



John R. Kasich, Governor
Mary Taylor, Lt. Governor
Craig W. Butler, Director

8/10/2015

Certified Mail

Brian Culler
Pentair Casting Center, Division of Pentair Pump Group
1101 Myers Parkway
Ashland, OH 44805

No	TOXIC REVIEW
Yes	SYNTHETIC MINOR TO AVOID MAJOR NSR
No	CEMS
No	MACT/GACT
No	NSPS
No	NESHAPS
No	NETTING
No	MODELING SUBMITTED
Yes	SYNTHETIC MINOR TO AVOID TITLE V
Yes	FEDERALLY ENFORCABLE PTIO (FEPTIO)
No	SYNTHETIC MINOR TO AVOID MAJOR GHG

RE: FINALAIR POLLUTION PERMIT-TO-INSTALL AND OPERATE

Facility ID: 0303010118
Permit Number: P0118265
Permit Type: Administrative Modification
County: Ashland

Dear Permit Holder:

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

How to give us feedback on your permitting experience

Please complete a survey at 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 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, Northwest District Office at (419)352-8461 or the Office of Compliance Assistance and Pollution Prevention at (614) 644-3469.

Sincerely,



Michael E. Hopkins, P.E.
Assistant Chief, Permitting Section, DAPC

Cc: Ohio EPA-NWDO



Response to Comments

Facility ID:	0303010118
Facility Name:	Pentair Casting Center, Division of Pentair Pump Group
Facility Description:	Pumps and Pumping Equipment
Facility Address:	740 East 9th Street Ashland, OH 44805 Ashland County
Permit:	P0118265, Permit-To-Install and Operate - Administrative Modification
A public notice for the draft permit issuance was published in the Ohio EPA Weekly Review and appeared in the Ashland-Times-Gazette on 07/03/2015. The comment period ended on 08/02/2015.	
Hearing date (if held)	
Hearing Public Notice Date (if different from draft public notice)	

The following comments were received during the comment period specified. Ohio EPA reviewed and considered all comments received during the public comment period. By law, Ohio EPA has authority to consider specific issues related to protection of the environment and public health. Often, public concerns fall outside the scope of that authority. For example, concerns about zoning issues are addressed at the local level. Ohio EPA may respond to those concerns in this document by identifying another government agency with more direct authority over the issue.

In an effort to help you review this document, the questions are grouped by topic and organized in a consistent format. PDF copies of the original comments in the format submitted are available upon request.

1. Topic: None

- a. Comment: No comments received.
- b. Response: None



FINAL

**Division of Air Pollution Control
Permit-to-Install and Operate
for**

Pentair Casting Center, Division of Pentair Pump Group

Facility ID:	0303010118
Permit Number:	P0118265
Permit Type:	Administrative Modification
Issued:	8/10/2015
Effective:	8/10/2015
Expiration:	2/25/2019



Division of Air Pollution Control
Permit-to-Install and Operate
for
Pentair Casting Center, Division of Pentair Pump Group

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Final Permit-to-Install and Operate
Pentair Casting Center, Division of Pentair Pump Group
Permit Number: P0118265
Facility ID: 0303010118
Effective Date: 8/10/2015

Authorization

Facility ID: 0303010118
Application Number(s): A0052383, M0003327, M0003328, M0003329
Permit Number: P0118265
Permit Description: Administrative modification of the existing permits to transition the facility from Title V to FEPTIO by restricting the annual production at the facility
Permit Type: Administrative Modification
Permit Fee: \$8,975.00
Issue Date: 8/10/2015
Effective Date: 8/10/2015
Expiration Date: 2/25/2019
Permit Evaluation Report (PER) Annual Date: Jan 1 - Dec 31, Due Feb 15

This document constitutes issuance to:

Pentair Casting Center, Division of Pentair Pump Group
740 East 9th Street
Ashland, OH 44805

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

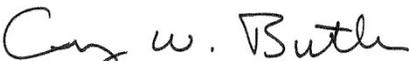
Ohio Environmental Protection Agency (EPA) District Office or local air agency responsible for processing and administering your permit:

Ohio EPA DAPC, Northwest District Office
347 North Dunbridge Road
Bowling Green, OH 43402
(419)352-8461

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

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency


Craig W. Butler
Director



Authorization (continued)

Permit Number: P0118265
 Permit Description: Administrative modification of the existing permits to transition the facility from Title V to FEPTIO by restricting the annual production at the facility

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

- | | |
|-----------------------------------|-------------------------------------|
| Emissions Unit ID: | P020 |
| Company Equipment ID: | No-Bake Line Table Blast |
| Superseded Permit Number: | P0117090 |
| General Permit Category and Type: | Not Applicable |
| Emissions Unit ID: | P905 |
| Company Equipment ID: | Sand Handling and Processing System |
| Superseded Permit Number: | P0107024 |
| General Permit Category and Type: | Not Applicable |

Group Name: Mold Making Lines #1-3

Emissions Unit ID:	F015
Company Equipment ID:	Hunter 10-1 Line Mold Making
Superseded Permit Number:	P0107024
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	F016
Company Equipment ID:	Hunter 10-2 Line Mold Making
Superseded Permit Number:	P0107024
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	F018
Company Equipment ID:	Osborn Line Mold Making
Superseded Permit Number:	P0107024
General Permit Category and Type:	Not Applicable

Group Name: No-Bake Line w/ETA baghouse

Emissions Unit ID:	P017
Company Equipment ID:	No-Bake Line Sand System
Superseded Permit Number:	P0117090
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P018
Company Equipment ID:	No-Bake Line Pouring & Cooling
Superseded Permit Number:	P0117090
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P019
Company Equipment ID:	No-Bake Line Shakeout
Superseded Permit Number:	P0117090
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P021
Company Equipment ID:	No-Bake Line Mold & Core Making
Superseded Permit Number:	P0117090
General Permit Category and Type:	Not Applicable



Group Name: Old Casting Line

Emissions Unit ID:	F009
Company Equipment ID:	Bench Core Machine
Superseded Permit Number:	P0107024
General Permit Category andType:	Not Applicable
Emissions Unit ID:	F012
Company Equipment ID:	Small Gas Core Machine
Superseded Permit Number:	P0107024
General Permit Category andType:	Not Applicable
Emissions Unit ID:	P907
Company Equipment ID:	Large Gas Core Machine
Superseded Permit Number:	P0107024
General Permit Category andType:	Not Applicable
Emissions Unit ID:	P909
Company Equipment ID:	Redford 26 Core Machine
Superseded Permit Number:	P0107483
General Permit Category andType:	Not Applicable
Emissions Unit ID:	P910
Company Equipment ID:	Old Redford 22 Core Machine
Superseded Permit Number:	P0107483
General Permit Category andType:	Not Applicable
Emissions Unit ID:	P911
Company Equipment ID:	New Redford 22 Core Machine
Superseded Permit Number:	P0107024
General Permit Category andType:	Not Applicable

Group Name: Pouring and Cooling Lines #1-3

Emissions Unit ID:	F019
Company Equipment ID:	Osborn Line Pouring and Cooling
Superseded Permit Number:	P0107024
General Permit Category andType:	Not Applicable
Emissions Unit ID:	F020
Company Equipment ID:	Hunter 10-1 Line Pouring and Cooling
Superseded Permit Number:	P0107024
General Permit Category andType:	Not Applicable
Emissions Unit ID:	F021
Company Equipment ID:	Hunter 10-2 Line Pouring and Cooling
Superseded Permit Number:	P0107024
General Permit Category andType:	Not Applicable

Group Name: Three Induction Furnaces

Emissions Unit ID:	F001
Company Equipment ID:	Electric Induction Furnace 1
Superseded Permit Number:	P0107024
General Permit Category andType:	Not Applicable
Emissions Unit ID:	F002
Company Equipment ID:	Electric Induction Furnace 2
Superseded Permit Number:	P0107024
General Permit Category andType:	Not Applicable
Emissions Unit ID:	F003
Company Equipment ID:	Electric Induction Furnace 3
Superseded Permit Number:	P0107024
General Permit Category andType:	Not Applicable



Final Permit-to-Install and Operate
Pentair Casting Center, Division of Pentair Pump Group
Permit Number: P0118265
Facility ID: 0303010118
Effective Date: 8/10/2015

Group Name: Wheelabrators

Emissions Unit ID:	P014
Company Equipment ID:	Wheelabrator-Shotblast Cleaner # 2226
Superseded Permit Number:	P0107024
General Permit Category andType:	Not Applicable
Emissions Unit ID:	P015
Company Equipment ID:	Wheelabrator-Shotblast Cleaner #2223
Superseded Permit Number:	P0107024
General Permit Category andType:	Not Applicable



Final Permit-to-Install and Operate
Pentair Casting Center, Division of Pentair Pump Group
Permit Number: P0118265
Facility ID: 0303010118
Effective Date: 8/10/2015

A. Standard Terms and Conditions

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

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

2. Who is responsible for complying with this permit?

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

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

3. What records must I keep under this permit?

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

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

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

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

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

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

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

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

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

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

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

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

7. What reports must I submit under this permit?

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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



Final Permit-to-Install and Operate
Pentair Casting Center, Division of Pentair Pump Group
Permit Number: P0118265
Facility ID: 0303010118
Effective Date: 8/10/2015

B. Facility-Wide Terms and Conditions



1. This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).
 - a) For the purpose of a permit-to-install document, the facility-wide terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
 - (1) None.
 - b) For the purpose of a permit-to-operate document, the facility-wide terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
 - (1) None.



Final Permit-to-Install and Operate
Pentair Casting Center, Division of Pentair Pump Group
Permit Number: P0118265
Facility ID: 0303010118
Effective Date: 8/10/2015

C. Emissions Unit Terms and Conditions



1. P020, No-Bake Line Table Blast

Operations, Property and/or Equipment Description:

No-Bake Line Table Blast

- a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).
 - (1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
 - a. None.
 - (2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
 - a. b)(1)a., b)(2)a., c)(1), d)(1), e)(3), and f)(1)a., f)(1)b. and f)(1)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)	0.0097 lb particulate matter equal to or less than 10 microns in diameter (PM10)/hr 0.017 ton PM10 per rolling, 12-month period Visible particulate emissions (PE) from the stack serving this emissions unit shall not exceed 5% opacity, as a 6-minute average. See b)(2)a. and c)(1)
b.	OAC rule 3745-31-05(A)(3), as effective June 30, 2008	Install a baghouse with design control efficiency for PM ₁₀ of at least 99.9%, by weight. See b)(2)b.
c.	OAC rule 3745-31-05(A)(3)(a)(ii), as	The Best Available Technology (BAT)



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
	effective June 30, 2008	requirements under OAC rule 3745-31-05(A)(3) do not apply to the PM10 emissions from this emissions unit since the potential to emit is less than 10 tons/year taking into account the federally enforceable restrictions established under OAC rule 3745-31-05(D). See b)(2)c.
d.	OAC rule 3745-17-11(B)	See b)(2)d.
e.	OAC rule 3745-17-07(A)	See b)(2)e.

(2) Additional Terms and Conditions

- a. This permit establishes the following federally enforceable emission limitations for the purpose of limiting potential to emit (PTE) to avoid Title V requirements. The federally enforceable emission limitations are based on the operational restrictions contained in c)(1):
 - i. 0.0097 lb PM10/hr;
 - ii. 0.017 ton PM10 per rolling 12-month period; and
 - iii. Visible PE from the stack serving this emission unit shall not exceed 5% opacity, as a 6-minute average.

Emission unit P020 is located in a building which is under negative pressure; therefore, there are no fugitive emissions. All emissions are considered to be PM10.

- b. The BAT emission limit applies until U.S. EPA approves Ohio Administrative Code (OAC) paragraph 3745-31-05(A)(3)(a)(ii) (the less than 10 tons per year BAT exemption) into the Ohio State Implementation Plan (SIP).
- c. These requirements apply once U.S. EPA approves OAC paragraph 3745-31-05(A)(3)(a)(ii) (the less than 10 tons per year BAT exemption) as part of the Ohio SIP.
- d. The uncontrolled mass rate of particulate emissions from this emissions unit is less than 10 lbs/hr. Therefore, pursuant to OAC rule 3745-17-11(A)(2)(a)(ii), Figure II of OAC rule 3745-17-11 does not apply. Also, pursuant to OAC rule 3745-17-11(A)(2)(b)(ii), Table 1 does not apply because the facility is located in Ashland County.
- e. This emissions unit is exempt from the visible emissions limitation specified in OAC rule 3745-17-07(A), pursuant to OAC rule 3745-17-07(A)(3)(h), because OAC rule 3745-17-11 is not applicable.

c) Operational Restrictions

- (1) The following operational restrictions have been included in this permit for the purpose of establishing federally enforceable requirements which limit PTE [See b)(2)a.]:
 - a. Emissions unit P020 shall be vented to a dust collector capable of achieving a control efficiency of 99.9%, by weight, for captured particulate matter.
 - b. Emissions unit P020 shall be maintained in a building which is under negative pressure and provide 100% capture of fugitive emissions.
 - c. The maximum annual production rate for emission units F001, F002 and F003 shall not exceed 20,000 tons of metal melted based upon a rolling, 12-month summation of the production rates.

Note: The production restriction above is for the three furnaces (F001, F002 and F003) at the facility. These furnaces represent a bottleneck at the facility, therefore, all emission units at the facility cannot process more metal than the furnaces can melt. As such, emission limitations for all of the emission units at the facility will be based on this restriction. All monitoring, recordkeeping and reporting requirements for the production restriction can be found in the terms and conditions for emission units F001, F002 and F003.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall perform weekly checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stacks 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 eliminate the visible emissions.

e) Reporting Requirements

- (1) 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 District Office or 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 required application, notification or report is considered to be "submitted" on the date the submission is successful using a valid electronic signature. Signature by the signatory authority may be represented as provided through procedures established in Air Services.

- (2) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be submitted by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve months for each air contaminant source identified in this permit.
- (3) The permittee shall also identify the following information in the annual permit evaluation report in accordance with the monitoring requirements for visible emissions in term number d)(1) above:
 - a. All days during which any visible particulate emissions were observed from the stack serving this emission unit; and
 - b. Any corrective actions taken to eliminate the visible particulate emissions.

The above information shall be provided as an attachment to the PER. If there are no day(s) and/or corrective action(s) to identify as required above, the permittee shall indicate within the "Additional Information and Corrections" section of the PER that no visible emissions were observed and no corrective actions were taken.

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:

0.0097 lb PM10/hr

Applicable Compliance Method:

The pound/hour emission limitation above was established by multiplying a maximum hourly processing capacity of 5.7 tons iron/hour by the appropriate AP-42 emissions factor of 1.7 lbs PM10/ton iron (Section 12.10 for Gray Iron Foundries), and applying collection and control efficiencies of 100% and 99.9%, respectively.

If required, the permittee shall demonstrate compliance with the lbsPM10/hour emission limitation by testing in accordance with Methods 1-4 of 40 CFR, Part 60, Appendix A and Methods 201/201A and 202 of 40 CFR, Part 51, AppendixM.



Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA, Northwest District Office.

If required, the control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) shall be determined in accordance with Methods 1-4 of 40 CFR, Part 60 Appendix A, and the following methods as applicable: Method 5 of 40 CFR, Part 60, Appendix A and Methods 201/201A and 202 of 40 CFR, Part 51 Appendix M. Alternative U.S. EPA - approved test methods may be used with prior approval from the Ohio EPA, Northwest District Office.

b. Emission Limitation:

0.017 ton of PM10 per rolling, 12-month period

Applicable Compliance Method:

The rolling, 12-month period emission limitation was developed by multiplying the maximum annual production restriction of 20,000 tons of metal melted per rolling, 12-month period by the appropriate AP-42 emissions factor of 1.7 lbs PM10/ton iron (Section 12.10 for Gray Iron Foundries), applying collection and control efficiencies of 100% and 99.9%, respectively and dividing by 2000 lbs/ton.

Therefore, provided compliance is shown with the lb/hr emission limitation, the collection and control requirements for this emissions unit and the rolling, 12-month production restriction for F001, F002 and F003, compliance with the rolling, 12-month period emission limitation shall also be demonstrated.

c. Emission Limitation:

Visible PE from the stack serving this emissions unit shall not exceed 5% opacity, as a 6-minute average.

Applicable Compliance Method:

If required, compliance with the above emission limitation shall be determined in accordance with Method 9 of 40 CFR, Part 60, Appendix A.

g) Miscellaneous Requirements

- (1) None.



2. P905, Sand Handling and Processing System

Operations, Property and/or Equipment Description:

Simpson Mulling Machine #2776, Simpson Multi-Mill Muller #2713, Sand Mold Handling (Shakeout) #1, and Sand Handling and Processing System

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

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

a. None.

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

a. b)(1)a., b)(2)a., c)(1), d)(1), d)(2), e)(3), e)(4) and f)(1)a. through f)(1)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)	0.02 grains (gr) particulate matter less than or equal to 10 microns in diameter (PM10) per dry standard cubic foot (dscf) from the stack serving emission units P014, P015 and P905 combined 5.59 tons PM10 per rolling, 12-month period, from this emissions unit 2.63 tons fugitive PM10 per rolling, 12-month period, from this emissions unit Visible particulate emissions (PE) from the stack serving emissions units P014, P015 and P905 shall not exceed 10% opacity, as a 6-minute average. Visible PE of fugitive dust shall not



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		exceed 20% opacity, as a 3-minute average, from this emissions unit . [See b)(2)b.] See b)(2)a. and c)(1)
b.	OAC rule 3745-31-05(A)(3)	See b)(2)c.
c.	OAC rule 3745-17-07(A)	See b)(2)d.
d.	OAC rule 3745-17-07(B)	See b)(2)e.
e.	OAC rule 3745-17-08(B)	See b)(2)f.
f.	OAC rule 3745-17-11(B)	See b)(2)d.

(2) Additional Terms and Conditions

- a. This permit establishes the following federally enforceable emission limitations for the purpose of limiting potential to emit (PTE) to avoid Title V requirements. The federally enforceable emission limitations are based on the operational restrictions contained in c)(1):
 - i. 0.02 grPM10 per dscf from the stack serving emissions units P014, P015 and P905, combined;
 - ii. 5.59 tons PM10 per rolling, 12-month period from this emissions unit ;
 - iii. 2.63 tons fugitive PM10 per rolling, 12-month period from this emissions;
 - iv. Visible PE from the stack serving emissions units P014, P015 and P905 shall not exceed 10% opacity, as a 6-minute average; and
 - v. Visible PE of fugitive dust shall not exceed 20% opacity, as a 3-minute average from this emissions unit .
- b. The visible PE limitation for emissions unit P905 shall apply to the following:
 - i. the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit; and
 - ii. visible PE due solely to the operation of this emissions unit.
- c. The Best Available Technology (BAT) requirements for this emissions unit have been determined to be compliance with OAC rule 3745-31-05(D).
- d. The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(D).
- e. This emissions unit is exempt from the visible particulate emission limitations for fugitive dust, specified in OAC rule 3745-17-07(B), pursuant to OAC rule 3745-



17-07(B)(11)(e), because the emissions units are not located within areas identified in "Appendix A" of OAC rule 3745-17-08.

- f. This emissions unit is not located within areas identified in "Appendix A" of OAC rule 3745-17-08, therefore, the requirements of OAC rule 3745-17-08(B), which requires the installation of reasonably available control measures to prevent fugitive dust, do not apply to these emission units pursuant to OAC rule 3745-17-08(A)(1).

c) **Operational Restrictions**

- (1) The following operational restrictions have been included in this permit for the purpose of establishing federally enforceable requirements which limit PTE [See b)(2)a.]:
 - a. Emissions unit P014, P015 and P905 shall be vented to a dust collector capable of achieving 0.02 gr PM10/dscf.
 - b. The maximum annual production rate for emissions units F001, F002 and F003 shall not exceed 20,000 tons of metal melted based upon a rolling, 12-month summation of the production rates.

Note: The production restriction above is for the three furnaces (F001, F002 and F003) at the facility. These furnaces represent a bottleneck at the facility, therefore, all emission units at the facility cannot process more metal than the furnaces can melt. As such, emission limitations for all of the emission units at the facility will be based on this restriction. All monitoring, recordkeeping and reporting requirements for the production restriction can be found in the terms and conditions of emissions units F001, F002 and F003.

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

- (1) The permittee shall perform weekly checks, when this emissions unit is in operation and when the weather conditions allow, for any visible fugitive particulate emissions from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit. The presence or absence of any visible fugitive 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 location and 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 emission incident; and
 - e. any corrective actions taken to minimize or eliminate the visible emissions.

If visible emissions are present, a visible emission incident has occurred. The observer does not have to document the exact start and end times for the visible emission

incident under item d)(1)d. above or continue the weekly check until the incident has ended. The observer may indicate that the visible emission 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.

- (2) 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 a weekly basis. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The pressure drop across the baghouse shall be maintained within the range of 1-6 inches of water while the emissions unit is in operation.

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 an administrative modification.

e) Reporting Requirements

- (1) 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 District Office or 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 required application, notification or report is considered to be "submitted" on the date the submission is successful using a valid electronic signature. Signature by the signatory authority may be represented as provided through procedures established in Air Services.
- (2) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be submitted by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve months for each air contaminant source identified in this permit.
- (3) The permittee shall identify the following information in the annual PER in accordance with the monitoring requirements for visible emissions in term number d)(1) above:
 - a. all days during which any visible fugitive particulate emissions were observed; and
 - b. any corrective actions taken to minimize or eliminate the visible fugitive particulate emissions.

The above information shall be provided as an attachment to the PER. If there are no day(s) and/or corrective action(s) to identify as required above, the permittee shall indicate within the "Additional Information and Corrections" section of the PER that no visible emissions were observed and no corrective actions were taken.

- (4) The permittee shall also identify in the annual PER the following information concerning the operations of the baghouse during the 12-month reporting period for these emissions units:
- a. each period of time (start time and date, and end time and date) when the pressure drop across the baghouse was outside of the acceptable range;
 - b. any period of time (start time and date, and end time and date) when the emissions unit(s) was/were in operation and the process emissions were not vented to the baghouse;
 - c. each incident of deviation described in e)(3)a. (above) where a prompt investigation was not conducted;
 - d. each incident of deviation described in e)(3)a. where 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
 - e. each incident of deviation described in e)(3)a. where proper records were not maintained for the investigation and/or the corrective action(s), as identified in the monitoring and record keeping requirements of this permit.

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:

0.02 grPM10 per dscf from the stack serving emission units P014, P015 and P905, combined.

Applicable Compliance Method:

The gr/dscf emission limitation was established in accordance with the manufacturer's guaranteed outlet concentration. The facility performed a stack test on June 25, 2010 that demonstrated compliance with this emission limitation.

If required, the permittee shall demonstrate compliance with the gr/dscf emission limitation in accordance with Methods 1-4 of 40 CFR, Part 60, Appendix A and Methods 201/201A and 202 of 40 CFR, Part 51, Appendix M.



b. Emission Limitation:

5.59 tons PM10 per rolling, 12-month period from this emissions unit

Applicable Compliance Method:

The rolling, 12-month emission limitation was established by combining the emissions from the Simpson Mulling Machine #2776, Simpson Multi-Mill Muller #2713, Sand Mold Shakeout, and Sand Handling processes as follows:

Simpson Mulling Machine #2776 (RACM, Table 2.7-1)
 $(10,000 \text{ tons/yr}) * (1.3 \text{ lb PM10/ton}) (1 \text{ ton}/2000 \text{ lbs}) (1 - 0.894)^{****} =$
0.69 ton PM10/yr

Simpson Multi-Mill Muller #2713 (RACM, Table 2.7-1)
 $(10,000 \text{ ton/yr}) * (1.3 \text{ lb PM10/ton}) (1 \text{ ton}/2000 \text{ lbs}) (1 - 0.894)^{****} =$
0.69 ton PM10/yr

Sand Mold Handling (Shakeout) #1 (AP-42, Table 12.10-7 or 9, 01/95)
 $(20,000 \text{ tons/yr})^{**} (2.24 \text{ lb PM10/ton}) (1 \text{ ton}/2000 \text{ lbs}) (1 - 0.894)^{****} =$
2.38 tons PM10/yr

Sand Handling processes (WebFire 3-04-003-50 or AP-42, Table 12.10-7, 01/95)
 $(64,000 \text{ tons/yr})^{***} (0.54 \text{ lb PM10/ton}) (1 \text{ ton}/2000 \text{ lbs}) (1 - 0.894)^{****} =$
1.83 tons PM10/yr

*Maximum amount of sand processed in this portion of P905 based on a maximum annual production restriction of 20,000 tons of metal melted per rolling, 12-month period for emission units F001, F002 and F003.

**Maximum annual production restriction of 20,000 tons of metal melted per rolling, 12-month period for emission units F001, F002 and F003.

***Maximum amount of sand processed in this portion of P905 based on a maximum annual production restriction of 20,000 tons of metal melted per rolling, 12-month period for emission units F001, F002 and F003.

****Control efficiency of baghouse.

Therefore, provided compliance is shown with the 0.02 gr PM10/dscf emission limitation and the rolling, 12-month production restriction for emissions units F001, F002 and F003, compliance with the rolling, 12-month period emission limitation shall also be demonstrated.



c. Emission Limitation:

2.63 tons fugitive PM10/rolling, 12-month period

Applicable Compliance Method:

The rolling, 12-month period emission limitation was established by combining the emissions from the Simpson Mulling Machine #2776, Simpson Multi-Mill Muller #2713, Sand Mold Shakeout, and Sand Handling processes as follows:

Simpson Mulling Machine #2776 and Simpson Multi-Mill Muller #2713 – Fugitive PM10 emissions from these processes were determined by multiplying an emission factor of 1.3 lbs PM10/ton [RACM for Fugitive Dust Sources, Table 2.7-1, 09/80] by a maximum sand throughput of 10,000 tons/yr* [See f)(1)b.] for each of the Simpson Mulling #2776 and Simpson Multi-Mill Muller #2713 machines, applying a baghouse capture efficiency of 95% (1-0.95), and dividing by 2000 lbs/ton.(0.65 ton/yr)

Sand Mold Shakeout – Fugitive PM10 emissions from this process were determined by multiplying an emissions factor of 2.24 lbs PM10/ton [AP-42, Table 12.10-9, 01/95] by a maximum iron throughput of 20,000tons/yr** [See f)(1)b.], applying a baghouse capture efficiency of 95% (1-0.95), and dividing by 2000 lbs/ton.(1.12 tons/yr)

Sand Handling – Fugitive PM10 emissions from this process were determined by multiplying an emissions factor of 0.54 lb PM10/ton [WebFIRE 3-04-003-50] by a maximum sand throughput of 64,000tons/yr*** [See f)(1)b.], applying a baghouse capture efficiency of 95% (1-0.95), and dividing by 2000 lbs/ton. (0.86)

Therefore, provided compliance is shown with the 0.02 gr PM10/dscf emission limitation and the rolling, 12-month production restriction for emission units F001, F002 and F003 above, compliance with the rolling, 12-month emission limitation shall also be demonstrated.

d. Emission Limitation:

Visible PE from the stack serving emissions units P014, P015 and P905 shall not exceed 10% opacity, as a 6-minute average.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance in accordance with Method 9 of 40 CFR, Part 60, Appendix A.

e. Emission Limitation:

Visible PE of fugitive dust shall not exceed 20% opacity, as a 3-minute average from this emissions unit.

Applicable Compliance Method:



If required, the permittee shall demonstrate compliance in accordance with Method 9 of 40 CFR, Part 60, Appendix A.

- g) Miscellaneous Requirements
 - (1) None.

3. Emissions Unit Group -Mold Making Lines #1-3: F015, F016, F018

EU ID	Operations, Property and/or Equipment Description
F015	Mold Making Line 2, Hunter 10-1 Line Mold Making
F016	Mold Making Line 3, Hunter 10-2 Line Mold Making
F018	Mold Making Line 1, Osborn Line Mold Making

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

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

a. None.

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

a. b)(1)a., b)(2)a., c)(1), d)(1), e)(3) and f)(1)a. and f)(1)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)	0.40 ton fugitive particulate matter less than 10 microns in diameter (PM10) per rolling, 12-month period from emissions units F015, F016 and F018 combined Visible particulate emissions (PE) of fugitive dust shall not exceed 20% opacity, as a three-minute average. See b)(2)a. and c)(1)
b.	OAC rule 3745-31-05(A)(3)	See b)(2)b.
c.	OAC rule 3745-17-07(B)	See b)(2)c.
d.	OAC rule 3745-17-08(B)	See b)(2)d.

(2) Additional Terms and Conditions

- a. This permit establishes the following federally enforceable emission limitations for the purpose of limiting potential to emit (PTE) to avoid Title V requirements. The federally enforceable emission limitations are based on the operational restrictions contained in c)(1):
 - i. 0.40 ton of fugitive PM10 per rolling, 12-month period from emission units F015, F016 and F018 combined; and
 - ii. Visible PE of fugitive dust shall not exceed 20% opacity, as a 3-minute average.
- b. The Best Available Technology (BAT) requirements for emissions units F015, F016, and F018 have been determined to be compliance with the annual PM10 emission limitation as established under OAC rule 3745-31-05(D).
- c. These emissions units are exempt from the visible particulate emission limitations for fugitive dust, specified in OAC rule 3745-17-07(B), pursuant to OAC rule 3745-17-07(B)(11)(e), because the emissions units are not located within areas identified in "Appendix A" of OAC rule 3745-17-08.
- d. These emissions units are not located within areas identified in "Appendix A" of OAC rule 3745-17-08, therefore, the requirements of OAC rule 3745-17-08(B), which requires the installation of reasonably available control measures to prevent fugitive dust, do not apply to these emission units pursuant to OAC rule 3745-17-08(A)(1).

c) Operational Restrictions

- (1) The following operational restrictions have been included in this permit for the purpose of establishing federally enforceable requirements which limit PTE [See b)(2)a.):
 - a. The maximum annual production rate for emissions units F001, F002 and F003 shall not exceed 20,000 tons of metal melted based upon a rolling, 12-month summation of the production rates.

Note: The production restriction above is for the three furnaces (F001, F002 and F003) at the facility. These furnaces represent a bottleneck at the facility, therefore, all emission units at the facility cannot process more metal than the furnaces can melt. As such, emission limitations for all of the emission units at the facility will be based on this restriction. All monitoring, recordkeeping and reporting requirements for the production restriction can be found in the terms and conditions of emission units F001, F002 and F003.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall perform weekly checks, when these emissions units are in operation and when the weather conditions allow, for any visible fugitive particulate emissions from

the egress points (i.e., building windows, doors, roof monitors, etc.) serving emissions units F015, F016, and F018. The presence or absence of any visible fugitive 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 location and 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 emission incident; and
- e. any corrective actions taken to minimize or eliminate the visible emissions.

If visible emissions are present, a visible emission incident has occurred. The observer does not have to document the exact start and end times for the visible emission incident under item d)(1)d. above or continue the weekly check until the incident has ended. The observer may indicate that the visible emission 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.

e) Reporting Requirements

- (1) 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 District Office or 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 required application, notification or report is considered to be "submitted" on the date the submission is successful using a valid electronic signature. Signature by the signatory authority may be represented as provided through procedures established in Air Services.
- (2) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be submitted by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve months for each air contaminant source identified in this permit.

- (3) The permittee shall also identify the following information in the annual PER in accordance with the monitoring requirements for visible emissions in term number d)(1) above:
- a. all days during which any visible fugitive particulate emissions were observed; and
 - b. any corrective actions taken to minimize or eliminate the visible fugitive particulate emissions.

The above information shall be provided as an attachment to the PER. If there are no day(s) and/or corrective action(s) to identify as required above, the permittee shall indicate within the "Additional Information and Corrections" section of the PER that no visible emissions were observed and no corrective actions were taken.

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:

0.40 ton fugitive PM10 per rolling, 12-month period from emissions units F015, F016, and F018 combined.

Applicable Compliance Method:

The rolling, 12-month emission limitation was determined by multiplying an emission factor of 0.04 lb PM10/ton [RACM for Fugitive Dust Sources, Table 2.7-1, 09/80] by the maximum annual production restriction of 20,000 tons of metal melted per rolling, 12-month period, and dividing by 2000 lbs/ton.

Therefore, provided compliance is shown with the rolling, 12-month period production restriction for emission units F001, F002 and F003, compliance with the rolling, 12-month period emission limitation shall also be demonstrated.

b. Emission Limitation:

Visible PE of fugitive dust shall not exceed 20% opacity, as a 3-minute average.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance in accordance with Method 9 of 40 CFR, Part 60, Appendix A.

g) Miscellaneous Requirements

- (1) None.



4. Emissions Unit Group -No-Bake Line w/ETA baghouse: P017, P018, P019, P021

EU ID	Operations, Property and/or Equipment Description
P017	No-Bake Line Sand System, including screens, attrition mill, 4 silos, conveyors and a bucket elevator
P018	No-Bake Line Pouring & Cooling
P019	No-Bake Line Shakeout
P021	No-Bake Line Mold & Core Making, each with a mixer

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

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

a. b)(1)g., d)(2) through d)(5) and e)(4).

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

a. b)(1)a., b)(1)b., b)(2)a., c)(1), d)(1), e)(3) and f)(1)a. through f)(1)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)	71.08 tons volatile organic compounds (VOC) per rolling, 12-month period from emission units F009, F012, P021, P907, P909, P910 and P911, combined 0.043 lbparticulate matter equal to or less than 10 microns in diameter (PM10)/hr from emissions units P017, P018, P019 and P021, combined 0.087 ton PM10 per rolling, 12-month period from emissions units P017, P018, P019 and P021, combined Visible particulate emissions (PE) from



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p>the stack serving these emissions units shall not exceed 5% opacity, as a 6-minute average.</p> <p>See b)(2)a. and c)(1).</p>
b.	ORC rule 3704.03(T)	<p>5.92 tons VOC per month averaged over a rolling, 12-month period, from emission unit P021</p> <p>See b)(2)b.</p>
c.	OAC rule 3745-31-05(A)(3), as effective June 30, 2008	<p>Install a baghouse with a design control efficiency for PM₁₀ of at least 99.9%, by weight.</p> <p>See b)(2)c.</p>
d.	OAC rule 3745-31-05(A)(3)(a)(ii), as effective June 30, 2008	<p>The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the PM10 emissions from emissions units P017, P018, P019 and P021 since the potential to emit is less than 10 tons/year taking into account the federally enforceable restrictions established under OAC rule 3745-31-05(D).</p> <p>See b)(2)d.</p>
e.	OAC rule 3745-17-07(A)	See b)(2)e.
f.	OAC rule 3745-17-11(B)	See b)(2)e.
g.	OAC rule 3745-114-01 ORC 3704.03(F)	See d)(2) through d)(5) and e)(4)

(2) Additional Terms and Conditions

- a. This permit establishes the following federally enforceable emission limitations for the purpose of limiting potential to emit (PTE) to avoid Title V requirements. The federally enforceable emission limitations are based on the operational restrictions contained in c)(1):
 - i. 71.08 tons VOC per rolling, 12-month period, from emission units F009, F012, P021, P907, P909, P910 and P911, combined;
 - ii. 0.043 lb PM10/hr, from emissions units P017, P018 P019 and P021, combined;
 - iii. 0.087 ton PM10 per rolling 12-month period, from emissions units P017, P018 P019 and P021, combined; and



- iv. Visible PE from the stack serving these emissions units shall not exceed 5% opacity, as a 6-minute average.

Emissions units P017, P018, P019 and P021 are located in a building which is under negative pressure; therefore, there are no fugitive emissions. All emissions are considered to be PM10.

- b. The BAT requirement established pursuant to ORC rule 3704.03(T) has been determined to be compliance with the 5.93 tons VOC per month averaged over a rolling, 12-month period established in b)(1)a.
- c. The BAT emission limit applies until U.S. EPA approves Ohio Administrative Code (OAC) paragraph 3745-31-05(A)(3)(a)(ii) (the less than 10 tons per year BAT exemption) into the Ohio State Implementation Plan (SIP).
- d. These requirements apply once U.S. EPA approves OAC paragraph 3745-31-05(A)(3)(a)(ii) (the less than 10 tons per year BAT exemption) as part of the Ohio SIP.
- e. The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(D).

c) Operational Restrictions

- (1) The following operational restrictions have been included in this permit for the purpose of establishing federally enforceable requirements which limit PTE [See b)(2)a.]:

- a. Emissions units P017, P018, P019, and P021 shall be vented to a dust collector capable of achieving a control efficiency of 99.9%, by weight, for captured particulate matter.
- b. Emissions units P017, P018, P019, and P021 shall be maintained in a building which is under negative pressure and provide 100% capture of fugitive emissions.
- c. The maximum annual production rate for emissions units F001, F002 and F003 shall not exceed 20,000 tons of metal melted based upon a rolling, 12-month summation of the production rates.

Note: The production restriction above is for the three furnaces (F001, F002 and F003) at the facility. These furnaces represent a bottleneck at the facility, therefore, all emission units at the facility cannot process more metal than the furnaces can melt. As such, emission limitations for all of the emission units at the facility will be based on this restriction. All monitoring, recordkeeping and reporting requirements for the production restriction can be found in the terms and conditions of emission units F001, F002 and F003.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall perform weekly checks, when these emissions units are 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 eliminate the visible emissions.
- (2) The permit-to-install and operate (PTIO) application for this emissions unit, P021, 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 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 emitted at over one ton per year (or less than one ton per year for toxic air contaminants with low TLVs), using an air dispersion model such as SCREEN3, AERMOD, or ISCST3, or other Ohio EPA approved model. The predicted 1-hour maximum ground-level concentration result 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 then adjusted to account for the duration of the exposure or the operating hours of the emissions unit, i.e., "24" hours per day and "7" 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): 262.1

Maximum Hourly Emission Rate (lbs/hr): 0.588

Predicted 1-hour Maximum Ground-Level Concentration (ug/m³): 3.988

MAGLC (ug/m³): 6,240

The permittee, has demonstrated that emissions of methanol, from emissions unit P021, 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).

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

If the permittee determines that the "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 PTIO 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.

- (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.
- (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.

e) Reporting Requirements

- (1) 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 District Office or 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 required application, notification or report is considered to be "submitted" on the date the submission is successful using a valid electronic signature. Signature by the signatory authority may be represented as provided through procedures established in Air Services.

- (2) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be submitted by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve months for each air contaminant source identified in this permit.
- (3) The permittee shall also identify the following information in the annual permit evaluation report in accordance with the monitoring requirements for visible emissions in term number d)(1) above:
 - a. All days during which any visible particulate emissions were observed from the stack serving this emission unit; and
 - b. Any corrective actions taken to eliminate the visible particulate emissions.

The above information shall be provided as an attachment to the PER. If there are no day(s) and/or corrective action(s) to identify as required above, the permittee shall indicate within the "Additional Information and Corrections" section of the PER that no visible emissions were observed and no corrective actions were taken.

- (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.

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:

71.08 tons VOC per rolling, 12-month period from emission units F009, F012, P021, P907, P909, P910 and P911, combined

Applicable Compliance Method:

The rolling, 12-month emission limitation was developed by multiplying the maximum annual production restriction of 20,000 tons of metal melted per rolling, 12-month period by the appropriate emissions factors. Emissions factors and processing capacities are as follows:

Mold core sand:

Emissions factor	0.06 lb VOC/lb binder
Maximum binder use	70 lbs/ton melt
Potential annual production	20,000 tons metal/year

$(0.06 \text{ lb VOC/lb binder})(70 \text{ lbs binder/ton metal}) (20,000 \text{ tons metal/year}) \times (\text{ton}/2000\text{lbs}) = 42.0 \text{ tons VOC/yr}$

Core additive use:

Emissions factor for Mold Lite 546PM	2.29 lbs material/ton metal
Emissions factor for isopropyl alcohol	2.04 lbs material/ton metal
Potential annual production	20,000 tons metal/year
VOC % (w/w)	37.9% for Mold Lite 546PM, 100% for isopropyl alcohol

$(2.29 \text{ lbs material/ton metal}) (20,000 \text{ tons metal/year})(0.379) (\text{ton}/2000 \text{ lbs}) = 8.68 \text{ tons VOC/yr}$

$(2.04 \text{ lbs material/ton metal}) (20,000 \text{ tons metal/year})(1.0) \times (\text{ton}/2000 \text{ lbs}) = 20.4 \text{ tons VOC/yr}$

Total VOC emissions:

42.00 tons VOC/yr Mold core
 8.68 tons VOC/yr Mold Lite
20.40 tons VOC/yr Isopropyl Alcohol
 71.08 tons VOC/yr

Therefore, provided compliance is shown with the rolling, 12-month production restriction for emission units F001, F002 and F003 above, compliance with the rolling, 12-month period emission limitation shall also be demonstrated.

b. Emission Limitation:

5.92 tons VOC tons per month averaged over a rolling, 12-month period from emission unit P021



Applicable Compliance Method:

The tons per month averaged over a rolling, 12-month period emission limitation was developed by dividing the 71.08 tons VOC per rolling, 12-month period emission limitation [See f)(1)a.] by 12 months/year. Therefore, provided compliance is shown with the rolling, 12-month production restriction for emission units F001, F002 and F003 above, compliance with the rolling, 12-month period emission limitation shall also be demonstrated.

c. Emission Limitation:

0.043 lb PM10/hr from emissions units P017, P018, P019 and P021, combined

Applicable Compliance Method:

The lb/hr emission limitation was established by multiplying a maximum hourly processing capacity for each process, by the appropriate AP-42 emissions factors (Section 12.10 for Gray Iron Foundries), and applying collection and control efficiencies of 100% and 99.9%, respectively.

Emission factors and processing capacities are as follows:

- i. P021 - Mold & core mixing – 1.3 lbs PM10/ton Fe, 3.4 tons Fe/hr;
- ii. P021 - Mold & core making – 0.04 lb PM10/ton Fe, 5.4 tons Fe/hr;
- iii. P021 – Mill & Classifier - 1.3 lbs PM10/ton Fe, 3.4 tons Fe/hr;
- iv. P017 - Sand handling & processing – 0.54 lb PM10/ton sand, 18.2 tons sand/hr;
- v. P018 - Pouring & cooling – 2.06 lb PM10/ton Fe, 5.7 ton Fe/hr; and
- vi. P019 - Sand mold handling (shakeout) – 2.24 lb PM10/ton Fe, 5.7 ton Fe/hr.

If required, the permittee shall demonstrate compliance with the control efficiency and the lbs PM10/hour emission limitation by testing in accordance with Methods 1-4 of 40 CFR, Part 60, Appendix A and Methods 201/201A and 202, of 40 CFR Part 51, Appendix M. Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA, Northwest District Office.

If required, the control efficiency (i.e., the percent reduction in mass emissions between the inlet and outlet of the control system) shall be determined in accordance with Methods 1-4 of 40 CFR Part 60, Appendix A, and the following methods as applicable: Method 5 of 40 CFR, Part 60, Appendix A and Methods 201/201A and 202, of 40 CFR, Part 51, Appendix M. Alternative U.S. EPA approved test methods may be used with prior approval from the Ohio EPA, Northwest District Office.



d. Emission Limitation:

0.087 tons PM10 per rolling 12-month period from emission units P017, P018, P019 and P021

Applicable Compliance Method:

The rolling 12-month period emission limitation was developed by multiplying the above emissions factors in f)(1)b. by the maximum annual production restriction of 20,000 tons of metal melted per rolling, 12-month period and the maximum annual usage of 64,000 tons sand/year (based on the maximum annual restriction), applying collection and control efficiencies of 100% and 99.9%, respectively, and dividing by 2000 lbs/ton. Therefore, provided compliance is shown the collection and control requirements for these emissions units and the rolling, 12-month production restriction for emission units F001, F002 and F003, compliance with the annual limitation shall also be demonstrated.

e. Emission Limitation:

Visible PE from the stack serving these emissions units shall not exceed 5% opacity, as a 6-minute average.

Applicable Compliance Method:

If required, compliance with the above emission limitation shall be determined in accordance with Method 9 of 40 CFR, Part 60, Appendix A.

g) Miscellaneous Requirements

(1) None.



5. Emissions Unit Group -Old Casting Line: F009, F012, P907, P909, P910, P911

EU ID	Operations, Property and/or Equipment Description
F009	Core Machine 6: Bench Core Machine (#9016)
F012	Core Machine 9: Small Gas Core Machine (#9028)
P907	Core Machine 1: Large Gas Core Machine (#9007)
P909	Core Machine 3: Redford 26 Core Machine (#0953)
P910	Core Machine 7: Old Redford 22 Core Machine (#8774A)
P911	Core Machine 8: New Redford 22 Core Machine (#8774B)

- a) This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).
- (1) For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
- a. d)(3).
- (2) For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
- a. b)(1)a., b)(2)a., c)(1), d)(1), d)(2), e)(3), e)(4) and f)(1)a. through f)(1)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)	6.07 lbs particulate matter equal to or less than 10 microns in diameter (PM10)/hr from emissions units P907, P909, P910 and P911, combined 11.00 tons PM10 per rolling, 12-month period from emissions units F009, F012, P907, P909, P910 and P911 combined (stack and fugitive emissions, combined) Visible particulate emissions (PE) from the stacks serving emissions units P907, P909, P910 and P911 shall not exceed



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		10 percent opacity, as a 6-minute average. Visible PE of fugitive dust shall not exceed 20% opacity, as a 3-minute average, from emissions units F009, F012, P907, P909, P910 and P911. 71.08 tons volatile organic compounds (VOC) per rolling, 12-month period from emission units F009, F012, P021, P907, P909, P910 and P911 combined See b)(2)a. and c)(1)
b.	OAC rule 3745-31-05(A)(3)	See b)(2)b.
c.	OAC rule 3745-17-07(A) [for emission units P907, P909, P910 and P911]	See b)(2)c.
d.	OAC rule 3745-17-07(B) [for emissions units F009, F012, P907, P909, P910 and P911]	See b)(2)c.
e.	OAC rule 3745-17-08(B) [for emissions units F009, F012, P907, P909, P910 and P911]	See b)(2)d.
f.	OAC rule 3745-17-11(B) [for emission units P907, P909, P910 and P911]	See b)(2)e.

(2) Additional Terms and Conditions

- a. This permit establishes the following federally enforceable emission limitations for the purpose of limiting potential to emit (PTE) to avoid Title V requirements. The federally enforceable emission limitations are based on the operational restrictions contained in c)(1):
 - i. 6.07 lbs PM10/hr from emissions units P907, P909, P910 and P911 combined;
 - ii. 11.00 tons PM10 per rolling, 12-month period from emissions units F009, F012, P907, P909, P910 and P911 combined (stack and fugitive emissions combined);
 - iii. Visible PE from the stacks serving emissions units P907, P909, P910 and P911 shall not exceed 10 percent opacity, as a 6-minute average;



- iv. Visible PE of fugitive dust shall not exceed 20% opacity, as a 3-minute average from emissions units F009, F012, P907, P909, P910 and P911; and
 - v. 71.08 tons VOC per rolling, 12-month period from emission units F009, F012, P021, P907, P909, P910 and P911 combined.
 - b. The Best Available Technology (BAT) requirements for emissions units F009, F012, P907, P909, P910 and P911 have been determined to be compliance with OAC rule 3745-31-05(D).
 - c. The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(D).
 - d. These emissions units are exempt from the visible particulate emission limitations for fugitive dust, specified in OAC rule 3745-17-07(B), pursuant to OAC rule 3745-17-07(B)(11)(e), because the emissions units are not located within areas identified in "Appendix A" of OAC rule 3745-17-08.
 - e. These emission units are not located within areas identified in "Appendix A" of OAC rule 3745-17-08, therefore, the requirements of OAC rule 3745-17-08(B), which requires the installation of reasonably available control measures to prevent fugitive dust, do not apply to these emission units pursuant to OAC rule 3745-17-08(A)(1).
- c) Operational Restrictions
- (1) The following operational restrictions have been included in this permit for the purpose of establishing federally enforceable requirements which limit PTE [See b)(2)a.]:
 - a. The maximum annual production rate for emissions units F001, F002 and F003 shall not exceed 20,000 tons of metal melted based upon a rolling, 12-month summation of the production rates.

Note: The production restriction above is for the three furnaces (F001, F002 and F003) at the facility. These furnaces represent a bottleneck at the facility, therefore, all emission units at the facility cannot process more metal than the furnaces can melt. As such, emission limitations for all of the emission units at the facility will be based on this restriction. All monitoring, recordkeeping and reporting requirements for the production restriction can be found in the terms and conditions of emission units F001, F002 and F003.
- d) Monitoring and/or Recordkeeping Requirements
- (1) The permittee shall perform weekly checks, when the emissions units are operation and when the weather conditions allow, for any visible particulate emissions from the stacks serving emissions units P907, P909, P910 and P911. 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 eliminate the visible emissions.
- (2) The permittee shall perform weekly checks, when this emissions unit is in operation and when the weather conditions allow, for any visible fugitive particulate emissions from the egress points (i.e., building windows, doors, roof monitors, etc.) serving emissions units F009, F012, P907, P909, P910 and P911. The presence or absence of any visible fugitive 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 location and 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 emission incident; and
 - e. any corrective actions taken to minimize or eliminate the visible emissions.

If visible emissions are present, a visible emission incident has occurred. The observer does not have to document the exact start and end times for the visible emission incident under item d)(1)d. above or continue the weekly check until the incident has ended. The observer may indicate that the visible emission 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.

- (3) Modeling to demonstrate compliance with, the "Toxic Air Contaminant Statute", ORC 3704.03(F)(4)(b), was not necessary because the maximum annual emissions for each toxic air contaminant, as defined in OAC rule 3745-114-01, from emissions unit P911 will be less than 1.0 ton per year. OAC Chapter 3745-31 requires permittees to apply for and obtain a new or modified permit to install prior to making a "modification" as defined by OAC rule 3745-31-01. The permittee is hereby advised that changes in the composition of the materials or use of new materials that would cause the emissions of any 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.

e) Reporting Requirements

- (1) 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 District Office or 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 required application, notification or report is considered to be "submitted" on the date the submission is successful using a valid electronic signature. Signature by the signatory authority may be represented as provided through procedures established in Air Services.
- (2) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be submitted by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve months for each air contaminant source identified in this permit.
- (3) The permittee shall identify the following information in the annual permit evaluation report in accordance with the monitoring requirements for visible emissions in term number d)(1) above:
 - a. All days during which any visible particulate emissions were observed from the stack serving emission units P907, P909, P910 and P911; and
 - b. Any corrective actions taken to eliminate the visible particulate emissions.

The above information shall be provided as an attachment to the PER. If there are no day(s) and/or corrective action(s) to identify as required above, the permittee shall indicate within the "Additional Information and Corrections" section of the PER that no visible emissions were observed and no corrective actions were taken.
- (4) The permittee shall identify the following information in the annual PER in accordance with the monitoring requirements for visible emissions in term number d)(2) above:
 - a. all days during which any visible fugitive particulate emissions were observed from the egress points serving emission units F009, F012, P907, P909, P910 and P911; and
 - b. any corrective actions taken to minimize or eliminate the visible fugitive particulate emissions.



The above information shall be provided as an attachment to the PER. If there are no day(s) and/or corrective action(s) to identify as required above, the permittee shall indicate within the "Additional Information and Corrections" section of the PER that no visible emissions were observed and no corrective actions were taken.

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:

6.07 lbs PM10/hr from emissions units P907, P909, P910 and P911, combined

Applicable Compliance Method:

The lb/hr emission limitation was established by multiplying the maximum hourly processing capacity from each emissions unit by the appropriate AP-42 emissions factor of 1.1 lbs PM10/ton iron (Section 12.10 for Gray Iron Foundries, Table 12.10-7 and 9) and combining the emissions as follows:

P907: (0.95 tons Fe/hr) (1.1 lbs PM10/ton Fe) = 1.05 lb PM10/hr

P909: (1.77 tons Fe/hr) (1.1 lbs PM10/ton Fe) = 1.94 lb PM10/hr

P910: (1.40 tons Fe/hr) (1.1 lbs PM10/ton Fe) = 1.54 lb PM10/hr

P911: (1.40 tons Fe/hr) (1.1 lbs PM10/ton Fe) = 1.54 lb PM10/hr
6.07 lb PM10/hr

If required, the permittee shall demonstrate compliance with the lb/hr emission limitation in accordance with Methods 1-4 of 40 CFR, Part 60, Appendix A and Methods 201/201A and 202 of 40 CFR, Part 51, Appendix M.

b. Emission Limitation:

11.00 tons PM10 per rolling, 12-month period, from emissions units F009, F012, P907, P909, P910 and P911, combined.

Applicable Compliance Method:

The rolling, 12-month period emission limitation was established by multiplying the maximum annual production restriction of 20,000 tons of metal melted per rolling, 12-month period by the appropriate AP-42 emissions factor of 1.1 lbs PM10/ton iron (Section 12.10 for Gray Iron Foundries, Table 12.10-7 and 9).



Therefore, provided compliance is shown with the 0.02 gr PM10/dscf emission limitation and the rolling, 12-month production restriction for emission units F001, F002 and F003 above, compliance with the rolling, 12-month emission limitation shall also be demonstrated.

c. Emission Limitation:

Visible PE from the stacks serving emissions units P907, P909, P910 and P911 shall not exceed 10% opacity, as a 6-minute average.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance in accordance with Method 9 of 40 CFR, Part 60, Appendix A.

d. Emission Limitation:

Visible PE of fugitive dust shall not exceed 20% opacity as a 3-minute average from emissions units F009, F012, P907, P909, P910 and P911.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance in accordance with Method 9 of 40 CFR, Part 60, Appendix A.

e. Emission Limitation:

71.08 tons VOC per rolling, 12-month period from emissions units F009, F012, P021, P907, P909, P910 and P911 combined

Applicable Compliance Method:

The rolling, 12-month emission limitation was developed by multiplying the maximum annual production restriction of 20,000 tons of metal melted per rolling, 12-month period by the appropriate emissions factors. Emissions factors and processing capacities are as follows:

Mold core sand:

Emissions factor	0.06 lb VOC/lb binder
Maximum binder use	70 lbs/ton melt
Potential annual production	20,000 tons metal/year

$$(0.06 \text{ lb VOC/lb binder})(70 \text{ lbs binder/ton metal}) (20,000 \text{ tons metal/year}) \times (\text{ton}/2000\text{lbs}) = 42.0 \text{ tons VOC/yr}$$

Core additive use:

Emissions factor for Mold Lite 546PM	2.29 lbs material/ton metal
Emissions factor for isopropyl alcohol	2.04 lbs material/ton metal
Potential annual production	20,000 tons metal/year
VOC % (w/w)	37.9% for Mold Lite 546PM,



100% for isopropyl alcohol

$(2.29 \text{ lbs material/ton metal}) (20,000 \text{ tons metal/year})(0.379) (\text{ton}/2000 \text{ lbs})$
= 8.68 tons VOC/yr

$(2.04 \text{ lbs material/ton metal}) (20,000 \text{ tons metal/year})(1.0) \times (\text{ton}/2000 \text{ lbs})$
= 20.4 tons VOC/yr

Total VOC emissions:

42.00 tons VOC/yr	Mold core
8.68 tons VOC/yr	Mold Lite
<u>20.40 tons VOC/yr</u>	Isopropyl Alcohol
71.08 tons VOC/yr	

Therefore, provided compliance is shown with the rolling, 12-month production restriction for emission units F001, F002 and F003 above, compliance with the rolling, 12-month period emission limitation shall also be demonstrated.

g) Miscellaneous Requirements

(1) None.

6. Emissions Unit Group -Pouring and Cooling Lines #1-3: F019, F020, F021

EU ID	Operations, Property and/or Equipment Description
F019	Osborn Pouring and Cooling Line 1.
F020	Hunter 10-1 Pouring and Cooling Line 2.
F021	Hunter 10-2 Pouring and Cooling Line 3.

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

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

a. None.

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

a. b)(1)a., b)(2)a., c)(1), d)(1), e)(3), f)(1)a. and f)(1)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)	20.60 tons fugitive particulate matter less than 10 microns in diameter (PM10) per rolling, 12-month period from emissions units F019, F020 and F021, combined Visible particulate emissions (PE) of fugitive dust shall not exceed 20% opacity, as a 3-minute average from emission units F019, F020 and F021. See b)(2)a. and c)(1)
b.	OAC rule 3745-31-05(A)(3)	See b)(2)b.
c.	OAC rule 3745-17-07(B)	See b)(2)c.
d.	OAC rule 3745-17-08(B)	See b)(2)d.

(2) Additional Terms and Conditions

- a. This permit establishes the following federally enforceable emission limitations for the purpose of limiting potential to emit (PTE) to avoid Title V requirements. The federally enforceable emission limitations are based on the operational restrictions contained in c)(1):
 - i. 20.60 tons fugitive PM10 per rolling, 12-month period from emission units F019, F020 and F021 combined; and
 - ii. Visible PE of fugitive dust shall not exceed 20% opacity, as a 3-minute average from emissions units F019, F020 and F021.
- b. The Best Available Technology (BAT) requirements for emissions units F019, F020 and F021 have been determined to be compliance with OAC rule 3745-31-05(D).
- c. These emissions units are exempt from the visible particulate emission limitations for fugitive dust, specified in OAC rule 3745-17-07(B), pursuant to OAC rule 3745-17-07(B)(11)(e), because the emissions units are not located within areas identified in "Appendix A" of OAC rule 3745-17-08.
- d. These emission units are not located within areas identified in "Appendix A" of OAC rule 3745-17-08, therefore, the requirements of OAC rule 3745-17-08(B), which requires the installation of reasonably available control measures to prevent fugitive dust, do not apply to these emission units pursuant to OAC rule 3745-17-08(A)(1).

c) Operational Restrictions

- (1) The following operational restrictions have been included in this permit for the purpose of establishing federally enforceable requirements which limit PTE [See b)(2)a.]:

- a. The maximum annual production rate for emission units F001, F002 and F003 shall not exceed 20,000 tons of metal melted based upon a rolling, 12-month summation of the production rates.

Note: The production restriction above is for the three furnaces (F001, F002 and F003) at the facility. These furnaces represent a bottleneck at the facility, therefore, all emission units at the facility cannot process more metal than the furnaces can melt. As such, emission limitations for all of the emission units at the facility will be based on this restriction. All monitoring, recordkeeping and reporting requirements for the production restriction can be found in the terms and conditions of emission units F001, F002 and F003.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall perform weekly checks, when this emissions unit is in operation and when the weather conditions allow, for any visible fugitive particulate emissions from the egress points (i.e., building windows, doors, roof monitors, etc.) serving emissions units F019, F020 and F021. The presence or absence of any visible fugitive 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 location and 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 emission incident; and
- e. any corrective actions taken to minimize or eliminate the visible emissions.

If visible emissions are present, a visible emission incident has occurred. The observer does not have to document the exact start and end times for the visible emission incident under item d)(1)d. above or continue the weekly check until the incident has ended. The observer may indicate that the visible emission 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.

e) Reporting Requirements

- (1) 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 District Office or 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 required application, notification or report is considered to be "submitted" on the date the submission is successful using a valid electronic signature. Signature by the signatory authority may be represented as provided through procedures established in Air Services.
- (2) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be submitted by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve months for each air contaminant source identified in this permit.
- (3) The permittee shall identify the following information in the annual PER in accordance with the monitoring requirements for visible emissions in term number d)(1) above:



- a. all days during which any visible fugitive particulate emissions were observed from the egress points serving emission units F019, F020 and F021; and
- b. any corrective actions taken to minimize or eliminate the visible fugitive particulate emissions.

The above information shall be provided as an attachment to the PER. If there are no day(s) and/or corrective action(s) to identify as required above, the permittee shall indicate within the "Additional Information and Corrections" section of the PER that no visible emissions were observed and no corrective actions were taken.

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:

20.60 tons fugitive PM10 per rolling, 12-month period for emissions units F019, F020 and F021, combined.

Applicable Compliance Method:

The rolling, 12-month period emission limitation was developed by multiplying the maximum annual production restriction of 20,000 tons of metal melted per rolling, 12-month period by the appropriate AP-42 emissions factor of 2.06lbs PM10/ton iron (Section 12.10 for Gray Iron Foundries) and dividing by 2000 lbs/ton.

Therefore, provided compliance is shown with the rolling, 12-month production restrictions for F001, F002 and F003, compliance with the rolling, 12-month period emission limitation shall also be demonstrated.

- b. Emission Limitation:

Visible PE of fugitive dust shall not exceed 20% opacity as a 3-minute average from emissions units F019, F020 and F021.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance in accordance with Method 9 of 40 CFR, Part 60, Appendix A.

g) Miscellaneous Requirements

- (1) None.

7. Emissions Unit Group -Three Induction Furnaces: F001, F002, F003

EU ID	Operations, Property and/or Equipment Description
F001	Electric Induction Furnace 1.
F002	Electric Induction Furnace 2.
F003	Electric Induction Furnace 3.

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

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

a. None.

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

a. b)(1)a., b)(2)a., c)(1), d)(1), d)(2), e)(1), e)(4), f)(1)a. and f)(1)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)	23.40 tons fugitive particulate matter less than 10 microns in diameter (PM10) per rolling, 12-month period from emissions units F001, F002 and F003, combined Visible particulate emissions (PE) of fugitive dust shall not exceed 20% opacity, as a 3-minute average from emissions units F001, F002 and F003. See b)(2)a., and c)(1)
b.	OAC rule 3745-31-05(A)(3)	See b)(2)b.
c.	OAC rule 3745-17-07(B)	See b)(2)c.
d.	OAC rule 3745-17-08(B)	See b)(2)d.

(2) Additional Terms and Conditions

- a. This permit establishes the following federally enforceable emission limitations for the purpose of limiting potential to emit (PTE) to avoid Title V requirements. The federally enforceable emission limitations are based on the operational restrictions contained in c)(1):
 - i. 23.40 tons fugitive PM10 per rolling, 12-month period from emissions units F001, F002 and F003 combined; and
 - ii. Visible (PE) of fugitive dust shall not exceed 20% opacity, as a 3-minute average from emissions units F001, F002 and F003.
- b. The Best Available Technology (BAT) requirements for emissions units F001, F002 and F003 have been determined to be compliance with OAC rule 3745-31-05(D).
- c. These emission units are exempt from the visible particulate emission limitations for fugitive dust, specified in OAC rule 3745-17-07(B), pursuant to OAC rule 3745-17-07(B)(11)(e), because the emissions units are not located within areas identified in "Appendix A" of OAC rule 3745-17-08.
- d. These emission units are not located within areas identified in "Appendix A" of OAC rule 3745-17-08, therefore, the requirements of OAC rule 3745-17-08(B), which requires the installation of reasonably available control measures to prevent fugitive dust, do not apply to these emission units pursuant to OAC rule 3745-17-08(A)(1).
- e. Pentair Casting Center, Division of Pentair Pump Group currently controls lead emissions by purchasing scrap with a total lead concentration of less than 0.001%. Therefore, for conservative purposes, the potential to emit of lead emissions is calculated by multiplying the maximum annual production restriction of 20,000 tons of metal melted per rolling, 12-month period for emission units F001, F002 and F003 by the lead concentration of 0.001% in all purchased scrap (0.20 ton/yr).

c) Operational Restrictions

- (1) The following operational restrictions have been included in this permit for the purpose of establishing federally enforceable requirements which limit PTE [See b)(2)a.]:

The maximum annual production rate for emissions units F001, F002 and F003 shall not exceed 20,000 tons of metal melted, based upon a rolling, 12-month summation of the production rates.

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 production levels specified in the following table:



<u>Month</u>	<u>Maximum Allowable Cumulative Production</u>
1	1,667 tons metal melted
1-2	3,333 tons metal melted
1-3	5,000 tons metal melted
1-4	6,666 tons metal melted
1-5	8,333 tons metal melted
1-6	10,000 tons metal melted
1-7	11,666 tons metal melted
1-8	13,333 tons metal melted
1-9	15,000 tons metal melted
1-10	16,666 tons metal melted
1-11	18,333 tons metal melted
1-12	20,000 tons metal melted

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

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

- (1) The permittee shall maintain monthly records of the following information:
 - a. the production rate for each month; and
 - 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 production rates.

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 production rate for each calendar month.

- (2) The permittee shall perform weekly checks, when this emissions unit is in operation and when the weather conditions allow, for any visible fugitive particulate emissions from the egress points (i.e., building windows, doors, roof monitors, etc.) serving emissions units F001, F002, and F003. The presence or absence of any visible fugitive 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 location and 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 emission incident; and
- e. any corrective actions taken to minimize or eliminate the visible emissions.

If visible emissions are present, a visible emission incident has occurred. The observer does not have to document the exact start and end times for the visible emission incident under item d)(2)d. above or continue the weekly check until the incident has ended. The observer may indicate that the visible emission 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.

e) Reporting Requirements

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

- a. all deviations (excursions) of the following emission limitations, operational restrictions and/or control device operating parameter limitations that restrict the potential to emit (PTE) of any regulated air pollutant and have been detected by the monitoring, record keeping and/or testing requirements in this permit:
 - i. all exceedances of the rolling, 12-month production rate limitation; 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 production rate levels;
- b. the probable cause of each deviation (excursion);
- c. any corrective actions that were taken to remedy the deviations (excursions) or prevent future deviations (excursions); and
- d. the magnitude and duration of each deviation (excursion).

If no deviations (excursions) occurred during a calendar quarter, the permittee shall submit a report that states that no deviations (excursions) occurred during the quarter.

The quarterly reports shall be submitted each year by January 31 (covering October to December), April 30 (covering January to March), July 31 (covering April to June), and October 31 (covering July to September), unless an alternative schedule has been established and approved by the Director (the appropriate District Office or local air agency).

- (2) 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 District Office or 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 required application, notification or report is considered to be "submitted" on the date the submission is successful using a valid electronic signature. Signature by the signatory authority may be represented as provided through procedures established in Air Services.
- (3) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be submitted by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve months for each air contaminant source identified in this permit.
- (4) The permittee shall identify the following information in the annual PER in accordance with the monitoring requirements for visible emissions in term number d)(2) above:
 - a. all days during which any visible fugitive particulate emissions were observed; and
 - b. any corrective actions taken to minimize or eliminate the visible fugitive particulate emissions.

The above information shall be provided as an attachment to the PER. If there are no day(s) and/or corrective action(s) to identify as required above, the permittee shall indicate within the "Additional Information and Corrections" section of the PER that no visible emissions were observed and no corrective actions were taken.

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:
23.40 tons fugitive PM10 per rolling, 12-month period from emissions units F001, F002, and F003, combined



Applicable Compliance Method:

The rolling, 12-month period emission limitation was determined by multiplying the appropriate emission factors by the maximum annual production restriction of 20,000 tons of metal melted per rolling, 12-month period for melting and inoculation and 16,000 tons ductile iron/yr for magnesium treatment and dividing by 2000 lbs/ton and combining the emissions as follows:

Charging/Melting/Tapping [AP-42, Table 12.10-3 and 9, 01/95]
(20,000 tons/yr) (0.81 lb PM10/ton) (ton/2000lbs) = 8.10 tons PM10/yr

Magnesium Treatment [AP-42, Table 12.10-7, 01/95]
(16,000 tons/yr)(1.80 lbs PM10/ton ductile) (ton/2000lbs) = 14.4 tons PM10/yr

Inoculation [company supplied information]
(20,000 tons/yr) (0.09 lb PM10/ton) (ton/2000lbs) = 0.90 ton PM10/yr

Total PM10 emissions:
8.10 tons/yr
14.4 tons/yr
0.90 ton/yr
23.40 tons PM10/yr

Therefore, provided compliance is shown with the rolling, 12-month period production restriction for emission units F001, F002 and F003, compliance with the rolling, 12-month period emissions limitation shall also be demonstrated.

b. Emission Limitation:

Visible PE of fugitive dust shall not exceed 20% opacity, as a 3-minute average.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance in accordance with Method 9 of 40 CFR, Part 60, Appendix A.

g) Miscellaneous Requirements

- (1) None.

8. Emissions Unit Group - Wheelabrators: P014, P015

EU ID	Operations, Property and/or Equipment Description
P014	WheelabratorShotblaster 2226
P015	WheelabratorShotblaster 2223

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

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

a. None.

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

a. b)(1)a., b)(2)a., c)(1), d)(1), d)(2), e)(3), e)(4) and f)(1)a., through f)(1)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)	<p>0.02 grains (gr) particulate matter less than or equal to 10 microns in diameter (PM10) per dry standard cubic foot (dscf) from the stack serving emission units P014, P015 and P905 combined.</p> <p>1.81 tons PM10 per rolling, 12-month period from emissions units P014 and P015 combined.</p> <p>Visible particulate emissions (PE) from the stack serving emissions units P014, P015 and P905 shall not exceed 10% opacity, as a 6-minute average.</p> <p>0.85 ton fugitive PM10 per rolling, 12-month period.</p>



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		Visible PE of fugitive dust shall not exceed 20% opacity, as a 3-minute average, from emission units P014 and P015. See b)(2)a. and c)(1).
b.	OAC rule 3745-31-05(A)(3)	See b)(2)b.
c.	OAC rule 3745-17-07(A)	See b)(2)c.
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 3745-17-11(B)	See b)(2)c.

(2) Additional Terms and Conditions

- a. This permit establishes the following federally enforceable emission limitations for the purpose of limiting potential to emit (PTE) to avoid Title V requirements. The federally enforceable emission limitations are based on the operational restrictions contained in c)(1):
 - i. 0.02 gr PM10 per dscf from the stack serving emission units P014, P015 and P905 combined;
 - ii. 1.81 tons PM10 per rolling, 12-month period from emissions units P014 and P015 combined;
 - iii. VisiblePE from the stack serving emissions units P014, P015 and P905 shall not exceed 10% opacity, as a 6-minute average;
 - iv. 0.85 ton fugitive PM10 per rolling, 12-month period; and
 - v. Visible PE of fugitive dust shall not exceed 20% opacity, as a 3-minute average, from emission units P014 and P015
- b. The Best Available Technology (BAT) requirements for emissions unit P014 and P015 have been determined to be compliance with OAC rule 3745-31-05(D).
- c. The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(D).
- d. These emission units are exempt from the visible particulate emission limitations for fugitive dust, specified in OAC rule 3745-17-07(B), pursuant to OAC rule 3745-17-07(B)(11)(e), because the emissions units are not located within areas identified in "Appendix A" of OAC rule 3745-17-08.
- e. These emission units are not located within areas identified in "Appendix A" of OAC rule 3745-17-08, therefore, the requirements of OAC rule 3745-17-08(B), which requires the installation of reasonably available control measures to

prevent fugitive dust, do not apply to these emission units pursuant to OAC rule 3745-17-08(A)(1).

c) **Operational Restrictions**

(1) The following operational restrictions have been included in this permit for the purpose of establishing federally enforceable requirements which limit PTE [See b)(2)a.]:

- a. Emissions unit P014, P015 and P905 shall be vented to a dust collector capable of achieving 0.02 gr PM10/dscf.
- b. The maximum annual production rate for emission units F001, F002 and F003 shall not exceed 20,000 tons of metal melted based upon a rolling, 12-month summation of the production rates.

Note: The production restriction above is for the three furnaces (F001, F002 and F003) at the facility. These furnaces represent a bottleneck at the facility, therefore, all emission units at the facility cannot process more metal than the furnaces can melt. As such, emission limitations for all of the emission units at the facility will be based on this restriction. All monitoring, recordkeeping and reporting requirements for the production restriction can be found in the terms and conditions of emission units F001, F002 and F003.

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

(1) The permittee shall perform weekly checks, when each emissions unit is in operation and when the weather conditions allow, for any visible fugitive particulate emissions from the egress points (i.e., building windows, doors, roof monitors, etc.) serving emissions units P014 and P015, separately. The presence or absence of any visible fugitive 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 location and 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 emission incident; and
- e. any corrective actions taken to minimize or eliminate the visible emissions.

If visible emissions are present, a visible emission incident has occurred. The observer does not have to document the exact start and end times for the visible emission incident under item d)(1)d. above or continue the weekly check until the incident has ended. The observer may indicate that the visible emission 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.

- (2) 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 units are in operation, including periods of startup and shutdown. The permittee shall record the pressure drop across the baghouse on weekly basis. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The pressure drop across the baghouse shall be maintained within the range of 1-6 inches of water while the emissions unit is in operation.

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 an administrative modification.

e) Reporting Requirements

- (1) 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 District Office or 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 required application, notification or report is considered to be "submitted" on the date the submission is successful using a valid electronic signature. Signature by the signatory authority may be represented as provided through procedures established in Air Services.
- (2) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be submitted by the due date identified in the Authorization section of this permit. The permit evaluation report shall cover a reporting period of no more than twelve months for each air contaminant source identified in this permit.
- (3) The permittee shall identify the following information in the annual permit evaluation report in accordance with the monitoring requirements for visible emissions in term number d)(1) above:
 - a. All days during which any visible fugitive particulate emissions were observed; and
 - b. Any corrective actions taken to eliminate the visible fugitive particulate emissions.

The above information shall be provided as an attachment to the PER. If there are no day(s) and/or corrective action(s) to identify as required above, the permittee shall indicate within the "Additional Information and Corrections" section of the PER that no visible emissions were observed and no corrective actions were taken.

- (4) The permittee shall identify in the annual PER the following information concerning the operations of the baghouse during the 12-month reporting period for these emissions units:



- a. each period of time (start time and date, and end time and date) when the pressure drop across the baghouse was outside of the acceptable range;
 - b. any period of time (start time and date, and end time and date) when the emissions unit(s) was/were in operation and the process emissions were not vented to the baghouse;
 - c. each incident of deviation described in e)(3)a. (above) where a prompt investigation was not conducted;
 - d. each incident of deviation described in e)(3)a. where 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
 - e. each incident of deviation described in e)(4)a. where proper records were not maintained for the investigation and/or the corrective action(s), as identified in the monitoring and record keeping requirements of this permit.
- 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:

0.02 gr PM10 per dscf from the stack serving emission units P014, P015 and P905, combined.

Applicable Compliance Method:

The gr/dscf emission limitation was established in accordance with the manufacturer's guaranteed outlet concentration. The facility performed a stack test on June 25, 2010 that demonstrated compliance with this emission limitation.

If required, the permittee shall demonstrate compliance with the gr/dscf emission limitation in accordance with Methods 1-4 of 40 CFR, Part 60, Appendix A and methods 201/201A and 202 of 40 CFR, Part 51, Appendix M.
 - b. Emission Limitation:

1.81 tons PM10 per rolling, 12-month period from emission units P014 and P015.

Applicable Compliance Method:

The rolling, 12-month period emissions limitation was established by multiplying the maximum annual production restriction of 20,000 tons of metal melted per rolling, 12-month period by an emissions factor of 1.70 lbs PM10/ton iron [WebFIRE for SCC 3-04-003-40], applying a capture and control efficiency of 89.4 percent (1-0.894) and dividing by 2000 lbs/ton.



Therefore, provided compliance is shown with the 0.02 gr PM10/dscf emission limitation, the collection and control requirements for these emissions units and the rolling, 12-month production restriction for emission units F001, F002 and F003 above, compliance with the rolling, 12-month period emission limitation shall also be demonstrated.

c. Emission Limitation:

Visible particulate emissions from the stack serving emissions units P014, P015 and P905 shall not exceed 10% opacity, as a 6-minute average.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance in accordance with Method 9 of 40 CFR, Part 60, Appendix A.

d. Emission Limitation:

0.85 ton fugitive PM10 per rolling, 12-month period.

Applicable Compliance Method:

The rolling, 12-month period emissions limitation was established by multiplying the maximum annual production restriction of 20,000 tons/yr for emission units F001, F002 and F003 by an emission factor of 1.7 lbs/ton iron [WebFIRE, SCC 3-04-003-40], applying a baghouse capture efficiency of 95% (1-0.95), and dividing by 2000 lbs/ton.

Therefore, provided compliance is shown with the rolling, 12-month production restriction for emission units F001, F002 and F003 above, compliance with the rolling, 12-month period emission limitation shall also be demonstrated.

e. Emission Limitation:

Visible PE of fugitive dust shall not exceed 20% opacity as a 3-minute average from emissions units P014 and P015.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance in accordance with Method 9 of 40 CFR, Part 60, Appendix A.

g) Miscellaneous Requirements

- (1) None.