

Facility ID: 1677010014 Issuance type: Final State Permit To Operate

This version of facility specific terms and conditions was converted from a database format to an HTML file during an upgrade of the Ohio EPA, Division of Air Pollution Control's permitting software. Every attempt has been made to convert the terms and conditions to look and substantively conform to the permit issued or being drafted in STARS. However, the format of the terms may vary slightly from the original. In addition, although it is not expected, there is a slight possibility that a term and condition may have been inadvertently "left out" of this reproduction during the conversion process. Therefore, if this version is to be used as a starting point in drafting a new version of a permit, it is imperative that the entire set of terms and conditions be reviewed to ensure they substantively mimic the issued permit. The official version of any permit issued final by Ohio EPA is kept in the Agency's Legal section. The Legal section may be contacted at (614) 644-3037.

In addition to the terms and conditions, hyperlinks have been inserted into the document so you may more readily access the section of the document you wish to review.

Finally, the term language under "Part II" and before "A. Applicable Emissions Limitations..." has been added to aid in document conversion, and was not part of the original issued permit.

- [Go to Part II for Emissions Unit F001](#)
- [Go to Part II for Emissions Unit F002](#)
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Facility ID: 1677010014 Emissions Unit ID: F001 Issuance type: Final State Permit To Operate

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Part II - Special Terms and Conditions

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) None.

A. Applicable Emissions Limitations and/or Control Requirements

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
F001 - Electric Induction Furnace No 1.	OAC rule 3745-31-05(A)(3) (PTI 16-01533)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-08 and 3745-31-05(D). 13.1 pounds per hour (lbs/hr) of particulate emissions (PE) 0.23 lb/hr of lead The natural gas combustion emissions from heating the ladle shall not exceed the following: 2.94 lbs/hr and 12.88 tons per year (TPY) of nitrogen oxides (NOx) 2.47 lbs/hr and 10.82 TPY of carbon monoxide (CO) 0.06 lb/hr and 0.26 TPY of PE 0.02 lb/hr and 0.09 TPY of sulfur dioxide (SO2) 0.32 lb/hr and 1.40 TPY of organic compounds (OC) There shall be no visible particulate emissions from any building openings. OAC rule 3745-31-05(D) 5.7 lbs of PE per ton of gray iron produced 0.1 lb of lead per ton of gray iron produced 26.43 TPY of PE for F001 and F002, combined, as a rolling, 12-month summation 0.46 TPY of lead for F001 and F002, combined, as a rolling, 12-month summation OAC rule 3745-17-07(B) The visible emission limitation specified by this rule is

less stringent than the visible emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
See B.2 below

OAC rule 3745-17-08

2. **Additional Terms and Conditions**

- (a) The above hourly emission limits (regulated under OAC rule 3745-31-05) are based on the potential to emit for this emissions unit, as determined from permit application data and AP-42 emission factors. Therefore, no record keeping, reporting, nor emissions calculations are required to demonstrate compliance with these emission limits.

B. **Operational Restrictions**

1. The maximum annual production rate for this facility shall not exceed 9274 tons per year of gray iron, based on a rolling, 12-month summation of the production rates.

To ensure enforceability during the first twelve calendar months of operation after the issuance of permit to install 16-01533, the permittee shall not exceed the production levels specified in the following table:

Month(s)	Maximum Allowable Cumulative Production
1	773 tons
1-2	1546 tons
1-3	2319 tons
1-4	3091 tons
1-5	3864 tons
1-6	4637 tons
1-7	5410 tons
1-8	6183 tons
1-9	6956 tons
1-10	7728 tons
1-11	8501 tons
1-12	9274 tons

After the first 12 calendar months of operation following the issuance of permit to install 16-01533, compliance with the annual production rate limitation shall be based upon a rolling, 12-month summation of the production rates.

2. The only materials melted in the electric induction furnaces (F001 and F002) shall be ferrous materials, including pig iron, steel plate, and "No. 1 machinery cast" bearing no petroleum, paint, or paper residue.

C. **Monitoring and/or Record Keeping Requirements**

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

- a. the production rate for each month
b. beginning after the first 12 calendar months of operation following the issuance of permit to install 16-01533, the rolling 12-month summation of the production rates.

Also, during the first 12 calendar months of operation following the issuance of permit to install 16-01533, the permittee shall record the cumulative production rate for each calendar month.

2. When each shipment of ferrous material is received, the permittee shall record the following:

- a. the type of ferrous material received; and
b. whether the ferrous material bears any petroleum, paint, or paper residue.

3. The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the roof monitors, windows, and/or doors serving this emissions unit. The presence or absence of any visible particulate emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

- a. the color of the emissions;
b. the cause of the emissions;
c. the total duration of any visible emission incident; and
d. any corrective actions taken to eliminate the visible emissions.

D. **Reporting Requirements**

1. The permittee shall submit deviation (excursion) reports which identify all exceedances of the rolling, 12-month production rate limitation and, for the first 12 calendar months of operation following the issuance of permit to install 16-01533, all exceedances of the maximum allowable cumulative production levels. These reports are due by the dates described in Part I - General Terms and Conditions of this permit.
2. The permittee shall submit deviation reports which identify any shipment of ferrous materials that did not meet the requirements of Section B.2 of these terms and conditions. These reports are due by the dates described in Part I - General Terms and Conditions of this permit.
3. The permittee shall submit semiannual written reports which (a) identify all days during which any visible particulate emissions were observed from the roof monitors, windows, and/or doors serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

E. **Testing Requirements**

1. Compliance with the emission limitations in Section A.1. of these terms and conditions shall be determined in accordance with the following method(s):

Emission Limitation:

5.7 lbs of PE per ton of gray iron produced

Applicable Compliance Method:

Compliance with the emission limitation shall be demonstrated through the summation of the following AP-42 particulate emission factors: 0.9 lb of PE per ton of gray iron produced plus 0.6 lb of PE per ton of gray iron produced plus 4.2 lbs of PE per ton of gray iron produced from Tables 12.10-3 and 12.10-7 dated 1/95.

Emission Limitation:

13.1 lbs/hr of PE

Applicable Compliance Method:

Compliance with the allowable hourly emission limitation for particulates shall be determined by multiplying the allowable particulate emission limitation of 5.7 pounds of PE per ton of gray iron produced by the maximum hourly production rate.

Emission Limitation:

26.43 TPY of PE for F001 and F002, combined, as a rolling, 12-month summation

Applicable Compliance Method:

Compliance with the allowable annual rolling 12-month emission limitation for particulates shall be determined by multiplying the allowable particulate emission limitation of 5.7 pounds of PE per ton of gray iron produced by the maximum allowable annual rolling 12-month production rate (9274 tons per year as a rolling, 12-month summation), then divided by 2000.

Emission Limitation:

0.1 lb of lead per ton of gray iron produced

Applicable Compliance Method:

Compliance with the emission limitation shall be demonstrated through the following AP-42 lead emission factor: 0.1 lb of lead per ton of gray iron produced from Table 12.10-5 dated 1/95.

Emission Limitation:

0.23 lb/hr of lead

Applicable Compliance Method:

Compliance with the allowable hourly emission limitation for lead shall be determined by multiplying the allowable lead emission limitation of 0.1 pound of lead per ton of gray iron produced by the maximum hourly production rate.

Emission Limitation:

0.46 TPY of lead for F001 and F002, combined, as a rolling, 12-month summation

Applicable Compliance Method:

Compliance with the allowable annual rolling 12-month emission limitation for lead shall be determined by multiplying the allowable lead emission limitation of 0.1 pound of lead per ton of gray iron produced by the maximum allowable annual rolling 12-month production rate (9274 tons per year as a rolling, 12-month summation), then divided by 2000.

Emission Limitation:

There shall be no visible particulate emissions from any building openings.

Applicable Compliance Method:

Compliance with the requirement for no visible particulate emissions from any building openings shall be determined in accordance with the test method and procedures specified in OAC rule 3745-17-03(B)(4).

Emission Limitation:

2.94 lbs/hr of NO_x

Applicable Compliance Method:

Compliance with the allowable hourly emission limitation for nitrogen oxides from the combustion of natural gas shall be determined by multiplying the AP-42 nitrogen oxides emission factor of 100 pounds of nitrogen oxides emissions per million standard cubic feet of natural gas fired (AP-42 Table 1.4-1, dated 7/98) by the maximum hourly amount of natural gas fired.

Emission Limitation:

12.88 TPY of NO_x

Applicable Compliance Method:

Compliance with the allowable annual emission limitation for nitrogen oxides from the combustion of natural gas shall be determined by multiplying the AP-42 nitrogen oxides emission factor of 100 pounds of nitrogen oxides emissions per million standard cubic feet of natural gas fired (AP-42 Table 1.4-1, dated 7/98) by the maximum annual amount of natural gas fired, then divided by 2000.

Emission Limitation:

2.47 lbs/hr of CO

Applicable Compliance Method:

Compliance with the allowable hourly emission limitation for carbon monoxide from the combustion of natural gas shall be determined by multiplying the AP-42 carbon monoxide emission factor of 84 pounds of carbon monoxide emissions per million standard cubic feet of natural gas fired (AP-42 Table 1.4-1, dated 7/98) by the maximum hourly amount of natural gas fired.

Emission Limitation:

10.82 TPY of CO

Applicable Compliance Method:

Compliance with the allowable annual emission limitation for carbon monoxide from the combustion of natural gas shall be determined by multiplying the AP-42 carbon monoxide emission factor of 84 pounds of carbon monoxide emissions per million standard cubic feet of natural gas fired (AP-42 Table 1.4-1, dated 7/98) by the maximum annual amount of natural gas fired, then divided by 2000.

Emission Limitation:

0.06 lb/hr of PE

Applicable Compliance Method:

Compliance with the allowable hourly emission limitation for particulates from the combustion of natural gas shall be determined by multiplying the AP-42 particulate emission factor of 1.9 pounds of particulate emissions per million standard cubic feet of natural gas fired (AP-42 Table 1.4-2, dated 7/98) by the maximum hourly amount of natural gas fired.

Emission Limitation:

0.26 TPY of PE

Applicable Compliance Method:

Compliance with the allowable annual emission limitation for particulates from the combustion of natural gas shall be determined by multiplying the AP-42 particulate emission factor of 1.9 pounds of particulate emissions per million standard cubic feet of natural gas fired (AP-42 Table 1.4-2, dated 7/98) by the maximum annual amount of natural gas fired, then divided by 2000.

Emission Limitation:

0.02 lb/hr of SO₂

Applicable Compliance Method:

Compliance with the allowable hourly emission limitation for sulfur dioxide from the combustion of natural gas shall be determined by multiplying the AP-42 sulfur dioxide emission factor of 0.6 pound of sulfur dioxide emissions per million standard cubic feet of natural gas fired (AP-42 Table 1.4-2, dated 7/98) by the maximum hourly amount of natural gas fired.

Emission Limitation:

0.09 TPY of SO₂

Applicable Compliance Method:

Compliance with the allowable annual emission limitation for sulfur dioxide from the combustion of natural gas shall be determined by multiplying the AP-42 sulfur dioxide emission factor of 0.6 pound of sulfur dioxide emissions per million standard cubic feet of natural gas fired (AP-42 Table 1.4-2, dated 7/98) by the maximum annual amount of natural gas fired, then divided by 2000.

Emission Limitation:

0.32 lb/hr of OC

Applicable Compliance Method:

Compliance with the allowable hourly emission limitation for organic compounds from the combustion of natural gas shall be determined by multiplying the AP-42 organic compounds emission factor of 11 pounds of organic compounds emissions per million standard cubic feet of natural gas fired (AP-42 Table 1.4-2, dated 7/98) by the maximum hourly amount of natural gas fired.

Emission Limitation:

1.40 TPY of OC

Applicable Compliance Method:

Compliance with the allowable annual emission limitation for organic compounds from the combustion of natural gas shall be determined by multiplying the AP-42 organic compounds emission factor of 11 pounds of organic compounds emissions per million standard cubic feet of natural gas fired (AP-42 Table 1.4-2, dated 7/98) by the maximum annual amount of natural gas fired, then divided by 2000.

F. **Miscellaneous Requirements**

1. None

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Facility ID: 1677010014 Emissions Unit ID: F002 Issuance type: Final State Permit To Operate

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Part II - Special Terms and Conditions

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) None.

A. Applicable Emissions Limitations and/or Control Requirements

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
F002 - Electric Induction Furnace No 2.	OAC rule 3745-31-05(A)(3) (PTI 16-01533)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-08 and 3745-31-05(D). 13.1 pounds per hour (lbs/hr) of particulate emissions (PE) 0.23 lb/hr of lead The natural gas combustion emissions from heating the ladle shall not exceed the following: 2.94 lbs/hr and 12.88 tons per year (TPY) of nitrogen oxides (NOx) 2.47 lbs/hr and 10.82 TPY of carbon monoxide (CO) 0.06 lb/hr and 0.26 TPY of PE 0.02 lb/hr and 0.09 TPY of sulfur dioxide (SO2) 0.32 lb/hr and 1.40 TPY of organic compounds (OC) There shall be no visible particulate emissions from any building openings. OAC rule 3745-31-05(D) 5.7 lbs of PE per ton of gray iron produced 0.1 lb of lead per ton of gray iron produced 26.43 TPY of PE for F001 and F002, combined, as a rolling, 12-month summation 0.46 TPY of lead for F001 and F002, combined, as a rolling, 12-month summation
	OAC rule 3745-17-07(B)	The visible emission limitation specified by this rule is less stringent than the visible emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
	OAC rule 3745-17-08	See B.2 below

2. Additional Terms and Conditions

- (a) The above hourly emission limits (regulated under OAC rule 3745-31-05) are based on the potential to emit for this emissions unit, as determined from permit application data and AP-42 emission factors. Therefore, no record keeping, reporting, nor emissions calculations are required to demonstrate compliance with these emission limits.

B. Operational Restrictions

1. The maximum annual production rate for this facility shall not exceed 9274 tons per year of gray iron, based on a rolling, 12-month summation of the production rates.

To ensure enforceability during the first twelve calendar months of operation after the issuance of permit to install 16-01533, the permittee shall not exceed the production levels specified in the following table:

. Maximum Allowable Month(s) Cumulative Production
1 773 tons
1-2 1546 tons
1-3 2319 tons
1-4 3091 tons
1-5 3864 tons
1-6 4637 tons
1-7 5410 tons
1-8 6183 tons
1-9 6956 tons
1-10 7728 tons
1-11 8501 tons
1-12 9274 tons

After the first 12 calendar months of operation following the issuance of permit to install 16-01533, compliance with the annual production rate limitation shall be based upon a rolling, 12-month summation of the production rates.

2. The only materials melted in the electric induction furnaces (F001 and F002) shall be ferrous materials, including pig iron, steel plate, and "No. 1 machinery cast" bearing no petroleum, paint, or paper residue.
- C. Monitoring and/or Record Keeping Requirements**
1. The permittee shall maintain monthly records of the following information:
 - a. the production rate for each month
 - b. beginning after the first 12 calendar months of operation following the issuance of permit to install 16-01533, the rolling 12-month summation of the production rates.

Also, during the first 12 calendar months of operation following the issuance of permit to install 16-01533, the permittee shall record the cumulative production rate for each calendar month.
 2. When each shipment of ferrous material is received, the permittee shall record the following:
 - a. the type of ferrous material received; and
 - b. whether the ferrous material bears any petroleum, paint, or paper residue.
 3. The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the roof monitors, windows, and/or doors serving this emissions unit. The presence or absence of any visible particulate emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
 - a. the color of the emissions;
 - b. the cause of the emissions;
 - c. the total duration of any visible emission incident; and
 - d. any corrective actions taken to eliminate the visible emissions.
- D. Reporting Requirements**
1. The permittee shall submit deviation (excursion) reports which identify all exceedances of the rolling, 12-month production rate limitation and, for the first 12 calendar months of operation following the issuance of permit to install 16-01533, all exceedances of the maximum allowable cumulative production levels. These reports are due by the dates described in Part I - General Terms and Conditions of this permit.
 2. The permittee shall submit deviation reports which identify any shipment of ferrous materials that did not meet the requirements of Section B.2 of these terms and conditions. These reports are due by the dates described in Part I - General Terms and Conditions of this permit.
 3. The permittee shall submit semiannual written reports which (a) identify all days during which any visible particulate emissions were observed from the roof monitors, windows, and/or doors serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.
- E. Testing Requirements**
1. Compliance with the emission limitations in Section A.1. of these terms and conditions shall be determined in accordance with the following method(s):
Emission Limitation:

5.7 lbs of PE per ton of gray iron produced

Applicable Compliance Method:

Compliance with the emission limitation shall be demonstrated through the summation of the following AP-42 particulate emission factors: 0.9 lb of PE per ton of gray iron produced plus 0.6 lb of PE per ton of gray iron produced plus 4.2 lbs of PE per ton of gray iron produced from Tables 12.10-3 and 12.10-7 dated 1/95.
Emission Limitation:

13.1 lbs/hr of PE

Applicable Compliance Method:

Compliance with the allowable hourly emission limitation for particulates shall be determined by multiplying the allowable particulate emission limitation of 5.7 pounds of PE per ton of gray iron produced by the maximum hourly production rate.

Emission Limitation:

26.43 TPY of PE for F001 and F002, combined, as a rolling, 12-month summation

Applicable Compliance Method:

Compliance with the allowable annual rolling 12-month emission limitation for particulates shall be determined by multiplying the allowable particulate emission limitation of 5.7 pounds of PE per ton of gray iron produced by the maximum allowable annual rolling 12-month production rate (9274 tons per year as a rolling, 12-month summation), then divided by 2000.

Emission Limitation:

0.1 lb of lead per ton of gray iron produced

Applicable Compliance Method:

Compliance with the emission limitation shall be demonstrated through the following AP-42 lead emission factor: 0.1 lb of lead per ton of gray iron produced from Table 12.10-5 dated 1/95.

Emission Limitation:

0.23 lb/hr of lead

Applicable Compliance Method:

Compliance with the allowable hourly emission limitation for lead shall be determined by multiplying the allowable lead emission limitation of 0.1 pound of lead per ton of gray iron produced by the maximum hourly production rate.

Emission Limitation:

0.46 TPY of lead for F001 and F002, combined, as a rolling, 12-month summation

Applicable Compliance Method:

Compliance with the allowable annual rolling 12-month emission limitation for lead shall be determined by multiplying the allowable lead emission limitation of 0.1 pound of lead per ton of gray iron produced by the maximum allowable annual rolling 12-month production rate (9274 tons per year as a rolling, 12-month summation), then divided by 2000.

Emission Limitation:

There shall be no visible particulate emissions from any building openings.

Applicable Compliance Method:

Compliance with the requirement for no visible particulate emissions from any building openings shall be determined in accordance with the test method and procedures specified in OAC rule 3745-17-03(B)(4).

Emission Limitation:

2.94 lbs/hr of NOx

Applicable Compliance Method:

Compliance with the allowable hourly emission limitation for nitrogen oxides from the combustion of natural gas shall be determined by multiplying the AP-42 nitrogen oxides emission factor of 100 pounds of nitrogen oxides emissions per million standard cubic feet of natural gas fired (AP-42 Table 1.4-1, dated 7/98) by the maximum hourly amount of natural gas fired.

Emission Limitation:

12.88 TPY of NOx

Applicable Compliance Method:

Compliance with the allowable annual emission limitation for nitrogen oxides from the combustion of natural gas shall be determined by multiplying the AP-42 nitrogen oxides emission factor of 100 pounds of nitrogen oxides emissions per million standard cubic feet of natural gas fired (AP-42 Table 1.4-1, dated 7/98) by the maximum annual amount of natural gas fired, then divided by 2000.

Emission Limitation:

2.47 lbs/hr of CO

Applicable Compliance Method:

Compliance with the allowable hourly emission limitation for carbon monoxide from the combustion of natural gas shall be determined by multiplying the AP-42 carbon monoxide emission factor of 84 pounds of carbon monoxide emissions per million standard cubic feet of natural gas fired (AP-42 Table 1.4-1, dated 7/98) by the maximum hourly amount of natural gas fired.

Emission Limitation:

10.82 TPY of CO

Applicable Compliance Method:

Compliance with the allowable annual emission limitation for carbon monoxide from the combustion of natural gas shall be determined by multiplying the AP-42 carbon monoxide emission factor of 84 pounds of carbon monoxide emissions per million standard cubic feet of natural gas fired (AP-42 Table 1.4-1, dated 7/98) by the maximum annual amount of natural gas fired, then divided by 2000.

Emission Limitation:

0.06 lb/hr of PE

Applicable Compliance Method:

Compliance with the allowable hourly emission limitation for particulates from the combustion of natural gas shall be determined by multiplying the AP-42 particulate emission factor of 1.9 pounds of particulate emissions per million standard cubic feet of natural gas fired (AP-42 Table 1.4-2, dated 7/98) by the maximum hourly amount of natural gas fired.

Emission Limitation:

0.26 TPY of PE

Applicable Compliance Method:

Compliance with the allowable annual emission limitation for particulates from the combustion of natural gas shall be determined by multiplying the AP-42 particulate emission factor of 1.9 pounds of particulate emissions per million standard cubic feet of natural gas fired (AP-42 Table 1.4-2, dated 7/98) by the maximum annual amount of natural gas fired, then divided by 2000.

Emission Limitation:

0.02 lb/hr of SO₂

Applicable Compliance Method:

Compliance with the allowable hourly emission limitation for sulfur dioxide from the combustion of natural gas shall be determined by multiplying the AP-42 sulfur dioxide emission factor of 0.6 pound of sulfur dioxide emissions per million standard cubic feet of natural gas fired (AP-42 Table 1.4-2, dated 7/98) by the maximum hourly amount of natural gas fired.

Emission Limitation:

0.09 TPY of SO₂

Applicable Compliance Method:

Compliance with the allowable annual emission limitation for sulfur dioxide from the combustion of natural gas shall be determined by multiplying the AP-42 sulfur dioxide emission factor of 0.6 pound of sulfur dioxide emissions per million standard cubic feet of natural gas fired (AP-42 Table 1.4-2, dated 7/98) by the maximum annual amount of natural gas fired, then divided by 2000.

Emission Limitation:

0.32 lb/hr of OC

Applicable Compliance Method:

Compliance with the allowable hourly emission limitation for organic compounds from the combustion of natural gas shall be determined by multiplying the AP-42 organic compounds emission factor of 11 pounds of organic compounds emissions per million standard cubic feet of natural gas fired (AP-42 Table 1.4-2, dated 7/98) by the maximum hourly amount of natural gas fired.

Emission Limitation:

1.40 TPY of OC

Applicable Compliance Method:

Compliance with the allowable annual emission limitation for organic compounds from the combustion of natural gas shall be determined by multiplying the AP-42 organic compounds emission factor of 11 pounds of organic compounds emissions per million standard cubic feet of natural gas fired (AP-42 Table 1.4-2, dated 7/98) by the maximum annual amount of natural gas fired, then divided by 2000.

F. Miscellaneous Requirements

1. None

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Facility ID: 1677010014 Emissions Unit ID: P002 Issuance type: Final State Permit To Operate

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Part II - Special Terms and Conditions

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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) None.

A. Applicable Emissions Limitations and/or Control Requirements

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P002 - Shot Blasting Unit.	OAC rule 3745-31-05(A)(3) (PTI 16-01533)	The requirements of this rule also include compliance with the requirements of OAC rule s 3745-17-11(B)(4) and 3745-31-05(D).
	OAC rule 3745-31-05(D)	The visible particulate emissions of from the baghouse/fabric filter outlet shall not exceed five percent opacity, as a six-minute average. 2.683 pounds of particulate emissions (PE) per ton of gray iron produced
	OAC rule 3745-17-07(A)	12.44 tons per year (TPY) of PE as a rolling, 12-month summation The visible emission limitation specified by this rule is less stringent than the visible emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
	OAC rule 3745-17-11	6.17 pounds per hour (lbs/hr) of PE

2. Additional Terms and Conditions

- (a) The particulate emissions shall be vented to a baghouse/fabric filter.
The above hourly particulate emission limit (regulated under OAC rule 3745-17-11) is based on the potential to emit for this emissions unit, as determined from permit application data and using a controlled AP-42 emission factor. Therefore, no record keeping, reporting, nor emissions calculations are required to demonstrate compliance with this emission limit.

B. Operational Restrictions

- 1. The maximum annual production rate for this facility shall not exceed 9274 tons per year of gray iron, based on a rolling, 12-month summation of the production rates.

To ensure enforceability during the first twelve calendar months of operation after the issuance of permit to install 16-01533, the permittee shall not exceed the production levels specified in the following table:

Month(s)	Maximum Allowable Cumulative Production
1	773 tons
1-2	1546 tons
1-3	2319 tons
1-4	3091 tons
1-5	3864 tons
1-6	4637 tons
1-7	5410 tons
1-8	6183 tons
1-9	6956 tons
1-10	7728 tons
1-11	8501 tons
1-12	9274 tons

After the first 12 calendar months of operation following the issuance of permit to install 16-01533, compliance with the annual production rate limitation shall be based upon a rolling, 12-month summation of the production rates.

- 2. The permittee shall only clean/finish gray iron that is produced at this facility.
- 3. The pressure drop across the baghouse, while the emission unit is in operation, shall be maintained within the pressure drop range determined during the most recent performance or visible emissions test that demonstrated that the source was in compliance or by the manufacturer's written recommendation.

C. Monitoring and/or Record Keeping Requirements

- 1. The permittee shall maintain monthly records of the following information:
 - a. the production rate for each month
 - b. beginning after the first 12 calendar months of operation following the issuance of permit to install 16-01533, the rolling 12-month summation of the production rates.

Also, during the first 12 calendar months of operation following the issuance of permit to install 16-01533, the permittee shall record the cumulative production rate for each calendar month.

2. The permittee shall properly install, operate, and maintain equipment to monitor the pressure drop across the baghouse while the emissions unit is in operation. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across the baghouse on a daily basis.
 3. The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit. The presence or absence of any visible particulate 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 emission incident; and
 - e. any corrective actions taken to eliminate the visible emissions.
- D. Reporting Requirements**
1. The permittee shall submit deviation (excursion) reports which identify all exceedances of the rolling, 12-month production rate limitation and, for the first 12 calendar months of operation following the issuance of permit to install 16-01533, all exceedances of the maximum allowable cumulative production levels. These reports are due by the dates described in Part I - General Terms and Conditions of this permit.
 2. The permittee shall submit pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across the baghouse did not comply with the allowable range specified above. These reports are due by the dates described in Part I - General Terms and Conditions of this permit.
 3. The permittee shall submit semiannual written reports which (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.
- E. Testing Requirements**
1. Compliance with the emission limitations in Section A.1. of these terms and conditions shall be determined in accordance with the following method(s):
Emission Limitation:

2.683 pounds of PE per ton of gray iron produced

6.17 lbs/hr of PE

Applicable Compliance Method:

If required, compliance with the allowable emission limitations for particulates shall be determined by using the test method(s) and procedures specified in OAC rule 3745-17-03(B)(10).
Emission Limitation:

12.44 TPY of PE as a rolling, 12-month summation

Applicable Compliance Method:

Compliance with the allowable annual rolling 12-month emission limitation for particulates shall be determined by multiplying the allowable particulate emission limitation of 2.683 pounds of particulate emissions per ton of gray iron produced by the maximum allowable annual rolling 12-month tons of gray iron produced (9274 tons per year as a rolling, 12-month summation), then divided by 2000.
Emission Limitation:

The visible particulate emissions from the baghouse/fabric filter outlet shall not exceed five percent opacity, as a six-minute average.

Applicable Compliance Method:

Compliance with the visible emissions limitation for particulates from the baghouse/fabric filter outlet shall be determined in accordance with the test method and procedures specified in OAC rule 3745-17-03(B)(1).
- F. Miscellaneous Requirements**
1. None

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Facility ID: 1677010014 Emissions Unit ID: P003 Issuance type: Final State Permit To Operate

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Part II - Special Terms and Conditions

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) None.

A. Applicable Emissions Limitations and/or Control Requirements

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P003 - New Sand Storage Silo.	OAC rule 3745-31-05(A)(3) (PTI 16-01533)	The requirements of this rule also include compliance with the requirements of OAC rule 3745-31-05(D). 0.45 pound per hour (lb/hr) of particulate emissions (PE) 1.97 tons per year (TPY) of PE The visible particulate emissions from the baghouse/fabric filter outlet shall not exceed five percent opacity, as a six-minute average. 0.036 pound of PE per ton of sand handled The visible emission limitation specified by this rule is less stringent than the visible emission limitation established pursuant to OAC rule 3745-31-05(A)(3). The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
	OAC rule 3745-31-05(D)	
	OAC rule 3745-17-07(A)	
	OAC rule 3745-17-11	

2. Additional Terms and Conditions

- (a) The particulate emissions shall be vented to a baghouse/fabric filter.
The above hourly and yearly particulate emission limits (regulated under OAC rule 3745-31-05(A)(3)) is based on the potential to emit for this emissions unit, as determined from permit application data and using a controlled AP-42 emission factors. Therefore, no record keeping, reporting, nor emissions calculations are required to demonstrate compliance with these emission limits.

B. Operational Restrictions

1. The pressure drop across the baghouse, while the emissions unit is in operation, shall be maintained within the pressure drop range determined either during the most recent performance or visible emissions test that demonstrated that the emissions unit was in compliance or by the manufacturer's written recommendation.

C. Monitoring and/or Record Keeping Requirements

1. The permittee shall properly install, operate, and maintain equipment to monitor the pressure drop across the baghouse while the emissions unit is in operation. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across the baghouse on a daily basis.
2. The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit. The presence or absence of any visible particulate 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 emission incident; and
 - e. any corrective actions taken to eliminate the visible emissions.

D. Reporting Requirements

1. The permittee shall submit pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across the baghouse did not comply with the allowable range specified above. These reports are due by the dates described in Part I - General Terms and Conditions of this permit.
2. The permittee shall submit semiannual written reports which (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

E. Testing Requirements

1. Compliance with the emission limitations in Section A.1. of these terms and conditions shall be determined in accordance with the following method(s):
Emission Limitation:

0.036 pound of PE per ton of sand handled

Applicable Compliance Method:

If required, compliance with the allowable emission limitations for particulates shall be determined by using the test method(s) and procedures specified in OAC rule 3745-17-03(B)(10).
Emission Limitation:

0.45 lb/hr of PE

Applicable Compliance Method:

Compliance with the allowable hourly emission limitation for particulates shall be determined by multiplying the allowable particulate emission limitation of 0.036 pound of particulate emissions per ton of sand handled by the maximum tons of sand handled per hour (12.5 tons per hour).
Emission Limitation:

1.97 TPY of PE

Applicable Compliance Method:

Compliance with the allowable annual emission limitation for particulates shall be determined by multiplying the allowable particulate emission limitation of 0.036 pound of particulate emissions per ton of sand handled by the maximum tons of sand handled per hour (12.5 tons per hour) times 8760 hours per year, then divided by 2000.
Emission Limitation:

The visible particulate emissions from the baghouse/fabric filter outlet shall not exceed five percent opacity, as a six-minute average.

Applicable Compliance Method:

Compliance with the visible emissions limitation for particulates from the baghouse/fabric filter outlet shall be determined in accordance with the test method and procedures specified in OAC rule 3745-17-03(B)(1).

F. Miscellaneous Requirements

1. None

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Facility ID: 1677010014 Emissions Unit ID: P004 Issuance type: Final State Permit To Operate

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Part II - Special Terms and Conditions

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) None.

A. Applicable Emissions Limitations and/or Control Requirements

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P004 - Reclaimed Core Sand Storage Silo.	OAC rule 3745-31-05(A)(3) (PTI 16-01533)	The requirements of this rule also include compliance with the requirements of OAC rule 3745-31-05(D). 0.32 pound per hour (lb/hr) of particulate emissions (PE) 1.40 tons per year (TPY) of PE The visible particulate emissions from the

OAC rule 3745-31-05(D)
 OAC rule 3745-17-07(A)

 OAC rule 3745-17-11

baghouse/fabric filter outlet shall not exceed five percent opacity, as a six-minute average
 0.036 pound of PE per ton of sand handled
 The visible emission limitation specified by this rule is less stringent than the visible emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
 The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

2. Additional Terms and Conditions

- (a) The particulate emissions shall be vented to a baghouse/fabric filter.
 The above hourly and yearly particulate emission limits (regulated under OAC rule 3745-31-05(A)(3)) is based on the potential to emit for this emissions unit, as determined from permit application data and using a controlled AP-42 emission factors. Therefore, no record keeping, reporting, nor emissions calculations are required to demonstrate compliance with these emission limits.

B. Operational Restrictions

- 1. The pressure drop across the baghouse, while the emissions unit is in operation, shall be maintained within the pressure drop range determined either during the most recent performance or visible emissions test that demonstrated that the emissions unit was in compliance or by the manufacturer's written recommendation.

C. Monitoring and/or Record Keeping Requirements

- 1. The permittee shall properly install, operate, and maintain equipment to monitor the pressure drop across the baghouse while the emissions unit is in operation. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across the baghouse on a daily basis.
- 2. The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit. The presence or absence of any visible particulate 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 emission incident; and
 - e. any corrective actions taken to eliminate the visible emissions.

D. Reporting Requirements

- 1. The permittee shall submit pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across the baghouse did not comply with the allowable range specified above. These reports are due by the dates described in Part I - General Terms and Conditions of this permit.
- 2. The permittee shall submit semiannual written reports which (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

E. Testing Requirements

- 1. Compliance with the emission limitations in Section A.1. of these terms and conditions shall be determined in accordance with the following method(s):
 Emission Limitation:
 0.036 pound of PE per ton of sand handled
 Applicable Compliance Method:
 If required, compliance with the allowable emission limitations for particulates shall be determined by using the test method(s) and procedures specified in OAC rule 3745-17-03(B)(10).
 Emission Limitation:
 0.32 lb/hr of PE
 Applicable Compliance Method:
 Compliance with the allowable hourly emission limitation for particulates shall be determined by multiplying the allowable particulate emission limitation of 0.036 pound of particulate emissions per ton of sand handled by the maximum tons of sand handled per hour (9.0 tons per hour).
 Emission Limitation:
 1.40 TPY of PE
 Applicable Compliance Method:
 Compliance with the allowable annual emission limitation for particulates shall be determined by multiplying the allowable particulate emission limitation of 0.036 pound of particulate emissions per ton of sand handled by the maximum tons of sand handled per hour (9.0 tons per hour) times 8760 hours per year, then divided by 2000.

Emission Limitation:

The visible particulate emissions from the baghouse/fabric filter outlet shall not exceed five percent opacity, as a six-minute average.

Applicable Compliance Method:

Compliance with the visible emissions limitation for particulates from the baghouse/fabric filter outlet shall be determined in accordance with the test method and procedures specified in OAC rule 3745-17-03(B)(1).

F. **Miscellaneous Requirements**

- 1. None

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Facility ID: 1677010014 Emissions Unit ID: P005 Issuance type: Final State Permit To Operate

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Part II - Special Terms and Conditions

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) None.

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

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P005 - Reclaimed Mold Sand Storage Silo.	OAC rule 3745-31-05(A)(3) (PTI 16-01533)	The requirements of this rule also include compliance with the requirements of OAC rule 3745-31-05(D). 1.08 pounds per hour (lb/hr) of particulate emissions (PE) 4.73 tons per year (TPY) of PE
	OAC rule 3745-31-05(D) OAC rule 3745-17-07(A)	0.036 pound of PE per ton of sand handled The visible emission limitation specified by this rule is less stringent than the visible emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
	OAC rule 3745-17-11	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).

2. **Additional Terms and Conditions**

- (a) The particulate emissions shall be vented to a baghouse/fabric filter. The above hourly and yearly particulate emission limits (regulated under OAC rule 3745-31-05(A)(3)) is based on the potential to emit for this emissions unit, as determined from permit application data and using a controlled AP-42 emission factors. Therefore, no record keeping, reporting, nor emissions calculations are required to demonstrate compliance with these emission limits.

B. **Operational Restrictions**

- 1. The pressure drop across the baghouse, while the emission unit is in operation, shall be maintained within the pressure drop range determined during the most recent performance or visible emissions test that demonstrated that the source was in compliance or by the manufacturer's written recommendation.

C. **Monitoring and/or Record Keeping Requirements**

- 1. The permittee shall properly install, operate, and maintain equipment to monitor the pressure drop across the baghouse while the emissions unit is in operation. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating

manual(s). The permittee shall record the pressure drop across the baghouse on a daily basis.

2. The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit. The presence or absence of any visible particulate 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 emission incident; and
 - e. any corrective actions taken to eliminate the visible emissions.

D. Reporting Requirements

1. The permittee shall submit pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across the baghouse did not comply with the allowable range specified above. These reports are due by the dates described in Part I - General Terms and Conditions of this permit.
2. The permittee shall submit semiannual written reports which (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

E. Testing Requirements

1. Compliance with the emission limitations in Section A.1. of these terms and conditions shall be determined in accordance with the following method(s):

Emission Limitation:

0.036 pound of PE per ton of sand handled

Applicable Compliance Method:

If required, compliance with the allowable emission limitations for particulates shall be determined by using the test method(s) and procedures specified in OAC rule 3745-17-03(B)(10).

Emission Limitation:

1.08 lbs/hr of PE

Applicable Compliance Method:

Compliance with the allowable hourly emission limitation for particulates shall be determined by multiplying the allowable particulate emission limitation of 0.036 pound of particulate emissions per ton of sand handled by the maximum tons of sand handled per hour (30.0 tons per hour).

Emission Limitation:

4.73 TPY of PE

Applicable Compliance Method:

Compliance with the allowable annual emission limitation for particulates shall be determined by multiplying the allowable particulate emission limitation of 0.036 pound of particulate emissions per ton of sand handled by the maximum tons of sand handled per hour (30.0 tons per hour) times 8760 hours per year, then divided by 2000.

Emission Limitation:

The visible particulate emissions from the baghouse/fabric filter outlet shall not exceed five percent opacity, as a six-minute average.

Applicable Compliance Method:

Compliance with the visible emissions limitation for particulates from the baghouse/fabric filter outlet shall be determined in accordance with the test method and procedures specified in OAC rule 3745-17-03(B)(1).

F. Miscellaneous Requirements

1. None

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Facility ID: 1677010014 Emissions Unit ID: P901 Issuance type: Final State Permit To Operate

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Part II - Special Terms and Conditions

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 with the exception of those listed below which are federally enforceable.
 - (a) None.

A. Applicable Emissions Limitations and/or Control Requirements

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P901 - Mold Sand Mixer, Mold Preparation.	OAC rule 3745-31-05(A)(3) (PTI 16-01533)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-08, 3745-21-07(G)(2), and 3745-31-05(D).
		0.58 pound per hour (lb/hr) of particulate emissions (PE)
		7.7 lbs/day of combined hazardous air pollutants (HAPs)
		1.4 tons pe year (TPY) of combined HAPs
		7.3 TPY of organic compounds (OC)
	OAC rule 3745-31-05(D)	There shall be no visible particulate emissions from any building openings. 0.25 pound of PE per ton of gray iron produced
	OAC rule 3745-17-07(B)	1.16 TPY of PE as a rolling, 12-month summation
	OAC rule 3745-17-08	The visible emission limitation specified by this rule is less stringent than the visible emission limitation established pursuant to OAC rule 3745-31-05(A)(3). The baghouse shall achieve an outlet emission rate of not greater than 0.030 grain of particulate emissions per dry standard cubic foot of exhaust gases.
	OAC rule 3745-21-07(G)(2)	8 lbs/hr of OC, 40 lbs/day of OC

2. Additional Terms and Conditions

- (a) The particulate emissions shall be vented to a baghouse/fabric filter.
The mixer and mixer loading system shall be of an enclosed design in order to eliminate or minimize visible particulate emissions of fugitive dust. The moisture content of the sand shall be sufficient to eliminate or minimize visible particulate emissions of fugitive dust during mold formation.
The above hourly particulate emission limit (regulated under OAC rule 3745-31-05(A)(3)) is based on the potential to emit for this emissions unit, as determined from permit application data and using a controlled Ohio RACM emission factor and stack exhaust allowable. Therefore, no record keeping, reporting, nor emissions calculations are required to demonstrate compliance with this emission limit.

B. Operational Restrictions

- 1. The maximum annual production rate for this facility shall not exceed 9274 tons per year of gray iron, based on a rolling, 12-month summation of the production rates.

To ensure enforceability during the first twelve calendar months of operation after the issuance of permit to install 16-01533, the permittee shall not exceed the production levels specified in the following table:

Month(s)	Maximum Allowable Cumulative Production
1	773 tons
1-2	1546 tons
1-3	2319 tons
1-4	3091 tons
1-5	3864 tons
1-6	4637 tons
1-7	5410 tons
1-8	6183 tons
1-9	6956 tons
1-10	7728 tons
1-11	8501 tons
1-12	9274 tons

After the first 12 calendar months of operation following the issuance of permit to install 16-01533, compliance with the annual production rate limitation shall be based upon a rolling, 12-month summation of the production rates.

2. The permittee shall only manufacture molds for the gray iron produced at this facility.
3. The pressure drop across the baghouse, while the emission unit is in operation, shall be maintained within the pressure drop range determined during the most recent performance or visible emissions test that demonstrated that the source was in compliance or by the manufacturer's written recommendation.

C. Monitoring and/or Record Keeping Requirements

1. The permittee shall maintain monthly records of the following information:
 - a. the production rate for each month
 - b. beginning after the first 12 calendar months of operation following the issuance of permit to install 16-01533, the rolling 12-month summation of the production rates.

Also, during the first 12 calendar months of operation following the issuance of permit to install 16-01533, the permittee shall record the cumulative production rate for each calendar month.
2. The permittee shall properly install, operate, and maintain equipment to monitor the pressure drop across the baghouse while the emissions unit is in operation. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall record the pressure drop across the baghouse on a daily basis.
3. The permittee shall collect and record the following information each day:
 - a. the amount of sand and resin mixed, in pounds;
 - b. the OC emission rate from the resin, in pounds per day (i.e., (a) times 0.00014 pound of OC per pound of sand and resin);
 - c. the ratio of combined HAPs to OC in the resin (i.e., weight percent combined HAPs divided by weight percent OC);
 - d. the combined HAPs emission rate from the resin, in pounds per day (i.e., (c) times (b));
 - e. the company identification for each mold repair adhesive and each pattern release material employed;
 - f. the amount of each mold repair adhesive and pattern release material employed, in pounds;
 - g. the OC content of each mold repair adhesive and pattern release material, in weight per cent;
 - h. the combined HAPs content of each mold adhesive and each pattern release material, in weight percent;
 - i. the OC emission rate for all mold repair adhesives and all pattern release materials, in pounds per day (i.e., the sum of (f) times (g) for each mold repair adhesive and each pattern release material);
 - j. the combined HAPs emission rate for all mold repair adhesive and all pattern release materials, in pounds per day (i.e., the sum of (f) times (h) for each mold repair adhesive and each pattern release material);
 - k. the total OC emission rate for this emissions unit, pounds per day (i.e., (b) plus (i));
 - l. the total combined HAPs emission rate for this emissions unit, pounds per day (i.e., (d) plus (j));
 - m. the total number of hours the emissions unit was in operation; and
 - n. the average hourly OC emission rate for this emissions unit, in pounds per hour (average) (i.e., (k)/(m)), pounds per hour (average) (i.e., (k)/(m)).
4. The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the roof monitors, windows, and/or doors serving this emissions unit serving this emissions unit. The presence or absence of any visible particulate emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:
 - a. the color of the emissions;
 - b. the cause of the emissions;
 - c. the total duration of any visible emission incident; and
 - d. any corrective actions taken to eliminate the visible emissions.

D. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which identify all exceedances of the rolling, 12-month production rate limitation and, for the first 12 calendar months of operation following the issuance of permit to install 16-01533, all exceedances of the maximum allowable cumulative production levels. These reports are due by the dates described in Part I - General Terms and Conditions of this permit.
2. The permittee shall submit pressure drop deviation (excursion) reports that identify all periods of time during which the pressure drop across the baghouse did not comply with the allowable range specified above. These reports are due by the dates described in Part I - General Terms and Conditions of this permit.
3. The permittee shall submit deviation (excursion) reports which include the following information:
 - a. an identification of each day during which the average hourly organic compound emission rate exceeded 8 pounds per hour, and the actual hourly organic compound emission rate for each such day; and

- b. an identification of each day during which the organic compound emission rate exceeded 40 pounds per day, and the actual organic compound emission rate for each such day.
- c. an identification of each day during which the combined HAPs emission rate exceeded 7.7 pounds per day, and the actual combined HAPs emission rate for each such day.

These reports are due by the dates described in Part I - General Terms and Conditions of this permit.

- 4. The permittee shall submit semiannual written reports which (a) identify all days during which any visible particulate emissions were observed from the roof monitors, windows, and/or doors serving this emissions unit serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.

E. Testing Requirements

- 1. Compliance with the emission limitations in Section A.1. of these terms and conditions shall be determined in accordance with the following method(s):

Emission Limitation:

0.25 pound of PE per ton of gray iron produced

Applicable Compliance Method:

Compliance with the emission limitation shall be demonstrated through the summation of the following Ohio RACM particulate emission factors and the OAC rule 3745-17-08 allowable: Multiply the Ohio RACM particulate emission factor of 1.3 pounds of PE per ton of castings produced (Table 2.7-1) by the maximum hourly amount of castings produced times (1 - 0.90*) plus multiply the Ohio RACM particulate emission factor of 0.04 pound of PE per ton of castings produced (Table 2.7-1) by the maximum hourly amount of castings produced plus multiply the allowable 0.030 grain of particulate emissions per dry standard cubic foot of exhaust gases (OAC rule 3745-17-08 allowable) by the maximum dry standard cubic foot of exhaust gases times 60 minutes/hour divided by 7000 grains per lb, then divided by 2.3 tons of gray iron produced per hour.

*capture efficiency

Emission Limitation:

0.58 lb/hr of PE

Applicable Compliance Method:

Compliance with the allowable hourly emission limitation for particulates shall be determined by multiplying the allowable particulate emission limitation of 0.25 pound of PE per ton of gray iron produced by the maximum hourly production rate.

Emission Limitation:

1.16 TPY of PE as a rolling, 12-month summation

Applicable Compliance Method:

Compliance with the allowable annual rolling 12-month emission limitation for particulates shall be determined by multiplying the allowable particulate emission limitation of 0.25 pound of PE per ton of gray iron produced by the maximum allowable annual rolling 12-month production rate (9274 tons per year as a rolling, 12-month summation), then divided by 2000.

Emission Limitation:

0.030 grains of PE per dry standard cubic foot of exhaust gases

Applicable Compliance Method:

If required, compliance with the allowable emission limitations for particulates shall be determined by using the test method(s) and procedures specified in OAC rule 3745-17-03(B)(10).

Emission Limitation:

There shall be no visible particulate emissions from any building opening.

Applicable Compliance Method:

Compliance with the requirement for no visible particulate emissions from any building openings shall be determined in accordance with the test method and procedures specified in OAC rule 3745-17-03(B)(4).

Emission Limitation:

7.7 lbs/day of combined HAPs

1.4 TPY of combined HAPs

8 lbs/hr of OC

40 lbs/day of OC

7.3 TPY of OC

Applicable Compliance Method:

Compliance with the allowable annual, hourly, and/or daily emission limitations for OC and combined HAPs shall be determined daily record keeping as required by Section C.3 of these terms and conditions. Formulation data shall be used to determine the OC content and the combined HAPs content of the material used in this emissions unit.

F. Miscellaneous Requirements

- 1. None

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION

Facility ID: 1677010014 Emissions Unit ID: P902 Issuance type: Final State Permit To Operate

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Part II - Special Terms and Conditions

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) None.

A. Applicable Emissions Limitations and/or Control Requirements

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

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P902 - Core Sand Mixer, Core Preparation.	OAC rule 3745-31-05(A)(3) (PTI 16-01533)	The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-08, OAC rule 3745-21-07(G)(2), and OAC rule 3745-31-05(D). 1.27 pounds per hour (lbs/hr) of particulate emissions (PE) 5.56 tons per year (TPY) of PE 7.7 lbs/day of combined hazardous air pollutants (HAPs) 1.4 TPY of combined HAPs 7.3 TPY of organic compounds (OC) The visible particulate emissions from the baghouse/fabric filter outlet shall not exceed five percent opacity, as a six-minute average.
	OAC rule 3745-31-05(D)	0.141 pound of PE per ton of cores produced
	OAC rule 3745-17-07(B)	Visible particulate emissions from any fugitive dust source shall not exceed twenty percent opacity, as a three-minute average.
	OAC rule 3745-17-08	The baghouse shall achieve an outlet emission rate of not greater than 0.030 grain of particulate emissions per dry standard cubic foot of exhaust gases.
	OAC rule 3745-21-07(G)(2)	8 lbs/hr of OC, 40 lbs/day of OC

2. Additional Terms and Conditions

- (a) The particulate emissions shall be vented to a baghouse/fabric filter.
The moisture content of the sand shall be sufficient to eliminate or minimize visible particulate emissions of fugitive dust during core formation. The mixer and mixer loading system shall be of an enclosed design in order to eliminate or minimize visible particulate emissions of fugitive dust.
The above hourly particulate emission limit (regulated under OAC rule 3745-31-05(A)(3)) is based on the potential to emit for this emissions unit, as determined from permit application data and using a controlled Ohio RACM emission factor and stack exhaust allowable. Therefore, no record keeping, reporting, nor emissions calculations are required to demonstrate compliance with this emission limit.

B. Operational Restrictions

1. The permittee shall only manufacture cores for the gray iron produced at this facility.

C. Monitoring and/or Record Keeping Requirements

1. The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit and for any visible particulate emissions from the roof monitors, windows, and/or doors serving this emissions unit. The presence or absence of any visible particulate 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 emission incident; and
 - e. any corrective actions taken to eliminate the visible emissions.
2. The permittee shall collect and record the following information each day:
- a. the amount of sand and resin mixed, in pounds;
 - b. the OC emission rate from the resin, in pounds per day (i.e., (a) times 0.00014 pound of OC per pound of sand and resin);
 - c. the ratio of combined HAPs to OC in the resin (i.e., weight percent combined HAPs divided by weight percent OC);
 - d. the combined HAPs emission rate from the resin, in pounds per day (i.e., (c) times (b));
 - e. the company identification for each core repair adhesive and each pattern release material employed;
 - f. the amount of each core repair adhesive and pattern release material employed, in pounds;
 - g. the OC content of each core repair adhesive and pattern release material, in weight per cent;
 - h. the combined HAPs content of each core adhesive and each pattern release material, in weight percent;
 - i. the OC emission rate for all core repair adhesives and all pattern release materials, in pounds per day (i.e., the sum of (f) times (g) for each core repair adhesive and each pattern release material);
 - j. the combined HAPs emission rate for all core repair adhesive and all pattern release materials, in pounds per day (i.e., the sum of (f) times (h) for each core repair adhesive and each pattern release material);
 - k. the total OC emission rate for this emissions unit, pounds per day (i.e., (b) plus (i));
 - l. the total combined HAPs emission rate for this emissions unit, pounds per day (i.e., (d) plus (j));
 - m. the total number of hours the emissions unit was in operation; and
 - n. the average hourly OC emission rate for this emissions unit, in pounds per hour (average) (i.e., (k)/(m)).

D. Reporting Requirements

1. The permittee shall submit semiannual written reports which (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit and any visible particulate emissions were observed from the roof monitors, windows, and/or doors serving this emissions unit and (b) describe any corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted to the Director (the appropriate Ohio EPA District Office or local air agency) by January 31 and July 31 of each year and shall cover the previous 6-month period.
2. The permittee shall submit deviation (excursion) reports which include the following information:
 - a. an identification of each day during which the average hourly organic compound emission rate exceeded 8 pounds per hour, and the actual hourly organic compound emission rate for each such day; and
 - b. an identification of each day during which the organic compound emission rate exceeded 40 pounds per day, and the actual organic compound emission rate for each such day.
 - c. an identification of each day during which the combined HAPs emission rate exceeded 7.7 pounds per day, and the actual combined HAPs emission rate for each such day.

These reports are due by the dates described in Part I - General Terms and Conditions of this permit.

E. Testing Requirements

1. Compliance with the emission limitations in Section A.1. of these terms and conditions shall be determined in accordance with the following method(s):
Emission Limitation:

0.141 pound of PE per ton of cores produced

Applicable Compliance Method:

Compliance with the emission limitation shall be demonstrated through the summation of the following Ohio RACM particulate emission factor and the OAC rule 3745-17-08 allowable: Multiply the Ohio RACM particulate emission factor of 0.35 pound of PE per ton of cores produced (Table 2.7-1) by the maximum hourly amount of cores produced times (1 - 0.60*) plus multiply the allowable 0.030 grain of particulate emissions per dry standard cubic foot of exhaust gases (OAC rule 3745-17-08 allowable) by the maximum dry standard cubic foot of exhaust gases times 60 minutes/hour divided by 7000 grains per lb, then divided by 9.0 tons of cores produced per hour.

*capture efficiency
Emission Limitation:

1.27 lbs/hr of PE

Applicable Compliance Method:

Compliance with the allowable hourly emission limitation for particulates shall be determined by multiplying the allowable particulate emission limitation of 0.141 pound of PE per ton of castings produced by the maximum hourly production rate.

Emission Limitation:

5.56 TPY of PE

Applicable Compliance Method:

Compliance with the allowable annual emission limitation for particulates shall be determined by multiplying the allowable particulate emission limitation of 0.141 pound of PE per ton of castings produced by the maximum hourly production rate times 8760 hours per year, then divided by 2000.

Emission Limitation:

0.030 grains of PE per dry standard cubic foot of exhaust gases

Applicable Compliance Method:

If required, compliance with the allowable emission limitations for particulates shall be determined by using the test method(s) and procedures specified in OAC rule 3745-17-03(B)(10).

Emission Limitation:

Visible particulate emissions from any fugitive dust source shall not exceed twenty percent opacity, as a three-minute average.

Applicable Compliance Method:

Compliance with the visible particulate emission limitation for fugitive dust from the emissions unit shall be determined in accordance with the test method and procedures specified in OAC rule 3745-17-07(B)(3).

Emission Limitation:

7.7 lbs/day of combined HAPs

1.4 TPY of combined HAPs

8 lbs/hr of OC

40 lbs/day of OC

7.3 TPY of OC

Applicable Compliance Method:

Compliance with the allowable annual, hourly, and/or daily emission limitations for OC and combined HAPs shall be determined daily record keeping as required by Section C.2 of these terms and conditions. Formulation data shall be used to determine the OC content and the combined HAPs content of the material used in this emissions unit.

Emission Limitation:

The visible particulate emissions from the baghouse/fabric filter outlet shall not exceed five percent opacity, as a six-minute average.

Applicable Compliance Method:

Compliance with the visible emissions limitation for particulates from the baghouse/fabric filter outlet shall be determined in accordance with the test method and procedures specified in OAC rule 3745-17-03(B)(1).

F. **Miscellaneous Requirements**

1. None