PM/ton sand = WebFIRE, SCC 30400331*

*99.5% = capture hood efficiency established by PTI Application A0051280*

[Authority for term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-31-05(D)]



b. Emissions Limitation:

PM10 emissions shall not exceed 2.88 ton per rolling, 12-month summation

Applicable Compliance Method:

Compliance with the emission limitation shall be determined by the summation of stack and fugitive emissions.

---

*The monthly **stack** emissions shall be based on the following equation:*

$$PM10 = (P) * (EF) * (\text{ton}/2000 \text{ lbs})$$

where,

PM10 = PM10 emissions (monthly)

P = hours of operation (monthly hours of operation as determined in d)(1)a.)

EF = 0.59 lb PM10/hr (as determined by the following equation:  $[(0.003 \text{ gr/dscf}) * (\text{lb}/7000) * (22,800 \text{ dscfm}) * (60 \text{ min/hr})]$ )

*where,*

*22,800 dscfm = air flow established by PTI Application A0051280*

The monthly emissions shall be based on the hourly emission rate determined during the emission testing conducted per f)(3) and the monthly hours of operation.

---

*The monthly **fugitive** emission shall be based on the following equation:*

$$PM10 = (P) * (EF) * (\text{ton}/2000 \text{ lbs})$$

where,

PM10 = PM10 emissions (monthly)

P = hours of operation (monthly hours of operation as determined in d)(1)a.)

EF = 0.69 lb PM/hr, as determined by the following equation:  $(45 \text{ tons sand/hr}) * (3.06 \text{ lbs PM10/ton sand}) * (1-0.995)$

*where,*

*45 tons sand/hr = maximum hourly throughput rate established by PTI Application A0051280*

*3.06 lbs PM10/ton sand = US EPA's PM Calculator*



99.5% = capture hood efficiency established by PTI Application A0051280

[Authority for term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-31-05(D)]

c. Emissions Limitation:

PM2.5 emissions shall not exceed 1.87 ton per rolling, 12-month summation

Applicable Compliance Method:

Compliance with the emission limitation shall be determined by the summation of stack and fugitive emissions.

*The monthly **stack** emissions shall be based on the following equation:*

$$PM2.5 = (P) * (EF) * (\text{ton}/2000 \text{ lbs})$$

where,

$$PM2.5 = \text{PM2.5 emissions (monthly)}$$

P = hours of operation (monthly hours of operation as determined in d)(1)a.)

$$EF = 0.59 \text{ lb PM2.5/hr (as determined by the following equation: } [(0.003 \text{ gr/dscf}) * (\text{lb}/7000) * (22,800 \text{ dscfm}) * (60 \text{ min/hr})]$$

where,

$$22,800 \text{ dscfm} = \text{air flow established by PTI Application A0051280}$$

The monthly emissions shall be based on the hourly emission rate determined during the emission testing conducted per f)(3) and the monthly hours of operation.

*The monthly **fugitive** emission shall be based on the following equation:*

$$PM2.5 = (P) * (EF) * (\text{ton}/2000 \text{ lbs})$$

where,

$$PM2.5 = \text{PM2.5 emissions (monthly)}$$

P = hours of operation (monthly hours of operation as determined in d)(1)a.)

$$EF = 0.24 \text{ lb PM/hr, as determined by the following equation: } (45 \text{ tons sand/hr}) * (1.08 \text{ lbs PM2.5/ton sand}) * (1-0.995)$$

where,

$$45 \text{ tons sand/hr} = \text{maximum hourly throughput rate established by PTI Application A0052199}$$



1.08 lbs PM2.5/ton sand = US EPA's PM Calculator

99.5% = capture hood efficiency established by PTI Application A0052199

[Authority for term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-31-05(D)]

d. Emission Limitation:

Particulate emissions shall not exceed 43.6 pounds per hour

Applicable Compliance Method:

The emission limitation was established by "Table I" in the appendix to OAC rule 3745-17-11(A)(2). If required, compliance shall be based upon Method 5 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-17-11(A)(2)]

e. Emission Limitation:

Visible particulate emissions from the stack shall not exceed 20 percent opacity as a six-minute average, except as specified by rule.

Applicable Compliance Method:

Compliance with the stack visible particulate emissions limitation shall be determined through visible emissions observations performed in accordance with U.S. EPA Method 9.

[Authority for term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-17-07(A)(1)]

- (2) The permittee shall comply with the applicable testing requirements necessary to demonstrate compliance with under 40 CFR Part 63, Subpart EEEEE.

63.7730	Initial compliance requirements
63.7731(b)	When to conduct subsequent performance tests
63.7732(a), (d)	Test methods used and other procedures to demonstrate initial compliance with the emissions limitations

[Authority for term: 40 CFR Part 63, Subpart EEEEE]

- (3) The permittee shall conduct, emission testing for this emissions unit in accordance with the following requirements:

- a. The emission testing for P088, P089, P091, P092, P094, P095, and P096 shall be conducted within 60 days after achieving the maximum production rate at



which the emissions unit will be operated, but not later than 180 days after initial startup of the emissions unit.

- b. For P088, P089, P089, P091, P092, P094, P095, and P096 the emission testing shall be conducted to demonstrate compliance with the allowable PM, PM10, and PM2.5 concentration of 0.003 gr/dscf in the exhaust stream.
- c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):

PM - 40 CFR Part 60, Appendix A, Methods 1 through 5

PM10/PM2.5 – 40 CFR Part 60, Appendix A, Methods 201 and 202

Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

- d. The test(s) shall be conducted under those representative conditions that challenge to the fullest extent possible a facility's ability to meet the applicable emissions limits and/or control requirements, unless otherwise specified or approved by Ohio EPA, Central District Office. Although this generally consists of operating the emissions unit at its maximum material input/production rates and results in the highest emission rate of the tested pollutant, there may be circumstances where a lower emissions loading is deemed the most challenging control scenario. Failure to test under these conditions is justification for not accepting the test results as a demonstration of compliance.
- e. Not later than 60 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to Ohio EPA, Central District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in Ohio EPA, Central District Office's refusal to accept the results of the emission test(s).
- f. Personnel from Ohio EPA, Central District Office 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.
- g. 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 Ohio EPA, Central District Office 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 Ohio EPA, Central District Office.

[Authority for term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(D), and 40 CFR Part 63, Subpart EEEEE]



**Final Permit-to-Install**  
Liberty Casting Co  
**Permit Number:** P0117801  
**Facility ID:** 0121010003  
**Effective Date:** 2/26/2015

g) Miscellaneous Requirements

(1) None.



**2. Emissions Unit Group: Sand Silos – P097 and P098**

EU ID	Operations, Property and/or Equipment Description
P097	New sand silo loading and storage. Equipped with a bin vent.
P098	Bond sand silo loading and storage. Equipped with a bin vent.

- a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.
- (1) See b)(1)b. and b)(2)b.
- b) Applicable Emissions Limitations and/or Control Requirements
- (1) The specific operation(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 are identified below. 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)  [Synthetic minor to avoid PSD applicability]	<u>Combined emissions limitations for P097 and P098:</u>  Particulate matter (PM) emissions shall not exceed 0.04 tons per rolling, 12-month summation.  Particulate matter less than 10 microns in diameter (PM10) shall not exceed 0.03 tons per rolling, 12-month summation.  Particulate matter less than 2.5 microns in diameter (PM2.5) shall not exceed 0.01 tons per rolling, 12-month summation.  See b)(2)a. and c)(1)
b.	OAC rule 3745-31-05(A)(3), as effective 06/30/08	See b)(1)a. and b)(2)a. – b.
c.	OAC rule 3745-31-05(A)(3)(a)(ii), as effective 06/30/08	See b)(2)c.
d.	OAC rule 3745-17-07(A)	Visible particulate emissions from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.
e.	OAC rule 3745-17-07(B)	See b)(2)d.
f.	OAC rule 3745-17-08(B)	See b)(2)e.
g.	OAC rule 3745-17-11(A)(2)	The emissions limitation established by



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		this rule is less stringent than OAC rule 3745-31-05(A)(3).  See b)(2)c.ii.

(2) Additional Terms and Conditions

- a. The emissions from this emissions unit shall be vented to a bin vent at all times the emissions unit is in operation.

[Authority for term: OAC rule 3745-31-05(D)]

- b. This Best Available Technology (BAT) emission limit applies until U.S. EPA approves Ohio Administrative Code (OAC) rule 3745-31-05(A)(3)(a)(ii) (the less than 10 tons per year BAT exemption) into the Ohio State Implementation Plan (SIP).

[Authority for term: OAC rule 3745-31-05(A)(3), as effective 06/30/2008]

- c. These requirements apply once U.S. EPA approves OAC rule 3745-31-05(A)(3)(a)(ii) (the less than 10 tons per year BAT exemption) as part of the Ohio SIP.

- i. The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the PM, PM10, and PM2.5 emissions from this air contaminant source since the calculated annual emission rate for PM, PM10, and PM2.5 is less than 10 tons/year, taking into account the federally enforceable rule limit of 30,000 tons of sand and bond purchased, based upon a rolling, 12-month summation under OAC rule 3745-31-05(D) and bin vent control.

- ii. Particulate emissions shall not exceed 43.6 pounds per hour.

[Authority for term: OAC rule 3745-31-05(A)(3)(a)(ii), as effective 06/30/2008]

- d. The emissions units are exempt from OAC rule 3745-17-07(B)(1) pursuant to OAC rule 3745-17-07(B)(11)(e).

- e. This facility is not located in an Appendix A area as described in OAC rule 3745-17-08; therefore, OAC rule 3745-17-08(B) does not apply to the fugitive emissions from these emissions units.

c) Operational Restrictions

- (1) The maximum annual sand and bond purchased for the emissions units P097 and P098 shall not exceed 30,000 tons of sand and bond, based upon a rolling, 12-month summation of the sand and bond purchased figures. To ensure enforceability during the



first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the permittee shall not exceed the sand and bond usage specified in the following table:

<u>Month(s)</u>	<u>Maximum Allowable Sand and Bond Purchased</u>
1	2,500
1-2	5,000
1-3	7,500
1-4	10,000
1-5	12,500
1-6	15,000
1-7	17,500
1-8	20,000
1-9	22,500
1-10	25,000
1-11	27,500
1-12	30,000

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

[Authority for term: OAC rule 3745-77-07(A)(1) and OAC rule 3745-31-05(D)]

d) **Monitoring and/or Recordkeeping Requirements**

(1) The permittee shall maintain monthly records of the following information:

- a. bin vent filter changes;
- b. the amount of sand and bond purchased each month, in tons;
- c. the rolling, 12-month summation of sand and bond purchased, in tons;
- d. the monthly PM, PM10, and PM2.5 rates;
- e. the rolling, 12-month summation of PM, PM10, and PM2.5 emissions, in tons based on the calculation in f)(1)a. – c. below.

The updated rolling, 12-month summation of the total PM, PM10, and PM2.5 emissions shall include the information for the current month and the preceding eleven calendar months.



Also, during the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the permittee shall record the cumulative sand usage of each calendar month. The updated rolling, 12-month summation of the sand usage shall include the information for the current month and the preceding eleven calendar months.

[Authority for term: OAC rule 3745-77-07(C) and OAC rule 3745-31-05(D)]

(2) The permittee shall perform daily checks, when sand and/or bond is being delivered to the silo 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. whether the emissions are representative of normal operations;
- c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
- d. the total duration of any visible emissions incident; and
- e. any corrective actions taken to minimize or eliminate the visible emissions.

If visible emissions are present, a visible emissions incident has occurred. The observer does not have to document the exact start and end times for the visible emissions incident under item (d) above or continue the daily check until the incident has ended. The observer may indicate that the visible emissions incident was continuous during the observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

[Authority for term: OAC rule 3745-77-07(C) and OAC rule 3745-17-07(A)(1)]

e) Reporting Requirements

(1) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.

[Authority for term: OAC rule 3745-77-07(A)(3)(c)]

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

- a. all exceedances of the rolling, 12-month limitation of sand and bond purchased; and for the first 12 calendar months of operation or the first 12 calendar months



following the issuance of this permit, all exceedances of the maximum allowable cumulative sand and bond purchased; and

- b. all exceedances of the rolling, 12-month summation of PM, PM10, and PM2.5 emissions.

The permittee shall identify any exceedances of the limitations established in Sections c)(1) for the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit.

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(A)(3)(c) and OAC rule 3745-31-05(D)]

- (3) The permittee shall submit semiannual written reports that identify:
  - a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and
  - b. any corrective actions taken to minimize or eliminate the visible particulate emissions.

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

[Authority for term: OAC rule 3745-77-07(A)(3)(c) and OAC rule 3745-17-07(A)(1)]

- (4) The permittee shall also submit annual reports that specify the total PM, PM10, and PM2.5 emissions from this emissions unit. This report shall be submitted by April 15<sup>th</sup> of each year. This reporting requirement may be satisfied by including and identifying the specific emission data for this emissions unit in the annual Fee Emission Report.

[Authority for term: OAC rule 3745-77-07(A)(3)(c)]

f) Testing Requirements

- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:

- a. Emission Limitation:

PM emissions shall not exceed 0.04 ton per rolling, 12-month summation

Applicable Compliance Method:

The monthly emissions shall be based on the following equation:

$$PM = (P) * (EF) * (1-CA) * (1-CE) * (\text{ton}/2000 \text{ lbs})$$



where,

PM = PM emissions (monthly)

P = sand and bond purchased (monthly amount of sand and bond purchased as determined in d)(1)a.)

EF = 0.24 lb PM/ton sand or bond (Ohio EPA RACM Table 2.22-1)

CE = control efficiency, 99% (1-0.99) [PTI Application A0052199]

CA = capture efficiency, 100% (1) [PTI Application A0052199]

[Authority for term: OAC rule3745-77-07(C)(1) and OAC rule 3745-31-05(D)]

b. Emissions Limitation:

PM10 emissions shall not exceed 0.03 ton per rolling, 12-month summation

Applicable Compliance Method:

The monthly emissions shall be based on the following equation:

$$PM10 = (P) * (EF) * (1-CA) * (1-CE) * (\text{ton}/2000 \text{ lbs})$$

where,

PM10 = PM10 emissions (monthly)

P = sand and bond purchased (monthly amount of sand and bond purchased as determined in d)(1)a.)

EF = 0.20 lb PM/ton sand or bond (Ohio EPA RACM Table 2.22-1)

CE = control efficiency, 99% (1-0.99) [PTI Application A0052199]

CA = capture efficiency, 100% (1) [PTI Application A0052199]

[Authority for term: OAC rule3745-77-07(C)(1) and OAC rule 3745-31-05(D)]

c. Emissions Limitation:

PM2.5 emissions shall not exceed 0.01 ton per rolling, 12-month summation

Applicable Compliance Method:

The monthly emissions shall be based on the following equation:

$$PM2.5 = (P) * (EF) * (1-CA) * (1-CE) * (\text{ton}/2000 \text{ lbs})$$

where,



PM2.5 = PM10 emissions (monthly)

P = sand and bond purchased (monthly amount of sand and bond purchased as determined in d)(1)a.)

EF = 0.07 lb PM/ton sand or bond (Ohio EPA RACM Table 2.22-1)

CE = control efficiency, 99% (1-0.99) [PTI Application A0052199]

CA = capture efficiency, 100% (1) [PTI Application A0052199]

[Authority for term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-31-05(D)]

d. Emission Limitation:

Particulate emissions shall not exceed 43.6 pounds per hour

Applicable Compliance Method:

The emission limitation was established by "Table I" in the appendix to OAC rule 3745-17-11(A)(2). If required, compliance shall be based upon Method 5 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-17-11(A)(2)]

e. Emission Limitation:

Visible particulate emissions from the stack shall not exceed 20 percent opacity as a six-minute average, except as specified by rule.

Applicable Compliance Method:

Compliance with the stack visible particulate emissions limitation shall be determined through visible emissions observations performed in accordance with U.S. EPA Method 9.

[Authority for term: OAC rule 3745-31-05(D) and OAC rule 3745-17-07(A)(1)]

g) Miscellaneous Requirements

(1) None.



**3. P101, Core Wash and Release Operations**

**Operations, Property and/or Equipment Description:**

Core wash and release processes. Maximum wash material employed is 0.7 gallons/hour and contains 3.94 lbs VOC/gal. Maximum core release material employed is 0.03 gallons/hour and contains 5.48 lbs VOC/gal

- a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.
  - (1) See b)(1)b., b)(2)a. and d)(1)
- b) Applicable Emissions Limitations and/or Control Requirements
  - (1) The specific operation(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 are identified below. 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)  [Synthetic minor to avoid non-attainment NSR]	Volatile organic compound (VOC) emissions from the core wash and release operations shall not exceed 1.22 tons per rolling, 12-month summation.  The requirements of this rule are equivalent to the requirements established by 40 CFR Part 63, Subpart EEEEE.  See c)(1) – (6)
b.	OAC rule 3745-31-05(A)(3), as effective 06/30/08	See b)(1)a. and b)(2)a.
c.	OAC rule 3745-31-05(A)(3)(a)(ii), as effective 06/30/08	See b)(2)b.
d.	40 CFR Part 63, Subpart EEEEE  [In accordance with 40 CFR 63.7682 this facility is an existing iron foundry subject to the emission limitations/control measures specified in this section]	See b)(2)c., c)(6), d)(4), and e)(5)
e.	40 CFR Part 63, Subpart A	Table I of 40 CFR Part 63, Subpart EEEEE, <i>Applicability of General Provisions to Subpart EEEEE</i> identifies which parts of the General Provisions in 40 CFR 63.1-15 apply.



(2) Additional Terms and Conditions

- a. This Best Available Technology (BAT) emission limit applies until U.S. EPA approves Ohio Administrative Code (OAC) rule 3745-31-05(A)(3)(a)(ii) (the less than 10 tons per year BAT exemption) into the Ohio State Implementation Plan (SIP)

[Authority for term: OAC rule 3745-31-05(A)(3), as effective 06/30/08]

- b. This requirement applies once U.S. EPA approves OAC rule 3745-31-05(A)(3)(a)(ii) (the less than 10 tons per year BAT exemption) as part of the Ohio SIP.

The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the VOC emissions from this air contaminant source since the calculated annual emission rate for VOC is less than 10 tons/year, taking into account the federally enforceable rule limit of 1,700 gallons of core wash and 80 gallons of core release material per year of sand handled, based upon a rolling, 12-month summation under OAC rule 3745-31-05(D).

[Authority for term: OAC rule 3745-31-05(A)(3)(a)(ii), as effective 06/30/08]

- c. The permittee shall comply with the applicable requirements necessary to demonstrate compliance with 40 CFR Part 63, Subpart EEEEE.

63.7760	Other requirements and information
63.7761	Other requirements and information

c) Operational Restrictions

- (1) All VOC-containing core wash materials applied to cores shall be lit-off within one-minute of application.

[Authority for term: OAC rule 3745-77-07(A)(1), OAC rule 3745-31-05(D), and 40 CFR Part 63, Subpart EEEEE]

- (2) The maximum VOC content of core wash materials shall not exceed 3.94 pounds per gallon, excluding water and exempt solvents.

[Authority for term: OAC rule 3745-77-07(A)(1) and OAC rule 3745-31-05(D)]

- (3) The maximum annual VOC-containing core wash usage for this emissions unit shall not exceed 1,700 gallons, based upon a rolling, 12-month summation of the core wash usage figures. To ensure enforceability during the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the permittee shall not exceed the core wash usage levels specified in the following table:



<u>Month(s)</u>	<u>Maximum Allowable Cumulative Core Wash Usage (gal)</u>
1	142
1-2	284
1-3	426
1-4	568
1-5	710
1-6	852
1-7	994
1-8	1,136
1-9	1,278
1-10	1,420
1-11	1,562
1-12	1,700

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

[Authority for term: OAC rule 3745-77-07(A)(1) and OAC rule 3745-31-05(D)]

- (4) The maximum core release VOC content shall not exceed 5.48 pounds per gallon, excluding water and exempt solvents.

[Authority for term: OAC rule 3745-77-07(A)(1) and OAC rule 3745-31-05(D)]

- (5) The maximum annual VOC-containing core release usage for this emissions unit shall not exceed 80 gallons, based upon a rolling, 12-month summation of the core release usage figures. To ensure enforceability during the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the permittee shall not exceed the core release usage levels specified in the following table:

<u>Month(s)</u>	<u>Maximum Allowable Cumulative Core Release Usage (gal)</u>
1	6.66
1-2	13.32
1-3	19.98
1-4	26.64
1-5	33.31
1-6	39.98
1-7	46.65
1-8	53.32
1-9	59.99
1-10	66.66
1-11	73.33
1-12	80

After the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, compliance with the annual core release



usage limitation shall be based upon a rolling, 12-month summation of the core release usage figures.

[Authority for term: OAC rule 3745-77-07(A)(1) and OAC rule 3745-31-05(D)]

- (6) The permittee shall comply with the applicable operational restrictions necessary to demonstrate compliance with 40 CFR Part 63, Subpart EEEEE.

63.7710(b)(6)	Procedures for providing an ignition source to mold vents and sand mold systems
63.7720	General requirements for complying with subpart
63.7745(a)(5)	Continuous compliance with the operational requirements
63.7746	Other requirements to demonstrate continuous compliance

d) Monitoring and/or Recordkeeping Requirements

- (1) Modeling to demonstrate compliance with, the "Toxic Air Contaminant Statute", ORC 3704.03(F)(4)(b), was not necessary because the emissions unit's maximum annual emissions for each toxic air contaminant, as defined in OAC rule 3745-114-01, will be less than 1.0 ton per year. OAC Chapter 3745-31 requires a permittee to apply for and obtain a new or modified Permit-to-Install (PTI) 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 toxic air contaminant to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new PTI.
- (2) The permittee shall maintain daily records of the following information for the core wash material:
  - a. any VOC-containing core wash material application in which the core wash was not lit-off within one-minute of application;
  - b. the reason for not lighting-off the core wash within one-minute of application; and
  - c. the time, in minutes, before the old and/or core wash was lit-off.

[Authority for term: OAC rule 3745-77-07(C) and OAC rule 3745-31-05(D)]

- (3) The permittee shall maintain monthly records of the following information for the emissions unit:
  - a. the company identification of each core wash and core release material used;
  - b. the amount, in pounds, of each core wash and core release material used;
  - c. the VOC content of each core wash and core release material used, in pounds;



- d. the rolling, 12-month summation of core wash and core release materials used, in pounds; and
- e. the VOC emissions rate from both core wash and core release materials based on a rolling, 12-month summation.

The updated rolling, 12-month summation of the total VOC emissions shall include the information for the current month and the preceding eleven calendar months.

Also, during the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the permittee shall record the cumulative core wash and core release usage for each calendar month.

[Authority for term: OAC rule 3745-77-07(C) and OAC rule 3745-31-05(D)]

- (4) The permittee shall comply with the applicable monitoring and/or recordkeeping requirements necessary to demonstrate compliance with 40 CFR Part 63, Subpart EEEEE.

63.7742	Monitoring and recordkeeping to demonstrate continuous compliance
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e) Reporting Requirements

- (1) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.

[Authority for term: OAC rule 3745-77-07(C)(1)]

- (2) The permittee shall submit to the Director (Central District Office (CDO)) deviation (excursion) reports which identify any day during which a VOC-containing core wash was not lit off within one minute of application. Each report shall identify the reason for not lighting off the core wash within one minute of application, and the estimated total quantity of material(s) emitted in pounds. Each report shall be submitted within 30 days after the deviation occurs.

[Authority for term: OAC rule 3745-77-07(A)(3)(c) and OAC rule 3745-31-05(D)]

- (3) The permittee shall submit quarterly deviation (excursion) reports that identify the following:
  - a. the rolling, 12-month VOC emission limitation;
  - b. the core wash and/or core release material VOC content limit;
  - c. the rolling, 12-month core wash and core release limitations.



The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

The permittee shall identify any exceedances of the limitations established in Sections c)(3) – (5) for the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit.

[Authority for term: OAC rule 3745-77-07(A)(3)(c) and OAC rule 3745-31-05(D)]

- (4) The permittee shall submit annual reports that specify the total combined VOC emissions from emission unit for the previous calendar year. These reports shall be submitted by April 15 of each year. This reporting requirement may be satisfied by including and identifying the specific emission data for emission units in the annual Fee Emission Report.

[Authority for term: OAC rule 3745-77-07(A)(3)(c) and OAC rule 3745-31-05(D)]

- (5) The permittee shall comply with the applicable reporting requirements necessary to demonstrate compliance with 40 CFR Part 63, Subpart EEEEE.

63.7750	Notification requirement
63.7751	Reporting requirement

f) Testing Requirements

- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitation:

VOC emissions shall not exceed 1.22 tons based upon a rolling, 12-month summation

Applicable Compliance Method:

Compliance shall be determined by the monitoring and recordkeeping in Section d)(3)d. and e.

The following calculation shall be used to determine monthly emissions:

$$VOC = (P) * (VOC \text{ content}) * (1-0.7)$$

where,

VOC = monthly VOC emissions

P = material usage, as determined in d)(3)a. – b.



VOC content = as determined in d)(3)c.

70% = core wash light-off efficiency (40 CFR Part 63, Subpart EEEEE)

[Authority for term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-31-05(D)]

g) Miscellaneous Requirements

(1) None.



**4. P103, Ladle Preheaters (4)**

**Operations, Property and/or Equipment Description:**

(4) transfer ladles with a transfer rate of 5 tons/hr per ladle, and natural gas usage of 5.2MMbtu/hr.

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) See b)(1)a. and b)(2)a. – b.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(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 are identified below. 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), as effective 06/30/08	The permittee shall install a burner that is designed to meet the following:  0.007 lb PM/mmBtu heat input;  0.006 lb PM10/mmBtu heat input;  0.002 lb PM2.5/mmBtu heat input;  0.0006 lbSOx/mmBtu heat input;  0.002 lb NOx/mmBtu heat input;  0.005 lb VOC/mmBtu heat input; and  0.08 lb CO/mmBtu heat input.  See b)(2)a. – b.
b.	OAC rule 3745-31-05(A)(3)(a)(ii), as effective 06/30/08	See b)(2)c.i.
c.	OAC rule 3745-17-07(A)	Visible particulate emissions from the stack shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.
d.	OAC rule 3745-17-07(B)	See b)(2)d.
e.	OAC rule 3745-17-08(B)	See b)(2)e.
f.	OAC rule 3745-17-10(B)	The emissions limitation specified by this



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		rule is less stringent than the emission limitation specified in OAC rule 3745-31-05(A)(3).  See b)(2)c.ii.
g.	OAC rule 3745-17-11(A)(2)	The emissions limitation specified by this rule is less stringent than the emissions limitation specified in OAC rule 3745-31-05(A)(3).  See b)(2)c.iii.
h.	OAC rule 3745-18-06(E)(2)	The emissions limitation specified by this rule is less stringent than the emission limitation specified in OAC rule 3745-31-05(A)(3).  See b)(2)c.iv.
i.	40 CFR Part 63, Subpart EEEEE  [In accordance with 40 CFR 63.7682 this facility is an existing iron foundry subject to the emission limitations/control measures specified in this section]	For each building or structure housing any iron foundry emissions source at the iron foundry, you must not discharge any fugitive emissions that exhibit opacity greater than 20% (6-minute average), except for one 6-minute average per hour that does not exceed 27% opacity.  See b)(2)f., c)(2), d)(4), e)(4), and f)(2)
j.	40 CFR Part 63, Subpart A	Table I of 40 CFR Part 63, Subpart EEEEE, <i>Applicability of General Provisions to Subpart EEEEE</i> identifies which parts of the General Provisions in 40 CFR 63.1-15 apply.

(2) Additional Terms and Conditions

- a. The hourly and yearly emissions limitations for this emissions unit were established to reflect the potential to emit based on natural gas usage. Therefore, it is not necessary to develop additional monitoring, recordkeeping, and/or reporting requirements to ensure compliance with these limits.
- b. This Best Available Technology (BAT) emission limit applies until U.S. EPA approves Ohio Administrative Code (OAC) rule 3745-31-05(A)(3)(a)(ii) (the less than 10 tons per year BAT exemption) into the Ohio State Implementation Plan (SIP)

[Authority for term: OAC rule 3745-31-05(A)(3), as effective 06/30/08]



- c. This requirement applies once U.S. EPA approves OAC rule 3745-31-05(A)(3)(a)(ii) (the less than 10 tons per year BAT exemption) as part of the Ohio SIP.
  - i. The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the PM, PM10, PM2.5, SOx, NOx, VOC, and CO emissions from this air contaminant source since the uncontrolled potential to emit for PM, PM10, PM2.5, SOx, NOx, VOC, and CO is less than 10 tons/year.
  - ii. The maximum allowable amount of particulate emissions shall be 0.020 pound per million Btu of actual heat input.
  - iii. Particulate emissions shall not exceed 12 pounds per hour.
  - iv. The maximum emission of sulfur dioxide from the source shall not exceed 88.19 pounds of sulfur dioxide per hour.

[Authority for term: OAC rule 3745-31-05(A)(3)(a)(ii), as effective 06/30/08]

- d. This emissions unit is exempt from OAC rule 3745-17-07(B)(1), pursuant to OAC rule 3745-17-07(B)(11)(d).
- e. Since this emissions unit is not located in an Appendix A area, pursuant to paragraph (A)(1) of OAC rule 3745-17-08, the requirements of OAC rule 3745-17-08(B) do not apply to this emissions unit.
- f. The permittee shall comply with the applicable requirements necessary to demonstrate compliance with 40 CFR Part 63, Subpart EEEEE.

63.7734(a)(7)	Initial compliance demonstration for fugitive emissions from foundry operations.
63.7743(a)(7), (12)	Continuous compliance with the fugitive emissions limitation
63.7746	Other requirements to demonstrate continuous compliance
63.7760	Other requirements and information
63.7761	Other requirements and information

[Authority for term: 40 CFR Part 63, Subpart EEEEE]

c) Operational Restrictions

- (1) The emissions unit shall burn only natural gas.

[Authority for term: OAC rule 3745-77-07(A)(1) and OAC rule 3745-17-10(B)]



- (2) The permittee shall comply with the applicable operational restrictions necessary to demonstrate compliance with 40 CFR Part 63, Subpart EEEEE.

63.7710(a)	Operational and maintenance (general)
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[Authority for term: 40 CFR Part 63, Subpart EEEEE]

d) Monitoring and/or Recordkeeping Requirements

- (1) For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

[Authority for term: OAC rule 3745-77-07(C) and OAC rule 3745-17-10(B)]

- (2) 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. whether the emissions are representative of normal operations;
- c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
- d. the total duration of any visible emissions incident; and
- e. any corrective actions taken to minimize or eliminate the visible emissions.

If visible emissions are present, a visible emissions incident has occurred. The observer does not have to document the exact start and end times for the visible emissions incident under item (d) above or continue the daily check until the incident has ended. The observer may indicate that the visible emissions incident was continuous during the observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

[Authority for term: OAC rule 3745-77-07(C) and OAC rule 3745-17-07(A)(1)]

- (3) The permittee may, upon receipt of written approval from Ohio EPA, Central District Office, modify the above-mentioned frequencies for performing the visible emissions checks if operating experience indicates that less frequent visible emissions checks



would be sufficient to ensure compliance with the above-mentioned applicable requirements.

[Authority for term: OAC rule 3745-77-07(C) and OAC rule 3745-17-07(A)(1)]

- (4) The permittee shall comply with the applicable monitoring and/or recordkeeping requirements necessary to demonstrate compliance with 40 CFR Part 63, Subpart EEEEE.

63.7752(a), (c)	Recordkeeping
63.7753	What form records must be kept in and for how long

[Authority for term: 40 CFR Part 63, Subpart EEEEE]

e) Reporting Requirements

- (1) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.

[Authority for term: OAC rule 3745-77-07(C)(1)]

- (2) The permittee shall submit deviation (excursion) reports that identify each day when fuels other than natural gas were burned in this emissions unit. Each report shall be submitted within 30 days after the occurrence of the deviation.

[Authority for term: OAC rule 3745-77-07(A)(3)(c) and OAC rule 3745-17-10(B)]

- (3) The permittee shall submit semiannual written reports that identify:
  - a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and
  - b. any corrective actions taken to minimize or eliminate the visible particulate emissions.

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

[Authority for term: OAC rule 3745-77-07(A)(3)(c) and OAC rule 3745-17-07(A)(1)]

- (4) The permittee shall also submit annual reports that specify the total PM, PM10, and PM2.5 emissions from this emissions unit. This report shall be submitted by April 15<sup>th</sup> of each year. This reporting requirement may be satisfied by including and identifying the specific emission data for this emissions unit in the annual Fee Emission Report.

[Authority for term: OAC rule 3745-77-07(A)(3)(c)]



- (5) The permittee shall comply with the applicable reporting requirements necessary to demonstrate compliance with 40 CFR Part 63, Subpart EEEEE.

63.7746	Reporting requirements for deviations
63.7750	What notifications must be submitted and when
63.7751	What reports must be submitted and when

[Authority for term: 40 CFR Part 63, Subpart EEEEE]

f) Testing Requirements

- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitation:

0.007 lb PM/mmBtu heat input

Applicable Compliance Method:

The heat input factor is found in AP-42, Fifth Edition, Volume I, Chapter 1: External Combustion Sources, Section 4: Natural Gas Combustion, Table 1.4-2If required, compliance shall be based upon Method 5 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-31-05(A)(3), effective 06/30/08]

b. Emission Limitation:

0.006 lb PM10/mmBtu heat input

0.002 lb PM2.5/mmBtu heat input

Applicable Compliance Method:

The heat input factor is found in AP-42, Fifth Edition, Volume I, Chapter 1: External Combustion Sources, Section 4: Natural Gas Combustion, Table 1.4-2If required, compliance shall be based upon Method 201 of 40 CFR Part 51, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-31-05(A)(3), effective 06/30/08]



c. Emission Limitation:

0.0006 lbSOx/mmBtu heat input

Applicable Compliance Method:

The heat input factor is found in AP-42, Fifth Edition, Volume I, Chapter 1: External Combustion Sources, Section 4: Natural Gas Combustion, Table 1.4-2If required, compliance shall be based upon Method 201 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-31-05(A)(3), effective 06/30/08]

d. Emission Limitation:

0.002 lb NOx/mmBtu heat input

Applicable Compliance Method:

The heat input factor is found in AP-42, Fifth Edition, Volume I, Chapter 1: External Combustion Sources, Section 4: Natural Gas Combustion, Table 1.4-2If required, compliance shall be based upon Methods 7 and 20 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-31-05(A)(3), effective 06/30/08]

e. Emission Limitation:

0.005 lb VOC/mmBtu heat input

Applicable Compliance Method(s):

The heat input factor is found in AP-42, Fifth Edition, Volume I, Chapter 1: External Combustion Sources, Section 4: Natural Gas Combustion, Table 1.4-2If required, compliance shall be based upon Methods 18, 21, 24, 25, and 320 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-31-05(A)(3), effective 06/30/08]

f. Emission Limitation:

0.08 lb CO/mmBtu heat input

Applicable Compliance Method:

The heat input factor is found in AP-42, Fifth Edition, Volume I, Chapter 1: External Combustion Sources, Section 4: Natural Gas Combustion, Table 1.4-2If



required, compliance shall be based upon Method 10 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-31-05(A)(3), effective 06/30/08]

g. **Emission Limitation:**

Particulate emissions shall not exceed 12 pounds per hour

Applicable Compliance Method:

The emission limitation was established by "Table I" in the appendix to OAC rule 3745-17-11(A)(2). If required, compliance shall be based upon Method 5 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-17-11(A)(2)]

h. Emission Limitation:

Visible particulate emissions from the stack shall not exceed 20 percent opacity as a six-minute average, except as specified by rule.

Applicable Compliance Method:

Compliance with the stack visible particulate emissions limitation shall be determined through visible emissions observations performed in accordance with U.S. EPA Method 9.

[Authority for term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-17-07(A)(1)]

- (2) The permittee shall comply with the applicable testing requirements necessary to demonstrate compliance with under 40 CFR Part 63, Subpart EEEEE.

63.7730	Initial compliance requirements
63.7731(b)	When to conduct subsequent performance tests
63.7732(a), (d)	Test methods used and other procedures to demonstrate initial compliance with the emissions limitations

[Authority for term: 40 CFR Part 63, Subpart EEEEE]

g) **Miscellaneous Requirements**

- (1) None.



**5. P107, Cutting and Grinding**

**Operations, Property and/or Equipment Description:**

Cut-off saws; (8) stationary snag grinders with 36" down draft tables for hand grinding; (3) 48" down draft tables for hand-held grinding; and (3) 36" down draft tables for hand-held grinding. The maximum hourly finishing rate for all operations is 5.0 tons/hr. Vents to C&F collector.

- a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.
  - (1) See b)(1)b. and b)(2)d.
- b) Applicable Emissions Limitations and/or Control Requirements
  - (1) The specific operation(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 are identified below. 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)  [Synthetic minor to avoid PSD applicability]	Particulate matter (PM) stack and fugitive emissions shall not exceed 0.97 tons per rolling, 12-month summation.  Particulate matter less than 10 microns in diameter (PM10) stack and fugitive emissions shall not exceed 0.61 tons per rolling, 12-month summation.  Particulate matter less than 2.5 microns in diameter (PM2.5) stack and fugitive emissions shall not exceed 0.61 tons per rolling, 12-month summation.  See b)(2)a. – c.
b.	OAC rule 3745-31-05(A)(3), as effective 06/30/08	See b)(1)a. and b)(2)a. – d.
c.	OAC rule 3745-31-05(A)(3)(a)(ii), as effective 12/01/06	See b)(2)e.i.
d.	OAC rule 3745-17-07(A)	Visible particulate emissions shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.
e.	OAC rule 3745-17-07(B)	See b)(2)f.
f.	OAC rule 3745-17-08(B)	See b)(2)g.
g.	OAC rule 3745-17-11(A)(2)	The emissions limitation established by this rule is less stringent than the



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		requirements of OAC rule 3745-31-05(A)(3).  See b)(2)e.ii.
h.	40 CFR Part 63, Subpart EEEEE  [In accordance with 40 CFR 63.7682 this facility is an existing iron foundry subject to the emission limitations/control measures specified in this section]	For each building or structure housing any iron foundry emissions source at the iron foundry, you must not discharge any fugitive emissions that exhibit opacity greater than 20% (6-minute average), except for one 6-minute average per hour that does not exceed 27% opacity.  See b)(2)h., c)(2), d)(5), e)(5), and f)(2)
i.	40 CFR Part 63, Subpart A	Table I of 40 CFR Part 63, Subpart EEEEE, <i>Applicability of General Provisions to Subpart EEEEE</i> identifies which parts of the General Provisions in 40 CFR 63.1-15 apply.

(2) Additional Terms and Conditions

- a. The emissions from this emissions unit shall be vented to a baghouse at all times the emissions units are in operation.  
  
[Authority for term: OAC rule 3745-31-05(D)]
- b. The baghouse serving the emissions unit shall achieve an outlet concentration of 0.003 grains per dry standard cubic foot (gr/dscf) for PM, PM10, and PM2.5.  
  
[Authority for term: OAC rule 3745-31-05(D)]
- c. The permittee shall use a capture hood with 98% capture efficiency.  
  
[Authority for term: OAC rule 3745-31-05(D)]
- d. This Best Available Technology (BAT) emission limit applies until U.S. EPA approves Ohio Administrative Code (OAC) rule 3745-31-05(A)(3)(a)(ii) (the less than 10 tons per year BAT exemption) into the Ohio State Implementation Plan (SIP).  
  
[Authority for term: OAC rule 3745-31-05(A)(3), as effective 06/30/2008]
- e. These requirements apply once U.S. EPA approves OAC rule 3745-31-05(A)(3)(a)(ii) (the less than 10 tons per year BAT exemption) as part of the Ohio SIP.



i. The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the PM, PM10, and PM2.5 emissions from this air contaminant source since the calculated annual emission rate for PM, PM10, and PM2.5 is less than 10 tons/year, taking into account the federally enforceable rule limit of 2,500 hours per year, based upon a rolling, 12-month summation, the use of a baghouse system, and capture hood under OAC rule 3745-31-05(D).

ii. Particulate emissions shall not exceed 12 pounds per hour.

[Authority for term: OAC rule 3745-31-05(A)(3)(a)(ii), as effective 06/30/08]

f. This emissions unit is exempt from OAC rule 3745-17-07(B)(1), pursuant to OAC rule 3745-17-07(B)(11)(d).

g. Since this emissions unit is not located in an Appendix A area, pursuant to paragraph (A)(1) of OAC rule 3745-17-08, the requirements of OAC rule 3745-17-08(B) do not apply to this emissions unit.

h. The permittee shall comply with the applicable requirements necessary to demonstrate compliance with 40 CFR Part 63, Subpart EEEEE.

63.7734(a)(7)	Initial compliance demonstration for fugitive emissions from foundry operations
63.7743(a)(7), (12)	Continuous compliance with the fugitive emissions limitation
63.7746	Other requirements to demonstrate continuous compliance
63.7760	Other requirements and information
63.7761	Other requirements and information

[Authority for term: 40 CFR Part 63, Subpart EEEEE]

c) Operational Restrictions

(1) The maximum annual operating hours for this emissions unit shall not exceed 2,500, based upon a rolling, 12-month summation of the operating hours.

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

<u>Month(s)</u>	<u>Maximum Allowable Cumulative Operating Hours</u>
1	208
1-2	417
1-3	625



1-4	833
1-5	1,042
1-6	1,250
1-7	1,458
1-8	1,667
1-9	1,875
1-10	2,083
1-11	2,292
1-12	2,500

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

[Authority for term: OAC rule 3745-77-07(A)(1) and OAC rule 3745-31-05(D)]

- (2) The permittee shall comply with the applicable operational restrictions necessary to demonstrate compliance with 40 CFR Part 63, Subpart EEEEE.

63.7710(a)	Operational and maintenance (general)
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[Authority for term: 40 CFR Part 63, Subpart EEEEE]

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall maintain monthly records of the following information:
  - a. the number of hours operated each month;
  - b. beginning after the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the rolling, 12-month summation of the operating hours; and
  - c. the monthly PM, PM10, and PM2.5 stack and fugitive emissions rates;
  - d. the rolling, 12-month summation of PM, PM10, and PM2.5 stack and fugitive emissions, in tons based on the calculation in f)(1)a. – c. below.

The updated rolling, 12-month summation of the total PM, PM10, and PM2.5 emissions shall include the information for the current month and the preceding eleven calendar months.

Also, during the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the permittee shall record the cumulative operating hours for each calendar month.

[Authority for term: OAC rule 3745-77-07(C) and OAC rule 3745-31-05(D)]



- (2) The pressure drop across the baghouse shall be maintained within the range of 1 to 9 inches of water while the emissions units are in operation.

[Authority for term: OAC rule 3745-77-07(C) and OAC rule 3745-31-05(D)]

- (3) The permittee shall properly install, operate, and maintain equipment to continuously monitor the pressure drop, in inches of water, across the baghouse when the controlled emissions unit is in operation, including periods of startup and shutdown. The permittee shall record the pressure drop across the baghouse on daily basis. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s), with any modifications deemed necessary by the permittee.

Whenever the monitored value for the pressure drop deviates from the limit or range established in accordance with this permit, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:

- a. the date and time the deviation began;
- b. the magnitude of the deviation at that time;
- c. the date the investigation was conducted;
- d. the name(s) of the personnel who conducted the investigation; and
- e. the findings and recommendations.

In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable range specified in this permit, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken:

- f. a description of the corrective action;
- g. the date corrective action was completed;
- h. the date and time the deviation ended;
- i. the total period of time (in minutes) during which there was a deviation;
- j. the pressure drop readings immediately after the corrective action was implemented; and
- k. the name(s) of the personnel who performed the work.

Investigation and records required by this paragraph do not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.



This range or limit on the pressure drop across the baghouse is effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by Ohio EPA, Central District Office. The permittee may request revisions to the permitted limit or range for the pressure drop based upon information obtained during future testing that demonstrate compliance with the allowable particulate emission rate for the controlled emissions units. In addition, approved revisions to the range or limit will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of a minor permit modification.

[Authority for term: OAC rule 3745-77-07(C) and OAC rule 3745-31-05(D)]

- (4) 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. whether the emissions are representative of normal operations;
  - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
  - d. the total duration of any visible emissions incident; and
  - e. any corrective actions taken to minimize or eliminate the visible emissions.

If visible emissions are present, a visible emissions incident has occurred. The observer does not have to document the exact start and end times for the visible emissions incident under item (d) above or continue the daily check until the incident has ended. The observer may indicate that the visible emissions incident was continuous during the observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

[Authority for term: OAC rule 3745-77-07(C) and OAC rule 3745-17-07(A)(1)]

- (5) The permittee shall comply with the applicable monitoring and/or recordkeeping requirements necessary to demonstrate compliance with 40 CFR Part 63, Subpart EEEEE.



63.7752(a), (c)	Recordkeeping.
63.7753	What form records must be kept in and how long.

[Authority for term: 40 CFR Part 63, Subpart EEEEE]

e) Reporting Requirements

- (1) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA’s eBusiness Center: Air Services online web portal.

[Authority for term: OAC rule 3745-77-07(A)(3)(c)]

- (2) The permittee shall submit quarterly deviation (excursion) reports that identify the following:
  - a. all exceedances of the rolling, 12-month limitation on the hours of operation for this emissions unit; and for the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, all exceedances of the maximum allowable cumulative hours of operation;
  - b. all exceedances of the rolling, 12-month summation of PM, PM10, and PM2.5 stack and fugitive emissions;
  - c. each period of time (start time and date, end time and date) when the pressure drop across the baghouse was outside of the acceptable range;
  - d. any period of time (start time and date, end time and date) when the emissions unit was in operation and the process emissions were not vented to the baghouse;
  - e. each incident of deviation in e)(2)c. and/or e)(2)d. where a prompt investigation was not conducted;
  - f. each incident of deviation described in e)(2)c. and/or e)(2)d. where a prompt corrective action, that would bring the pressure drop into compliance with the acceptable range, was determined to be necessary and was not taken; and
  - g. each incident of deviation described in e)(2)c. and/or e)(2)d. where proper records were not maintained for the investigation and/or the corrective action(s), as identified in the monitoring and recordkeeping requirements of this permit.

The permittee shall identify any exceedances of the limitations established in Sections c)(1) for the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit.



The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(A)(3)(c) and OAC rule 3745-31-05(D)]

- (3) The permittee shall submit semiannual written reports that identify:
  - a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and
  - b. any corrective actions taken to minimize or eliminate the visible particulate emissions.

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

[Authority for term: OAC rule 3745-77-07(A)(3)(c) and OAC rule 3745-17-07(A)(1)]

- (4) The permittee shall also submit annual reports that specify the total PM, PM10, and PM2.5 emissions from this emissions unit. This report shall be submitted by April 15<sup>th</sup> of each year. This reporting requirement may be satisfied by including and identifying the specific emission data for this emissions unit in the annual Fee Emission Report.

[Authority for term: OAC rule 3745-77-07(A)(3)(c)]

- (5) The permittee shall comply with the applicable reporting requirements necessary to demonstrate compliance with 40 CFR Part 63, Subpart EEEEE.

63.7746	Reporting requirements for deviations
63.7750	What notifications must be submitted and when
63.7751	What reports must be submitted and when

[Authority for term: 40 CFR Part 63, Subpart EEEEE]

f) Testing Requirements

- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:
  - a. Emission Limitation:

PM stack and fugitive emissions shall not exceed 0.97 ton per rolling, 12-month summation



Applicable Compliance Method:

Compliance with the emission limitation shall be determined by the summation of stack and fugitive emissions.

---

*The monthly **stack** emissions shall be based on the following equation:*

$$PM = (P) * (EF) * (\text{ton}/2000 \text{ lbs})$$

where,

PM = PM emissions (monthly)

P = hours of operation (monthly hours of operation as determined in d)(1)a.)

EF = 0.49 lb PM/hr (as determined by the following equation:  $[(0.003 \text{ gr/dscf}) * (\text{lb}/7000) * (18,900 \text{ dscfm}) * (60 \text{ min/hr})]$ )

*where,*

*18,900 dscfm = air flow established by PTI Application A0051280*

The monthly emissions shall be based on the hourly emission rate determined during the emission testing conducted per f)(3) and the monthly hours of operation.

---

*The monthly **fugitive** emission shall be based on the following equation:*

$$PM = (P) * (EF) * (\text{ton}/2000 \text{ lbs})$$

where,

PM = PM emissions (monthly)

P = hours of operation (monthly hours of operation as determined in d)(1)a.)

EF = 0.16 lb PM/hr, as determined by the following equation:  $(5 \text{ tons metal/hr}) * (1.6 \text{ lbs PM/ton metal}) * (1-0.98)$

*where,*

*5 tons metal/hr = maximum hourly throughput rate established by PTI Application A0051280*

*1.6 lbs PM/ton metal = Bernard S. Gutow, Modern Castings, Jan. 1972*

*98% = capture hood efficiency established by PTI Application A0051280*

[Authority for term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-31-05(D)]



b. Emissions Limitation:

PM10 emissions shall not exceed 0.83 ton per rolling, 12-month summation

Applicable Compliance Method:

Compliance with the emission limitation shall be determined by the summation of stack and fugitive emissions.

---

*The monthly **stack** emissions shall be based on the following equation:*

$$PM10 = (P) * (EF) * (\text{ton}/2000 \text{ lbs})$$

where,

PM10 = PM10 emissions (monthly)

P = hours of operation (monthly hours of operation as determined in d)(1)a.)

EF = 0.49 lb PM10/hr (as determined by the following equation:  $[(0.003 \text{ gr/dscf}) * (\text{lb}/7000) * (18,900 \text{ dscfm}) * (60 \text{ min/hr})]$ )

*where,*

*18,900 dscfm = air flow established by PTI Application A0051280*

The monthly emissions shall be based on the hourly emission rate determined during the emission testing conducted per f)(3) and the monthly hours of operation.

---

*The monthly **fugitive** emission shall be based on the following equation:*

$$PM10 = (P) * (EF) * (\text{ton}/2000 \text{ lbs})$$

where,

PM10 = PM10 emissions (monthly)

P = hours of operation (monthly hours of operation as determined in d)(1)a.)

EF = 0.0005 lb PM10/hr, as determined by the following equation:  $(5 \text{ tons metal/hr}) * (0.00045 \text{ lbs PM10/ton metal}) * (1-0.98)$

*where,*

*5 tons metal/hr = maximum hourly throughput rate established by PTI Application A0051280*

*0.00045 lbs PM10/ton metal = Bernard S. Gutow, Modern Castings, Jan. 1972*



*98% = capture hood efficiency established by PTI Application A0051280*

[Authority for term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-31-05(D)]

c. Emissions Limitation:

PM2.5 emissions shall not exceed 0.61 ton per rolling, 12-month summation

Applicable Compliance Method:

Compliance with the emission limitation shall be determined by the summation of stack and fugitive emissions.

---

*The monthly **stack** emissions shall be based on the following equation:*

$$PM2.5 = (P) * (EF) * (\text{ton}/2000 \text{ lbs})$$

where,

$$PM2.5 = PM2.5 \text{ emissions (monthly)}$$

$$P = \text{hours of operation (monthly hours of operation as determined in d)(1)a.)}$$

$$EF = 0.49 \text{ lb PM2.5/hr (as determined by the following equation: } [(0.003 \text{ gr/dscf}) * (\text{lb}/7000) * (18,900 \text{ dscfm}) * (60 \text{ min/hr})]$$

*where,*

$$18,900 \text{ dscfm} = \text{air flow established by PTI Application A0051280}$$

The monthly emissions shall be based on the hourly emission rate determined during the emission testing conducted per f)(3) and the monthly hours of operation.

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*The monthly **fugitive** emission shall be based on the following equation:*

$$PM2.5 = (P) * (EF) * (\text{ton}/2000 \text{ lbs})$$

where,

$$PM2.5 = PM2.5 \text{ emissions (monthly)}$$

$$P = \text{hours of operation (monthly hours of operation as determined in d)(1)a.)}$$

$$EF = 0.0005 \text{ lb PM/hr, as determined by the following equation: } (5 \text{ tons metal/hr}) * (0.0045 \text{ lbs PM2.5/ton metal}) * (1-0.98)$$

*where,*

$$5 \text{ tons metal/hr} = \text{maximum hourly throughput rate established by PTI Application A0052199}$$



*0.00045 lbs PM10/ton metal = Bernard S. Gutow, Modern Castings, Jan. 1972*

*98% = capture hood efficiency established by PTI Application A0052199*

[Authority for term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-31-05(D)]

d. Emission Limitation:

Particulate emissions shall not exceed 12 pounds per hour

Applicable Compliance Method:

The emission limitation was established by "Table I" in the appendix to OAC rule 3745-17-11(A)(2). If required, compliance shall be based upon Method 5 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-17-11(A)(2)]

e. Emission Limitation:

Visible particulate emissions from the stack shall not exceed 20 percent opacity as a six-minute average, except as specified by rule.

Applicable Compliance Method

Compliance with the stack visible particulate emissions limitation shall be determined through visible emissions observations performed in accordance with U.S. EPA Method 9.

[Authority for term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-17-07(A)(1)]

- (2) The permittee shall comply with the applicable testing requirements necessary to demonstrate compliance with under 40 CFR Part 63, Subpart EEEEE.

63.7730	Initial compliance requirements
63.7731(b)	When to conduct subsequent performance tests
63.7732(a), (d)	Test methods used and other procedures to demonstrate initial compliance with the emissions limitations

[Authority for term: 40 CFR Part 63, Subpart EEEEE]

- (3) The permittee shall conduct, emission testing for this emissions unit in accordance with the following requirements:
- a. The emission testing for P104, P105, P106, and P107, shall be conducted within 60 days after achieving the maximum production rate at which the emissions unit



will be operated, but not later than 180 days after initial startup of the emissions unit.

- b. For P104, P105, P106, and P107 the emission testing shall be conducted to demonstrate compliance with the allowable PM, PM10, and PM2.5 concentration of 0.003 gr/dscf in the exhaust stream
- c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):

PM - 40 CFR Part 60, Appendix A, Methods 1 through 5

PM10/PM2.5 – 40 CFR Part 60, Appendix A, Methods 201 and 202

Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

- d. The test(s) shall be conducted under those representative conditions that challenge to the fullest extent possible a facility's ability to meet the applicable emissions limits and/or control requirements, unless otherwise specified or approved by Ohio EPA, Central District Office. Although this generally consists of operating the emissions unit at its maximum material input/production rates and results in the highest emission rate of the tested pollutant, there may be circumstances where a lower emissions loading is deemed the most challenging control scenario. Failure to test under these conditions is justification for not accepting the test results as a demonstration of compliance.
- e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to Ohio EPA, Central District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in Ohio EPA, Central District Office's refusal to accept the results of the emission test(s).
- f. Personnel from Ohio EPA, Central District Office 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.
- g. 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 Ohio EPA, Central District Office 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 Ohio EPA, Central District Office.

[Authority for term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-31-05(D)]



**Final Permit-to-Install**  
Liberty Casting Co  
**Permit Number:** P0117801  
**Facility ID:** 0121010003  
**Effective Date:** 2/26/2015

g) Miscellaneous Requirements

(1) None.



**6. P108, Annealing Ovens**

**Operations, Property and/or Equipment Description:**

(2) natural gas fired annealing ovens with a combined heat input rate of 4.6 MMbtu/hr and process rate of 0.4 tons casting/hour.

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) See b)(1)a. and b)(2)a. – b.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(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 are identified below. 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), as effective 06/30/08	The permittee shall install a burner that is designed to meet the following:  0.007 lb PM/mmBtu heat input;  0.006 lb PM10/mmBtu heat input;  0.002 lb PM2.5/mmBtu heat input;  0.0006 lbSOx/mmBtu heat input;  0.002 lb NOx/mmBtu heat input;  0.005 lb VOC/mmBtu heat input; and  0.08 lb CO/mmBtu heat input.  See b)(2)a. – b.
b.	OAC rule 3745-31-05(A)(3)(a)(ii), as effective 06/30/08	See b)(2)c.i.
c.	OAC rule 3745-17-07(A)	Visible particulate emissions shall not exceed 20% opacity, as a 6-minute average, except as provided by rule.
d.	OAC rule 3745-17-07(B)	See b)(2)d.
e.	OAC rule 3745-17-08(B)	See b)(2)e.
f.	OAC rule 3745-17-10(B)	The emissions limitation specified by this rule is less stringent than the emission



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		limitation specified in OAC rule 3745-31-05(A)(3).  See b)(2)c.ii.
g.	OAC rule 3745-17-11(A)(2)	The emissions limitation specified by this rule is less stringent than the emissions limitation specified in OAC rule 3745-31-05(A)(3).  See b)(2)c.iii
h.	OAC rule 3745-18-06(E)(2)	The emissions limitation specified by this rule is less stringent than the emission limitation specified in OAC rule 3745-31-05(A)(3).  See b)(2)c.iv.
i.	40 CFR Part 63, Subpart EEEEE  [In accordance with 40 CFR 63.7682 this facility is an existing iron foundry subject to the emission limitations/control measures specified in this section]	For each building or structure housing any iron foundry emissions source at the iron foundry, you must not discharge any fugitive emissions that exhibit opacity greater than 20% (6-minute average), except for one 6-minute average per hour that does not exceed 27% opacity.  See b)(2)f., c)(2), d)(5), e)(4), and f)(2)
j.	40 CFR Part 63, Subpart A	Table I of 40 CFR Part 63, Subpart EEEEE, <i>Applicability of General Provisions to Subpart EEEEE</i> identifies which parts of the General Provisions in 40 CFR 63.1-15 apply.

(2) Additional Terms and Conditions

- a. The hourly and yearly emissions limitations for this emissions unit were established to reflect the potential to emit based on natural gas usage. Therefore, it is not necessary to develop additional monitoring, recordkeeping, and/or reporting requirements to ensure compliance with these limits.
- b. This Best Available Technology (BAT) emission limit applies until U.S. EPA approves Ohio Administrative Code (OAC) rule 3745-31-05(A)(3)(a)(ii) (the less than 10 tons per year BAT exemption) into the Ohio State Implementation Plan (SIP).

[Authority for term: OAC rule 3745-31-05(A)(3), as effective 06/30/2008]



- c. These requirements apply once U.S. EPA approves OAC rule 3745-31-05(A)(3)(a)(ii) (the less than 10 tons per year BAT exemption) as part of the Ohio SIP.
  - i. The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the PM, PM10, PM2.5, SOx, NOx, VOC, and CO emissions from this air contaminant source since the uncontrolled potential to emit for PM, PM10, PM2.5, SOx, NOx, VOC, and CO is less than 10 tons/year.
  - ii. The maximum allowable amount of particulate emissions shall be 0.020 pound per million Btu of actual heat input.
  - iii. Particulate emissions shall not exceed 2.2 pounds per hour.
  - iv. The maximum emission of sulfur dioxide from the source shall not exceed 88.19 pounds of sulfur dioxide per hour.

[Authority for term: OAC rule 3745-31-05(A)(3)(a)(ii), as effective 06/30/08]

- d. This emissions unit is exempt from OAC rule 3745-17-07(B)(1), pursuant to OAC rule 3745-17-07(B)(11)(d).
- e. Since this emissions unit is not located in an Appendix A area, pursuant to paragraph (A)(1) of OAC rule 3745-17-08, the requirements of OAC rule 3745-17-08(B) do not apply to this emissions unit.
- f. The permittee shall comply with the applicable requirements necessary to demonstrate compliance with 40 CFR Part 63, Subpart EEEEE.

63.7734(a)(7)	Initial compliance demonstration for fugitive emissions from foundry operations
63.7743(a)(7), (12)	Continuous compliance with the fugitive emissions limitation
63.7746	Other requirements to demonstrate continuous compliance
63.7760	Other requirements and information
63.7761	Other requirements and information

[Authority for term: 40 CFR Part 63, Subpart EEEEE]

c) Operational Restrictions

- (1) The emissions unit shall burn only natural gas.

[Authority for term: OAC rule 3745-77-07(A)(1) and OAC rule 3745-17-10(B)]



- (2) The permittee shall comply with the applicable operational restrictions necessary to demonstrate compliance with 40 CFR Part 63, Subpart EEEEE.

63.7710(a)	Operational and maintenance (general)
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[Authority for term: 40 CFR Part 63, Subpart EEEEE]

d) Monitoring and/or Recordkeeping Requirements

- (1) For each day during which the permittee burns a fuel other than natural gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

[Authority for term: OAC rule 3745-77-07(C) and OAC rule 3745-17-10(B)]

- (2) 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. whether the emissions are representative of normal operations;
- c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
- d. the total duration of any visible emissions incident; and
- e. any corrective actions taken to minimize or eliminate the visible emissions.

If visible emissions are present, a visible emissions incident has occurred. The observer does not have to document the exact start and end times for the visible emissions incident under item (d) above or continue the daily check until the incident has ended. The observer may indicate that the visible emissions incident was continuous during the observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

[Authority for term: OAC rule 3745-77-07(C) and OAC rule 3745-17-07(A)(1)]

- (4) The permittee may, upon receipt of written approval from Ohio EPA, Central District Office, modify the above-mentioned frequencies for performing the visible emissions checks if operating experience indicates that less frequent visible emissions checks



would be sufficient to ensure compliance with the above-mentioned applicable requirements.

[Authority for term: OAC rule 3745-77-07(C) and OAC rule 3745-17-07(A)(1)]

- (5) The permittee shall comply with the applicable monitoring and/or recordkeeping requirements necessary to demonstrate compliance with 40 CFR Part 63, Subpart EEEEE.

63.7752(a), (c)	Recordkeeping
63.7753	What form records must be kept in and how long

[Authority for term: 40 CFR Part 63, Subpart EEEEE]

e) Reporting Requirements

- (1) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.

[Authority for term: OAC rule 3745-77-07(C)(1)]

- (2) The permittee shall submit deviation (excursion) reports that identify each day when fuels other than natural gas were burned in this emissions unit. Each report shall be submitted within 30 days after the occurrence of the deviation.

[Authority for term: OAC rule 3745-77-07(A)(3)(c) and OAC rule 3745-17-10(B)]

- (3) The permittee shall submit semiannual written reports that identify:
  - a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and
  - b. any corrective actions taken to minimize or eliminate the visible particulate emissions.

These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

[Authority for term: OAC rule 3745-77-07(A)(3)(c) and OAC rule 3745-17-07(A)(1)]

- (4) The permittee shall comply with the applicable reporting requirements necessary to demonstrate compliance with 40 CFR Part 63, Subpart EEEEE.

63.7746	Reporting requirements for deviations
63.7750	What notifications must be submitted and when



63.7751	What reports must be submitted and when
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[Authority for term: 40 CFR Part 63, Subpart EEEEE]

f) Testing Requirements

(1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitation:

0.007 lb PM/mmBtu heat input

Applicable Compliance Method:

The heat input factor is found in AP-42, Fifth Edition, Volume I, Chapter 1: External Combustion Sources, Section 4: Natural Gas Combustion, Table 1.4-2If required, compliance shall be based upon Method 5 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-31-05(A)(3), effective 06/30/08]

b. Emission Limitation:

0.006 lb PM10/mmBtu heat input

0.002 lb PM2.5/mmBtu heat input

Applicable Compliance Method:

The heat input factor is found in AP-42, Fifth Edition, Volume I, Chapter 1: External Combustion Sources, Section 4: Natural Gas Combustion, Table 1.4-2If required, compliance shall be based upon Method 201 of 40 CFR Part 51, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-31-05(A)(3), effective 06/30/08]

c. Emission Limitation:

0.0006 lbSOx/mmBtu heat input

Applicable Compliance Method:

The heat input factor is found in AP-42, Fifth Edition, Volume I, Chapter 1: External Combustion Sources, Section 4: Natural Gas Combustion, Table 1.4-2If required, compliance shall be based upon Method 201 of 40 CFR Part 60, Appendix A.



[Authority for term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-31-05(A)(3), effective 06/30/08]

d. Emission Limitation:

0.002 lb NOx/mmBtu heat input

Applicable Compliance Method:

The heat input factor is found in AP-42, Fifth Edition, Volume I, Chapter 1: External Combustion Sources, Section 4: Natural Gas Combustion, Table 1.4-2If required, compliance shall be based upon Methods 7 and 20 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-31-05(A)(3), effective 06/30/08]

e. Emission Limitation:

0.005 lb VOC/mmBtu heat input

Applicable Compliance Method(s):

The heat input factor is found in AP-42, Fifth Edition, Volume I, Chapter 1: External Combustion Sources, Section 4: Natural Gas Combustion, Table 1.4-2If required, compliance shall be based upon Methods 18, 21, 24, 25, and 320 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-31-05(A)(3), effective 06/30/08]

f. Emission Limitation:

0.08 lb CO/mmBtu heat input

Applicable Compliance Method:

The heat input factor is found in AP-42, Fifth Edition, Volume I, Chapter 1: External Combustion Sources, Section 4: Natural Gas Combustion, Table 1.4-2If required, compliance shall be based upon Method 10 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-31-05(A)(3), effective 06/30/08]

g. Emission Limitation:

Particulate emissions shall not exceed 2.2 pounds per hour



Applicable Compliance Method:

The emission limitation was established by “Table I” in the appendix to OAC rule 3745-17-11(A)(2). If required, compliance shall be based upon Method 5 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-17-11(A)(2)]

h. Emission Limitation:

Visible particulate emissions from the stack shall not exceed 20 percent opacity as a six-minute average, except as specified by rule.

Applicable Compliance Method:

Compliance with the stack visible particulate emissions limitation shall be determined through visible emissions observations performed in accordance with U.S. EPA Method 9.

[Authority for term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-17-07(A)(1)]

- (2) The permittee shall comply with the applicable testing requirements necessary to demonstrate compliance with under 40 CFR Part 63, Subpart EEEEE.

63.7730	Initial compliance requirements
63.7731(b)	When to conduct subsequent performance tests
63.7732(a), (d)	Test methods used and other procedures to demonstrate initial compliance with the emissions limitations

[Authority for term: 40 CFR Part 63, Subpart EEEEE]

g) Miscellaneous Requirements

- (1) None.



**7. Emissions Unit Group -Mold Lines: P090 and P093**

EU ID	Operations, Property and/or Equipment Description
P090	FBO mold line
P093	HSP mold line

- a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only:
- (1) See b)(1)b. and b)(2)b.
- b) Applicable Emissions Limitations and/or Control Requirements
- (1) The specific operation(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 are identified below. 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)  [Synthetic minor to avoid PSD applicability]	<u>Combined emissions limitations for P090 and P093:</u>  Particulate matter (PM) emissions shall not exceed 0.50 tons per rolling, 12-month summation.  Particulate matter less than 10 microns in diameter (PM10) emissions shall not exceed 0.43 tons per rolling, 12-month summation.  Particulate matter less than 2.5 microns in diameter (PM2.5) emissions shall not exceed 0.15 tons per rolling, 12-month summation.  See b)(2)a.
b.	OAC rule 3745-31-05(A)(3), as effective 06/30/08	See b)(1)a. and b)(2)a. – b.
c.	OAC rule 3745-31-05(A)(3)(a)(ii), as effective 06/30/08	See b)(2)c.
d.	OAC rule 3745-17-07(A)	Visible particulate emissions from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
e.	OAC rule 3745-17-07(B)	See b)(2)d.
f.	OAC rule 3745-17-08(B)	See b)(2)e.
g.	OAC rule 3745-17-11(A)(2)	<p>The emissions limitation established by this rule is less stringent than the emissions limitation established by OAC rule 3745-31-05(A)(3).</p> <p>See b)(2)c.ii.</p>
h.	<p>40 CFR Part 63, Subpart EEEEE</p> <p>[In accordance with 40 CFR 63.7682 this facility is an existing iron foundry subject to the emission limitations/control measures specified in this section]</p>	<p>For each building or structure housing any iron foundry emissions source at the iron foundry, you must not discharge any fugitive emissions that exhibit opacity greater than 20% (6-minute average), except for one 6-minute average per hour that does not exceed 27% opacity.</p> <p>See b)(2)f., c)(1), d)(2), e)(3), and f)(1)</p>
i.	40 CFR Part 63, Subpart A	Table I of 40 CFR Part 63, Subpart EEEEE, <i>Applicability of General Provisions to Subpart EEEEE</i> identifies which parts of the General Provisions in 40 CFR 63.1-15 apply.

(2) Additional Terms and Conditions

a. The emission unit is limited by the federally enforceable rule limit of 25,000 tons per year metal melted, based upon a rolling, 12-month summation under OAC rule 3745-31-05(D), established by PTI P0116874 issued final 10/23/2014.

b. This Best Available Technology (BAT) emission limit applies until U.S. EPA approves Ohio Administrative Code (OAC) rule 3745-31-05(A)(3)(a)(ii) (the less than 10 tons per year BAT exemption) into the Ohio State Implementation Plan (SIP).

The emission limitation established by this rule is equivalent to the emissions limitation established by PTI P0116874 under OAC rule 3745-31-05(D) for the federally enforceable rule limit of 25,000 tons per year metal melted.

[Authority for term: OAC rule 3745-31-05(A)(3), as effective 06/30/2008]

c. These requirements apply once U.S. EPA approves OAC rule 3745-31-05(A)(3)(a)(ii) (the less than 10 tons per year BAT exemption) as part of the Ohio SIP.

i. The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the PM, PM10, and PM2.5 emissions from this air contaminant source since the calculated annual emission



rate for PM, PM10, and PM2.5 is less than 10 tons/year, taking into account the federally enforceable rule limit of 25,000 tons per year metal melted, based upon a rolling, 12-month summation under OAC rule 3745-31-05(D), established by PTI P0116874 issued final 10/23/2014.

ii. Particulate emissions shall not exceed 12 pounds per hour.

[Authority for term: OAC rule 3745-31-05(A)(3)(ii), as effective 06/30/08]

- d. The emissions units are exempt from OAC rule 3745-17-07(B)(1) pursuant to OAC rule 3745-17-07(B)(11)(e).
- e. This facility is not located in an Appendix A area as described in OAC rule 3745-17-08; therefore, OAC rule 3745-17-08(B) does not apply to the fugitive emissions from these emissions units.
- f. The permittee shall comply with the applicable requirements necessary to demonstrate compliance with 40 CFR Part 63, Subpart EEEEE.

63.7734(a)(7)	Initial compliance demonstration for fugitive emissions from foundry operations
63.7743(a)(7), (12)	Continuous compliance with the fugitive emissions limitation
63.7746	Other requirements to demonstrate continuous compliance
63.7760	Other requirements and information
63.7761	Other requirements and information

[Authority for term: 40 CFR Part 63, Subpart EEEEE]

c) Operational Restrictions

- (1) The permittee shall comply with the applicable operational restrictions necessary to demonstrate compliance with 40 CFR Part 63, Subpart EEEEE.

63.7710(a)	Operational and maintenance (general)
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[Authority for term: 40 CFR Part 63, Subpart EEEEE]

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall maintain monthly records of the following information:
  - a. the total metal melted;
  - b. the monthly PM, PM10, and PM2.5 emissions rates; and



- c. the rolling, 12-month summation of PM, PM10, and PM2.5 emissions, in tons based on the calculations in f)(1)a. – c.

The updated rolling, 12-month summation of the total PM, PM10, and PM2.5 emissions shall include the information for the current month and the preceding eleven calendar months.

- (2) The permittee shall comply with the applicable monitoring and/or recordkeeping requirements necessary to demonstrate compliance with 40 CFR Part 63, Subpart EEEEE.

63.7752(a), (c)	Recordkeeping
63.7753	What form records must be kept in and how long

[Authority for term: 40 CFR Part 63, Subpart EEEEE]

e) Reporting Requirements

- (1) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA’s eBusiness Center: Air Services online web portal.

[Authority for term: OAC rule 3745-77-07(A)(3)(c)]

- (2) The permittee shall submit quarterly (excursion) reports that identify the following:
  - a. all exceedances of the rolling, 12-month summation of PM, PM10, and PM2.5.

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

- (3) The permittee shall also submit annual reports that specify the total PM, PM10, and PM2.5 emissions from this emissions unit. This report shall be submitted by April 15<sup>th</sup> of each year. This reporting requirement may be satisfied by including and identifying the specific emission data for this emissions unit in the annual Fee Emission Report.

[Authority for term: OAC rule 3745-77-07(A)(3)(c)]

- (4) The permittee shall comply with the applicable reporting requirements necessary to demonstrate compliance with 40 CFR Part 63, Subpart EEEEE.

63.7746	Reporting requirements for deviations
63.7750	What notifications must be submitted and when
63.7751	What reports must be submitted and when

[Authority for term: 40 CFR Part 63, Subpart EEEEE]



f) Testing Requirements

a. Emission Limitation:

PM shall not exceed 0.5 tons per rolling, 12-month summation

Applicable Compliance Method:

Monthly emissions shall be calculated using the following equation:

$$PM = (P) * (EF) * (\text{ton}/2000 \text{ lbs})$$

where,

PM = PM emissions (monthly)

P = throughput (metal melt rate, as determined in d)(1)a.)

EF = 0.04 lb PM/ton metal (US EPA's PM Calculator)

[Authority for term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-31-05(D)]

b. Emission Limitation:

PM10 shall not exceed 0.43 tons per rolling, 12-month summation

Applicable Compliance Method:

Monthly emissions shall be calculated using the following equation:

$$PM10 = (P) * (EF) * (\text{ton}/2000 \text{ lbs})$$

where,

PM10 = PM10 emissions (monthly)

P = throughput (metal melt rate, as determined in d)(1)a.)

EF = 0.034 lb PM10/ton metal (US EPA's PM Calculator)

[Authority for term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-31-05(D)]

c. Emission Limitation:

PM shall not exceed 0.15 tons per rolling, 12-month summation

Applicable Compliance Method:

Monthly emissions shall be calculated using the following equation:

$$PM2.5 = (P) * (EF) * (\text{ton}/2000 \text{ lbs})$$



where,

PM2.5 = PM2.5 emissions (monthly)

P = throughput (metal melt rate, as determined in d)(1)a.)

EF = 0.012 lb PM/ton metal (US EPA's PM Calculator)

[Authority for term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-31-05(D)]

d. Emission Limitation:

Particulate emissions shall not exceed 12 pounds per hour

Applicable Compliance Method:

The emission limitation was established by "Table I" in the appendix to OAC rule 3745-17-11(A)(2). If required, compliance shall be based upon Method 5 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-17-11(A)(2)]

- (2) The permittee shall comply with the applicable testing requirements necessary to demonstrate compliance with under 40 CFR Part 63, Subpart EEEEE.

63.7730	Initial compliance requirements
63.7731(b)	When to conduct subsequent performance tests
63.7732(a), (d)	Test methods used and other procedures to demonstrate initial compliance with the emissions limitations

[Authority for term: 40 CFR Part 63, Subpart EEEEE]

g) Miscellaneous Requirements

- (1) None.



**8. P099, Betaset Core Making**

**Operations, Property and/or Equipment Description:**

Betaset Core Making Craft CB-22 with 2 core blowers, and a maximum sand throughput of 1.8 tons/hr and annual binder usage rate of 189 tpy.

- a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only:
  - (1) See b)(1)b., b)(1)d., b)(2)a., d)(2) – (5), and e)(4)
- b) Applicable Emissions Limitations and/or Control Requirements
  - (1) The specific operation(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 are identified below. 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)  [Synthetic minor to avoid non-attainment NSR]	Particulate matter (PM) emissions shall not exceed 0.90 tons per rolling, 12-month summation.  Particulate matter less than 10 microns in diameter (PM10) emissions shall not exceed 0.78 tons per rolling, 12-month summation.  Particulate matter less than 2.5 microns in diameter (PM2.5) shall not exceed 0.27 tons per rolling, 12-month summation.  Volatile organic compound (VOC) emissions shall not exceed 5.74 tons per rolling, 12-month summation.  The requirements of this rule are equivalent to the requirements established by 40 CFR Part 63, Subpart EEEEE.  See c)(1) – (4)
b.	OAC rule 3745-31-05(A)(3), as effective 06/30/08	See b)(1)a. and b)(2)a.
c.	OAC rule 3745-31-05(A)(3)(a)(ii), as effective 06/30/08	See b)(2)b.i.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
d.	ORC 3704.03(F)	See d)(2) – (5), e)(4)
e.	40 CFR Part 63, Subpart EEEEE  [In accordance with 40 CFR 63.7682 this facility is an existing iron foundry subject to the emission limitations/control measures specified in this section]	The binder chemical formulation shall not contain methanol as a specific ingredient of the catalyst formulation.  See b)(2)c., c)(3), d)(6), and e)(5)
f.	40 CFR Part 63, Subpart A	Table I of 40 CFR Part 63, Subpart EEEEE, <i>Applicability of General Provisions to Subpart EEEEE</i> identifies which parts of the General Provisions in 40 CFR 63.1-15 apply.

(2) Additional Terms and Conditions

- a. This Best Available Technology (BAT) emission limit applies until U.S. EPA approves Ohio Administrative Code (OAC) rule 3745-31-05(A)(3)(a)(ii) (the less than 10 tons per year BAT exemption) into the Ohio State Implementation Plan (SIP).

[Authority for term: OAC rule 3745-31-05(A)(3), as effective 06/30/2008]

- b. These requirements apply once U.S. EPA approves OAC rule 3745-31-05(A)(3)(a)(ii) (the less than 10 tons per year BAT exemption) as part of the Ohio SIP.

- i. The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the VOC emissions from this air contaminant source since the calculated annual emission rate for VOC is less than 10 tons/year, taking into account the federally enforceable rule limit of 192,000 pounds of part I resin and 124,800 pounds of part II coreactant per year, based upon a rolling, 12-month summation under OAC rule 3745-31-05(D).

[Authority for term: OAC rule 3745-31-05(A)(3)(a)(ii), as effective 06/30/08]

- c. The permittee shall comply with the applicable requirements necessary to demonstrate compliance with 40 CFR Part 63, Subpart EEEEE.

63.7760	Other requirements and information
63.7761	Other requirements and information

[Authority for term: 40 CFR Part 63, Subpart EEEEE]



c) Operational Restrictions

- (1) The maximum annual part I resin usage for this emissions unit shall not exceed 192,000 pounds, based upon a rolling, 12-month summation of the part I resin usage figures. To ensure enforceability during the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the permittee shall not exceed the part I resin usage levels specified in the following table:

<u>Month(s)</u>	<u>Maximum Allowable Cumulative resin part I Usage (lbs)</u>
1	16,000
1-2	32,000
1-3	96,000
1-4	64,000
1-5	80,000
1-6	96,000
1-7	112,000
1-8	128,000
1-9	144,000
1-10	160,000
1-11	176,000
1-12	192,000

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

[Authority for term: OAC rule 3745-77-07(A)(1) and OAC rule 3745-31-05(D)]

- (2) The maximum annual part II coreactant usage for this emissions unit shall not exceed 124,800 pounds, based upon a rolling, 12-month summation of the part II coreactant usage figures. To ensure enforceability during the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the permittee shall not exceed the part II coreactant usage levels specified in the following table:

<u>Month(s)</u>	<u>Maximum Allowable Cumulative part II coreactant Usage (lbs)</u>
1	10,400
1-2	20,800
1-3	31,200
1-4	41,600
1-5	52,000
1-6	62,400
1-7	72,800
1-8	83,200
1-9	93,600
1-10	104,000
1-11	114,400
1-12	124,800



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

[Authority for term: OAC rule 3745-77-07(A)(1) and OAC rule 3745-31-05(D)]

- (3) The maximum annual core sand usage for this emissions unit shall not exceed 4,500 tons, based upon a rolling, 12-month summation of the core sand usage figures. To ensure enforceability during the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the permittee shall not exceed the core sand usage levels specified in the following table:

<u>Month(s)</u>	<u>Maximum Allowable Cumulative Core Sand Usage</u>
1	500
1-2	1,000
1-3	1,500
1-4	2,000
1-5	2,500
1-6	3,000
1-7	3,500
1-8	4,000
1-9	4,500
1-10	5,000
1-11	5,500
1-12	6,000

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

[Authority for term: OAC rule 3745-77-07(A)(1) and OAC rule 3745-31-05(D)]

- (4) The permittee shall comply with the applicable work practice requirements necessary to demonstrate compliance with 40 CFR Part 63, Subpart EEEEE.

63.7700(d)	Work practice standards
63.7710(a)	Operation and maintenance requirements
63.7720	General requirements for complying with subpart
63.7735(c)	Demonstrate initial compliance with work practice standards



63.774(c)	Demonstrate continuous compliance with work practice standards
63.7446	Other requirements for continuous compliance

[Authority for term: 40 CFR Part 63, Subpart EEEEE]

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall maintain monthly records of the following information for this emissions unit:
  - a. the company identification of each part I resin and part II coreactant material used;
  - b. the amount, in pounds, of each part I resin and part II coreactant material used;
  - c. the rolling, 12-month, summation of part I resin used, in pounds;
  - d. the rolling, 12-month summation of part II coreactant used, in pounds;
  - e. the amount of core sand used;
  - f. the rolling, 12-month summation of core sand used;
  - g. the VOC emissions rate (based on the calculations in Section f)(1)a.) from both part I resin and part II coreactant based on a rolling, 12-month summation; and
  - h. the PM, PM10, and PM2.5 emissions rate (based on the calculations in Section f)(1)b. – d.) based on a rolling, 12-month summation.

The updated rolling, 12-month summation of the total VOC, PM, PM10, and PM2.5 emissions shall include the information for the current month and the preceding eleven calendar months.

Also, during the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the permittee shall record the cumulative part I resin, part II coreactant, and core sand usage for each calendar month.

[Authority for term: OAC rule 3745-77-07(A)(3) and OAC rule 3745-31-05(D)]

- (2) The permit-to-install application for this emissions unit(s), P099, was evaluated based on the actual materials and the design parameters of the emissions unit's exhaust system, as specified by the permittee. The "Toxic Air Contaminant Statute", ORC 3704.03(F), was applied to this emissions unit(s) for each toxic air contaminant listed in OAC rule 3745-114-01, using data from the permit application; and modeling was performed for each toxic air contaminant(s) emitted at over one ton per year using an air dispersion model such as SCREEN3. The predicted 1-hour maximum ground-level concentration result(s) from the approved air dispersion model, was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC), calculated as described in the Ohio EPA guidance document entitled "Review of New Sources of Air Toxic Emissions, Option A", as follows:



- a. the exposure limit, expressed as a time-weighted average concentration for a conventional 8-hour workday and a 40-hour workweek, for each toxic compound emitted from the emissions unit, (as determined from the raw materials processed and/or coatings or other materials applied) has been documented from one of the following sources and in the following order of preference (TLV was and shall be used, if the chemical is listed):
  - i. threshold limit value (TLV) from the American Conference of Governmental Industrial Hygienists (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices"; or
  - ii. STEL (short term exposure limit) or the ceiling value from the American Conference of Governmental Industrial Hygienists (ACGIH) "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices"; the STEL or ceiling value is multiplied by 0.737 to convert the 15-minute exposure limit to an equivalent 8-hour TLV.
- b. The TLV is divided by ten to adjust the standard from the working population to the general public (TLV/10).
- c. This standard is/was then adjusted to account for the duration of the exposure or the operating hours of the emissions unit(s), i.e., "8" hours per day and "5" days per week, from that of 8 hours per day and 5 days per week. The resulting calculation was (and shall be) used to determine the Maximum Acceptable Ground-Level Concentration (MAGLC):

$$TLV/10 \times 8/X \times 5/Y = 4 TLV/XY = MAGLC$$

- d. The following summarizes the results of dispersion modeling for the significant toxic contaminants (emitted at 1 or more tons/year) or "worst case" toxic contaminant(s):

Toxic Contaminant: methanol

TLV (mg/m3): 262.09

Maximum Hourly Emission Rate (lbs/hr): 2.35

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 335.4

MAGLC (ug/m3): 6240

The permittee, has demonstrated that emissions of methanol, from emissions unit P099, is calculated to be less than eighty per cent of the maximum acceptable ground level concentration (MAGLC); any new raw material or processing agent shall not be applied without evaluating each component toxic air contaminant in accordance with the "Toxic Air Contaminant Statute", ORC 3704.03(F).

[Authority for term: OAC rule 3745-77-07(C), ORC 3704.03(F)(3)(c) and F(4), OAC rule 3745-114-01, Option A, Engineering Guide #70]



- (3) Prior to making any physical changes to or changes in the method of operation of the emissions unit, that could impact the parameters or values that were used in the predicted 1-hour maximum ground-level concentration, the permittee shall re-model the change(s) to demonstrate that the MAGLC has not been exceeded. Changes that can affect the parameters/values used in determining the 1-hour maximum ground-level concentration include, but are not limited to, the following:
- a. changes in the composition of the materials used or the use of new materials, that would result in the emission of a new toxic air contaminant with a lower Threshold Limit Value (TLV) than the lowest TLV 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 toxic air contaminant listed in OAC rule 3745-114-01, that was modeled from the initial (or last) application; and
  - c. physical changes to the emissions unit(s) or its/their exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).

If the permittee determines that the "Toxic Air Contaminant Statute" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01 solely due to a non-restrictive change to a parameter or process operation, where compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F), has been documented. If the change(s) meet(s) the definition of a "modification", the permittee shall apply for and obtain a final PTI prior to the change. The Director may consider any significant departure from the operations of the emissions unit, described in the permit application, as a modification that results in greater emissions than the emissions rate modeled to determine the ground level concentration; and he/she may require the permittee to submit a permit application for the increased emissions.

[Authority for term: OAC rule 3745-77-07(C), ORC 3704.03(F)(3)(c) and F(4), OAC rule 3745-114-01, Option A, Engineering Guide #70]

- (4) The permittee shall collect, record, and retain the following information for each toxic evaluation conducted to determine compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F):
- a. a description of the parameters/values used in each compliance demonstration and the parameters or values changed for any re-evaluation of the toxic(s) modeled (the composition of materials, new toxic contaminants emitted, change in stack/exhaust parameters, etc.);
  - b. the Maximum Acceptable Ground-Level Concentration (MAGLC) for each significant toxic contaminant or worst-case contaminant, calculated in accordance with the "Toxic Air Contaminant Statute", ORC 3704.03(F);
  - c. a copy of the computer model run(s), that established the predicted 1-hour maximum ground-level concentration that demonstrated the emissions unit(s) to be in compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F),



initially and for each change that requires re-evaluation of the toxic air contaminant emissions; and

- d. the documentation of the initial evaluation of compliance with the “Toxic Air Contaminant Statute”, ORC 3704.03(F), and documentation of any determination that was conducted to re-evaluate compliance due to a change made to the emissions unit(s) or the materials applied.

[Authority for term: OAC rule 3745-77-07(C), ORC 3704.03(F)(3)(c) and F(4), OAC rule 3745-114-01, Option A, Engineering Guide #70]

- (5) The permittee shall maintain a record of any change made to a parameter or value used in the dispersion model, used to demonstrate compliance with the “Toxic Air Contaminant Statute”, ORC 3704.03(F), through the predicted 1-hour maximum ground-level concentration. The record shall include the date and reason(s) for the change and if the change would increase the ground-level concentration.

[Authority for term: OAC rule 3745-77-07(C), ORC 3704.03(F)(3)(c) and F(4), OAC rule 3745-114-01, Option A, Engineering Guide #70]

- (6) The permittee shall comply with the applicable monitoring and/or recordkeeping requirements necessary to demonstrate compliance with 40 CFR Part 63, Subpart EEEEE.

63.7752(a)(4)	Records of the annual quantity of each chemical binder or coating material used to coat or make molds and cores, the Material Data Safety Sheet or other documentation that provides the chemical composition of each component, and the annual quantity of HAP used in these chemical binder or coating materials at the foundry as calculated from the recorded quantities and chemical compositions.
63.7752(c)	Records required by 63.7744
63.7753	Duration records shall be kept

[Authority for term: 40 CFR Part 63, Subpart EEEEE]

e) Reporting Requirements

- (1) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.

[Authority for term: OAC rule 3745-77-07(C)(1)]

- (2) The permittee shall submit quarterly deviation (excursion) reports that identify the following:
  - a. the rolling, 12-month part I resin usage limitations;



- b. the rolling, 12-month part II coreactant usage limitations;
- c. the rolling, 12-month PM, PM10, PM2.5, and VOC emissions limitations; and
- d. the rolling, 12-month core sand usage limitation.

The permittee shall identify any exceedances of the limitations established in Sections c)(1) – (3) for the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit.

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(A)(3)(c) and OAC rule 3745-31-05(D)]

- (3) The permittee shall submit annual reports that specify the total combined VOC emissions from emission unit for the previous calendar year. These reports shall be submitted by April 15 of each year. This reporting requirement may be satisfied by including and identifying the specific emission data for emission units in the annual Fee Emission Report.

[Authority for term: OAC rule 3745-77-07(A)(3)(c) and OAC rule 3745-31-05(D)]

- (4) The permittee shall submit annual reports that include any changes to any parameter or value used in the dispersion model used to demonstrate compliance with the “Toxic Air Contaminant Statute”, ORC 3704.03(F), through the predicted 1 hour maximum concentration. The report should include:
  - a. the original model input;
  - b. the updated model input;
  - c. the reason for the change(s) to the input parameter(s); and
  - d. a summary of the results of the updated modeling, including the input changes; and
  - e. a statement that the model results indicate that the 1-hour maximum ground-level concentration is less than 80% of the MAGLC.

If no changes to the emissions, emissions unit(s), or the exhaust stack have been made during the reporting period, then the report shall include a statement to that effect.

[Authority for term: OAC rule 3745-77-07(A)(3)(c), ORC 3704.03(F)(3)(c) and F(4), OAC rule 3745-114-01, Option A, Engineering Guide #70]

- (5) The permittee shall comply with the applicable reporting requirements necessary to demonstrate compliance with 40 CFR Part 63, Subpart EEEEE.



63.7750	Notifications
63.7751	Reports

[Authority for term: 40 CFR Part 63, Subpart EEEEE]

f) Testing Requirements

(1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitation:

VOC emissions shall not exceed 5.74 tons based upon a rolling, 12-month summation

Applicable Compliance Method:

Compliance shall be determined by the monitoring and recordkeeping in Section d)(1)e. and the equation below.

$$E = 0.5 * [0.1(R) + 0.03(MF)]$$

where,

E = VOC emissions, monthly

R = part I resin usage, monthly (as determined in section d)(1)a.)

MF = part II coreactant usage, monthly (as determined in section d)(1)b.)

The above equation comes from “Estimation of Emissions from the Beta Set Process; Emissions from Sand Mixing, Core Making and Core Storage Operations,” HAI, 7/28/14.

The updated rolling, 12-month summation of the total VOC emissions shall include the information for the current month and the preceding eleven calendar months.

[Authority for term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-31-05(D)]

b. Emission Limitation:

PM emissions shall not exceed 0.90 tons based upon a rolling, 12-month summation



Applicable Compliance Method:

Compliance shall be determined by the monitoring and recordkeeping in Section d)(1)e. and the equation below.

$$E = (EF) * (\text{usage}) * (\text{ton}/2000 \text{ lb})$$

where,

E = PM emissions, monthly

EF = 0.3 lb PM/ton core sand (US EPA's PM Calculator)

usage = material usage, monthly (Section d)(1)e.)

[Authority for term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-31-05(D)]

c. Emission Limitation:

PM10 emissions shall not exceed 0.78 tons based upon a rolling, 12-month summation

Applicable Compliance Method:

Compliance shall be determined by the monitoring and recordkeeping in Section d)(1)e. and the equation below.

$$E = (EF) * (\text{usage}) * (\text{ton}/2000 \text{ lb})$$

where,

E = PM10 emissions, monthly

EF = 0.26 lb PM10/ton core sand (US EPA's PM Calculator)

usage = material usage, monthly (Section d)(1)e.)

[Authority for term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-31-05(D)]

d. Emission Limitation:

PM2.5 emissions shall not exceed 0.27 tons based upon a rolling, 12-month summation

Applicable Compliance Method:

Compliance shall be determined by the monitoring and recordkeeping in Section d)(1)e. and the equation below.

$$E = (EF) * (\text{usage}) * (\text{ton}/2000 \text{ lb})$$

where,



E = PM2.5 emissions, monthly

EF = 0.09 lb PM2.5/ton core sand (US EPA's PM Calculator)

usage = material usage, monthly (Section d)(1)e.)

[Authority for term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-31-05(D)]

g) Miscellaneous Requirements

(1) None.



**9. P100, PUNB Core Making**

**Operations, Property and/or Equipment Description:**

Phenolic Urethane Nobake Palmer Core Mixer. Maximum sand throughput is 0.5 tons/hr and annual binder usage of 58.5 tons/year.

- a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only:
  - (1) See b)(1)b., b)(1)d., and d)(1)
- b) Applicable Emissions Limitations and/or Control Requirements
  - (1) The specific operation(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 are identified below. 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)  [Synthetic minor to avoid non-attainment NSR]	Volatile organic compound (VOC) emissions shall not exceed 5.30 tons per rolling, 12-month summation.  Particulate matter (PM) emissions shall not exceed 0.68 tons per rolling, 12-month summation.  Particulate emissions less than 10 microns in diameter (PM10) shall not exceed 0.59 tons per rolling, 12-month summation.  Particulate emissions less than 2.5 microns in diameter (PM2.5) shall not exceed 0.20 tons per rolling, 12-month summation.  The requirements of this rule are equivalent to the requirements established by 40 CFR Part 63, Subpart EEEEE.  See c)(1) – (4)
b.	OAC rule 3745-31-05(A)(3), effective 06/30/08	See b)(1)a. and b)(2)a.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
c.	OAC rule 3745-31-05(A)(3)(a)(ii), effective 06/30/08	See b)(2)b.i.
d.	40 CFR Part 63, Subpart EEEEE  [In accordance with 40 CFR 63.7682 this facility is an existing iron foundry subject to the emission limitations/control measures specified in this section]	The binder chemical formulation shall not contain methanol as a specific ingredient of the catalyst formulation.  See b)(2)c., c)(4), d)(6), and e)(5)
e.	40 CFR Part 63, Subpart A	Table I of 40 CFR Part 63, Subpart EEEEE, <i>Applicability of General Provisions to Subpart EEEEE</i> identifies which parts of the General Provisions in 40 CFR 63.1-15 apply.

(2) Additional Terms and Conditions

- a. This Best Available Technology (BAT) emission limit applies until U.S. EPA approves Ohio Administrative Code (OAC) rule 3745-31-05(A)(3)(a)(ii) (the less than 10 tons per year BAT exemption) into the Ohio State Implementation Plan (SIP).

[Authority for term: OAC rule 3745-31-05(A)(3), as effective 06/30/2008]

- b. These requirements apply once U.S. EPA approves OAC rule 3745-31-05(A)(3)(a)(ii) (the less than 10 tons per year BAT exemption) as part of the Ohio SIP.

- i. The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the VOC emissions from this air contaminant source since the calculated annual emission rate for VOC is less than 10 tons/year, taking into account the federally enforceable rule limits of 64,360 pounds of PEP SET Q I, 52,660 pounds of PEP SET Q II, per year, and 11,700 pounds PEP SET Q catalyst based upon a rolling, 12-month summation under OAC rule 3745-31-05(D).

[Authority for term: OAC rule 3745-31-05(A)(3)(a)(ii), as effective 06/30/08]

- c. The permittee shall comply with the applicable requirements necessary to demonstrate compliance with 40 CFR Part 63, Subpart EEEEE.

63.7760	Other requirements and information
63.7761	Other requirements and information

[Authority for term: 40 CFR Part 63, Subpart EEEEE]



c) Operational Restrictions

- (1) The maximum annual PEP SET Q I usage for this emissions unit shall not exceed 64,360 pounds, based upon a rolling, 12-month summation of the PEP SET Q I usage figures. To ensure enforceability during the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the permittee shall not exceed the PEP SET Q I usage levels specified in the following table:

<u>Month(s)</u>	<u>Maximum Allowable Cumulative PEP SET Q I (lbs)</u>
1	5363
1-2	10,727
1-3	16,090
1-4	21,453
1-5	26,817
1-6	32,180
1-7	37,543
1-8	42,906
1-9	48,270
1-10	53,633
1-11	58,996
1-12	64,360

After the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, compliance with the annual PEP SET Q I usage limitation shall be based upon a rolling, 12-month summation of the PEP SET Q I usage figures.

[Authority for term: OAC rule 3745-77-07(A)(1) and OAC rule 3745-31-05(D)]

- (2) The maximum annual PEP SET Q II usage for this emissions unit shall not exceed 52,660 pounds, based upon a rolling, 12-month summation of the PEP SET Q II usage figures. To ensure enforceability during the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the permittee shall not exceed the PEP SET Q II usage levels specified in the following table:

<u>Month(s)</u>	<u>Maximum Allowable Cumulative PEP SET Q II Usage (lbs)</u>
1	4,383
1-2	8,767
1-3	13,150
1-4	17,533
1-5	21,917
1-6	26,300
1-7	30,683
1-8	35,066
1-9	39,450
1-10	43,833
1-11	48,217
1-12	52,660



After the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, compliance with the annual PEP SET Q II usage limitation shall be based upon a rolling, 12-month summation of the PEP SET Q II usage figures.

[Authority for term: OAC rule 3745-77-07(A)(1) and OAC rule 3745-31-05(D)]

- (3) The maximum annual PEP SET Q catalyst usage for this emissions unit shall not exceed 11,700 pounds, based upon a rolling, 12-month summation of the PEP SET Q catalyst usage figures. To ensure enforceability during the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the permittee shall not exceed the PEP SET Q catalyst usage levels specified in the following table:

<u>Month(s)</u>	<u>Maximum Allowable Cumulative PEP SET Q Catalyst Usage (lbs)</u>
1	975
1-2	1,950
1-3	2,925
1-4	3,900
1-5	4,875
1-6	5,850
1-7	6,825
1-8	7,800
1-9	8,775
1-10	9,750
1-11	10,725
1-12	11,700

After the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, compliance with the annual PEP SET Q catalyst usage limitation shall be based upon a rolling, 12-month summation of the PEP SET Q catalyst usage figures.

[Authority for term: OAC rule 3745-77-07(A)(1) and OAC rule 3745-31-05(D)]

- (4) The maximum annual core sand usage for this emissions unit shall not exceed 4,500 tons, based upon a rolling, 12-month summation of the core sand usage figures. To ensure enforceability during the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the permittee shall not exceed the core sand usage levels specified in the following table:

<u>Month(s)</u>	<u>Maximum Allowable Cumulative Core Sand Usage</u>
1	375
1-2	750
1-3	1,125
1-4	1,500
1-5	1,875
1-6	2,250



1-7	2,625
1-8	3,000
1-9	3,375
1-10	3,750
1-11	4,125
1-12	4,500

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

[Authority for term: OAC rule 3745-77-07(A)(1) and OAC rule 3745-31-05(D)]

- (5) The permittee shall comply with the applicable work practice requirements necessary to demonstrate compliance with 40 CFR Part 63, Subpart EEEEE.

63.7700(d)	Work practice standards
63.7710(a)	Operation and maintenance requirements
63.7720	General requirements for complying with subpart
63.7735(c)	Demonstrate initial compliance with work practice standards
63.774(c)	Demonstrate continuous compliance with work practice standards
63.7446	Other requirements for continuous compliance

[Authority for term: 40 CFR Part 63, Subpart EEEEE]

d) Monitoring and/or Recordkeeping Requirements

- (1) Modeling to demonstrate compliance with, the "Toxic Air Contaminant Statute", ORC 3704.03(F)(4)(b), was not necessary because the emissions unit's maximum annual emissions for each toxic air contaminant, as defined in OAC rule 3745-114-01, will be less than 1.0 ton per year. OAC Chapter 3745-31 requires a permittee 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 toxic air contaminant to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new permit-to-install.
- (2) The permittee shall maintain monthly records of the following information for this emissions unit:
  - a. the company identification of PEP SET QI, PEP SET QII, and PEP SET Q catalyst used;



- b. the amount, in pounds, of each PEP SET QI, PEP SET QII, and PEP SET Q catalyst used;
- c. the rolling, 12-month summation of PEP SET Q I used, in pounds;
- d. the rolling, 12-month summation of PEP SET Q II used, in pounds;
- e. the rolling, 12-month summation of PEP SET Q catalyst used, in pounds;
- f. the amount of core sand used;
- g. the rolling, 12-month summation of core sand used;
- h. the VOC emissions rate (based on the calculations in Section f)(1)a. – c.) from all PEP SET Q I, PEP SET Q II, and PEP SET Q catalyst based on a rolling, 12-month summation; and
- i. the PM, PM10, and PM2.5 emissions rate (based on the calculations in Section f)(1)d. – f.) based on a rolling, 12-month summation.

The updated rolling, 12-month summation of the total VOC, PM, PM10, and PM2.5 emissions shall include the information for the current month and the preceding eleven calendar months.

Also, during the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the permittee shall record the cumulative PEP SET Q I, PEP SET Q II, PEP SET Q Catalyst, and core sand usage for each calendar month.

[Authority for term: OAC rule 3745-77-07(A)(3) and OAC rule 3745-31-05(D)]

- (3) The permittee shall comply with the applicable monitoring and/or recordkeeping requirements necessary to demonstrate compliance with 40 CFR Part 63, Subpart EEEEE.

63.7752(a)(4)	Records of the annual quantity of each chemical binder or coating material used to coat or make molds and cores, the Material Data Safety Sheet or other documentation that provides the chemical composition of each component, and the annual quantity of HAP used in these chemical binder or coating materials at the foundry as calculated from the recorded quantities and chemical compositions.
63.7752(c)	Records required by 63.7744
63.7753	Duration records shall be kept

[Authority for term: 40 CFR Part 63, Subpart EEEEE]



e) Reporting Requirements

- (1) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.

[Authority for term: OAC rule 3745-77-07(C)(1)]

- (2) The permittee shall submit quarterly deviation (excursion) reports that identify the following:
  - a. the rolling, 12-month VOC emission limitation;
  - b. the rolling, 12-month PEP SET QI usage limitation;
  - c. the rolling, 12-month PEP SET QII usage limitation;
  - d. the rolling, 12-month PEP SET Q catalyst usage limitation;
  - e. the rolling, 12-month PM, PM10, and PM2.5 emission limitations; and
  - f. the rolling, 12-month core sand usage limitation.

The permittee shall identify any exceedances of the limitations established in Sections c)(1) – (4) for the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit.

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(A)(3)(c) and OAC rule 3745-31-05(D)]

- (3) The permittee shall submit annual reports that specify the total combined VOC emissions from emission unit for the previous calendar year. These reports shall be submitted by April 15 of each year. This reporting requirement may be satisfied by including and identifying the specific emission data for emission units in the annual Fee Emission Report.

[Authority for term: OAC rule 3745-77-07(A)(3)(c) and OAC rule 3745-31-05(D)]

- (4) The permittee shall comply with the applicable reporting requirements necessary to demonstrate compliance with 40 CFR Part 63, Subpart EEEEE.

63.7750	Notifications
63.7751	Reports

[Authority for term: 40 CFR Part 63, Subpart EEEEE]



f) Testing Requirements

(1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitation:

VOC emissions shall not exceed 5.30 tons based upon a rolling, 12-month summation

Applicable Compliance Method:

Compliance shall be determined by the monitoring and recordkeeping in Section d)(1)e. and the equation below for each PEP SET QI, PEP SET QII, and PEP SET Q catalyst.

$$E = (EF) * (\text{usage}) * (\text{ton}/2000 \text{ lb})$$

where,

E = VOC emissions, monthly

EF = 164.84 lb VOC/ton binder (ASK Chemical, "VOC-HAP Regulatory Datasheet, OCMA Report for PEP SET QI 4180/ QII 6180/ Q600 catalyst," 11/10/14)

usage = material usage, monthly (Section d)(1)b.)

Monthly VOC emissions shall be determined by summing the monthly VOC emissions rates for each PEP SET QI, PEP SET QII, and PEP SET Q catalyst.

[Authority for term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-31-05(D)]

b. Emission Limitation:

PM emissions shall not exceed 0.68 tons based upon a rolling, 12-month summation

Applicable Compliance Method:

Compliance shall be determined by the monitoring and recordkeeping in Section d)(1)e. and the equation below.

$$E = (EF) * (\text{usage}) * (\text{ton}/2000 \text{ lb})$$

where,

E = PM emissions, monthly

EF = 0.3 lb PM/ton core sand (US EPA's PM Calculator)



usage = material usage, monthly (Section d)(1)f.)

[Authority for term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-31-05(D)]

c. Emission Limitation:

PM10 emissions shall not exceed 0.59 tons based upon a rolling, 12-month summation

Applicable Compliance Method:

Compliance shall be determined by the monitoring and recordkeeping in Section d)(1)e. and the equation below.

$$E = (EF) * (usage) * (ton/2000 lb)$$

where,

E = PM10 emissions, monthly

EF = 0.26 lb PM10/ton core sand (US EPA's PM Calculator)

usage = material usage, monthly (Section d)(1)f.)

[Authority for term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-31-05(D)]

d. Emission Limitation:

PM2.5 emissions shall not exceed 0.20 tons based upon a rolling, 12-month summation

Applicable Compliance Method:

Compliance shall be determined by the monitoring and recordkeeping in Section d)(1)e. and the equation below.

$$E = (EF) * (usage) * (ton/2000 lb)$$

where,

E = PM2.5 emissions, monthly

EF = 0.09 lb PM2.5/ton core sand (US EPA's PM Calculator)

usage = material usage, monthly (Section d)(1)f.)

[Authority for term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-31-05(D)]

g) Miscellaneous Requirements

(1) None.



**10. Emissions Unit Group -Inoculation: P088 and P089**

EU ID	Operations, Property and/or Equipment Description
P088	Inoculation A, serving A furnaces. Metal is tapped directly into a transfer ladle with inoculants present when ductile is scheduled for production. Inoculation has a transfer rate of 5 tons/hour and has a hood positioned over the ladle. Vents to sand baghouse.
P089	Inoculation B, serving B furnaces. Metal is tapped directly into a transfer ladle with inoculants present when ductile is scheduled for production. Inoculation has a transfer rate of 5 tons/hour and has a hood positioned over the ladle. Vents to sand baghouse.

- a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only:
  - (1) See b)(1)b. and b)(2)d.
- b) Applicable Emissions Limitations and/or Control Requirements
  - (1) The specific operation(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 are identified below. 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)  [Synthetic minor to avoid non-attainment NSR and PSD applicability]	<u>Combined emissions limitations P088 and P089:</u>  Particulate matter (PM) stack and fugitive emissions shall not exceed 1.37 tons per rolling, 12-month summation.  Particulate matter less than 10 microns in diameter (PM10) stack and fugitive emissions shall not exceed 1.19 tons per rolling, 12-month summation.  Particulate matter less than 2.5 microns in diameter (PM2.5) stack and fugitive emissions shall not exceed 0.72 tons per rolling, 12-month summation.  Volatile organic compound (VOC) emissions shall not exceed 0.07 tons per rolling, 12-month summation.  See b)(2)a. – c. and c)(1)



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
b.	OAC rule 3745-31-05(A)(3), as effective 06/30/08	For PM, PM10, and PM2.5 emissions see b)(1)a. and b)(2)a. – d.  For VOC emissions see b)(1)a. and b)(2)d.
c.	OAC rule 3745-31-05(A)(3)(a)(ii), as effective 06/30/08	See b)(2)e.i.
d.	OAC rule 3745-17-07(A)	Visible particulate emissions from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.
d.	OAC rule 3745-17-07(B)	See b)(2)f.
e.	OAC rule 3745-17-08(B)	See b)(2)g.
f.	OAC rule 3745-17-11(A)(2)	The emissions limitation established by this rule is less stringent than the requirements established by OAC rule 3745-31-05(A)(3).  See b)(2)e.ii.
g.	40 CFR Part 63, Subpart EEEEE  [In accordance with 40 CFR 63.7682 this facility is an existing iron foundry subject to the emission limitations/control measures specified in this section]	For each building or structure housing any iron foundry emissions source at the iron foundry, you must not discharge any fugitive emissions that exhibit opacity greater than 20% (6-minute average), except for one 6-minute average per hour that does not exceed 27% opacity.  See b)(2)h., c)(2), d)(6), e)(5), and f)(2)
h.	40 CFR Part 63, Subpart A	Table I of 40 CFR Part 63, Subpart EEEEE, <i>Applicability of General Provisions to Subpart EEEEE</i> identifies which parts of the General Provisions in 40 CFR 63.1-15 apply.

(2) Additional Terms and Conditions

- a. The emissions from this emissions unit shall be vented to a baghouse at all times the emissions units are in operation.  
  
[Authority for term: OAC rule 3745-31-05(D)]
- b. The baghouse serving the emissions unit shall achieve an outlet concentration of 0.003 grains per dry standard cubic foot (gr/dscf) for PM, PM10, and PM2.5.  
  
[Authority for term: OAC rule 3745-31-05(D)]



- c. The permittee shall use a capture hood with 98% capture efficiency.  
 [Authority for term: OAC rule 3745-31-05(D)]
- d. This Best Available Technology (BAT) emission limit applies until U.S. EPA approves Ohio Administrative Code (OAC) rule 3745-31-05(A)(3)(a)(ii) (the less than 10 tons per year BAT exemption) into the Ohio State Implementation Plan (SIP).  
 [Authority for term: OAC rule 3745-31-05(A)(3), as effective 06/30/2008]
- e. These requirements apply once U.S. EPA approves OAC rule 3745-31-05(A)(3)(a)(ii) (the less than 10 tons per year BAT exemption) as part of the Ohio SIP.
  - i. The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the PM, PM10, PM2.5 and VOC emissions from this air contaminant source since the calculated annual emission rate for PM, PM10, PM2.5 and VOC is less than 10 tons/year, taking into account the federally enforceable rule limit of 4,500 operational hours per, based upon a rolling, 12-month summation under OAC rule 3745-31-05(D), established by PTI P0116874 issued final 10/23/2014. This federally enforceable rule limit also includes the use of a baghouse and capture hood for PM, PM10, and PM2.5.
  - ii. Particulate emissions shall not exceed 12 pounds per hour.  
 [Authority for term: OAC rule 3745-31-05(A)(3)(ii), as effective 06/30/08]
- f. The emissions units are exempt from OAC rule 3745-17-07(B)(1) pursuant to OAC rule 3745-17-07(B)(11)(e).
- g. This facility is not located in an Appendix A area as described in OAC rule 3745-17-08; therefore, OAC rule 3745-17-08(B) does not apply to the fugitive emissions from these emissions units.
- h. The permittee shall comply with the applicable requirements necessary to demonstrate compliance with 40 CFR Part 63, Subpart EEEEE.

63.7734(a)(7)	Initial compliance demonstration for fugitive emissions from foundry operations
63.7743(a)(7), (12)	Continuous compliance with the fugitive emissions limitation
63.7746	Other requirements to demonstrate continuous compliance



63.7760	Other requirements and information
63.7761	Other requirements and information

[Authority for term: 40 CFR Part 63, Subpart EEEEE]

c) Operational Restrictions

- (1) The maximum annual operating hours for emissions units P088 and P089 shall not exceed 4,500 hours per year, based upon a rolling, 12-month summation of the operating hour figures. To ensure enforceability during the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the permittee shall not exceed the hours of operation levels specified in the following table:

<u>Month(s)</u>	<u>Maximum Allowable Operating Hours</u>
1	375
1-2	750
1-3	1,125
1-4	1,500
1-5	1,875
1-6	2,250
1-7	2,625
1-8	3,000
1-9	3,375
1-10	3,750
1-11	4,125
1-12	4,500

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

[Authority for term: OAC rule 3745-77-07(A)(1) and OAC rule 3745-31-05(D)]

- (2) The permittee shall comply with the applicable operational restrictions necessary to demonstrate compliance with 40 CFR Part 63, Subpart EEEEE.

63.7710(a)	Operational and maintenance (general)
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[Authority for term: 40 CFR Part 63, Subpart EEEEE]

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall maintain monthly records of the following information for P088 and P089:



- a. the amount of metal inoculated rate for each month, in tons in each emissions unit;
- b. the number of hours operated each month;
- c. the rolling, 12-month summation of the annual operating hours;
- d. the monthly PM, PM10, and PM2.5 stack and fugitive emissions rates; and
- e. the combined rolling, 12-month summation of PM, PM10, and PM2.5 stack and fugitive emissions, in tons based on the calculation in f)(1)a. – c. below.

The updated rolling, 12-month summation of the total PM, PM10, and PM2.5 stack and fugitive emissions shall include the information for the current month and the preceding eleven calendar months.

Also, during the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the permittee shall record the cumulative hours of operation for each calendar month. The updated rolling, 12-month summation of the hours of operation shall include the information for the current month and the preceding eleven calendar months.

[Authority for term: OAC rule 3745-77-07(C) and OAC rule 3745-31-05(D)]

- (2) The pressure drop across the baghouse shall be maintained within the range of 1 to 9 inches of water while the emissions units are in operation.

[Authority for term: OAC rule 3745-77-07(C) and OAC rule 3745-31-05(D)]

- (3) The permittee shall properly install, operate, and maintain equipment to continuously monitor the pressure drop, in inches of water, across the baghouse when the controlled emissions unit is in operation, including periods of startup and shutdown. The permittee shall record the pressure drop across the baghouse on daily basis. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s), with any modifications deemed necessary by the permittee.

Whenever the monitored value for the pressure drop deviates from the limit or range established in accordance with this permit, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:

- a. the date and time the deviation began;
- b. the magnitude of the deviation at that time;
- c. the date the investigation was conducted;
- d. the name(s) of the personnel who conducted the investigation; and
- e. the findings and recommendations.



In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable range specified in this permit, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken:

- f. a description of the corrective action;
- g. the date corrective action was completed;
- h. the date and time the deviation ended;
- i. the total period of time (in minutes) during which there was a deviation;
- j. the pressure drop readings immediately after the corrective action was implemented; and
- k. the name(s) of the personnel who performed the work.

Investigation and records required by this paragraph do not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

This range or limit on the pressure drop across the baghouse is effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by Ohio EPA, Central District Office. The permittee may request revisions to the permitted limit or range for the pressure drop based upon information obtained during future testing that demonstrate compliance with the allowable particulate emission rate for the controlled emissions units. In addition, approved revisions to the range or limit will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of a minor permit modification.

[Authority for term: OAC rule 3745-77-07(C) and OAC rule 3745-31-05(D)]

- (4) 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. whether the emissions are representative of normal operations;
  - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
  - d. the total duration of any visible emissions incident; and
  - e. any corrective actions taken to minimize or eliminate the visible emissions.



If visible emissions are present, a visible emissions incident has occurred. The observer does not have to document the exact start and end times for the visible emissions incident under item (d) above or continue the daily check until the incident has ended. The observer may indicate that the visible emissions incident was continuous during the observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

[Authority for term: OAC rule 3745-77-07(C) and OAC rule 3745-17-07(A)(1)]

- (5) The permittee may, upon receipt of written approval from Ohio EPA, Central District Office, modify the above-mentioned frequencies for performing the visible emissions checks if operating experience indicates that less frequent visible emissions checks would be sufficient to ensure compliance with the above-mentioned applicable requirements.

[Authority for term: OAC rule 3745-77-07(C) and OAC rule 3745-17-07(A)(1)]

- (6) The permittee shall comply with the applicable monitoring and/or recordkeeping requirements necessary to demonstrate compliance with 40 CFR Part 63, Subpart EEEEE.

63.7752(a), (c)	Recordkeeping
63.7753	What form records must be kept in and how long

[Authority for term: 40 CFR Part 63, Subpart EEEEE]

e) Reporting Requirements

- (1) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.

[Authority for term: OAC rule 3745-77-07(A)(3)(c)]

- (2) The permittee shall submit quarterly deviation (excursion) reports that identify the following for P088 and P089:
  - a. all exceedances of the rolling, 12-month limitation on annual operating hours; and for the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, all exceedances of the maximum allowable cumulative hours of operation levels;
  - b. all exceedances of the rolling, 12-month summation of hours of operation;



- c. all exceedances of the rolling, 12-month summation of PM, PM10, and PM2.5 stack and fugitive emissions;
- d. each period of time (start time and date, end time and date) when the pressure drop across the baghouse was outside of the acceptable range;
- e. any period of time (start time and date, end time and date) when the emissions unit was in operation and the process emissions were not vented to the baghouse;
- f. each incident of deviation in e)(2)c. and/or e)(2)d. where a prompt investigation was not conducted;
- g. each incident of deviation described in e)(2)c. and/or e)(2)d. where a prompt corrective action, that would bring the pressure drop into compliance with the acceptable range, was determined to be necessary and was not taken; and
- h. each incident of deviation described in e)(2)c. and/or e)(2)d. where proper records were not maintained for the investigation and/or the corrective action(s), as identified in the monitoring and recordkeeping requirements of this permit.

The permittee shall identify any exceedances of the limitations established in Sections c)(1) for the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit.

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(A)(3)(c) and OAC rule 3745-31-05(D)]

- (3) The permittee shall also submit annual reports that specify the total PM, PM10, PM2.5, and VOC emissions from this emissions unit. This report shall be submitted by April 15th of each year. This reporting requirement may be satisfied by including and identifying the specific emission data for this emissions unit in the annual Fee Emission Report.

[Authority for term: OAC rule 3745-77-07(A)(3)(c)]

- (4) The permittee shall submit semiannual written reports that identify:
  - a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and
  - b. any corrective actions taken to minimize or eliminate the visible particulate emissions.

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

[Authority for term: OAC rule 3745-77-07(A)(3)(c) and OAC rule 3745-17-07(A)(1)]



- (5) The permittee shall comply with the applicable reporting requirements necessary to demonstrate compliance with 40 CFR Part 63, Subpart EEEEE.

63.7746	Reporting requirements for deviations
63.7750	What notifications must be submitted and when
63.7751	What reports must be submitted and when

[Authority for term: 40 CFR Part 63, Subpart EEEEE]

f) Testing Requirements

- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitation:

Combined PM stack and fugitive emissions for P088 and P089 shall not exceed 1.78 tons per rolling, 12-month summation

Applicable Compliance Method:

Compliance with the emission limitation shall be determined by the summation of stack and fugitive emissions.

*The monthly **stack** emissions shall be based on the following equation:*

$$PM = (P) * (EF) * (\text{ton}/2000 \text{ lbs})$$

where,

PM = PM emissions (monthly)

P = hours of operation (monthly hours of operation as determined in d)(1)b.)

EF = 0.21 lb PM/hr (as determined by the following equation:  $[(0.003 \text{ gr/dscf}) * (\text{lb}/7000) * (8,000 \text{ dscfm}) * (60 \text{ min/hr})]$ )

where,

*8,000 dscfm = air flow established by PTI Application A0051280*

The monthly emissions shall be based on the hourly emission rate determined during the emission testing conducted per f)(3) and the monthly hours of operation.

*The monthly **fugitive** emission shall be based on the following equation:*



$$PM = (P) * (EF) * (\text{ton}/2000 \text{ lbs})$$

where,

PM = PM emissions (monthly)

P = hours of operation (monthly hours of operation as determined in d)(1)b.)

EF = 0.40 lb PM/hr, as determined by the following equation: (5 tons metal/hr) \* (4.0 lbs PM/ton metal) \* (1-0.98)

*where,*

*5 tons metal/hr = maximum hourly throughput rate established by PTI Application A0051280*

*4.0 lbs PM/ton sand = WebFIRE, SCC 30400331*

*98% = capture hood efficiency established by PTI Application A0051280*

[Authority for term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-31-05(D)]

b. Emissions Limitation:

Combined PM10 stack and fugitive emissions for P088 and P089 shall not exceed 1.60 tons per rolling, 12-month summation

Applicable Compliance Method:

Compliance with the emission limitation shall be determined by the summation of stack and fugitive emissions.

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*The monthly **stack** emissions shall be based on the following equation:*

$$PM10 = (P) * (EF) * (\text{ton}/2000 \text{ lbs})$$

where,

PM10 = PM10 emissions (monthly)

P = hours of operation (monthly hours of operation as determined in d)(1)b.)

EF = 0.21 lb PM10/hr (as determined by the following equation: [(0.003 gr/dscf) \* (lb/7000) \* (15,000 dscfm) \* (60 min/hr)])

*where,*

*15,000 dscfm = air flow established by PTI Application A0051280*

The monthly emissions shall be based on the hourly emission rate determined during the emission testing conducted per f)(3) and the monthly hours of operation.



The monthly **fugitive** emission shall be based on the following equation:

$$PM = (P) * (EF) * (\text{ton}/2000 \text{ lbs})$$

where,

PM = PM emissions (monthly)

P = hours of operation (monthly hours of operation as determined in d)(1)b.)

EF = 0.32 lb PM10/hr, as determined by the following equation: (5 tons metal/hr) \* (4.0 lbs PM10/ton metal) \* (1-0.98)

where,

*5 tons metal/hr = maximum hourly throughput rate established by PTI Application A0051280*

*3.2 lbs PM10/ton sand = WebFIRE, SCC 30400331*

*98% = capture hood efficiency established by PTI Application A0051280*

[Authority for term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-31-05(D)]

c. Emissions Limitation:

Combined PM2.5 stack and fugitive emissions for P088 and P089 shall not exceed 1.13 tons per rolling, 12-month summation

Applicable Compliance Method:

Compliance with the emission limitation shall be determined by the summation of stack and fugitive emissions.

The monthly **stack** emissions shall be based on the following equation:

$$PM2.5 = (P) * (EF) * (\text{ton}/2000 \text{ lbs})$$

where,

PM2.5 = PM2.5 emissions (monthly)

P = hours of operation (monthly hours of operation as determined in d)(1)b.)

EF = 0.21 lb PM2.5/hr (as determined by the following equation: [(0.003 gr/dscf) \* (lb/7000) \* (15,000 dscfm) \* (60 min/hr)])

where,

*15,000 dscfm = air flow established by PTI Application A0051280*



The monthly emissions shall be based on the hourly emission rate determined during the emission testing conducted per f)(3) and the monthly hours of operation.

*The monthly **fugitive** emission shall be based on the following equation:*

$$PM = (P) * (EF) * (\text{ton}/2000 \text{ lbs})$$

where,

$$PM_{2.5} = PM_{2.5} \text{ emissions (monthly)}$$

$$P = \text{hours of operation (monthly hours of operation as determined in d)(1)b.)}$$

$$EF = 0.11 \text{ lb PM/hr, as determined by the following equation: } (5 \text{ tons metal/hr}) * (4.0 \text{ lbs PM}_{2.5}/\text{ton metal}) * (1-0.98)$$

*where,*

*5 tons metal/hr = maximum hourly throughput rate established by PTI Application A0051280*

*1.13 lbs PM<sub>2.5</sub>/ton sand = WebFIRE, SCC 30400331*

*98% = capture hood efficiency established by PTI Application A0051280*

[Authority for term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-31-05(D)]

d. Emission Limitation:

Combined VOC emissions for P088 and P089 shall not exceed 0.06 ton per rolling, 12-month summation

Applicable Compliance Method:

The monthly emissions shall be based on the following equation:

$$VOC = (P) * (EF)$$

where,

$$VOC = VOC \text{ emissions (monthly)}$$

$$P = \text{monthly throughput (monthly inoculation rate as determined in d)(1)a.)}$$

$$EF = 0.005 \text{ lb VOC/ton metal (WebFIRE SCC 30400310)}$$

The updated rolling, 12-month summation of the total VOC emissions shall include the information for the current month and the preceding eleven calendar months.

[Authority for term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-31-05(D)]



e. Emission Limitation:

Particulate emissions shall not exceed 12 pounds per hour

Applicable Compliance Method:

The emission limitation was established by "Table I" in the appendix to OAC rule 3745-17-11(A)(2). If required, compliance shall be based upon Method 5 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-17-11(A)(2)]

f. Emission Limitation:

Visible particulate emissions from the stack shall not exceed 20 percent opacity as a six-minute average, except as specified by rule.

Applicable Compliance Method:

Compliance with the stack visible particulate emissions limitation shall be determined through visible emissions observations performed in accordance with U.S. EPA Method 9.

[Authority for term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-17-07(A)(1)]

- (2) The permittee shall comply with the applicable testing requirements necessary to demonstrate compliance with under 40 CFR Part 63, Subpart EEEEE.

63.7730	Initial compliance requirements
63.7731(b)	When to conduct subsequent performance tests
63.7732(a), (d)	Test methods used and other procedures to demonstrate initial compliance with the emissions limitations

[Authority for term: 40 CFR Part 63, Subpart EEEEE]

- (3) The permittee shall conduct, emission testing for this emissions unit in accordance with the following requirements:
- a. The emission testing for P088, P089, P091, P092, P094, P095, and P096 shall be conducted within 60 days after achieving the maximum production rate at which the emissions unit will be operated, but not later than 180 days after initial startup of the emissions unit.
  - b. For P088, P089, P089, P091, P092, P094, P095, and P096 the emission testing shall be conducted to demonstrate compliance with the allowable PM, PM10, and PM2.5 concentration of 0.003. gr/dscf in the exhaust stream.



- c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):

PM - 40 CFR Part 60, Appendix A, Methods 1 through 5

PM10/PM2.5 – 40 CFR Part 60, Appendix A, Methods 201 and 202

Alternative U.S. EPA approved test methods may be used with prior approval from Ohio EPA.

- d. The test(s) shall be conducted under those representative conditions that challenge to the fullest extent possible a facility's ability to meet the applicable emissions limits and/or control requirements, unless otherwise specified or approved by Ohio EPA, Central District Office. Although this generally consists of operating the emissions unit at its maximum material input/production rates and results in the highest emission rate of the tested pollutant, there may be circumstances where a lower emissions loading is deemed the most challenging control scenario. Failure to test under these conditions is justification for not accepting the test results as a demonstration of compliance.

- e. Not later than 60 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to Ohio EPA, Central District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in Ohio EPA, Central District Office's refusal to accept the results of the emission test(s).

- f. Personnel from Ohio EPA, Central District Office 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.

- g. 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 Ohio EPA, Central District Office 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 Ohio EPA, Central District Office.

[Authority for term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(D), and 40 CFR Part 63, Subpart EEEEE]

- g) Miscellaneous Requirements

- (1) None.



**11. Emissions Unit Group -Shakeout and Despruing: P092,P095**

EU ID	Operations, Property and/or Equipment Description
P092	FBO shakeout and desprue lines equipped with a capture hood, and vents to sand baghouse.
P095	HSP shakeout and desprue lines equipped with a capture hood, and vents to sand baghouse.

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only:

(1) See b)(1)c. and b)(2)d.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(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 are identified below. 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)  [Synthetic minor to avoid non-attainment NSR and PSD applicability]	<u>Combined emissions limitations for P092 and P095:</u>  Particulate matter (PM) stack and fugitive emissions shall not exceed 2.18 tons per rolling, 12-month summation.  Particulate matter less than 10 microns in diameter (PM10) stack and fugitive emissions shall not exceed 2.07 tons per rolling, 12-month summation.  Particulate matter less than 2.5 microns in diameter (PM2.5) stack and fugitive emissions shall not exceed 1.98 tons per rolling, 12-month summation.  Volatile organic compound (VOC) emissions shall not exceed 13.50 tons per rolling, 12-month summation.  See b)(2)a. – d., and c)(1)
b.	ORC 3704.03(T)	The VOC emissions limitation is equivalent to the requirements of OAC rule 3745-31-05(D).



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
c.	OAC rule 3745-31-05(A)(3), as effective 06/30/08	For PM, PM10, and PM2.5 emissions see b)(1)a., b)(2)a. - c., and d.
d.	OAC rule 3745-31-05(A)(3)(a)(ii), as effective 06/30/08	For PM, PM10, and PM2.5 emissions see b)(2)f.i.
e.	OAC rule 3745-17-07(A)	Visible particulate emissions from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.
f.	OAC rule 3745-17-07(B)	See b)(2)g.
g.	OAC rule 3745-17-08(B)	See b)(2)h.
h.	OAC rule 3745-17-11(A)(2)	The emissions limitation established by this rule is less stringent than the requirements established by OAC rule 3745-31-05(A)(3).  See b)(2)f.ii.
i.	40 CFR Part 63, Subpart EEEEE  [In accordance with 40 CFR 63.7682 this facility is an existing iron foundry subject to the emission limitations/control measures specified in this section]	For each building or structure housing any iron foundry emissions source at the iron foundry, you must not discharge any fugitive emissions that exhibit opacity greater than 20% (6-minute average), except for one 6-minute average per hour that does not exceed 27% opacity.  See b)(2)i., c)(2), d)(6), e)(5), and f)(2)
j.	40 CFR Part 63, Subpart A	Table I of 40 CFR Part 63, Subpart EEEEE, <i>Applicability of General Provisions to Subpart EEEEE</i> identifies which parts of the General Provisions in 40 CFR 63.1-15 apply.

(2) Additional Terms and Conditions

- a. The emissions from this emissions unit shall be vented to a baghouse at all times the emissions units are in operation.  
  
[Authority for term: OAC rule 3745-31-05(D)]
- b. The baghouse serving the emissions unit shall achieve an outlet concentration of 0.003 grains per dry standard cubic foot (gr/dscf) for PM, PM10, and PM2.5.  
  
[Authority for term: OAC rule 3745-31-05(D)]



- c. The permittee shall use a capture hood with 99% capture efficiency.  
 [Authority for term: OAC rule 3745-31-05(D)]
- d. The emission unit is limited by the federally enforceable rule limit of 25,000 tons per year metal melted, based upon a rolling, 12-month summation under OAC rule 3745-31-05(D), established by PTI P0116874 issued final 10/23/2014.
- e. This Best Available Technology (BAT) emission limit applies until U.S. EPA approves Ohio Administrative Code (OAC) rule 3745-31-05(A)(3)(a)(ii) (the less than 10 tons per year BAT exemption) into the Ohio State Implementation Plan (SIP).
- f. These requirements apply once U.S. EPA approves OAC rule 3745-31-05(A)(3)(a)(ii) (the less than 10 tons per year BAT exemption) as part of the Ohio SIP.
  - i. The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the PM, PM10, and PM2.5 emissions from this air contaminant source since the calculated annual emission rate for PM, PM10, and PM2.5 is less than 10 tons/year, taking into account the federally enforceable rule limit of 4,500 operating hours per year, based upon a rolling, 12-month summation, employing a baghouse, and capture hood under OAC rule 3745-31-05(D).
  - ii. Particulate emissions shall not exceed 12 pounds per hour.  
 [Authority for term: OAC rule 3745-31-05(A)(3)(ii), as effective 06/30/08]
- g. The emissions units are exempt from OAC rule 3745-17-07(B)(1) pursuant to OAC rule 3745-17-07(B)(11)(e).
- h. This facility is not located in an Appendix A area as described in OAC rule 3745-17-08; therefore, OAC rule 3745-17-08(B) does not apply to the fugitive emissions from these emissions units.
- i. The permittee shall comply with the applicable requirements necessary to demonstrate compliance with 40 CFR Part 63, Subpart EEEEE.

63.7734(a)(7)	Initial compliance demonstration for fugitive emissions from foundry operations
63.7743(a)(7), (12)	Continuous compliance with the fugitive emissions limitation
63.7746	Other requirements to demonstrate continuous compliance



63.7760	Other requirements and information
63.7761	Other requirements and information

[Authority for term: 40 CFR Part 63, Subpart EEEEE]

c) Operational Restrictions

- (1) The maximum operating time for P092 and P095 shall not exceed 4,500 hours per year based upon a rolling, 12-month summation of the operating hours.

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

<u>Month(s)</u>	<u>Maximum Allowable Cumulative Operating Hours</u>
1	375
1-2	750
1-3	1,125
1-4	1,500
1-5	1,875
1-6	2,250
1-7	2,625
1-8	3,000
1-9	3,375
1-10	3,750
1-11	4,125
1-12	4,500

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

[Authority for term: OAC rule 3745-77-07(A)(1) and OAC rule 3745-31-05(D)]

- (2) The permittee shall comply with the applicable operational restrictions necessary to demonstrate compliance with 40 CFR Part 63, Subpart EEEEE.

63.7710(a)	Operational and maintenance (general)
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[Authority for term: 40 CFR Part 63, Subpart EEEEE]

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall maintain monthly records of the following information for emissions units P092 and P095:



- a. the operating hours for each month;
- b. beginning after the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the rolling, 12-month summation of the operating hours;
- c. the monthly PM, PM10, PM2.5 and VOC emissions rates;
- d. the rolling, 12-month summation of PM, PM10, PM2.5, and VOC emissions, in tons based on the calculation in f)(1)a. – d. below.

The updated rolling, 12-month summation of the total PM, PM10, PM2.5, and VOC emissions shall include the information for the current month and the preceding eleven calendar months.

Also, during the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the permittee shall record the cumulative operating hours for each calendar month.

[Authority for term: OAC rule 3745-77-07(C) and OAC rule 3745-31-05(D)]

- (2) The pressure drop across the baghouse shall be maintained within the range of 1 to 9 inches of water while the emissions units are in operation.

[Authority for term: OAC rule 3745-77-07(C) and OAC rule 3745-31-05(D)]

- (3) The permittee shall properly install, operate, and maintain equipment to continuously monitor the pressure drop, in inches of water, across the baghouse when the controlled emissions unit is in operation, including periods of startup and shutdown. The permittee shall record the pressure drop across the baghouse on daily basis. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s), with any modifications deemed necessary by the permittee.

Whenever the monitored value for the pressure drop deviates from the limit or range established in accordance with this permit, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:

- a. the date and time the deviation began;
- b. the magnitude of the deviation at that time;
- c. the date the investigation was conducted;
- d. the name(s) of the personnel who conducted the investigation; and
- e. the findings and recommendations.

In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control



equipment within the acceptable range specified in this permit, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken:

- f. a description of the corrective action;
- g. the date corrective action was completed;
- h. the date and time the deviation ended;
- i. the total period of time (in minutes) during which there was a deviation;
- j. the pressure drop readings immediately after the corrective action was implemented; and
- k. the name(s) of the personnel who performed the work.

Investigation and records required by this paragraph do not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

This range or limit on the pressure drop across the baghouse is effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by Ohio EPA, Central District Office. The permittee may request revisions to the permitted limit or range for the pressure drop based upon information obtained during future testing that demonstrate compliance with the allowable particulate emission rate for the controlled emissions units. In addition, approved revisions to the range or limit will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of a minor permit modification.

[Authority for term: OAC rule 3745-77-07(C) and OAC rule 3745-31-05(D)]

- (4) 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. whether the emissions are representative of normal operations;
  - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
  - d. the total duration of any visible emissions incident; and
  - e. any corrective actions taken to minimize or eliminate the visible emissions.



If visible emissions are present, a visible emissions incident has occurred. The observer does not have to document the exact start and end times for the visible emissions incident under item (d) above or continue the daily check until the incident has ended. The observer may indicate that the visible emissions incident was continuous during the observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

[Authority for term: OAC rule 3745-77-07(C) and OAC rule 3745-17-07(A)(1)]

- (5) The permittee may, upon receipt of written approval from Ohio EPA, Central District Office, modify the above-mentioned frequencies for performing the visible emissions checks if operating experience indicates that less frequent visible emissions checks would be sufficient to ensure compliance with the above-mentioned applicable requirements.

[Authority for term: OAC rule 3745-77-07(C) and OAC rule 3745-17-07(A)(1)]

- (6) The permittee shall comply with the applicable monitoring and/or recordkeeping requirements necessary to demonstrate compliance with 40 CFR Part 63, Subpart EEEEE.

63.7752(a), (c)	Recordkeeping
63.7753	What form records must be kept in and how long

[Authority for term: 40 CFR Part 63, Subpart EEEEE]

e) Reporting Requirements

- (1) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA’s eBusiness Center: Air Services online web portal.

[Authority for term: OAC rule 3745-77-07(A)(3)(c)]

- (2) The permittee shall submit quarterly deviation (excursion) reports that identify the following:
  - a. all exceedances of the rolling, 12-month summation of PM, PM10, PM2.5, and VOC emissions;
  - b. all exceedances of the rolling, 12-month limitation on the hours of operation for this emissions unit; and for the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, all exceedances of the maximum allowable cumulative hours of operation;



- c. each period of time (start time and date, end time and date) when the pressure drop across the baghouse was outside of the acceptable range;
- d. any period of time (start time and date, end time and date) when the emissions unit was in operation and the process emissions were not vented to the baghouse;
- e. each incident of deviation in e)(2)c. and/or e)(2)d. where a prompt investigation was not conducted;
- f. each incident of deviation described in e)(2)c. and/or e)(2)d. where a prompt corrective action, that would bring the pressure drop into compliance with the acceptable range, was determined to be necessary and was not taken; and
- g. each incident of deviation described in e)(2)c. and/or e)(2)d. where proper records were not maintained for the investigation and/or the corrective action(s), as identified in the monitoring and recordkeeping requirements of this permit.

The permittee shall identify any exceedances of the limitations established in Sections c)(1) for the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit.

The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(A)(3)(c) and OAC rule 3745-31-05(D)]

- (3) The permittee shall also submit annual reports that specify the total PM, PM<sub>10</sub>, PM<sub>2.5</sub>, and VOC emissions from this emissions unit. This report shall be submitted by April 15th of each year. This reporting requirement may be satisfied by including and identifying the specific emission data for this emissions unit in the annual Fee Emission Report.

[Authority for term: OAC rule 3745-77-07(A)(3)(c)]

- (4) The permittee shall submit semiannual written reports that identify:
  - a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and
  - b. any corrective actions taken to minimize or eliminate the visible particulate emissions.

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

[Authority for term: OAC rule 3745-77-07(A)(3)(c) and OAC rule 3745-17-07(A)(1)]



- (5) The permittee shall comply with the applicable reporting requirements necessary to demonstrate compliance with 40 CFR Part 63, Subpart EEEEE.

63.7746	Reporting requirements for deviations
63.7750	What notifications must be submitted and when
63.7751	What reports must be submitted and when

[Authority for term: 40 CFR Part 63, Subpart EEEEE]

f) Testing Requirements

- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:

a. Emission Limitation:

Combined PM stack and fugitive emissions for P088 and P089 shall not exceed 2.18 tons per rolling, 12-month summation

Applicable Compliance Method:

Compliance with the emission limitation shall be determined by the summation of stack and fugitive emissions.

*The monthly **stack** emissions shall be based on the following equation:*

$$PM = (P) * (EF) * (\text{ton}/2000 \text{ lbs})$$

where,

PM = PM emissions (monthly)

P = hours of operation (monthly hours of operation as determined in d)(1)a.)

EF = 0.81 lb PM/hr (as determined by the following equation:  $[(0.003 \text{ gr/dscf}) * (\text{lb}/7000) * (31,390 \text{ dscfm}) * (60 \text{ min/hr})]$ )

where,

*31,390 dscfm = air flow established by PTI Application A0051280*

The monthly emissions shall be based on the hourly emission rate determined during the emission testing conducted per f)(3) and the monthly hours of operation.

*The monthly **fugitive** emission shall be based on the following equation:*



$$PM = (P) * (EF) * (\text{ton}/2000 \text{ lbs})$$

where,

PM = PM emissions (monthly)

P = hours of operation (monthly hours of operation as determined in d)(1)a.)

EF = 0.16 lb PM/hr, as determined by the following equation: (5 tons metal/hr) \* (3.2 lbs PM/ton metal) \* (1-0.99)

*where,*

*5 tons metal/hr = maximum hourly throughput rate established by PTI Application A0051280*

*3.2 lbs PM/ton metal = WebFIRE, SCC 30400331*

*99% = capture hood efficiency established by PTI Application A0051280*

[Authority for term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-31-05(D)]

b. Emissions Limitation:

Combined PM10 stack and fugitive emissions for P088 and P089 shall not exceed 2.07 tons per rolling, 12-month summation

Applicable Compliance Method:

Compliance with the emission limitation shall be determined by the summation of stack and fugitive emissions.

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*The monthly **stack** emissions shall be based on the following equation:*

$$PM10 = (P) * (EF) * (\text{ton}/2000 \text{ lbs})$$

where,

PM10 = PM10 emissions (monthly)

P = hours of operation (monthly hours of operation as determined in d)(1)a.)

EF = 0.81 lb PM10/hr (as determined by the following equation: [(0.003 gr/dscf) \* (lb/7000) \* (31,390 dscfm) \* (60 min/hr)])

*where,*

*31,390 dscfm = air flow established by PTI Application A0051280*

The monthly emissions shall be based on the hourly emission rate determined during the emission testing conducted per f)(3) and the monthly hours of operation.



The monthly **fugitive** emission shall be based on the following equation:

$$PM = (P) * (EF) * (\text{ton}/2000 \text{ lbs})$$

where,

PM10 = PM10 emissions (monthly)

P = hours of operation (monthly hours of operation as determined in d)(1)a.)

EF = 0.11 lb PM10/hr, as determined by the following equation: (5 tons metal/hr) \* (2.24 lbs PM/ton metal) \* (1-0.99)

where,

*5 tons metal/hr = maximum hourly throughput rate established by PTI Application A0051280*

*2.24 lbs PM10/ton sand = WebFIRE, SCC 30400331*

*99% = capture hood efficiency established by PTI Application A0051280*

[Authority for term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-31-05(D)]

c. Emissions Limitation:

Combined PM2.5 stack and fugitive emissions for P088 and P089 shall not exceed 1.98 tons per rolling, 12-month summation

Applicable Compliance Method:

Compliance with the emission limitation shall be determined by the summation of stack and fugitive emissions.

The monthly **stack** emissions shall be based on the following equation:

$$PM2.5 = (P) * (EF) * (\text{ton}/2000 \text{ lbs})$$

where,

PM2.5 = PM2.5 emissions (monthly)

P = hours of operation (monthly hours of operation as determined in d)(1)a.)

EF = 0.81 lb PM2.5/hr (as determined by the following equation: [(0.003 gr/dscf) \* (lb/7000) \* (31,390 dscfm) \* (60 min/hr)])

where,

*31,390 dscfm = air flow established by PTI Application A0051280*



The monthly emissions shall be based on the hourly emission rate determined during the emission testing conducted per f)(3) and the monthly hours of operation.

*The monthly **fugitive** emission shall be based on the following equation:*

$$PM2.5 = (P) * (EF) * (\text{ton}/2000 \text{ lbs})$$

where,

$$PM2.5 = PM2.5 \text{ emissions (monthly)}$$

$$P = \text{hours of operation (monthly hours of operation as determined in d)(1)a.)}$$

$$EF = 0.07 \text{ lb PM2.5/hr, as determined by the following equation: (5 tons metal/hr)} \\ * (1.34 \text{ lbs PM2.5/ton metal}) * (1-0.99)$$

*where,*

*5 tons metal/hr = maximum hourly throughput rate established by PTI Application A0051280*

*1.34 lbs PM2.5/ton metal = WebFIRE, SCC 30400331*

*99% = capture hood efficiency established by PTI Application A0051280*

[Authority for term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-31-05(D)]

d. Emissions Limitation:

Combined VOC emissions for P092 and P095 shall not exceed 13.50 ton per rolling, 12-month summation

Applicable Compliance Method:

The monthly emissions shall be based on the following equation:

$$VOC = (P) * (EF)$$

where,

$$VOC = VOC \text{ emissions (monthly)}$$

P = monthly metal production, in tons (determined by the monitoring and recordkeeping for P083, P084, P085, P086, established by PTI P0116874 issued final 10/23/14)

$$EF = 1.20 \text{ lb VOC/ton metal (WebFIRE SCC 30400331)}$$

[Authority for term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-31-05(D)]



e. Emission Limitation:

Particulate emissions shall not exceed 12 pounds per hour

Applicable Compliance Method:

The emission limitation was established by "Table I" in the appendix to OAC rule 3745-17-11(A)(2). If required, compliance shall be based upon Method 5 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-17-11(A)(2)]

f. Emission Limitation:

Visible particulate emissions from the stack shall not exceed 20 percent opacity as a six-minute average, except as specified by rule.

Applicable Compliance Method:

Compliance with the stack visible particulate emissions limitation shall be determined through visible emissions observations performed in accordance with U.S. EPA Method 9.

[Authority for term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-17-07(A)(1)]

- (2) The permittee shall comply with the applicable testing requirements necessary to demonstrate compliance with under 40 CFR Part 63, Subpart EEEEE.

63.7730	Initial compliance requirements
63.7731(b)	When to conduct subsequent performance tests
63.7732(a), (d)	Test methods used and other procedures to demonstrate initial compliance with the emissions limitations

[Authority for term: 40 CFR Part 63, Subpart EEEEE]

- (3) The permittee shall conduct, emission testing for this emissions unit in accordance with the following requirements:

- a. The emission testing for P088, P089, P091, P092, P094, P095, and P096 shall be conducted within 60 days after achieving the maximum production rate at which the emissions unit will be operated, but not later than 180 days after initial startup of the emissions unit.
- b. For P088, P089, P089, P091, P092, P094, P095, and P096 the emission testing shall be conducted to demonstrate compliance with the allowable PM, PM10, and PM2.5 concentration of 0.003 gr/dscf in the exhaust stream.



- c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):

PM - 40 CFR Part 60, Appendix A, Methods 1 through 5

PM10/PM2.5 – 40 CFR Part 60, Appendix A, Methods 201 and 202

Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.

- d. The test(s) shall be conducted under those representative conditions that challenge to the fullest extent possible a facility's ability to meet the applicable emissions limits and/or control requirements, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency. Although this generally consists of operating the emissions unit at its maximum material input/production rates and results in the highest emission rate of the tested pollutant, there may be circumstances where a lower emissions loading is deemed the most challenging control scenario. Failure to test under these conditions is justification for not accepting the test results as a demonstration of compliance.

- e. Not later than 60 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).

- f. Personnel from the appropriate Ohio EPA District Office or local air agency 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.

- g. 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 appropriate Ohio EPA District Office or local air agency 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 appropriate Ohio EPA District Office or local air agency.

[Authority for term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(D), and 40 CFR Part 63, Subpart EEEEE]

- g) Miscellaneous Requirements

- (1) None.



**12. Emissions Unit Group -Pouring and Cooling: P091,P094**

EU ID	Operations, Property and/or Equipment Description
P091	FBO pouring and cooling line with a 5 ton/hr capacity, capture hood, and vented to sand baghouse
P094	HSP pouring and cooling line with a 5 ton/hr capacity, capture hood, and vented to sand baghouse

- a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only:
- (1) See b)(1)b. and b)(2)e.
- b) Applicable Emissions Limitations and/or Control Requirements
- (1) The specific operation(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 are identified below. 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)  [Synthetic minor to avoid non-attainment NSR and PSD applicability]	<u>Combined emissions limitations for P091 and P094:</u>  Particulate matter (PM) stack and fugitive emissions shall not exceed 1.82 tons per rolling, 12-month summation.  Particulate matter less than 10 microns in diameter (PM10) stack and fugitive emissions shall not exceed 1.35 tons per rolling, 12-month summation.  Particulate matter less than 2.5 microns in diameter (PM2.5) stack and fugitive emissions shall not exceed 1.10 tons per rolling, 12-month summation.  Volatile organic compound (VOC) emissions shall not exceed 1.58 tons per rolling, 12-month summation.  The requirements of this rule also include compliance with 40 CFR Part 63, Subpart EEEEE. See b)(2)a. – d., and c)(1) – (6)



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
b.	OAC rule 3745-31-05(A)(3), as effective 06/30/08	For PM, PM10, PM2.5, NOx, and SOx emissions see b)(2)a. – d.  For VOC emissions see b)(1)a. and b)(2)f.  See b)(2)e.
c.	OAC rule 3745-31-05(A)(3)(a)(ii), as effective 06/30/08	See b)(2)g.i.
d.	OAC rule 3745-17-07(A)	Visible particulate emissions from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.
d.	OAC rule 3745-17-07(B)	See b)(2)g.
e.	OAC rule 3745-17-08(B)	See b)(2)h.
f.	OAC rule 3745-17-11(A)(2)	The emissions limitation established by this rule is less stringent than the requirements established by OAC rule 3745-31-05(A)(3).  See b)(2)d.ii.
g.	40 CFR Part 63, Subpart EEEEE  [In accordance with 40 CFR 63.7682 this facility is an existing iron foundry subject to the emission limitations/control measures specified in this section]	PM emissions shall not exceed 0.01 grains per dry standard cubic foot (gr/dscf).  See b)(2)i., c)(6), d)(8), e)(5), and f)(2)
h.	40 CFR Part 63, Subpart A	Table I of 40 CFR Part 63, Subpart EEEEE, <i>Applicability of General Provisions to Subpart EEEEE</i> identifies which parts of the General Provisions in 40 CFR 63.1-15 apply.

(2) Additional Terms and Conditions

- a. The emissions from this emissions unit shall be vented to a baghouse at all times the emissions units are in operation.  
  
[Authority for term: OAC rule 3745-31-05(D) and 40 CFR Part 63, Subpart EEEEE]
- b. The baghouse serving the emissions unit shall achieve an outlet concentration of 0.003 grains per dry standard cubic foot (gr/dscf) for PM, PM10, and PM2.5.  
  
[Authority for term: OAC rule 3745-31-05(D)]



- c. The permittee shall use a capture hood with 98% capture efficiency.  
 [Authority for term: OAC rule 3745-31-05(D)]
- d. The emission unit is limited by the federally enforceable rule limit of 25,000 tons per year metal melted, based upon a rolling, 12-month summation under OAC rule 3745-31-05(D), established by PTI P0116874 issued final 10/23/2014.
- e. This Best Available Technology (BAT) emissions limit applies until U.S. EPA approves Ohio Administrative Code (OAC) rule 3745-31-05(A)(3)(a)(ii) (the less than 10 tons per year BAT exemption) into the Ohio State Implementation Plan (SIP).  
 [Authority for term: OAC rule 3745-31-05(A)(3), as effective 06/30/08]
- f. These requirements apply once U.S. EPA approves OAC rule 3745-31-05(A)(3)(a)(ii) (the less than 10 tons per year BAT exemption) as part of the SIP.
  - i. The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the PM, PM10, and PM2.5 emissions from this air contaminant source since the calculated annual emission rate for PM, PM10, and PM2.5 is less than 10 tons/year, taking into account the federally enforceable rule limit of 4,500 operating hours per year, based upon a rolling, 12-month summation, employing a baghouse, and capture hood under OAC rule 3745-31-05(D).
  - ii. Particulate emissions shall not exceed 12 pounds per hour.  
 [Authority for term: OAC rule 3745-31-05(A)(3)(ii), as effective 12/01/2006]
- g. The emissions units are exempt from OAC rule 3745-17-07(B)(1) pursuant to OAC rule 3745-17-07(B)(11)(e).
- h. This facility is not located in an Appendix A area as described in OAC rule 3745-17-08; therefore, OAC rule 3745-17-08(B) does not apply to the fugitive emissions from these emissions units.
- i. The permittee shall comply with the applicable requirements necessary to demonstrate compliance with 40 CFR Part 63, Subpart EEEEE.

63.7720(a) – (c)	General compliance requirements
63.7734(a)(5), (7)	Initial compliance demonstration for fugitive emissions from foundry operations
63.7736(d)	Initial compliance with operation and maintenance requirements
63.7743(a)(5)(i), (12), (c)	Continuous compliance for each pouring station



63.7743(a)(7), (12)	Continuous compliance with the fugitive emissions limitation
63.7746	Other requirements to demonstrate continuous compliance
63.7760	Other requirements and information
63.7761	Other requirements and information

[Authority for term: 40 CFR Part 63, Subpart EEEEE]

c) Operational Restrictions

- (1) The maximum operating time for P091 and P094 shall not exceed 4,500 hours per year based upon a rolling, 12-month summation of the operating hours.

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

<u>Month(s)</u>	<u>Maximum Allowable Cumulative Operating Hours</u>
1	375
1-2	750
1-3	1,125
1-4	1,500
1-5	1,875
1-6	2,250
1-7	2,625
1-8	3,000
1-9	3,375
1-10	3,750
1-11	4,125
1-12	4,500

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

[Authority for term: OAC rule 3745-77-07(A)(1) and OAC rule 3745-31-05(D)]

- (2) The permittee shall employ a bag leak detection system for each negative pressure baghouse or positive pressure baghouse.

[Authority for term: OAC rule 3745-77-07(A)(1), OAC rule 3745-31-05(D), and 40 CFR Part 63, Subpart EEEEE]



- (3) Each bag leak detection system shall meet the following specifications and requirements:
- a. The bag leak detection system shall be certified by the manufacturer to be capable of detecting PM emissions at concentrations or 10 milligram per actual cubic meter (0.00044 grains per actual cubic foot) or less.
  - b. The bag leak detection system sensor shall provide output of relative PM loadings; and the permittee shall continuously record the output from the bag leak detection system using a strip chart recorder, data logger, or other means.
  - c. The bag leak detection system shall be equipped with an alarm system that will react when the system detects an increase in relative particulate loading over the alarm set point established according to "d" below, and the alarm must be located such that it can be heard by the appropriate plant personnel.
  - d. During the initial adjustment of the bag leak detection system, at a minimum, the baseline output shall be established by adjusting the sensitivity (range) and the averaging period of the device, the alarm set points, and the alarm delay time.
  - e. Except as allowed in "f" below, following the initial adjustment, the averaging period, alarm set point, or alarm delay time shall not be adjusted without approval from the Director.
  - f. Once per quarter, the sensitivity of the bag leak detection system may be adjusted to account for seasonal effects, including temperature and humidity, according to the procedures identified in the site-specific bag leak detection system monitoring plan.
  - g. The bag leak detection sensor shall be installed downstream of the fabric filter and upstream of any wet scrubber.
  - h. Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors.

[Authority for term: OAC rule 3745-77-07(A)(1), OAC rule 3745-31-05(D), and 40 CFR Part 63, Subpart EEEEE]

- (4) The permittee shall prepare a site-specific monitoring plan for each bag leak detection system to be incorporated into the operation and maintenance (O&M) plan. The permittee must operate and maintain each bag leak detection system to the plan at all times. Each plan must address all of the items identified below.
- a. Installation of the bag leak detection system.
  - b. Initial and periodic adjustment of the bag leak detection system including how the alarm set-point will be established.
  - c. Operation of the bag leak detection system including quality assurance procedures.



- d. Maintenance of the bag leak detection system including routine maintenance schedule and spare parts inventory list.
- e. How the bag leak detection system output will be recorded and stored.
- f. Procedures for determining what corrective actions are necessary in the event of a bag leak detection alarm.

[Authority for term: OAC rule 3745-77-07(A)(1), OAC rule 3745-31-05(D), and 40 CFR Part 63, Subpart EEEEE]

- (5) In the event that a bag leak detection system alarm is triggered, the permittee shall initiate corrective action to determine the cause of the alarm within 1-hour of the alarm, initiate corrective action to correct the cause of the problem within 24-hours of the alarm, and complete corrective action as soon as practicable, but no later than 10 calendar days from the date of the alarm.

[Authority for term: OAC rule 3745-77-07(A)(1), OAC rule 3745-31-05(D), and 40 CFR Part 63, Subpart EEEEE]

- (6) The permittee shall comply with the applicable operational restrictions necessary to demonstrate compliance with 40 CFR Part 63, Subpart EEEEE.

63.7710(a)	Operational and maintenance (general)
63.7710(b)	Written operation and maintenance plan
63.7733(a)(1), (f)	Establish operating limits
63.7741(b)	Installation, operation, and maintenance for bag leak detection system

[Authority for term: 40 CFR Part 63, Subpart EEEEE]

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall maintain monthly records of the following information for emissions units P091 and P094:
  - a. the total metal melted;
  - b. beginning after the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the rolling, 12-month summation of the total metal melted; and
  - c. the rolling, 12-month summation of PM, PM10, PM2.5, and VOC emissions, in tons based on the calculation in f)(1)a. – b. below.



Also, during the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the permittee shall record the cumulative operating hours for each calendar month.

[Authority for term: OAC rule 3745-77-07(C) and OAC rule 3745-31-05(D)]

- (2) The pressure drop across the baghouse shall be maintained within the range of 1 to 9 inches of water while the emissions units are in operation.

[Authority for term: OAC rule 3745-77-07(C) and OAC rule 3745-31-05(D)]

- (3) The permittee shall properly install, operate, and maintain equipment to continuously monitor the pressure drop, in inches of water, across the baghouse when the controlled emissions unit is in operation, including periods of startup and shutdown. The permittee shall record the pressure drop across the baghouse on daily basis. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s), with any modifications deemed necessary by the permittee.

Whenever the monitored value for the pressure drop deviates from the limit or range established in accordance with this permit, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:

- a. the date and time the deviation began;
- b. the magnitude of the deviation at that time;
- c. the date the investigation was conducted;
- d. the name(s) of the personnel who conducted the investigation; and
- e. the findings and recommendations.

In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable range specified in this permit, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken:

- f. a description of the corrective action;
- g. the date corrective action was completed;
- h. the date and time the deviation ended;
- i. the total period of time (in minutes) during which there was a deviation;
- j. the pressure drop readings immediately after the corrective action was implemented; and



- k. the name(s) of the personnel who performed the work.

Investigation and records required by this paragraph do not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

This range or limit on the pressure drop across the baghouse is effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by Ohio EPA, Central District Office. The permittee may request revisions to the permitted limit or range for the pressure drop based upon information obtained during future testing that demonstrate compliance with the allowable particulate emission rate for the controlled emissions units. In addition, approved revisions to the range or limit will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of a minor permit modification.

[Authority for term: OAC rule 3745-77-07(C) and OAC rule 3745-31-05(D)]

- (4) 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. whether the emissions are representative of normal operations;
  - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
  - d. the total duration of any visible emissions incident; and
  - e. any corrective actions taken to minimize or eliminate the visible emissions.

If visible emissions are present, a visible emissions incident has occurred. The observer does not have to document the exact start and end times for the visible emissions incident under item (d) above or continue the daily check until the incident has ended. The observer may indicate that the visible emissions incident was continuous during the observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

[Authority for term: OAC rule 3745-77-07(C) and OAC rule 3745-17-07(A)(1)]

- (5) The permittee may, upon receipt of written approval from the appropriate Ohio EPA District Office or local air agency, modify the above-mentioned frequencies for performing the visible emissions checks if operating experience indicates that less



frequent visible emissions checks would be sufficient to ensure compliance with the above-mentioned applicable requirements.

[Authority for term: OAC rule 3745-77-07(C) and OAC rule 3745-17-07(A)(1)]

(6) The permittee must prepare and operate at all times in according to a written operation and maintenance (O&M) plan for the bag leak detection system associated with P083, P084, P085, and P086. A copy of the O&M plan must be maintained at the facility and made available for review upon request. At a minimum, each plan must contain the following information:

- a. general facility and contact information;
- b. positions responsible for inspecting, maintaining, and repairing emissions control devices which are employed;
- c. description of items, equipment, and conditions that will be inspected, including an inspection schedule for the items, equipment and conditions;
- d. identity and estimated quantity of the replacement parts that will be maintained in inventory; and
- e. the specification and requirements contained in Section c)(4) above.

[Authority for term: OAC rule 3745-77-07(C), OAC rule 3745-31-05(D), and 40 CFR Part 63, Subpart EEEEE]

(7) In the event that a bag leak detection system alarm is triggered, the permittee shall record the following information:

- a. date and time of each valid alarm;
- b. the time the permittee initiated corrective action;
- c. the corrective action taken; and
- d. the date on which corrective action was completed.

[Authority for term: OAC rule 3745-77-07(C), OAC rule 3745-31-05(D), and 40 CFR Part 63, Subpart EEEEE]

(8) The permittee shall comply with the applicable monitoring and/or recordkeeping requirements necessary to demonstrate compliance with 40 CFR Part 63, Subpart EEEEE.

63.7740(c)	Monitoring requirements for baghouse.
63.7742	Monitoring and collection of data to demonstrate continuous compliance



63.7747(b) – (d)	Request alternative monitoring requirements for a continuous emissions monitoring system
63.7752(a), (c)	Recordkeeping
63.7753	What form records must be kept in and for how long

[Authority for term: 40 CFR Part 63, Subpart EEEEE]

e) Reporting Requirements

- (1) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA’s eBusiness Center: Air Services online web portal.

[Authority for term: OAC rule 3745-77-07(A)(3)(c)]

- (2) The permittee shall submit quarterly deviation (excursion) reports that identify the following:
- a. all exceedances of the rolling, 12-month summation of PM, PM10, PM2.5, and VOC emissions;
  - b. all exceedances of the rolling, 12-month limitation on the metal melt rate for this emissions unit; and for the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, all exceedances of the maximum allowable cumulative metal melt rate;
  - c. each period of time (start time and date, end time and date) when the pressure drop across the baghouse was outside of the acceptable range;
  - d. any period of time (start time and date, end time and date) when the emissions unit was in operation and the process emissions were not vented to the baghouse;
  - e. each incident of deviation in e)(2)c. and/or e)(2)d. where a prompt investigation was not conducted;
  - f. each incident of deviation described in e)(2)c. and/or e)(2)d. where a prompt corrective action, that would bring the pressure drop into compliance with the acceptable range, was determined to be necessary and was not taken; and
  - g. each incident of deviation described in e)(2)c. and/or e)(2)d. where proper records were not maintained for the investigation and/or the corrective action(s), as identified in the monitoring and recordkeeping requirements of this permit.

The permittee shall identify any exceedances of the limitations established in Sections c)(1) for the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit.



The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(A)(3)(c) and OAC rule 3745-31-05(D)]

- (3) The permittee shall also submit annual reports that specify the total PM, PM10, PM2.5, and VOC emissions from this emissions unit. This report shall be submitted by April 15th of each year. This reporting requirement may be satisfied by including and identifying the specific emission data for this emissions unit in the annual Fee Emission Report.

[Authority for term: OAC rule 3745-77-07(A)(3)(c)]

- (4) The permittee shall submit semiannual written reports that identify:
  - a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and
  - b. any corrective actions taken to minimize or eliminate the visible particulate emissions.

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

[Authority for term: OAC rule 3745-77-07(A)(3)(c) and OAC rule 3745-17-07(A)(1)]

- (5) The permittee shall comply with the applicable reporting requirements necessary to demonstrate compliance with 40 CFR Part 63, Subpart EEEEE.

63.7746	Reporting requirements for deviations
63.7750	What notifications must be submitted and when
63.7751	What reports must be submitted and when

[Authority for term: 40 CFR Part 63, Subpart EEEEE]

f) Testing Requirements

- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:
  - a. Emission Limitation:  
 Combined PM stack and fugitive emissions for P091 and P094 shall not exceed 1.82 tons per rolling, 12-month summation



Applicable Compliance Method:

Compliance with the emission limitation shall be determined by the summation of stack and fugitive emissions.

---

*The monthly **stack** emissions shall be based on the following equation:*

$$PM = (P) * (EF) * (\text{ton}/2000 \text{ lbs})$$

where,

PM = PM emissions (monthly)

P = hours of operation (monthly hours of operation as determined in d)(1)a.)

EF = 0.39 lb PM/hr (as determined by the following equation:  $[(0.003 \text{ gr/dscf}) * (\text{lb}/7000) * (15,000 \text{ dscfm}) * (60 \text{ min/hr})]$ )

*where,*

*15,000 dscfm = air flow established by PTI Application A0051280*

The monthly emissions shall be based on the hourly emission rate determined during the emission testing conducted per f)(3) and the monthly hours of operation.

---

*The monthly **fugitive** emission shall be based on the following equation:*

$$PM = (P) * (EF) * (\text{ton}/2000 \text{ lbs})$$

where,

PM = PM emissions (monthly)

P = hours of operation (monthly hours of operation as determined in d)(1)a.)

EF = 0.42 lb PM/hr, as determined by the following equation:  $(5 \text{ tons metal/hr}) * (4.2 \text{ lbs PM/ton metal}) * (1-0.98)$

*where,*

*5 tons metal/hr = maximum hourly throughput rate established by PTI Application A0051280*

*4.2 lbs PM/ton metal = WebFIRE, SCC 30400320*

*98% = capture hood efficiency established by PTI Application A0051280*

[Authority for term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-31-05(D)]



b. Emissions Limitation:

Combined PM10 stack and fugitive emissions for P091 and P094 shall not exceed 1.35 tons per rolling, 12-month summation

Applicable Compliance Method:

Compliance with the emission limitation shall be determined by the summation of stack and fugitive emissions.

---

*The monthly **stack** emissions shall be based on the following equation:*

$$PM10 = (P) * (EF) * (\text{ton}/2000 \text{ lbs})$$

where,

$$PM10 = \text{PM10 emissions (monthly)}$$

$$P = \text{hours of operation (monthly hours of operation as determined in d)(1)a.)}$$

$$EF = 0.39 \text{ lb PM10/hr (as determined by the following equation: } [(0.003 \text{ gr/dscf}) * (\text{lb}/7000) * (15,000 \text{ dscfm}) * (60 \text{ min/hr})]$$

*where,*

$$15,000 \text{ dscfm} = \text{air flow established by PTI Application A0051280}$$

The monthly emissions shall be based on the hourly emission rate determined during the emission testing conducted per f)(3) and the monthly hours of operation.

---

*The monthly **fugitive** emission shall be based on the following equation:*

$$PM = (P) * (EF) * (\text{ton}/2000 \text{ lbs})$$

where,

$$PM10 = \text{PM10 emissions (monthly)}$$

$$P = \text{hours of operation (monthly hours of operation as determined in d)(1)a.)}$$

$$EF = 0.21 \text{ lb PM10/hr, as determined by the following equation: } (5 \text{ tons metal/hr}) * (2.06 \text{ lbs PM10/ton metal}) * (1-0.98)$$

*where,*

$$5 \text{ tons metal/hr} = \text{maximum hourly throughput rate established by PTI Application A0051280}$$



2.06 lbs PM10/ton sand = WebFIRE, SCC 30400320

98% = capture hood efficiency established by PTI Application A0051280

[Authority for term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-31-05(D)]

c. Emissions Limitation:

Combined PM2.5 stack and fugitive emissions for P091 and P094 shall not exceed 1.10 tons per rolling, 12-month summation

Applicable Compliance Method:

Compliance with the emission limitation shall be determined by the summation of stack and fugitive emissions.

---

*The monthly **stack** emissions shall be based on the following equation:*

$$PM2.5 = (P) * (EF) * (\text{ton}/2000 \text{ lbs})$$

where,

$$PM2.5 = PM2.5 \text{ emissions (monthly)}$$

P = hours of operation (monthly hours of operation as determined in d)(1)a.)

$$EF = 0.39 \text{ lb PM2.5/hr (as determined by the following equation: } [(0.003 \text{ gr/dscf}) * (\text{lb}/7000) * (15,000 \text{ dscfm}) * (60 \text{ min/hr})]$$

where,

$$15,000 \text{ dscfm} = \text{air flow established by PTI Application A0051280}$$

The monthly emissions shall be based on the hourly emission rate determined during the emission testing conducted per f)(3) and the monthly hours of operation.

---

*The monthly **fugitive** emission shall be based on the following equation:*

$$PM2.5 = (P) * (EF) * (\text{ton}/2000 \text{ lbs})$$

where,

$$PM2.5 = PM2.5 \text{ emissions (monthly)}$$

P = hours of operation (monthly hours of operation as determined in d)(1)a.)

$$EF = 0.07 \text{ lb PM2.5/hr, as determined by the following equation: } (5 \text{ tons metal/hr}) * (1.00 \text{ lbs PM2.5/ton metal}) * (1-0.98)$$



where,

*5 tons metal/hr = maximum hourly throughput rate established by PTI Application A0051280*

*1.00 lbs PM2.5/ton metal = WebFIRE, SCC 30400320*

*98% = capture hood efficiency established by PTI Application A0051280*

[Authority for term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-31-05(D)]

d. Emissions Limitation:

VOC emissions for P091 and P094 shall not exceed 1.75 ton per rolling, 12-month summation

Applicable Compliance Method:

The monthly emissions shall be based on the following equation:

$$\text{VOC} = (P) * (\text{EF})$$

where,

VOC = VOC emissions (monthly)

P = monthly metal production, in tons (determined by the monitoring and recordkeeping for P083, P084, P085, P086, established by PTI P0116874 issued final 10/23/14) EF = 0.14 lb VOC/ton metal (WebFIRE, SCC 30400320)

[Authority for term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-31-05(D)]

e. Emission Limitation:

Particulate emissions shall not exceed 12 pounds per hour

Applicable Compliance Method:

The emission limitation was established by "Table I" in the appendix to OAC rule 3745-17-11(A)(2). If required, compliance shall be based upon Method 5 of 40 CFR Part 60, Appendix A.

[Authority for term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-17-11(A)(2)]

f. Emission Limitation:

Visible particulate emissions from the stack shall not exceed 20 percent opacity as a six-minute average, except as specified by rule.



Applicable Compliance Method:

Compliance with the stack visible particulate emissions limitation shall be determined through visible emissions observations performed in accordance with U.S. EPA Method 9.

[Authority for term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-17-07(A)(1)]

- (2) The permittee shall comply with the applicable testing requirements necessary to demonstrate compliance with 40 CFR Part 63, Subpart EEEEE.

63.7730	Initial compliance requirements
63.7731(a), (b)	When to conduct subsequent performance tests
63.7732(a), (b), (d)	Test methods used and other procedures to demonstrate initial compliance with the emissions limitations

[Authority for term: 40 CFR Part 63, Subpart EEEEE]

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

- a. The emission testing for P088, P089, P091, P092, P094, P095, and P096 shall be conducted within 60 days after achieving the maximum production rate at which the emissions unit will be operated, but not later than 180 days after initial startup of the emissions unit.
- b. For P088, P089, P089, P091, P092, P094, P095, and P096 the emission testing shall be conducted to demonstrate compliance with the allowable PM, PM10, and PM2.5 concentration of 0.003 gr/dscf in the exhaust stream.
- c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):
  - PM - 40 CFR Part 60, Appendix A, Methods 1 through 5
  - PM10/PM2.5 – 40 CFR Part 60, Appendix A, Methods 201 and 202
 Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.
- d. The test(s) shall be conducted under those representative conditions that challenge to the fullest extent possible a facility's ability to meet the applicable emissions limits and/or control requirements, unless otherwise specified or approved by Ohio EPA, Central District Office. Although this generally consists of operating the emissions unit at its maximum material input/production rates and results in the highest emission rate of the tested pollutant, there may be circumstances where a lower emissions loading is deemed the most challenging



control scenario. Failure to test under these conditions is justification for not accepting the test results as a demonstration of compliance.

- e. Not later than 60 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to Ohio EPA, Central District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in Ohio EPA, Central District Office's refusal to accept the results of the emission test(s).
- f. Personnel from Ohio EPA, Central District Office 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.
- g. 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 Ohio EPA, Central District Office 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 Ohio EPA, Central District Office.

[Authority for term: OAC rule 3745-77-07(C)(1), OAC rule 3745-31-05(D), and 40 CFR Part 63, Subpart EEEEE]

g) **Miscellaneous Requirements**

- (1) None.



**13. Emissions Unit Group -Tumbleblast: P104,P105,P106**

EU ID	Operations, Property and/or Equipment Description
P104	#1 14 cubic ftTumbleblast (wheelabrator) with a design capacity of 2 tons metal casting/hour. Vents to C&F baghouse.
P105	#2 14 cubic ftTumbleblast (wheelabrator) with a design capacity of 2 tons metal casting/hour. Vents to C&F baghouse.
P106	28 cubic fttumbleblast (wheelabrator) with a design capacity of 4 tons metal casting/hr. Vents to C&F baghouse.

- a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only:
- (1) See b)(1)b. and b)(2)c.
- b) Applicable Emissions Limitations and/or Control Requirements
- (1) The specific operation(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 are identified below. 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)  [Synthetic minor to avoid becoming a major PSD source]	<u>Combined emissions limitations for P104, P105, and P106:</u>  Particulate matter (PM) stack and fugitive emissions shall not exceed 1.09 tons per rolling, 12-month summation.  Particulate matter less than 10 microns in diameter (PM10) stack and fugitive emissions shall not exceed 0.40 tons per rolling, 12-month summation.  Particulate matter less than 2.5 microns in diameter (PM2.5) stack and fugitive emissions shall not exceed 0.34 tons per rolling, 12-month summation.  See b)(2)a. – b., and c)(1)
b.	OAC rule 3745-31-05(A)(3), as effective 06/30/08	For PM, PM10, and PM2.5 emissions see b)(2)a. – c.
c.	OAC rule 3745-31-05(A)(3)(a)(ii), as effective 06/30/08	For PM, PM10, and PM2.5 emissions see b)(2)d.i.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
d.	OAC rule 3745-17-07(A)	Visible particulate emissions from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.
e.	OAC rule 3745-17-07(B)(1)	See b)(2)e.
f.	OAC rule 3745-17-08(B)	See b)(2)f.
g.	OAC rule 3745-17-11(A)(2)	The emission limitation established by this rule is less stringent than the requirements in OAC rule 3745-31-05(A)(3).  See b)(2)d.ii.
g.	40 CFR Part 63, Subpart EEEEE  [In accordance with 40 CFR 63.7682 this facility is an existing iron foundry subject to the emission limitations/control measures specified in this section]	For each building or structure housing any iron foundry emissions source at the iron foundry, you must not discharge any fugitive emissions that exhibit opacity greater than 20% (6-minute average), except for one 6-minute average per hour that does not exceed 27% opacity.  See b)(2)g., c)(2), d)(5), e)(5), and f)(2)
h.	40 CFR Part 63, Subpart A	Table I of 40 CFR Part 63, Subpart EEEEE, <i>Applicability of General Provisions to Subpart EEEEE</i> identifies which parts of the General Provisions in 40 CFR 63.1-15 apply.

(2) Additional Terms and Conditions

- a. The emissions from this emissions unit shall be vented to a baghouse at all times the emissions units are in operation.  
  
[Authority for term: OAC rule 3745-31-05(D)]
- b. The baghouse serving the emissions unit shall achieve an outlet concentration of 0.003 grains per dry standard cubic foot (gr/dscf) for PM, PM10, and PM2.5.  
  
[Authority for term: OAC rule 3745-31-05(D) and OAC rule ORC 3704.03(T)]
- c. This Best Available Technology (BAT) emission limit applies until U.S. EPA approves Ohio Administrative Code (OAC) rule 3745-31-05(A)(3)(a)(ii) (the less than 10 tons per year BAT exemption) into the Ohio State Implementation Plan (SIP).  
  
[Authority for term: OAC rule 3745-31-05(A)(3), as effective 06/30/08]



- d. These requirements apply once U.S. EPA approves OAC rule 3745-31-05(A)(3)(a)(ii) (the less than 10 tons per year BAT exemption) as part of the Ohio SIP.
  - i. The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the PM, PM10, and PM2.5 emissions from this air contaminant source since the calculated annual emission rate for PM10 is less than 10 tons/year, taking into account the federally enforceable rule limit of 2,500 operating hours per year, based upon a rolling, 12-month summation, employing a baghouse, and capture hood under OAC rule 3745-31-05(D).
  - ii. Particulate emissions shall not exceed 16.5 pounds per hour.  
 [Authority for term: OAC rule 3745-31-05(A)(3)(ii), as effective 06/30/08]
- e. The emissions units are exempt from OAC rule 3745-17-07(B)(1) pursuant to OAC rule 3745-17-07(B)(11)(e).
- f. This facility is not located in an Appendix A area as described in OAC rule 3745-17-08; therefore, OAC rule 3745-17-08(B) does not apply to the fugitive emissions from these emissions units.
- g. The permittee shall comply with the applicable requirements necessary to demonstrate compliance with 40 CFR Part 63, Subpart EEEEE.

63.7734(a)(7)	Initial compliance demonstration for fugitive emissions from foundry operations
63.7743(a)(7), (12)	Continuous compliance with the fugitive emissions limitation
63.7746	Other requirements to demonstrate continuous compliance
63.7760	Other requirements and information
63.7761	Other requirements and information

[Authority for term: 40 CFR Part 63, Subpart EEEEE]

c) Operational Restrictions

- (1) The maximum operating time for P104, P105, and P106 shall not exceed 2,500 hours per year based upon a rolling, 12-month summation of the operating hours.

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



<u>Month(s)</u>	<u>Maximum Allowable Cumulative Operating Hours</u>
1	208
1-2	416
1-3	624
1-4	832
1-5	1,040
1-6	1,248
1-7	1,456
1-8	1,664
1-9	1,872
1-10	2,080
1-11	2,288
1-12	2,500

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

[Authority for term: OAC rule 3745-77-07(A)(1) and OAC rule 3745-31-05(D)]

- (2) The permittee shall comply with the applicable operational restrictions necessary to demonstrate compliance with 40 CFR Part 63, Subpart EEEEE.

63.7710(a)	Operational and maintenance (general)
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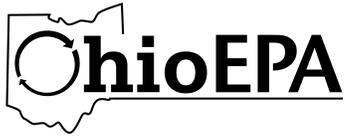
[Authority for term: 40 CFR Part 63, Subpart EEEEE]

d) **Monitoring and/or Recordkeeping Requirements**

- (1) The permittee shall maintain monthly records of the following information for P104, P105, and P106:
- a. the rolling, 12-month summation of PM, PM10, and PM2.5 stack and fugitive emissions, in tons based on the calculation in f)(1)a. – b. below.
  - b. the operating hours for each month; and
  - c. beginning after the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the rolling, 12-month summation of the operating hours.

Also, during the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the permittee shall record the cumulative operating hours for each calendar month.

[Authority for term: OAC rule 3745-77-07(C) and OAC rule 3745-31-05(D)]



- (2) The pressure drop across the baghouse shall be maintained within the range of 1 to 8 inches of water while the emissions units are in operation.

[Authority for term: OAC rule 3745-77-07(C) and OAC rule 3745-31-05(D)]

- (3) The permittee shall properly install, operate, and maintain equipment to continuously monitor the pressure drop, in inches of water, across the baghouse when the controlled emissions unit is in operation, including periods of startup and shutdown. The permittee shall record the pressure drop across the baghouse on daily basis. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s), with any modifications deemed necessary by the permittee.

Whenever the monitored value for the pressure drop deviates from the limit or range established in accordance with this permit, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:

- a. the date and time the deviation began;
- b. the magnitude of the deviation at that time;
- c. the date the investigation was conducted;
- d. the name(s) of the personnel who conducted the investigation; and
- e. the findings and recommendations.

In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable range specified in this permit, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended. The permittee shall maintain records of the following information for each corrective action taken:

- f. a description of the corrective action;
- g. the date corrective action was completed;
- h. the date and time the deviation ended;
- i. the total period of time (in minutes) during which there was a deviation;
- j. the pressure drop readings immediately after the corrective action was implemented; and
- k. the name(s) of the personnel who performed the work.

Investigation and records required by this paragraph do not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.



This range or limit on the pressure drop across the baghouse is effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the appropriate Ohio EPA District Office or local air agency. The permittee may request revisions to the permitted limit or range for the pressure drop based upon information obtained during future testing that demonstrate compliance with the allowable particulate emission rate for the controlled emissions units. In addition, approved revisions to the range or limit will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of a minor permit modification.

[Authority for term: OAC rule 3745-77-07(C) and OAC rule 3745-31-05(D)]

- (4) 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. whether the emissions are representative of normal operations;
  - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
  - d. the total duration of any visible emissions incident; and
  - e. any corrective actions taken to minimize or eliminate the visible emissions.

If visible emissions are present, a visible emissions incident has occurred. The observer does not have to document the exact start and end times for the visible emissions incident under item (d) above or continue the daily check until the incident has ended. The observer may indicate that the visible emissions incident was continuous during the observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

[Authority for term: OAC rule 3745-77-07(C) and OAC rule 3745-17-07(A)(1)]

- (5) The permittee shall comply with the applicable monitoring and/or recordkeeping requirements necessary to demonstrate compliance with 40 CFR Part 63, Subpart EEEEE.



63.7752(a), (c)	Recordkeeping.
63.7753	What form records must be kept in and how long.

[Authority for term: 40 CFR Part 63, Subpart EEEEE]

e) Reporting Requirements

- (1) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA’s eBusiness Center: Air Services online web portal.

[Authority for term: OAC rule 3745-77-07(A)(3)(c)]

- (2) The permittee shall submit quarterly deviation (excursion) reports that identify the following for P104, P105, and P106:
  - a. all exceedances of the rolling, 12-month summation of PM, PM10, and PM2.5 stack and fugitive emissions;
  - b. all exceedances of the rolling, 12-month limitation on the hours of operation for this emissions unit; and for the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, all exceedances of the maximum allowable cumulative hours of operation;
  - c. each period of time (start time and date, end time and date) when the pressure drop across the baghouse was outside of the acceptable range;
  - d. any period of time (start time and date, end time and date) when the emissions unit was in operation and the process emissions were not vented to the baghouse;
  - e. each incident of deviation in e)(2)c. and/or e)(2)d. where a prompt investigation was not conducted;
  - f. each incident of deviation described in e)(2)c. and/or e)(2)d. where a prompt corrective action, that would bring the pressure drop into compliance with the acceptable range, was determined to be necessary and was not taken; and
  - g. each incident of deviation described in e)(2)c. and/or e)(2)d. where proper records were not maintained for the investigation and/or the corrective action(s), as identified in the monitoring and recordkeeping requirements of this permit.

The permittee shall identify any exceedances of the limitations established in Sections c)(1) for the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit.



The quarterly deviation (excursion) reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

[Authority for term: OAC rule 3745-77-07(A)(3)(c) and OAC rule 3745-31-05(D)]

- (3) The permittee shall also submit annual reports that specify the total PM, PM10, and PM2.5 emissions from this emissions unit. This report shall be submitted by April 15th of each year. This reporting requirement may be satisfied by including and identifying the specific emission data for this emissions unit in the annual Fee Emission Report.

[Authority for term: OAC rule 3745-77-07(A)(3)(c)]

- (4) The permittee shall submit semiannual written reports that identify:
  - a. all days during which any visible particulate emissions were observed from the stack serving this emissions unit; and
  - b. any corrective actions taken to minimize or eliminate the visible particulate emissions.

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

[Authority for term: OAC rule 3745-77-07(A)(3)(c) and OAC rule 3745-17-07(A)(1)]

The permittee shall also submit annual reports that specify the total PM and PM10 emissions from this emissions unit. This report shall be submitted by April 15<sup>th</sup> of each year. This reporting requirement may be satisfied by including and identifying the specific emission data for this emissions unit in the annual Fee Emission Report.

[Authority for term: OAC rule 3745-77-07(A)(3)(c)]

- (5) The permittee shall comply with the applicable reporting requirements necessary to demonstrate compliance with 40 CFR Part 63, Subpart EEEEE.

63.7746	Reporting requirements for deviations
63.7750	What notifications must be submitted and when
63.7751	What reports must be submitted and when

[Authority for term: 40 CFR Part 63, Subpart EEEEE]

f) Testing Requirements

- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:



a. Emission Limitation:

Combined PM stack and fugitive emissions for P104, P105, and P106 shall not exceed 1.09 tons per rolling, 12-month summation

Applicable Compliance Method:

Compliance with the emission limitation shall be determined by the summation of stack and fugitive emissions.

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*The monthly **stack** emissions shall be based on the following equation:*

$$PM = (P) * (EF) * (\text{ton}/2000 \text{ lbs})$$

where,

PM = PM emissions (monthly)

P = hours of operation (monthly hours of operation as determined in d)(1)a.)

EF = 0.25 lb PM/hr (as determined by the following equation:  $[(0.003 \text{ gr/dscf}) * (\text{lb}/7000) * (9,700 \text{ dscfm}) * (60 \text{ min/hr})]$ )

*where,*

*9,700 dscfm = air flow established by PTI Application A0051280*

The monthly emissions shall be based on the hourly emission rate determined during the emission testing conducted per f)(3) and the monthly hours of operation.

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*The monthly **fugitive** emission shall be based on the following equation:*

$$PM = (P) * (EF) * (\text{ton}/2000 \text{ lbs})$$

where,

PM = PM emissions (monthly)

P = hours of operation (monthly hours of operation as determined in d)(1)a.)

EF = 0.62 lb PM/hr, as determined by the following equation:  $(8 \text{ tons metal/hr}) * (15.0 \text{ lbs PM/ton metal}) * (1-0.995)$

*where,*

*8 tons metal/hr = maximum hourly throughput rate established by PTI Application A0051280*

*15.5 lbs PM/ton metal = Bernard S. Gutow, Modern Castings, Jan. 1972*



99.5% = capture hood efficiency established by PTI Application A0051280

[Authority for term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-31-05(D)]

b. Emissions Limitation:

Combined PM10 stack and fugitive emissions for P104, P105, and P106 shall not exceed 0.40 tons per rolling, 12-month summation

Applicable Compliance Method:

Compliance with the emission limitation shall be determined by the summation of stack and fugitive emissions.

---

*The monthly **stack** emissions shall be based on the following equation:*

$$PM10 = (P) * (EF) * (\text{ton}/2000 \text{ lbs})$$

where,

$$PM10 = \text{PM10 emissions (monthly)}$$

$$P = \text{hours of operation (monthly hours of operation as determined in d)(1)a.)}$$

$$EF = 0.25 \text{ lb PM10/hr (as determined by the following equation: } [(0.003 \text{ gr/dscf}) * (\text{lb}/7000) * (9,700 \text{ dscfm}) * (60 \text{ min/hr})]$$

where,

$$9,700 \text{ dscfm} = \text{air flow established by PTI Application A0051280}$$

The monthly emissions shall be based on the hourly emission rate determined during the emission testing conducted per f)(3) and the monthly hours of operation.

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*The monthly **fugitive** emission shall be based on the following equation:*

$$PM = (P) * (EF) * (\text{ton}/2000 \text{ lbs})$$

where,

$$PM10 = \text{PM10 emissions (monthly)}$$

$$P = \text{hours of operation (monthly hours of operation as determined in d)(1)a.)}$$

$$EF = 0.07 \text{ lb PM10/hr, as determined by the following equation: } (8 \text{ tons metal/hr}) * (1.7 \text{ lbs PM10/ton metal}) * (1-0.995)$$



where,

*8 tons metal/hr = maximum hourly throughput rate established by PTI Application A0051280*

*1.7 lbs PM10/ton sand = WebFIRE, SCC 30400340*

*99.5% = capture hood efficiency established by PTI Application A0051280*

[Authority for term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-31-05(D)]

c. Emissions Limitation:

Combined PM2.5 stack and fugitive emissions for P104, P105, and P106 shall not exceed 0.34 tons per rolling, 12-month summation

Applicable Compliance Method:

Compliance with the emission limitation shall be determined by the summation of stack and fugitive emissions.

---

*The monthly **stack** emissions shall be based on the following equation:*

$$PM2.5 = (P) * (EF) * (\text{ton}/2000 \text{ lbs})$$

where,

$$PM2.5 = PM2.5 \text{ emissions (monthly)}$$

$$P = \text{hours of operation (monthly hours of operation as determined in d)(1)a.)}$$

$$EF = 0.25 \text{ lb PM2.5/hr (as determined by the following equation: } [(0.003 \text{ gr/dscf}) * (\text{lb}/7000) * (9,700 \text{ dscfm}) * (60 \text{ min/hr})])$$

where,

$$9,700 \text{ dscfm} = \text{air flow established by PTI Application A0051280}$$

The monthly emissions shall be based on the hourly emission rate determined during the emission testing conducted per f)(3) and the monthly hours of operation.

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*The monthly **fugitive** emission shall be based on the following equation:*

$$PM2.5 = (P) * (EF) * (\text{ton}/2000 \text{ lbs})$$

where,

$$PM2.5 = PM2.5 \text{ emissions (monthly)}$$

$$P = \text{hours of operation (monthly hours of operation as determined in d)(1)a.)}$$



EF = 0.02 lb PM2.5/hr, as determined by the following equation: (8 tons metal/hr) \* (1.00 lbs PM2.5/ton metal) \* (1-0.995)

where,

8 tons metal/hr = maximum hourly throughput rate established by PTI Application A0051280

0.6 lbs PM2.5/ton metal = WebFIRE, SCC 30400340

99.5% = capture hood efficiency established by PTI Application A0051280

[Authority for term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-31-05(D)]

d. Emission Limitation:

Visible particulate emissions from the stack shall not exceed 20 percent opacity as a six-minute average, except as specified by rule.

Applicable Compliance Method:

Compliance with the stack visible particulate emissions limitation shall be determined through visible emissions observations performed in accordance with U.S. EPA Method 9.

[Authority for term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-17-07(A)(1)]

- (2) The permittee shall comply with the applicable testing requirements necessary to demonstrate compliance with under 40 CFR Part 63, Subpart EEEEE.

63.7730	Initial compliance requirements
63.7731(b)	When to conduct subsequent performance tests
63.7732(a), (d)	Test methods used and other procedures to demonstrate initial compliance with the emissions limitations

[Authority for term: 40 CFR Part 63, Subpart EEEEE]

- (3) The permittee shall conduct, emission testing for this emissions unit in accordance with the following requirements:
- a. The emission testing for P104, P105, P106, and P107, shall be conducted within 60 days after achieving the maximum production rate at which the emissions unit will be operated, but not later than 180 days after initial startup of the emissions unit.



- b. For P104, P105, P106, and P107 the emission testing shall be conducted to demonstrate compliance with the allowable PM, PM10, and PM2.5 concentration of 0.003 gr/dscf in the exhaust stream.
- c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):  
  
PM - 40 CFR Part 60, Appendix A, Methods 1 through 5  
  
PM10/PM2.5 – 40 CFR Part 60, Appendix A, Methods 201 and 202  
  
Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA.
- d. The test(s) shall be conducted under those representative conditions that challenge to the fullest extent possible a facility's ability to meet the applicable emissions limits and/or control requirements, unless otherwise specified or approved by Ohio EPA, Central District Office. Although this generally consists of operating the emissions unit at its maximum material input/production rates and results in the highest emission rate of the tested pollutant, there may be circumstances where a lower emissions loading is deemed the most challenging control scenario. Failure to test under these conditions is justification for not accepting the test results as a demonstration of compliance.
- e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to Ohio EPA, Central District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in Ohio EPA, Central District Office's refusal to accept the results of the emission test(s).
- f. Personnel from Ohio EPA, Central District Office 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.
- g. 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 Ohio EPA, Central District Office 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 Ohio EPA, Central District Office.

[Authority for term: OAC rule 3745-77-07(C)(1) and OAC rule 3745-31-05(D)]

g) Miscellaneous Requirements

- (1) None.