

Facility ID: 0215010001 Issuance type: Draft 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.

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Facility ID: 0215010001 Emissions Unit ID: F007 Issuance type: Draft 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>
Sand Handling and Mold Making. Used sand is recycled and mixed with fresh sand and water before shaped into molds. Baghouse controlling fresh sand addition has a particulate control efficiency of 98%. Scrubber controlling muller has a particulate control efficiency of 89%.	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from the stack of the wet scrubber and of the stack of the baghouse shall not exceed twenty percent opacity, as a six-minute average. See also section A.2.a.
	OAC rule 3745-17-07(B)(1)	Fugitive visible particulate emissions from this emissions unit shall not exceed twenty percent opacity as a three-minute average.
	OAC rule 3745-17-08(B) OAC rule 3745-17-11(B)(1)	See section A.2.b. Particulate (PE) emissions from the muller/scrubber stack shall not exceed 14.21 pounds per hour.
	OAC rule 3745-35-07(B)	Particulate (PE) emissions from the fresh sand addition/baghouse stack shall not exceed 3.21 pounds per hour. PM 10 emissions shall not exceed 1.69 tons per rolling 12-months.

2. Additional Terms and Conditions

- (a) Except as otherwise specified in paragraphs (A)(2) and (A)(3) of OAC rule 3745-17-07, visible particulate emissions from the stack may exceed twenty percent opacity, as a six-minute average for not more than six consecutive minutes in any sixty minutes, but shall not exceed sixty percent opacity, as a six minute average, at any time.
Reasonably available control measures (RACM) shall be employed to minimize fugitive particulate emissions. RACM shall include, but not be limited to, containing operations within the building, maintaining the fabric filter and scrubber in good operating condition, and using good engineering practices.

B. Operational Restrictions

1. The maximum hours of operation for this emissions unit is 5,000 hours per rolling 12-months. During the first twelve (12) calendar months of operation following the effective date of this federally enforceable state

operating permit, the cumulative number of hours shall not exceed the cumulative total number of hours as specified for each month in the following table:

Month: Cumulative Number of Operating Hours:

1 417
2 834
3 1,251
4 1,668
5 2,085
6 2,502
7 2,919
8 3,336
9 3,753
10 4,170
11 4,587
12 5,000

2. The maximum production rate of the muller of 39.6 tons per hour shall not be exceeded.
3. The maximum production rate of the fresh sand addition of 3.96 tons per hour shall not be exceeded.
4. The scrubber shall be in operation when the muller is in operation. The scrubber shall operate as follows:
 - a. the water level shall be kept above 10 inches below full mark while this emissions unit is in operation.
5. The baghouse shall be in operation when fresh sand is added to the recycled sand and water mix. The baghouse shall operate as follows:
 - a. the pressure drop across the baghouse shall be maintained within the range of one to six inches of water while this emissions unit is in operation.

C. Monitoring and/or Record Keeping Requirements

1. The permittee shall record the following information for each month of operation for this emissions unit:
 - a. the hours of operation during month;
 - b. the cumulative total number of operating hours on a rolling 12-month basis.
 - c. the amount of sand mixed in the muller, in tons, during month;
 - d. the amount of sand mixed in the muller, in tons, over the past rolling 12-months;
 - e. the average production rate of the muller, in tons per hour, during month, calculated by dividing (c) by (a);
 - f. the average production rate of the muller, in tons per hour, over the past rolling 12-months, calculated by dividing (d) by (b);
 - g. the amount of fresh sand added, in tons, during month;
 - h. the amount of fresh sand added, in tons, over the past rolling 12-months;
 - i. the average production rate of the fresh sand addition, in tons per hour, during month, calculated by dividing (g) by (a); and
 - j. the average production rate of the fresh sand addition, in tons per hour, over the past rolling 12-months, calculated by dividing (h) by (b)

2. The permittee shall record each month the PM 10 emissions rate in tons per rolling 12-months for this emissions unit, as calculated by the following equation:

$$E = \text{PM 10 emissions from muller/scrubber stack or } [EF \times P \times H \times \text{ton}/2,000 \text{ lbs}] + \text{PM 10 emissions from fresh sand addition/baghouse stack or } [EF \times P \times H \times \text{ton}/2,000 \text{ lbs}]$$

Where:

E = Total PM 10 emissions rate, in tons per rolling 12-months

EF = Emission factor for controlled PM 10 is 0.01196 lb PM 10/ton metal * for the scrubber stack, and 0.052 lb PM 10/ton metal ** for the baghouse stack

P = the average production rate, in tons per hour, for the muller is recorded in section C.1.f, and the average production rate of the fresh sand addition is recorded section c.1.j.

H = Hours of operation in hours per rolling 12-months, as recorded in section C.1.b

Emission Factor of 0.046 lb PE/ton sand handled, with scrubber, is from AP-42 Table 12.10-7 (1/95). Emission Factor of 0.20 lb PE/ton sand handled, with baghouse, is from AP-42 Table 12.10-7 (1/95). No Emission Factor found for PM 10. However, Table A-1 of AP-42 (2/72) provides a percentage distribution by size of particles from selected sources without control equipment. PM10 emissions from a "gray iron foundry" are reported at 26%. Assumption is made that we can use reported proportions (26% < 10 microns, 74% > 10 microns) and apply to proportions of controlled emissions.

Calculation:

* EF for scrubber = 26% of 0.046 lb PE/ton metal = 0.01196 lb PM10/ton metal.

** EF for baghouse = 26% of 0.20 lb PE/ton metal = 0.052 lb PM10/ton metal.

3. The permittee shall perform daily checks, when this emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from each stack and 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 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 emissions 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) above or continue the daily 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 emission unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

4. The permittee shall monitor and record the water level, in inches below full mark, for the scrubber twice per shift (or at least twice every 8 hours) for each day the emissions unit is in operation.
5. The permittee shall record the downtime for the scrubber equipment, when this emissions unit is in operation.
6. The permittee shall properly operate and maintain equipment to monitor the pressure drop across the baghouse while this emissions unit is in operation. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals. The permittee shall also record:
 - a. pressure drop across the baghouse for each day of operation; and
 - b. a log or record of downtime for the control device and monitoring equipment, when the associated emissions unit is in operation.

D. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports for all exceedances as follows:
 - a. the month when the cumulative total number of operating hours for this emissions unit exceeded 5,000 hours on a 12-month rolling basis;
 - b. the month when the average production rate for the miller exceeded 39.6 tons per hour, and when the average production rate for the fresh sand addition exceeded 3.96 tons per hour;
 - c. the month when the total PM 10 emissions rate exceeded 1.69 tons per rolling 12 months;
 - d. the date and time when the water level in the scrubber was more than 10 inches below full while this emissions unit was in operation; and
 - e. the date and time when the pressure drop across the baghouse was outside the required range of one to six inches of water while this emissions unit is in operation.

The calendar quarters are January 1 - March 31, April 1 - June 30, July 1 - September 30, and October 1 - December 31. The quarterly deviation reports shall be submitted to the Ohio EPA Northeast District Office quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarter.

If no deviations occurred during a calendar quarter, the permittee shall still submit a quarterly report which states that no deviations occurred during the quarter.
2. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit, (b) identify all days during which any visible fugitive particulate emissions were observed from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit, and (c) describe any corrective actions taken to minimize or eliminate the visible particulate and/or visible fugitive particulate emissions. These reports shall be submitted to the Ohio EPA Northeast District Office 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 and operational restrictions in sections A and B of these terms and conditions shall be determined in accordance with the following methods:

Emission Limitation:
Visible particulate emissions from the stack serving the miller/scrubber, and from the stack serving the fresh sand addition/baghouse shall not exceed twenty percent opacity, as a six-minute average, except as provided by rule.

Applicable Compliance Method:
Compliance with the above visible particulate limitation shall be determined in accordance with U.S. EPA Reference Method 9 of 40 CFR Part 60, Appendix A.

Emission Limitation:
Fugitive visible particulate emissions from this emissions unit shall not exceed twenty percent opacity, as a three-minute average.

Applicable Compliance Method:
Compliance with the above fugitive visible particulate limitation shall be determined in accordance with U.S. EPA Reference Method 9 of 40 CFR Part 60, Appendix A.

Emission Limitation:
Particulate emissions from the miller/scrubber stack shall not exceed 14.21 pounds per hour. Particulate emissions from the fresh sand addition/baghouse stack shall not exceed 3.21 pounds per hour.

Applicable Compliance Method:
If required, the permittee shall conduct, or have conducted, particulate emission testing at the outlet of each stack serving this emissions unit to demonstrate compliance with the particulate emissions limitations in accordance with 40 CFR part 60, Appendix A, Methods 1 - 5.

Emission Limitation:
Total PM 10 emissions from this emissions unit shall not exceed 1.69 tons per rolling 12 months

Applicable Compliance Method:
 Compliance with the above emissions limitation shall be demonstrated by the monitoring and record keeping requirement in section C.2.
 Operational Restriction:
 The maximum hours of operation for this emissions unit shall not exceed 5,000 hours per rolling 12 months.

Applicable Compliance Method:
 Compliance with the above operational restriction shall be demonstrated by the monitoring and record keeping requirement in section C.1.b.
 Operational Restriction:
 The production rate for the miller shall not exceed 39.6 tons per hour, and the production rate for the fresh sand addition shall not exceed 3.96 tons per hour.

Applicable Compliance Method:
 Compliance with the above operational restrictions shall be demonstrated by the monitoring and record keeping requirements in sections C.1.e and C.1.i.
 Operational Restriction:
 The water level in the scrubber shall be kept above 10 inches below full mark while this emissions unit is in operation.

Applicable Compliance Method:
 Compliance with the above operational restriction shall be demonstrated by the monitoring and record keeping requirements in section C.4.
 Operational Restriction:
 The pressure drop across the baghouse shall be maintained within the range of one to six inches of water while this emissions unit is in operation.

Applicable Compliance Method:
 Compliance with the above operational restriction shall be demonstrated by the monitoring and record keeping requirements in section C.6.

2. Reasonably Available Control Measures required by OAC rule 3745-17-08(B) that are employed for this emissions unit shall be considered adequate if compliance with the visible particulate emissions limitation contained in OAC rule 3745-17-07 is achieved.

F. Miscellaneous Requirements

1. The terms and conditions in sections A, B, C, D and E of this permit are federally enforceable.

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Facility ID: 0215010001 Emissions Unit ID: F008 Issuance type: Draft 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>
Two shakeout units, upper and lower, equipped with a baghouse having a 84% overall particulate control efficiency.	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from the stack serving F008 shall not exceed twenty percent opacity, as a six-minute average. See also section A.2.a.
	OAC rule 3745-17-07(B)(1)	Fugitive visible particulate emissions from this emissions unit shall not exceed twenty percent opacity as a three-minute average.
	OAC rule 3745-17-08(B)	See section A.2.b.
	OAC rule 3745-17-11(B)(1)	Particulate (PE) emissions shall not exceed 4.14 pounds per hour.
	OAC rule 3745-35-07(B)	PM 10 emissions shall not exceed 3.67 tons per rolling

12 months, Volatile organic compound (VOC) emissions shall not exceed 24.55 tons per rolling 12 months.

2. Additional Terms and Conditions

- (a) Except as otherwise specified in paragraphs (A)(2) and (A)(3) of OAC rule 3745-17-07, visible particulate emissions from the stack may exceed twenty percent opacity, as a six-minute average for not more than six consecutive minutes in any sixty minutes, but shall not exceed sixty percent opacity, as a six minute average, at any time.
- Reasonably available control measures (RACM) shall be employed to minimize fugitive particulate emissions. RACM shall include, but not be limited to, maintaining an adequate draft into the hood that directs the exhaust to a baghouse. The system shall provide an overall particulate control efficiency of 84% (85% capture efficiency and 99% control efficiency). The permittee shall check the position of the dampers daily to assure that the draft is sufficient to adequately capture emissions.

B. Operational Restrictions

1. The maximum hours of operation for this emissions unit is 3,100 hours per rolling 12-months. During the first twelve (12) calendar months of operation following the effective date of this federally enforceable state operating permit, the cumulative number of hours shall not exceed the cumulative total number of hours as specified for each month in the following table:

Month: Cumulative Number of Operating Hours:

1 258
 2 516
 3 774
 4 1,032
 5 1,290
 6 1,548
 7 1,806
 8 2,064
 9 2,322
 10 2,580
 11 2,838
 12 3,100

2. The maximum production rate of this emissions unit of 6.6 tons metal per hour shall not be exceeded.
3. The pressure drop across the baghouse shall be maintained within the range of one to six inches of water while this emissions unit is in operation.

C. Monitoring and/or Record Keeping Requirements

1. The permittee shall record the following information for each month of operation for this emissions unit:
- the hours of operation during month;
 - the cumulative total number of operating hours on a rolling 12-month basis;
 - the amount of metal (castings), in tons, shaken during month;
 - the amount of metal (castings), in tons, shaken over the past rolling 12-months;
 - the average production rate of this emissions unit, in tons per hour, during month, calculated by dividing (c) by (a); and
 - the average production of this emissions unit, in tons per hour, over the past rolling 12-months, calculated by dividing (d) by (b).

2. The permittee shall record each month the PM 10 emissions rate in tons per rolling 12-months, as calculated by the following equation:

$$E = EF \times P \times H \times \text{ton}/2,000 \text{ lbs} \times (1 - CE)$$

Where:

E = Emissions rate, in tons per rolling 12-months

EF = Emission factor for PM 10 is 2.24 lbs PM 10/ton metal *

P = The average production rate of this emissions unit, in tons metal per hour, as recorded in section C.1.f

H = Hours of operation in hours per rolling 12-months, as recorded in section C.1.b

CE = Overall control efficiency of capture equipment and baghouse, expressed as a decimal, is 0.84.

* Emission Factor of 2.24 lbs PM10/ton metal is from AP-42 Table 12.10-9 (1/95), (shakeout uncontrolled).

3. The permittee shall record each month the volatile organic compound (VOC) emissions rate in tons per rolling 12-months, as calculated by the following equation:

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

Where:

E = Emissions rate, in tons per rolling 12-months

EF = Emission factor for VOC is 2.4 lbs VOC/ton metal *

M = The average production rate of this emissions unit, in tons metal per hour, as recorded in section C.1.f

H = Hours of operation in hours per rolling 12-months, as recorded in section C.1.b

* Derivation of Emission Factor. 6:1 is the sand:metal ratio. 4% seacoal in green sand. Assume 1% burnout rate. 50% of burnout is VOC. (6 tons sand/1 ton metal)(0.04)(0.01)(0.50)(2,000 lbs/1 ton) = 2.4 lbs VOC /ton of metal.

4. The permittee shall perform daily checks, when this emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack and 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 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 emissions 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) above or continue the daily 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 emission unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.
5. The permittee shall properly operate and maintain equipment to monitor the pressure drop across the baghouse while this emissions unit is in operation. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall also record:
 - a. pressure drop across the baghouse for each day of operation; and
 - b. a log or record of downtime for the control device and monitoring equipment, when the associated emissions unit is in operation.
6. The permittee shall conduct daily inspections of the dampers to the baghouse to ensure adequate capture and operation of the baghouse. The inspection findings, and any subsequent maintenance task performed, shall be entered into a maintenance log.

D. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports for all exceedances as follows:
 - a. the month when the cumulative total number of operating hours exceeded 3,100 hours on a 12-month rolling basis;
 - b. the month when the PM 10 and/or VOC emissions rate exceeded the respective tons per rolling 12-month emissions limitation;
 - c. the month when the average production rate for this emissions unit exceeded 6.6 tons metal per hour; and
 - d. date and time when the pressure drop across the baghouse was outside the required range of one to six inches of water while this emissions unit was in operation.

The calendar quarters are January 1 - March 31, April 1 - June 30, July 1 - September 30, and October 1 - December 31. The quarterly deviation reports shall be submitted to the Ohio EPA Northeast District Office quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarter.

If no deviations occurred during a calendar quarter, the permittee shall still submit a quarterly report which states that no deviations occurred during the quarter.
2. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit, (b) identify all days during which any visible fugitive particulate emissions were observed from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit, and (c) describe any corrective actions taken to minimize or eliminate the visible particulate and/or visible fugitive particulate emissions. These reports shall be submitted to the Ohio EPA Northeast District Office 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 and operational restrictions in sections A and B of these terms and conditions shall be determined in accordance with the following methods:

Emission Limitation:
Visible particulate emissions from the stack serving this emission unit shall not exceed twenty percent opacity, as a six-minute average, except as provided by rule.

Applicable Compliance Method:
Compliance with the above visible particulate limitation shall be determined in accordance with U.S. EPA Reference Method 9 of 40 CFR Part 60, Appendix A.

Emission Limitation:
Fugitive visible particulate emissions from this emissions unit shall not exceed twenty percent opacity, as a three-minute average.

Applicable Compliance Method:
Compliance with the above fugitive visible particulate limitation shall be determined in accordance with U.S. EPA Reference Method 9 of 40 CFR Part 60, Appendix A.

Emission Limitation:

Particulate emissions from the stack serving this emissions unit shall not exceed 4.14 pounds per hour.

Applicable Compliance Method:

If required, the permittee shall conduct, or have conducted, particulate emission testing at the outlet of the stack serving this emissions unit to demonstrate compliance with the particulate emissions limitation in accordance with 40 CFR part 60, Appendix A, Methods 1 - 5.

Emission Limitation:

PM 10 emissions shall not exceed 3.67 tons per rolling 12-months

Applicable Compliance Method:

Compliance with the above emissions limitation shall be demonstrated by the monitoring and record keeping requirement in section C.2.

Emission Limitation:

Volatile organic compound (VOC) emissions shall not exceed 24.55 tons per rolling 12-months

Applicable Compliance Method:

Compliance with the above emissions limitation shall be demonstrated by the monitoring and record keeping requirement in section C.3.

Operational Restriction:

The maximum hours of operation for this emissions unit shall not exceed 3,100 hours per rolling 12 months.

Applicable Compliance Method:

Compliance with the above operational restriction shall be demonstrated by the monitoring and record keeping requirement in section C.1.

Operational Restriction:

The maximum production rate of this emissions unit shall not exceed 6.6 tons metal per hour.

Applicable Compliance Method:

Compliance with the above operational restriction shall be demonstrated by the monitoring and record keeping requirement in section C.1.e.

Operational Restriction:

The pressure drop across the baghouse shall be maintained within the range of one to six inches of water while this emissions unit is in operation.

Applicable Compliance Method:

Compliance with the above operational restriction shall be demonstrated by the monitoring and record keeping requirements in section C.5.

2. Reasonably Available Control Measures required by OAC rule 3745-17-08(B) that are employed for this emissions unit shall be considered adequate if compliance with the visible particulate emissions limitation contained in OAC rule 3745-17-07 is achieved.

F. Miscellaneous Requirements

1. The terms and conditions in sections A, B, C, D and E of this permit are federally enforceable.

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

Facility ID: 0215010001 Emissions Unit ID: F009 Issuance type: Draft 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>
Pouring/Cooling	OAC rule 3745-17-07(B)(1)	Fugitive visible particulate emissions shall not exceed twenty percent opacity as a three-minute average.
	OAC rule 3745-17-08(B)(3)	See section A.2.a.
	OAC rule 3745-35-07(B)	Carbon monoxide (CO) emissions shall not exceed

24.55 tons per rolling 12-months. PM 10 emissions shall not exceed 21.07 tons per rolling 12-months. Volatile organic compound (VOC) emissions shall not exceed 24.55 tons per rolling 12-months.

2. Additional Terms and Conditions

- (a) Reasonably available control measures (RACM) shall be employed to minimize fugitive particulate emissions. RACM shall include, but not be limited to, containing operations within the building and using good engineering practices.

B. Operational Restrictions

- 1. The maximum hours of operation for this emissions unit is 3,100 hours per rolling 12-months. During the first twelve (12) calendar months of operation following the effective date of this federally enforceable state operating permit, the cumulative number of hours shall not exceed the cumulative total number of hours as specified for each month in the following table:

Month: Cumulative Number of Operating Hours:

1	258
2	516
3	774
4	1,032
5	1,290
6	1,548
7	1,806
8	2,064
9	2,322
10	2,580
11	2,838
12	3,100

- 2. The maximum pouring rate for this emissions unit of 6.6 tons metal per hour shall not be exceeded.

C. Monitoring and/or Record Keeping Requirements

- 1. The permittee shall record the following information for each month of operation for this emissions unit:
 - a. the hours of operation during month;
 - b. the cumulative total number of operating hours on a rolling 12-month basis.
 - c. the amount of metal poured, in tons, during month;
 - d. the amount of metal poured, in tons, over the past rolling 12-months;
 - e. the average pouring rate of this emissions unit, in tons metal per hour, during month, calculated by dividing (c) by (a); and
 - f. the average pouring rate of this emissions unit, in tons metal per hour, over the past rolling 12-months, calculated by dividing (d) by (b).
- 2. The permittee shall record each month the carbon monoxide emissions rate in tons per rolling 12-months, as calculated by the following equation:

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

Where:

E = Emissions rate, in tons per rolling 12-months

EF = Emission factor for CO is 2.4 lbs CO/ton metal poured *

P = The average pouring rate, in tons metal per hour, as recorded in section C.1.f.

H = Hours of operation in hours per rolling 12-months, as recorded in section C.1.b.

* Derivation of Emission Factor. 6:1 is the sand:metal ratio. 4% seacoal in green sand. Assume 1% burnout rate. 50% of burnout is CO. (6 tons sand/1 ton metal)(0.04)(0.01)(0.50)(2,000 lbs/1 ton) = 2.4 lbs CO /ton of metal.

- 3. The permittee shall record each month the volatile organic compound (VOC) emissions rate in tons per rolling 12-months, as calculated by the following equation:

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

Where:

E = Emissions rate, in tons per rolling 12-months

EF = Emission factor for VOC is 2.4 lbs VOC/ton metal poured *

P = The average pouring rate, in tons metal per hour, as recorded in section C.1.f.

H = Hours of operation in hours per rolling 12-months, as recorded in section C.1.b.

* Derivation of Emission Factor. 6:1 is the sand:metal ratio. 4% seacoal in green sand. Assume 1% burnout rate. 50% of burnout is VOC. (6 tons sand/1 ton metal)(0.04)(0.01)(0.50)(2,000 lbs/1 ton) = 2.4 lbs VOC /ton of metal.

- 4. The permittee shall record each month the PM 10 emissions rate in tons per rolling 12-months, as calculated by the following equation:

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

Where:

E = Emissions rate, in tons per rolling 12-months

EF = Emission factor for PM 10 is 2.06 lbs PM 10/ton metal poured *

P = The average pouring rate, in tons metal per hour, as recorded in section C.1.f.

H = Hours of operation in hours per rolling 12-months, as recorded in section C.1.b.

* Emission Factor of 2.06 lbs PM10/ton metal is from AP-42 Table 12.10-9 (1/95), (pouring/uncontrolled for PM 10).

5. The permittee shall perform daily 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 of 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 emissions 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) above or continue the daily 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 emission unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

D. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports for all exceedances as follows:
 - a. the month when the cumulative total number of operating hours exceeded 3,100 hours on a 12-month rolling basis;
 - b. the month when the CO, PM 10 and/or VOC emissions rate exceeded the respective tons per rolling 12-month emissions limitation; and
 - c. the month when the average pouring rate exceeded 6.6 tons metal per hour.

The calendar quarters are January 1 - March 31, April 1 - June 30, July 1 - September 30, and October 1 - December 31. The quarterly deviation reports shall be submitted to the Ohio EPA Northeast District Office quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarter.

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

2. The permittee shall submit semiannual written reports that (a) identify all days during which any visible fugitive particulate emissions were observed from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit, and (b) describe any corrective actions taken to minimize or eliminate the visible fugitive particulate emissions. These reports shall be submitted to the Ohio EPA Northeast District Office 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 and operational restrictions in sections A and B of these terms and conditions shall be determined in accordance with the following methods:

Emission Limitation:

Fugitive visible particulate emissions from this emissions unit shall not exceed twenty percent opacity, as a three-minute average.

Applicable Compliance Method:

Compliance with the above fugitive visible particulate limitation shall be determined in accordance with U.S. EPA Reference Method 9 of 40 CFR Part 60, Appendix A.

Emission Limitation:

Carbon monoxide (CO) emissions shall not exceed 24.55 tons per rolling 12-months

Applicable Compliance Method:

Compliance with the above emissions limitation shall be demonstrated by the monitoring and record keeping requirement in section C.2.

Emission Limitation:

Volatile organic compound (VOC) emissions shall not exceed 24.55 tons per rolling 12-months

Applicable Compliance Method:

Compliance with the above emissions limitation shall be demonstrated by the monitoring and record keeping requirement in section C.3.

Emission Limitation:

PM 10 emissions shall not exceed 21.07 tons per rolling 12-months

- Applicable Compliance Method:
 Compliance with the above emissions limitation shall be demonstrated by the monitoring and record keeping requirement in section C.4.
 Operational Restriction:
 The maximum hours of operation for this emissions unit shall not exceed 3,100 hours per rolling 12 months.
- Applicable Compliance Method:
 Compliance with the above operational restriction shall be demonstrated by the monitoring and record keeping requirement in section C.1.
 Operational Restriction:
 The maximum pouring rate of this emissions unit shall not exceed 6.6 tons per hour.
- Applicable Compliance Method:
 Compliance with the above operational restriction shall be demonstrated by the monitoring and record keeping requirement in section C.1.e.
2. Reasonably Available Control Measures required by OAC rule 3745-17-08(B) that are employed for this emissions unit shall be considered adequate if compliance with the visible particulate emissions limitation contained in OAC rule 3745-17-07 is achieved.

F. Miscellaneous Requirements

1. The terms and conditions in sections A, B, C, D and E of this permit are federally enforceable.

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

Facility ID: 0215010001 Emissions Unit ID: F012 Issuance type: Draft 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>
Core Making. Four types include Shalco (3 machines), Oil Core (1 bench and 1 oven), Warm Box (2 machines), and Phenolic No Bake (2 machines). Core dip tank used to apply coatings to finished cores.	OAC rule 3745-17-07(B)(1)	Fugitive visible particulate emissions shall not exceed twenty percent opacity as a three-minute average.
	OAC rule 3745-17-08(B)(3) OAC rule 3745-35-07(B)	See section A.2.a. PM 10 emissions shall not exceed 0.46 ton per rolling 12-months. Volatile organic compounds (VOC) shall not exceed 32.00 tons per rolling 12-months. A single hazardous air pollutant (HAP) shall not exceed 9.9 tons per rolling 12-months and combined HAPs shall not exceed 24.9 tons per rolling 12-months for emissions units F012, K001 and K002.

2. **Additional Terms and Conditions**
 - (a) Reasonably available control measures (RACM) shall be employed to minimize fugitive particulate emissions. RACM shall include, but not be limited to, containing operations within the building and using good engineering practices.

B. Operational Restrictions

1. The maximum hours of operation for this emissions unit is 5,000 hours per rolling 12-months. During the first twelve (12) calendar months of operation following the effective date of this federally enforceable state operating permit, the cumulative number of hours shall not exceed the cumulative total number of hours as specified for each month in the following table:

Month: Cumulative Number of Operating Hours:

- 1 417
- 2 834
- 3 1,251
- 4 1,668
- 5 2,085
- 6 2,502
- 7 2,919
- 8 3,336
- 9 3,753
- 10 4,170
- 11 4,587
- 12 5,000

2. The maximum throughput of sand shall not exceed 2.0 tons per hour.

C. Monitoring and/or Record Keeping Requirements

1. The permittee shall record the following information for each month of operation for this emissions unit:

- a. the hours of operation during month;
- b. the total amount of sand used, in tons;
- c. the average amount of sand used per hour during the month, calculated by dividing (b) by (a);
- d. the total amount of binders and resins used, in pounds;
- e. the total amount of each single HAP for each binder and resin used, in pounds; and
- f. the total amount of combined HAPs for each binder and resin used, in pounds.

2. The permittee shall record the following information for each month of operation, on a rolling 12-month basis for this emissions unit:

- a. the cumulative hours of operation over the past 12-months;
- b. the cumulative amount of sand used over the past 12-months, in tons;
- c. the average amount of sand used per hour over the past 12-months, calculated by dividing (b) by (a);
- d. the total amount of binders and resins used over the past 12-months, in pounds;
- e. the total amount of each single HAP in the binders and resins used over the past 12-months, in pounds; and
- f. the total amount of combined HAPs in the binders and resins used over the past 12-months, in pounds.

3. The permittee shall record each month the PM 10 emissions for this emissions unit, in tons per rolling 12-months, as calculated by the following equation:

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

Where:

E = Emissions rate, in tons per rolling 12-months

EF = Emission factor for PM 10 is 0.091 lb PM 10/ton sand *

S = Amount of sand used per hour, as calculated in section C.2.c.

H = Number of hours of operation , as recorded in section C.2.a.

* Emission Factor of 0.35 lb PE/ton cores produced is from RACM Table 2.7-1. No Emission Factor found for PM 10. However, Table A-1 of AP-42 (2/72) provides a percentage distribution by size of particles from selected sources without control equipment. PM10 emissions from a "gray iron foundry" are reported at 26%. Assumption is made that we can use reported proportions (26% < 10 microns, 74% > 10 microns) and apply to proportions of controlled emissions.

$$\text{Calculation: } (0.26)(0.35 \text{ lb PE/ton cores}) = 0.091 \text{ lb PM 10/ton cores}$$

4. The permittee shall record each month the volatile organic compound (VOC) emissions for this emissions unit, in tons per rolling 12-months, as calculated by the following equation:

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

Where:

E = Emissions rate, in tons per rolling 12-months

EF = Emission factor for VOC in lbs VOC/ton sand, is calculated by dividing the amount of binders and resins used over the past 12-months, in pounds (as recorded in section C.2.d) by the amount of sand used over the past 12-months, in tons (as recorded in section C.2.b).

S = Amount of sand used per hour, as calculated in section C.2.c.

H = Number of hours of operation , as recorded in section C.2.a.

5. The permittee shall record each month the emissions of each single hazardous air pollutant for this emissions unit, in tons per rolling 12-months, as calculated by the following equation:

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

Where:

E = Emissions rate, in tons per rolling 12-months

EF = Emission factor for each single HAP in lbs HAP/ton sand, is calculated by dividing the amount of the HAP used over the past 12-months, in pounds (as recorded in section C.2.e) by the amount of sand used over the

past 12-months, in tons (as recorded in section C.2.b).

S = Amount of sand used per hour, as calculated in section C.2.c.

H = Number of hours of operation, as recorded in section C.2.a.

6. The permittee shall record each month the emissions of the combined hazardous air pollutants for this emissions unit, in tons per rolling 12-months, as calculated by the following equation:

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

Where:

E = Emissions rate, in tons per rolling 12-months

EF = Emission factor for the combined HAPs in lbs HAP/ton sand, is calculated by dividing the amount of the combined HAPs used over the past 12-months, in pounds (as recorded in section C.2.f) by the amount of sand used over the past 12-months, in tons (as recorded in section C.2.b).

S = Amount of sand used per hour, as calculated in section C.2.c.

H = Number of hours of operation, as recorded in section C.2.a.

7. The permittee shall collect and record the following information each month:

a. the total emissions of each single HAP, in tons per rolling 12-months, from this emissions unit, K001 (three dip tanks), and K002 (casting paint dip tank - yellow). The emissions of each single HAP from this emissions unit is calculated per section C.5 of this permit. The emissions of each single HAP from emissions unit K001 and K002 are calculated and recorded as required in the "Monitoring and/or Record Keeping Requirements" section for K001 in this Federally Enforceable State Operating Permit and for K002 in its Permit-to-Install, No. 02-21767; and

b. the combined HAP emissions, in tons per rolling 12-months, from this emissions unit, K001 (three dip tanks), and K002 (casting paint dip tank - yellow). The combined HAP emissions from this emissions unit is calculated per section C.6 of this permit. The combined HAP emissions from emissions unit K001 and K002 are calculated and recorded as required in the "Monitoring and/or Record Keeping Requirements" section for K001 in this Federally Enforceable State Operating Permit and for K002 in its Permit-to-Install, No. 02-21767.

8. The permittee shall perform daily 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 of 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:

- the location and color of the emissions;
- whether the emissions are representative of normal operations;
- if the emissions are not representative of normal operations, the cause of the abnormal emissions;
- the total duration of any visible emissions incident, and
- 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) above or continue the daily 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 emission unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

D. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports for all exceedances as follows:

- the month when the cumulative total number of operating hours exceeded 5,000 hours on a 12-month rolling basis;
- the month when the VOC emissions rate exceeded 32.00 tons per rolling 12-months;
- the month when the average sand usage exceeded 2.0 tons and per hour; and
- the month during which the HAP emissions from the facility (emissions units F012, K001 and K002) were greater than 9.9 tons per rolling 12-months for any single HAP or greater than 24.9 tons per rolling 12-months for combined HAPs, as recorded per the requirements of section C.7.

The calendar quarters are January 1 - March 31, April 1 - June 30, July 1 - September 30, and October 1 - December 31. The quarterly deviation reports shall be submitted to the Ohio EPA Northeast District Office quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarter.

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

2. The permittee shall submit semiannual written reports that (a) identify all days during which any visible fugitive particulate emissions were observed from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit, and (b) describe any corrective actions taken to minimize or eliminate the visible fugitive particulate emissions. These reports shall be submitted to the Ohio EPA Northeast District Office 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 and operational restrictions in sections A and B of these terms and conditions shall be determined in accordance with the following methods:
 Emission Limitation:
 Fugitive visible particulate emissions from this emissions unit shall not exceed twenty percent opacity, as a three-minute average.

 Applicable Compliance Method:
 Compliance with the above fugitive visible particulate limitation shall be determined in accordance with U.S. EPA Reference Method 9 of 40 CFR Part 60, Appendix A.
 Emission Limitation:
 PM 10 emissions shall not exceed 0.46 ton per rolling 12-months

 Applicable Compliance Method:
 Compliance with the above emissions limitation shall be demonstrated by the monitoring and record keeping requirement in section C.3.
 Emission Limitation:
 VOC emissions shall not exceed 32.00 tons per rolling 12-months

 Applicable Compliance Method:
 Compliance with the above emissions limitation shall be demonstrated by the monitoring and record keeping requirement in section C.4.
 Emission Limitation:
 A single hazardous air pollutant (HAP) shall not exceed 9.9 tons per rolling 12-months and combined HAPs shall not exceed 24.9 tons per rolling 12-months for emissions unit F012, K001 and K002.

 Applicable Compliance Method:
 Compliance shall be based upon the record keeping requirement specified in section C.7.
 Operational Restriction:
 The maximum hours of operation for this emissions unit shall not exceed 5,000 hours per rolling 12 months.

 Applicable Compliance Method:
 Compliance with the above operational restriction shall be demonstrated by the monitoring and record keeping requirement in section C.2.a.
 Operational Restriction:
 The maximum throughput of sand shall not exceed 2.0 tons per hour.

 Applicable Compliance Method:
 Compliance with the above operational restriction shall be demonstrated by the monitoring and record keeping requirement in section C.1.c.
2. Reasonably Available Control Measures required by OAC rule 3745-17-08(B) that are employed for this emissions unit shall be considered adequate if compliance with the visible particulate emissions limitation contained in OAC rule 3745-17-07 is achieved.

F. Miscellaneous Requirements

1. The terms and conditions in sections A, B, C, D and E of this permit are federally enforceable.

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

Facility ID: 0215010001 Emissions Unit ID: K001 Issuance type: Draft 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>
Three casting paint dip tanks	OAC rule 3745-31-05(A)(3) (PTI 02-20438)	Volatile organic compound emissions shall not exceed 210 pounds per day. See also section A.2.a.

OAC rule 3745-21-09(U)(1)(d)

The volatile organic compound (VOC) content shall not exceed 3.5 pounds per gallon of coating, excluding water and exempt solvents, for coatings dried at temperatures not exceeding 200 degrees Fahrenheit.

OAC rule 3745-35-07(B)

VOC emissions shall not exceed 15.75 tons per rolling 12-month period.

A single hazardous air pollutant (HAP) shall not exceed 9.9 tons per rolling 12-months and combined HAPs shall not exceed 24.9 tons per rolling 12-months for emissions units F012, K001 and K002.

2. **Additional Terms and Conditions**

- (a) The requirements of this rule also include compliance with the requirements of OAC rule 3745-21-09(U)(1)(d).

B. **Operational Restrictions**

1. The coating usage shall not exceed 9,000 gallons per rolling 12 months. During the first twelve (12) calendar months of operation following the effective date of this federally enforceable state operating permit, the cumulative number of gallons shall not exceed the cumulative total number of gallons as specified for each month in the following table:

Month: Cumulative Number of gallons:

1 750
2 1,500
3 2,250
4 3,000
5 3,750
6 4,500
7 5,250
8 6,000
9 6,750
10 7,500
11 8,250
12 9,000

2. The permittee shall cover the dip tanks in order to reduce VOC emissions when this emissions unit is not actively in use.
3. The exhaust fan above one dip tank shall operate at 4,000 cubic feet per minute and shall operate at all times when this emissions unit is in operation.
4. The maximum coating usage rate shall not exceed 2.5 gallons per hour.

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

1. The permittee shall collect and record the following information each day for this emissions unit:
- the name and identification number of each coating employed;
 - the VOC content, excluding water and exempt solvents, in pounds per gallon, of each coating employed;
 - the content of each single HAP, in pounds per gallon, of each coating employed;
 - the volume of each coating employed, in gallons;
 - the VOC emissions, in pounds per day, as calculated by the following equation:

$$E \text{ (lbs VOC/hour)} = \text{the sum of (A multiplied by B) for each type of coating applied, where}$$

$$A = \text{the VOC content, excluding water and exempt solvents, in pounds per gallon}$$

$$B = \text{volume of coating employed, in gallons}$$
 - the emissions of each single HAP, in pounds per day, as calculated by multiplying the single HAP, in pounds per gallon, with the number of gallons employed during the day;
 - the combined HAP emissions, in pounds per day, calculated by the summation of each individual HAP emissions as calculated in section C.1.f; and
 - the average hourly coating usage, in gallons per hour, calculated by dividing the volume of coatings used during the day by the hours of operating hours of the day.
2. The permittee shall collect and record the following information each month for this emissions unit:
- the total volume of coatings employed, in gallons, during the month;
 - the cumulative total volume of coatings employed, in gallons, during the past 12 rolling months;
 - the VOC emissions, in tons per rolling 12 months, as calculated by the summation of daily VOC emissions during each month, multiplied by ton/2,000 lbs;
 - the emissions of each single HAP, in tons per rolling 12 months, as calculated by the summation of daily emissions of each single HAP during each month, multiplied by ton/2,000 lbs; and
 - the combined HAP emissions, in tons per rolling 12-months, calculated by the summation of each individual HAP emissions as calculated in section C.2.d.

3. The permittee shall collect and record the following information each month:
- the total emissions of each single HAP, in tons per rolling 12-months, from this emissions unit, F012 (core making), and K002 (casting paint dip tank - yellow). The emissions of each single HAP from this emissions unit is calculated per section C.2.d of this permit. The emissions of each single HAP from emissions unit F012 and K002 are calculated and recorded as required in the "Monitoring and/or Record Keeping Requirements" section for F012 in this Federally Enforceable State Operating Permit and for K002 in its Permit-to-Install, No. 02-21767; and
 - the combined HAP emissions, in tons per rolling 12-months, from this emissions unit, F012 (core making), and K002 (casting paint dip tank - yellow). The combined HAP emissions from this emissions unit is calculated per section C.2.e of this permit. The combined HAP emissions from emissions unit F012 and K002 are calculated and recorded as required in the "Monitoring and/or Record Keeping Requirements" section for F012 in this Federally Enforceable State Operating Permit and for K002 in its Permit-to-Install, No. 02-21767.
4. The permit to install for this emissions unit was evaluated based on the actual materials (typically coatings and cleanup materials) and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the SCREEN 3.0 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant:

Pollutant: 2-Butoxyethanol
 Maximum Hourly Emission Rate: 3.237 pounds per hour
 TLV: 96,662.58 ug/m³
 MAGLC = TLV/42 = 2,301.5 ug/m³
 Predicted 1-Hour Maximum Ground-Level Concentration: 2-Butoxyethanol

5. Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:
- changes in the composition of the materials used (typically for coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value previously modeled;
 - changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and
 - physical changes to the emissions unit or its exhaust parameters (e.g., increased/decreased exhaust flow, changes in stack height, changes in stack diameter, etc.)
- If the permittee determines that the "Air Toxic Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01(VV)(1)(a)(ii), and a modification of the existing permit to install will not be required. If the change(s) is (are) defined as a modification under other provisions of the modification definition (other than (VV)(1)(a)(ii)), then the permittee shall obtain a final permit to install prior to the change.
6. The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy:"
- a description of the parameters changed (composition of materials, new pollutant emitted, change in stack/exhaust parameters, etc.);
 - documentation of its evaluation and determination that the changed emissions unit still satisfied the "Air Toxic Policy"; and
 - where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

D. Reporting Requirements

- The permittee shall notify the Ohio EPA Northeast District Office in writing of any daily record showing use of noncomplying coatings, i.e., coatings exceeding 3.5 pounds VOC per gallon, excluding water and exempt solvents. The notification shall include a copy of such record and shall be sent to the Ohio EPA Northeast District Office within 30 days following the end of the calendar month.
- The permittee shall submit quarterly deviation (excursion) reports that include the following information for this emissions unit:
 - an identification of each day during which the VOC emissions were calculated to exceed 210 pounds per day;
 - an identification of each day during which the average hourly coating usage rate exceeded 2.5 gallons per hour;
 - an identification of each day during which VOC content of the coating exceeded 3.5 pounds per gallon;
 - an identification of each month during which the cumulative volume of coatings employed during each month of the first twelve (12) months of operation following issuance of this permit exceeded the stated amounts per section B.1;

e. an identification of each month after the first twelve (12) months of operation following issuance of this permit, during which the cumulative volume of coatings employed during the past rolling 12 months exceeded 9,000 gallons;

f. an identification of each month during which the VOC emissions were greater than 15.75 tons per rolling 12-months; and

g. and identification of each month during which the HAP emissions from the facility (emissions units F012, K001 and K002) were greater than 9.9 tons per rolling 12-months for any single HAP or greater than 24.9 tons per rolling 12-months for combined HAPs, as recorded per the requirements of section C.3.

The calendar quarters are January 1 - March 31, April 1 - June 30, July 1 - September 30, and October 1 - December 31. The quarterly deviation reports shall be submitted to the Ohio EPA Northeast District Office quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarter.

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

E. Testing Requirements

1. Compliance with the emission limitations and operational restrictions in sections A and B of these terms and conditions shall be determined in accordance with the following methods:

Emission Limitation:

3.5 pounds VOC per gallon of coating, excluding water and exempt solvents, for coatings dried at temperatures not exceeding 200 degrees Fahrenheit.

Applicable Compliance Method:

Compliance shall be based upon the record keeping requirements specified in section C. Formulation data or USEPA Method 24 shall be used to determine the VOC contents of the coatings.

Emission Limitation:

210 pounds VOC per day

Applicable Compliance Method:

Compliance shall be based upon the record keeping requirements specified in section C.

Emission Limitation:

15.75 tons VOC per rolling 12 months

Applicable Compliance Method:

Compliance shall be based upon the record keeping requirements section in section C.

Emission Limitation:

A single hazardous air pollutant (HAP) shall not exceed 9.9 tons per rolling 12-months and combined HAPs shall not exceed 24.9 tons per rolling 12-months for emissions unit F012, K001 and K002.

Applicable Compliance Method:

Compliance shall be based upon the record keeping requirement specified in section C.

F. Miscellaneous Requirements

1. The terms and conditions in sections A, B, C1, C2, D and E of this permit are federally enforceable.

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

Facility ID: 0215010001 Emissions Unit ID: P003 Issuance type: Draft 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>
Two enclosed shotblast units, Spinblast and Continuous, each equipped with a baghouse	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from each stack serving this emissions unit shall not exceed twenty percent

having a 94% overall particulate control efficiency

OAC rule 3745-17-11(B)(1)

OAC rule 3745-35-07(B)

opacity, as a six-minute average. See also section A.2.a.

Particulate (PE) emissions from each stack shall not exceed 7.0 pounds per hour.

PM 10 emissions from each stack shall not exceed 2.89 tons per year, (5.78 tons per year for both stacks).

2. Additional Terms and Conditions

- (a) Except as otherwise specified in paragraphs (A)(2) and (A)(3) of OAC rule 3745-17-07, visible particulate emissions from the stack may exceed twenty percent opacity, as a six-minute average for not more than six consecutive minutes in any sixty minutes, but shall not exceed sixty percent opacity, as a six minute average, at any time.

B. Operational Restrictions

- 1. The baghouse to each shotblasting unit shall be used while each shotblasting unit is in operation.
- 2. The pressure drop across each baghouse shall be maintained within the range of one to six inches of water while this emissions unit is in operation.
- 3. The maximum production rate of 2.2 tons metal per hour for each shotblasting unit shall not be exceeded.

C. Monitoring and/or Record Keeping Requirements

- 1. The permittee shall record the following information for each month of operation for this emissions unit:
 - a. the total hours of operation for each shotblasting unit;
 - b. the total amount of metal (castings), in tons, processed in each shotblasting unit; and
 - c. the average, monthly production rate for each shotblasting unit, in tons per hour, calculated by dividing (b) by (a).
- 2. The permittee shall record the following information for each year of operation for this emissions unit:
 - a. the total hours of operation;
 - b. the total amount of metal (castings), in tons, processed in each shotblasting unit;
 - c. the average, yearly production rate for each shotblasting unit, in tons per hour, calculated by dividing (b) by (a); and
 - d. the yearly emissions rate for PM 10, in tons per year, for each shotblasting unit, as calculated by the following equation:

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

Where:

E = Emissions rate, in tons per year

EF = Emission factor for controlled PM 10 is 0.30 lb PM 10/ton metal *

P = the average production rate for each shotblasting unit, in tons per hour, as recorded in section c.2.c.

H = Hours of operation, in hours per year, as recorded in section C.2.a.

* Emission Factor of 0.30 lb PM 10/ton metal is based on test data, with controls.

- 3. The permittee shall properly operate and maintain equipment to monitor the pressure drop across each baghouse while this emissions unit is in operation. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall also record:
 - a. pressure drop across each baghouse for each day of operation; and
 - b. a log or record of downtime for each control device and monitoring equipment, when the associated emissions unit is in operation.
- 4. The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack of each shotblasting unit. The presence or absence of any visible emissions shall be noted in an 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.

If no visible emissions are noted for one month, then the frequency for the above monitoring and recordkeeping may become weekly.

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) above or continue the daily check until the incident has ended. The observer may indicate that the visible emissions incident was continuous during the observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

D. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports for all exceedances as follows:
 - a. the month when the average production rate for either shotblasting unit exceeded 2.2 tons per hour, as recorded in section C.1.c; and
 - b. the date and time when the pressure drop across each baghouse was outside the required range of one to six inches of water while this emissions unit is in operation, as recorded in section C.3.

The calendar quarters are January 1 - March 31, April 1 - June 30, July 1 - September 30, and October 1 - December 31. The quarterly deviation reports shall be submitted to the Ohio EPA Northeast District Office quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarter.

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

2. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the stack of each shotblasting unit and (b) describe any corrective actions taken to minimize or eliminate the visible particulate emissions. These reports shall be submitted to the Ohio EPA Northeast District office by January 31 and July 31 of each year and shall cover the previous 6-month period.

If no visible particulate emissions were observed from each stack during a 6-month period, the permittee shall still submit a semi-annual report which states that no visible emissions were observed.

E. Testing Requirements

1. Compliance with the emission limitations and operational restrictions in sections A and B of these terms and conditions shall be determined in accordance with the following methods:
Emission Limitation:
Visible particulate emissions from each stack serving this emissions unit shall not exceed twenty percent opacity, as a six-minute average, except as provided by rule.

Applicable Compliance Method:
Compliance with the above visible particulate limitation shall be determined in accordance with U.S. EPA Reference Method 9 of 40 CFR Part 60, Appendix A.

Emission Limitation:
Particulate emissions from each stack serving this emissions unit shall not exceed 7.0 pounds per hour.

Applicable Compliance Method:
If required, the permittee shall conduct, or have conducted, particulate emission testing at the outlet of each stack serving this emissions unit to demonstrate compliance with the particulate emissions limitation in accordance with 40 CFR part 60, Appendix A, Methods 1 - 5.

Emission Limitation:
PM 10 emissions from each stack shall not exceed 2.89 tons per year, (5.78 tons per year for both stacks)

Applicable Compliance Method:
Compliance with the above emissions limitation shall be demonstrated by the monitoring and record keeping requirement in section C.2.

Operational Restriction:
The pressure drop across each baghouse shall be maintained within the range of one to six inches of water while this emissions unit is in operation.

Applicable Compliance Method:
Compliance with the above operational restriction shall be demonstrated by the monitoring and record keeping requirement in section C.3.

Operational Restriction:
The production rate for each shotblasting unit shall not exceed 2.2 tons per hour.

Applicable Compliance Method:
Compliance with the above operational restriction shall be demonstrated by the monitoring and record keeping requirement in section C.1.c.

F. Miscellaneous Requirements

1. The terms and conditions in sections A, B, C, D, and E of this permit are federally enforceable.

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

Facility ID: 0215010001 Emissions Unit ID: P004 Issuance type: Draft 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>
Grinding. Nine stations each equipped with HEPA filter having a particulate control efficiency of 90% and one station with no controls. All stations exhaust to plant interior.	OAC rule 3745-17-07(B)(1)	Fugitive visible particulate emissions shall not exceed twenty percent opacity as a three-minute average.
	OAC rule 3745-17-08(B)(3)	See section A.2.a.
	OAC rule 3745-35-07(B)	PM 10 emissions shall not exceed 0.44 tons per year.

2. Additional Terms and Conditions

(a) Reasonably available control measures (RACM) shall be employed to minimize fugitive particulate emissions from the grinder that exhausts directly to the plant interior. RACM shall include, but not be limited to, containing operations within the building and using good engineering practices.

B. Operational Restrictions

1. When a grinder equipped with a HEPA filter is in operation, the HEPA filter shall also be in operation.
 2. The maximum production rate for this emissions unit of 6.6 tons metal per hour shall not be exceeded.

C. Monitoring and/or Record Keeping Requirements

1. The permittee shall record the following information for each month of operation for this emissions unit:
 a. the total hours of operation;
 b. the total amount of metal (castings), in tons, grinded;
 c. the average, monthly production rate for this emissions unit, in tons per hour, calculated by dividing (b) by (a);
 and
 d. the day and time when a grinder equipped with a HEPA filter was in operation and the HEPA filter was not in operation.

2. The permittee shall record the following information for each year of operation for this emissions unit:
 a. the total hours of operation;
 b. the total amount of metal (castings), in tons, grinded;
 c. the average, yearly production rate for this emissions unit, in tons per hour, calculated by dividing (b) by (a);
 and
 d. the yearly emissions rate for PM 10, in tons per year, for this emissions unit, as calculated by the following equation:

$$E = EF \times P \times H \times \text{ton}/2,000 \text{ lbs} \times [9/10 (1 - CE)]$$

Where:

E = Emissions rate, in tons per year

EF = Emission factor for PM 10 is 0.168 lb PM 10/ton metal *

P = The average production rate, in tons metal per hour, as recorded in section C.2.c.

H = Hours of operation, in hours per year, as recorded in section C.2.a.

CE = Control efficiency of HEPA filter expressed as a decimal is 0.90.

* Emission Factor of 0.168 lb PM 10/ton metal is based on test data, with controls.

3. The permittee shall perform daily 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 of 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 emissions 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) above or continue the daily 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 emission unit continued to operate under normal conditions, or

specify the corrective actions that were taken to eliminate abnormal visible emissions.

D. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports for all exceedances as follows:
 - a. the month when the average production rate exceeded 6.6 tons metal per hour; and
 - b. date and time when a grinder equipped with a HEPA filter was in operation and the HEPA filter was not in operation.

The calendar quarters are January 1 - March 31, April 1 - June 30, July 1 - September 30, and October 1 - December 31. The quarterly deviation reports shall be submitted to the Ohio EPA Northeast District Office quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarter.

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

2. The permittee shall submit semiannual written reports that (a) identify all days during which any visible fugitive particulate emissions were observed from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit, and (b) describe any corrective actions taken to minimize or eliminate the visible fugitive particulate emissions. These reports shall be submitted to the Ohio EPA Northeast District Office 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 and operational restrictions in sections A and B of these terms and conditions shall be determined in accordance with the following methods:
Emission Limitation:
Fugitive visible particulate emissions from this emissions unit shall not exceed twenty percent opacity, as a three-minute average.

Applicable Compliance Method:
Compliance with the above fugitive visible particulate limitation shall be determined in accordance with U.S. EPA Reference Method 9 of 40 CFR Part 60, Appendix A.
Emission Limitation:
PM 10 emissions shall not exceed 0.44 ton per year

Applicable Compliance Method:
Compliance with the above emissions limitation shall be demonstrated by the monitoring and record keeping requirement in section C.2.

Operational Restriction:
The production rate for this emissions unit shall not exceed 6.6 tons metal per hour.

Applicable Compliance Method:
Compliance with the above operational restriction shall be demonstrated by the monitoring and record keeping requirement in section C.1.c.

2. Reasonably Available Control Measures required by OAC rule 3745-17-08(B) that are employed for this emissions unit shall be considered adequate if compliance with the visible particulate emissions limitation contained in OAC rule 3745-17-07 is achieved.

F. Miscellaneous Requirements

1. The terms and conditions in sections A, B, C, D, and E of this permit are federally enforceable.

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

Facility ID: 0215010001 Emissions Unit ID: P005 Issuance type: Draft 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>
Enclosed shotblast, Tumbblast, equipped with a baghouse having a 94% overall particulate control efficiency	OAC rule 3745-31-05(A)(3) (PTI # 02-21102)	0.95 pound particulate per hour, 4.14 tons particulate per year
	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from the stack serving this emissions unit shall not exceed 5 % opacity, as a six-minute average
	OAC rule 3745-17-11(B)(1)	The visible particulate emission limitation specified by this rule is less stringent than the visible particulate emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
	OAC rule 3745-35-07(B)	The particulate emission limitation specified by this rule is less stringent than the particulate emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
2. Additional Terms and Conditions		PM 10 emissions shall not exceed 2.89 tons per year.
None		
B. Operational Restrictions		
1. The baghouse shall be used while this emissions unit is in operation.		
2. The pressure drop across the baghouse shall be maintained within the range of one to six inches of water while this emissions unit is in operation.		
3. The maximum production rate of 2.2 tons metal per hour shall not be exceeded.		
C. Monitoring and/or Record Keeping Requirements		
1. The permittee shall record the following information for each month of operation for this emissions unit:		
a. the total hours of operation; b. the total amount of metal (castings) in tons, processed; and c. the average, monthly production rate, in tons per hour, calculated by dividing (b) by (a).		
2. The permittee shall record the following information for each year of operation for this emissions unit:		
a. the total hours of operation; b. the total amount of metal (castings) in tons, processed; c. the average, yearly production rate, in tons per hour, calculated by dividing (b) by (a); and d. the yearly emissions rate for PM 10 and the yearly emissions rate for particulates, in tons per year, as calculated by the following equation:		
E = EF x P x H x ton/2,000 lbs		
Where:		
E = Emissions rate, in tons per year		
EF = Emission factor for PM 10 is 0.30 lb PM 10/ton metal *. Emission factor for particulates is 0.43 lb PE/ton metal **.		
P = the average production rate, in tons per hour, as recorded in section c.2.c.		
H = Hours of operation, in hours per year, as recorded in section C.2.a.		
* Emission Factor of 0.30 lb PM 10/ton metal is based on test data, with controls. ** Emission Factor of 0.43 lb PE/ton metal is a calculated factor. Calculation assumes that 70% of PE is PM 10 (AP-42 Table 12.10-9 (1/95) states PM 10 to be 70% of PE for uncontrolled shakeout operations). Shakeout operations considered to be similar to P005. Therefore, (0.70)(X) = 0.30. (X) = 0.30/0.70 = 0.43 lb PE/ton.		
3. The permittee shall properly operate and maintain equipment to monitor the pressure drop across the baghouse while this emissions unit is in operation. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall also record:		
a. pressure drop across the baghouse for each day of operation; and b. a log or record of downtime for each control device and monitoring equipment, when the associated emissions unit is in operation.		
4. The permittee shall perform daily checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log:		
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.		
If no visible emissions are noted for one month, then the frequency for the above monitoring and recordkeeping may become weekly.		

D. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports for all exceedances as follows:
 - a. the month when the average production rate for the shotblasting unit exceeded 2.2 tons per hour, as recorded in section C.1.c; and
 - b. the date and time when the pressure drop across the baghouse was outside the required range of one to six inches of water while this emissions unit is in operation, as recorded in section C.3.

The calendar quarters are January 1 - March 31, April 1 - June 30, July 1 - September 30, and October 1 - December 31. The quarterly deviation reports shall be submitted to the Ohio EPA Northeast District Office quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarter.

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

2. The permittee shall submit semiannual written reports that (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 Ohio EPA Northeast District office by January 31 and July 31 of each year and shall cover the previous 6-month period.

If no visible particulate emissions were observed from the stack during a 6-month period, the permittee shall still submit a semi-annual report which states that no visible emissions were observed.

E. Testing Requirements

1. Compliance with the emission limitations and operational restrictions in sections A and B of these terms and conditions shall be determined in accordance with the following methods:

Emission Limitation:

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

Applicable Compliance Method:

Compliance with the above visible particulate limitation shall be determined in accordance with U.S. EPA Reference Method 9 of 40 CFR Part 60, Appendix A.

Emission Limitation:

Particulate emissions shall not exceed 0.95 pound per hour

Applicable Compliance Method:

If required, the permittee shall conduct, or have conducted, particulate emissions testing at the outlet of the stack serving this emissions unit to demonstrate compliance with the particulate emissions limitation in accordance with 40 CFR part 60, Appendix A, Methods 1 - 5.

Emission Limitation:

Particulate emissions shall not exceed 3.5 tons per year, and
PM 10 emissions shall not exceed 2.41 tons per year

Applicable Compliance Method:

Compliance with the above emissions limitations shall be demonstrated by the monitoring and record keeping requirements in section C.2.

Operational Restriction:

The pressure drop across the baghouse shall be maintained within the range of one to six inches of water while this emissions unit is in operation.

Applicable Compliance Method:

Compliance with the above operational restriction shall be demonstrated by the monitoring and record keeping requirement in section C.3.

Operational Restriction:

The production rate for the shotblasting unit shall not exceed 2.2 tons per hour.

Applicable Compliance Method:

Compliance with the above operational restriction shall be demonstrated by the monitoring and record keeping requirement in section C.1.c.

F. Miscellaneous Requirements

1. The terms and conditions in sections A, B, C, D, and E of this permit are federally enforceable.

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

Facility ID: 0215010001 Emissions Unit ID: P901 Issuance type: Draft 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>
42 inch diameter, natural gas fired cupola with maximum rating of 6.6 tons metal per hour, equipped with afterburner (95% efficient for CO control, 97% efficient for VOC control), and scrubber (89% efficient for Pb control, 10% efficient for NOx control, 89% efficient for PM10 control) shared with P902 .	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from the stack serving P901 and P902 shall not exceed twenty percent opacity, as a six-minute average. See also section A.2.a.
	OAC rule 3745-17-07(B)(1)	Fugitive visible particulate emissions from this emissions unit shall not exceed twenty percent opacity as a three-minute average.
	OAC rule 3745-17-08(B)	See section A.2.b.
	OAC rule 3745-17-11(B)(1)	Particulate (PE) emissions shall not exceed 14.5 pounds per hour. See section A.2.c.
	OAC rule 3745-18-06(A)	Sulfur dioxide (SO2) emissions shall not exceed 106.2 pounds per hour.
	OAC rule 3745-35-07(B)	Carbon monoxide (CO) emissions shall not exceed 37.08 tons per rolling 12-months, PM 10 emissions shall not exceed 6.98 tons per rolling 12-months, Volatile organic compounds (VOC) shall not exceed 0.77 tons per rolling 12-months.
		Minimal organic and metals HAPs. See section B.7.

2. Additional Terms and Conditions

- (a) Except as otherwise specified in paragraphs (A)(2) and (A)(3) of OAC rule 3745-17-07, visible particulate emissions from the stack may exceed twenty percent opacity, as a six-minute average for not more than six consecutive minutes in any sixty minutes, but shall not exceed sixty percent opacity, as a six minute average, at any time.
Reasonably available control measures (RACM) shall be employed to minimize fugitive particulate emissions. RACM shall include, but not be limited to, maintaining a draft at the cupola door during charging. The draft fan amperage shall be continuously maintained at a value of not less than 55 amps at all times while the emissions unit is in operation. Additionally, charge materials shall typically be large in size and contain minor amounts of fines.
Particulate limit calculated using "Table 1" of OAC rule 3745-17-11 per agreement in Consent Order filed on December 28, 2004.

B. Operational Restrictions

1. This emissions unit P901 shall not operate at the same time when emissions unit P902 is operating.
2. The maximum melting capacity of 6.6 tons per hour shall not be exceeded.
3. The maximum hours of operation for this emissions unit is 1,550 hours per rolling 12-months. During the first twelve (12) calendar months of operation following the effective date of this federally enforceable state operating permit, the cumulative number of hours shall not exceed the cumulative total number of hours as specified for each month in the following table:

Month: Cumulative Number of Operating Hours:

1	129
2	258
3	387
4	516
5	645
6	774
7	903
8	1,032
9	1,161
10	1,290
11	1,419
12	1,550

4. The pressure drop across the scrubber shall be continuously maintained above 7.3 inches of water column at all times while this emissions unit is in operation.
5. The water flow through the nozzles of the scrubber shall be continuous and unobstructed while this emissions unit is in operation.

6. The 15-minute average combustion zone temperature within the afterburner shall be at least 1,300 degrees Fahrenheit while this emissions unit is in operation. Periods when the cupola is off blast and for 15 minutes after going on blast from an off blast condition are not included in the 15-minute average.
7. To ensure little or no hazardous air pollutant (HAP) emissions from the melting of scrap in this emissions unit, the permittee shall purchase and charge only certified-metal ingots, pig iron, slitter, or other materials that do not include post-consumer automotive body scrap, post-consumer engine blocks, oil filters, oily turnings, lead components, mercury switches, plastics, or organic liquids.

C. Monitoring and/or Record Keeping Requirements

1. The permittee shall record the following information for each month of operation for this emissions unit:
 - a. the hours of operation during month;
 - b. the cumulative total number of operating hours on a rolling 12-month basis;
 - c. the amount of metal, in tons, charged to this emissions unit during month;
 - d. the amount of metal, in tons, charged to this emissions unit over the past rolling 12-months;
 - e. the average melting rate of this emissions unit during month, in tons metal per hour, calculated by dividing (c) by (a); and
 - f. the average melting rate of this emissions unit over the past rolling 12-months, in tons metal per hour, calculated by dividing (d) by (b).
2. The permittee shall record each month the carbon monoxide emissions rate for this emissions unit P901 in tons per rolling 12-months, as calculated by the following equation:

$$E = \text{lbs CO/hour} \times H \times \text{tons}/2,000 \text{ lbs}$$

Where:

H = the cumulative total number of operating hours on a rolling 12-month basis, as recorded in section C.1;

lbs CO/hour = hourly rate established by stack testing
3. The permittee shall record each month the PM 10 emissions rate for this emissions unit P901 in tons per rolling 12-months, as calculated by the following equation:

$$E = \text{lbs PM 10/hour} \times H \times \text{tons}/2,000 \text{ lbs}$$

Where:

H = the cumulative total number of operating hours on a rolling 12-month basis, as recorded in section C.1;

lbs PM 10/hour = hourly rate established by stack testing
4. The permittee shall record each month the volatile organic compound emissions rate for this emissions unit P901 in tons per rolling 12-months, as calculated by the following equation:

$$E = EF \times M \times H \times \text{ton}/2,000 \text{ lbs} \times (1-CE)$$

Where:

E = Emissions rate, in tons per rolling 12-months

EF = Emission Factor for VOC is 5 lbs VOC/ton metal *

M = The average melting rate of this emissions unit, as recorded in section C.1.f above, in tons per hour.

H = The cumulative total number of operating hours on a rolling 12-month basis, as recorded in section C.1.b above.

CE = Control Efficiency, expressed as a decimal. CE for VOC is 0.97.

* Emission Factor of 5 lbs VOC/ton metal is based on the reported 0.25% oil content in scrap (0.0025 = 5 lbs/2,000 lbs = 5 lbs VOC/ton metal).
5. The permittee shall properly operate and maintain respective equipment to continuously monitor the static pressure drop across the scrubber and the amperage on the draft fan of the cupola while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals.
6. The permittee shall collect and record the following information twice per shift (or at least twice every 8 hours) for each day the emissions unit is in operation:
 - a. the water flow to the scrubber, in "flow" or "no flow";
 - b. the pressure drop across the scrubber, in inches of water column; and
 - c. the amperage on the draft fan of the cupola
7. The permittee shall record the downtime for the scrubber and monitoring equipment, when this emissions unit is in operation.
8. The permittee shall properly operate and maintain equipment to continuously monitor and record the temperature of the afterburner of this emissions unit.
9. The permittee shall inspect the nozzles of the scrubber once per week. The inspection shall serve to check for adequate operation. The inspection findings, and any subsequent maintenance task performed, shall be recorded in a maintenance log for the scrubber.

If the weekly inspections find adequate nozzle operation for four consecutive weeks, then the inspection frequency may be reduced to once per month. Once a monthly inspection finds a need for maintenance and the task is completed, the inspection frequency shall return to weekly. After four consecutive weekly inspections find the nozzles to be operating properly, the frequency may again be monthly.

10. The permittee shall perform daily checks, when this emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack and 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 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 emissions 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) above or continue the daily 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 emission unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

11. The permittee shall inspect each purchase of scrap material and shall inspect each charge to this emissions unit to ensure that the material melted in this emissions unit is only certified-metal ingots, pig iron, slitter, or other materials that do not include post-consumer automotive body scrap, post-consumer engine blocks, oil filters, oily turnings, lead components, mercury switches, plastics, or organic liquids.

The permittee shall record the following information:

- a. date of when purchased scrap material is received on site;
- b. inspection findings of the purchased material;
- c. date and time of inspection of each charge to this emissions unit; and
- d. inspection findings of the charged material to this emissions unit.

D. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports for all exceedances as follows:
- a. any day when the average melting rate for this emissions unit P901 was greater than 6.6 tons per hour;
 - b. the month when the cumulative total number of operating hours for this emissions unit P901 exceeded 1,550 hours on a 12-month rolling basis;
 - c. the month when the CO, PM 10 and/or VOC emissions rate for this emissions unit P901 exceeded the respective tons per rolling 12-month emissions limitation;
 - d. date and time when the pressure drop across the scrubber was below 7.3 inches of water column while this emissions unit was in operation;
 - e. date and time when the amperage on the draft fan of the cupola was below 55 amps; and
 - f. date and time when the 15-minute average combustion zone temperature within the afterburner was below 1,300 degrees Fahrenheit. Periods when the cupola is off blast and for 15 minutes after going on blast from an off blast condition are not included in the 15-minute average.

The calendar quarters are January 1 - March 31, April 1 - June 30, July 1 - September 30, and October 1 - December 31. The quarterly deviation reports shall be submitted to the Ohio EPA Northeast District Office quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarter.

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

2. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit, (b) identify all days during which any visible fugitive particulate emissions were observed from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit, and (c) describe any corrective actions taken to minimize or eliminate the visible particulate and/or visible fugitive particulate emissions. These reports shall be submitted to the Ohio EPA Northeast District Office by January 31 and July 31 of each year and shall cover the previous 6-month period.
3. The permittee shall report to the Ohio EPA, Northeast District Office, of any material charged to this emissions unit that does not meet the criteria specified in section B.7. The report shall be submitted within 30 days of the occurrence and shall include the date and a description of the material charged.

E. Testing Requirements

1. Compliance with the emission limitations and operational restrictions in sections A and B of these terms and conditions shall be determined in accordance with the following methods:
Emission Limitation:
Visible particulate emissions from the stack serving P901 and P902 shall not exceed twenty percent opacity, as a six-minute average, except as provided by rule.

Applicable Compliance Method:

Compliance with the above visible particulate limitation shall be determined in accordance with U.S. EPA Reference Method 9 of 40 CFR Part 60, Appendix A.

Emission Limitation:

Fugitive visible particulate emissions from this emissions unit shall not exceed twenty percent opacity, as a three-minute average.

Applicable Compliance Method:

Compliance with the above fugitive visible particulate limitation shall be determined in accordance with U.S. EPA Reference Method 9 of 40 CFR Part 60, Appendix A.

Emission Limitation:

Particulate emissions from the stack serving P901 and P902 shall not exceed 14.5 pounds per hour.

Applicable Compliance Method:

Compliance with the above particulate emissions limitation shall be determined by stack testing in accordance with section E.2. below.

Emission Limitation:

Sulfur dioxide emissions from the stack serving P901 and P902 shall not exceed 106.2 pounds per hour.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emissions limitation through emissions testing performed at the outlet of the stack serving P901 and P902 in accordance with 40 CFR Part 60, Appendix A, Method 6.

Emission Limitation:

Carbon monoxide emissions from this emissions unit P901 shall not exceed 37.08 tons per rolling 12-months

Applicable Compliance Method:

The permittee shall conduct, or have conducted, carbon monoxide testing at the outlet of the stack serving P901 and P902 to determine an hourly CO emissions rate, in accordance with section E.2. below. The hourly emissions rate shall be used in the following equation to determine compliance with the above emissions limitation:

$$E = \text{lbs CO/hour} \times H \times \text{tons}/2,000 \text{ lbs}$$

where H = the cumulative total number of operating hours on a rolling 12-month basis, as recorded in section C.1.

Emission Limitation:

PM 10 emissions from this emissions unit P901 shall not exceed 6.98 tons per rolling 12-months

Applicable Compliance Method:

The permittee shall conduct, or have conducted, PM 10 testing at the outlet of the stack serving P901 and P902 to determine an hourly PM 10 emissions rate, in accordance with section E.2. below. The hourly emissions rate shall be used in the following equation to determine compliance with the above emissions limitation:

$$E = \text{lbs PM 10/hour} \times H \times \text{tons}/2,000 \text{ lbs}$$

where H = the cumulative total number of operating hours on a rolling 12-month basis, as recorded in section C.1.

Emission Limitation:

VOC emissions from this emissions unit P901 shall not exceed 0.77 ton per rolling 12-months

Applicable Compliance Method:

Compliance with the above emissions limitation shall be demonstrated by the monitoring and record keeping requirement in section C.4.

Operational Restriction:

The maximum melting capacity of 6.6 tons per hour for this emissions unit P901 shall not be exceeded.

Applicable Compliance Method:

Compliance with the above operational restriction shall be demonstrated by the monitoring and record keeping requirement in section C.1.e.

Operational Restriction:

The maximum hours of operation for this emissions unit P901 shall not exceed 1,550 hours per rolling 12 months.

Applicable Compliance Method:

Compliance with the above operational restriction shall be demonstrated by the monitoring and record keeping requirement in section C.1.

Operational Restriction:

The pressure drop across the scrubber shall be continuously maintained above 7.3 inches of water column at all times while this emissions unit is in operation.

Applicable Compliance Method:

Compliance with the above operational restriction shall be demonstrated by the monitoring and record keeping requirements in section C.6.

Operational Restriction:

The 15-minute average combustion zone temperature within the afterburner shall be at least 1,300 degrees Fahrenheit while this emissions unit is in operation. Periods when the cupola is off blast and for 15 minutes after going on blast from an off blast condition are not included in the 15-minute average.

Applicable Compliance Method:

Compliance with the above operational restriction shall be demonstrated by the monitoring and record keeping requirements in section C.8.

2. The permittee shall conduct, or have conducted, emission testing at the outlet of the stack serving P901 and P902 for the following pollutants in accordance with the respective methods:

Particulates, in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 5.

Carbon monoxide, in accordance with 40 CFR Part 60, Appendix A, Method 10.

PM 10, in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 4 and 40 CFR Part 51, Appendix M, Method 201A.

The combustion zone temperature, in degrees Fahrenheit, within the afterburner shall be monitored and recorded during testing.

The required emission testing in this section shall be conducted within the first year after issuance of this permit. All required testing shall also be conducted while either emissions unit P901 or P902 is operating at or near the maximum capacity of 6.6 tons metal per hour.

No later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA Northeast District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the tests, and the person(s) who will be conducting the tests. Failure to submit such notification for review and approval prior to the tests may result in the Ohio EPA Northeast District Office's refusal to accept the results of the emission tests.

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

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

3. Reasonably Available Control Measures required by OAC rule 3745-17-08(B) that are employed for this emissions unit shall be considered adequate if compliance with the visible particulate emissions limitation contained in OAC rule 3745-17-07 is achieved.

F. Miscellaneous Requirements

1. The terms and conditions in sections A, B, C, D and E of this permit are federally enforceable.
2. The permittee shall comply with the provisions of the Consent Order and Final Judgement Entry for State of Ohio ex rel. Petro v. Col-Pump Company, Inc., Columbiana County Court of Common Pleas, Case No. CV 2004 04 1204.

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

Facility ID: 0215010001 Emissions Unit ID: P902 Issuance type: Draft 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>
42 inch diameter, natural gas fired cupola with maximum rating of 6.6 tons metal per hour, equipped with afterburner (95% efficient for CO control, 97% efficient for VOC control), and scrubber (89% efficient for Pb control, 10% efficient for NOx control, 89% efficient for PM10 control) shared with P901 .	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from the stack serving P901 and P902 shall not exceed twenty percent opacity, as a six minute average. See also section A.2.a.
	OAC rule 3745-17-07(B)(1)	Fugitive visible particulate emissions from this emissions unit shall not exceed twenty percent opacity as a three minute average. See section A.2.b.
	OAC rule 3745-17-08(B)	Particulate (PE) emissions shall not exceed 14.5 pounds per hour.
	OAC rule 3745-17-11(B)(1)	See section A.2.c

Sulfur dioxide (SO₂) emissions shall not exceed 106.2 pounds per hour.

OAC rule 3745-18-06(A)

Carbon monoxide (CO) emissions shall not exceed 37.08 tons per rolling 12-months, PM 10 emissions shall not exceed 6.98 tons per rolling 12-months, Volatile organic compounds (VOC) shall not exceed 0.77 tons per rolling 12-months.

OAC rule 3745-35-07(B)

See section B.7.

2. Additional Terms and Conditions

- (a) Except as otherwise specified in paragraphs (A)(2) and (A)(3) of OAC rule 3745-17-07, visible particulate emissions from the stack may exceed twenty percent opacity, as a six minute average for not more than six consecutive minutes in any sixty minutes, but shall not exceed sixty percent opacity, as a six minute average, at any time.
Reasonably available control measures (RACM) shall be employed to minimize fugitive particulate emissions. RACM shall include, but not be limited to, maintaining a draft at the cupola door during charging. The draft fan amperage shall be continuously maintained at a value of not less than 55 amps at all times while the emissions unit is in operation. Additionally, charge materials shall typically be large in size and contain minor amounts of fines.
Particulate limit calculated using "Table 1" of OAC rule 3745-17-11 per agreement in Consent Order filed on December 28, 2004.

B. Operational Restrictions

- 1. This emissions unit P902 shall not operate at the same time when emissions unit P901 is operating.
- 2. The maximum melting capacity of 6.6 tons per hour shall not be exceeded.
- 3. The maximum hours of operation for this emissions unit is 1,550 hours per rolling 12-months. During the first twelve (12) calendar months of operation following the effective date of this federally enforceable state operating permit, the cumulative number of hours shall not exceed the cumulative total number of hours as specified for each month in the following table:

Month: Cumulative Number of Operating Hours:

- 1 129
- 2 258
- 3 387
- 4 516
- 5 645
- 6 774
- 7 903
- 8 1,032
- 9 1,161
- 10 1,290
- 11 1,419
- 12 1,550

- 4. The pressure drop across the scrubber shall be continuously maintained above 7.3 inches of water column at all times while this emissions unit is in operation.
- 5. The water flow through the nozzles of the scrubber shall be continuous and unobstructed while this emissions unit is in operation.
- 6. The 15-minute average combustion zone temperature within the afterburner shall be at least 1,300 degrees Fahrenheit while this emissions unit is in operation. Periods when the cupola is off blast and for 15 minutes after going on blast from an off blast condition are not included in the 15-minute average.
- 7. To ensure little or no hazardous air pollutant (HAP) emissions from the melting of scrap in this emissions unit, the permittee shall purchase and charge only certified-metal ingots, pig iron, slitter, or other materials that do not include post-consumer automotive body scrap, post-consumer engine blocks, oil filters, oily turnings, lead components, mercury switches, plastics, or organic liquids.

C. Monitoring and/or Record Keeping Requirements

- 1. The permittee shall record the following information for each month of operation for this emissions unit:
 - a. the hours of operation during month;
 - b. the cumulative total number of operating hours on a rolling 12-month basis;
 - c. the amount of metal, in tons, charged to this emissions unit during month;
 - d. the amount of metal, in tons, charged to this emissions unit over the past rolling 12-months;
 - e. the average melting rate of this emissions unit during month, in tons metal per hour, calculated by dividing (c) by (a); and
 - f. the average melting rate of this emissions unit over the past rolling 12-months, in tons metal per hour, calculated by dividing (d) by (b).

- 2. The permittee shall record each month the carbon monoxide emissions rate for this emissions unit P902 in tons per rolling 12-months, as calculated by the following equation:

$$E = \text{lbs CO/hour} \times H \times \text{tons}/2,000 \text{ lbs}$$

Where:

H = the cumulative total number of operating hours on a rolling 12-month basis, as recorded in section C.1;

lbs CO/hour = hourly rate established by stack testing

3. The permittee shall record each month the PM 10 emissions rate for this emissions unit P902 in tons per rolling 12-months, as calculated by the following equation:

$$E = \text{lbs PM 10/hour} \times H \times \text{tons}/2,000 \text{ lbs}$$

Where:

H = the cumulative total number of operating hours on a rolling 12-month basis, as recorded in section C.1;

lbs PM 10/hour = hourly rate established by stack testing

4. The permittee shall record each month the volatile organic compound emissions rate for this emissions unit P902 in tons per rolling 12-months, as calculated by the following equation:

$$E = EF \times M \times H \times \text{ton}/2,000 \text{ lbs} \times (1-CE)$$

Where:

E = Emissions rate, in tons per rolling 12-months

EF = Emission Factor for VOC is 5 lbs VOC/ton metal *

M = The average melting rate of this emissions unit, as recorded in section C.1.f above, in tons per hour.

H = The cumulative total number of operating hours on a rolling 12-month basis, as recorded in section C.1.b above.

CE = Control Efficiency, expressed as a decimal. CE for VOC is 0.97.

* Emission Factor of 5 lbs VOC/ton metal is based on the reported 0.25% oil content in scrap (0.0025 = 5 lbs/2,000 lbs = 5 lbs VOC/ton metal).

5. The permittee shall properly operate and maintain respective equipment to continuously monitor the static pressure drop across the scrubber and the amperage on the draft fan of the cupola while the emissions unit is in operation. The monitoring equipment shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals.
6. The permittee shall collect and record the following information twice per shift (or at least twice every 8 hours) for each day the emissions unit is in operation:
- the water flow to the scrubber, in "flow" or "no flow";
 - the pressure drop across the scrubber, in inches of water column; and
 - the amperage on the draft fan of the cupola
7. The permittee shall record the downtime for the scrubber and monitoring equipment, when this emissions unit is in operation.
8. The permittee shall properly operate and maintain equipment to continuously monitor and record the temperature of the afterburner of this emissions unit.
9. The permittee shall inspect the nozzles of the scrubber once per week. The inspection shall serve to check for adequate operation. The inspection findings, and any subsequent maintenance task performed, shall be recorded in a maintenance log for the scrubber.
- If the weekly inspections find adequate nozzle operation for four consecutive weeks, then the inspection frequency may be reduced to once per month. Once a monthly inspection finds a need for maintenance and the task is completed, the inspection frequency shall return to weekly. After four consecutive weekly inspections find the nozzles to be operating properly, the frequency may again be monthly.
10. The permittee shall perform daily checks, when this emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stack and for any visible fugitive particulate emissions from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit. The presence of 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:
- the location and color of the emissions;
 - whether the emissions are representative of normal operations;
 - if the emissions are not representative of normal operations, the cause of the abnormal emissions;
 - the total duration of any visible emissions incident, and
 - 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) above or continue the daily 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 emission unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.
11. The permittee shall inspect each purchase of scrap material and shall inspect each charge to this emissions unit to ensure that the material melted in this emissions unit is only certified-metal ingots, pig iron, slitter, or other materials that do not include post-consumer automotive body scrap, post-consumer engine blocks, oil filters, oily turnings, lead components, mercury switches, plastics, or organic liquids.

The permittee shall record the following information:

- a. date of when purchased scrap material is received on site;
- b. inspection findings of the purchased material;
- c. date and time of inspection of each charge to this emissions unit; and
- d. inspection findings of the charged material to this emissions unit.

D. Reporting Requirements

1. The permittee shall submit quarterly deviation (excursion) reports for all exceedances as follows:
 - a. any day when the average melting rate for this emissions unit P902 was greater than 6.6 tons per hour;
 - b. the month when the cumulative total number of operating hours for this emissions unit P902 exceeded 1,550 hours on a 12-month rolling basis;
 - c. the month when the CO, PM 10 and/or VOC emissions rate for this emissions unit P902 exceeded the respective tons per rolling 12-month emissions limitation;
 - d. date and time when the pressure drop across the scrubber was below 7.3 inches of water column while this emissions unit was in operation;
 - e. date and time when the amperage on the draft fan of the cupola was below 55 amps; and
 - f. date and time when the 15-minute average combustion zone temperature within the afterburner was below 1,300 degrees Fahrenheit. Periods when the cupola is off blast and for 15 minutes after going on blast from an off blast condition are not included in the 15-minute average.

The calendar quarters are January 1 - March 31, April 1 - June 30, July 1 - September 30, and October 1 - December 31. The quarterly deviation reports shall be submitted to the Ohio EPA Northeast District Office quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarter.

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

2. The permittee shall submit semiannual written reports that (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit, (b) identify all days during which any visible fugitive particulate emissions were observed from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this emissions unit, and (c) describe any corrective actions taken to minimize or eliminate the visible particulate and/or visible fugitive particulate emissions. These reports shall be submitted to the Ohio EPA Northeast District Office by January 31 and July 31 of each year and shall cover the previous 6-month period.
3. The permittee shall report to the Ohio EPA, Northeast District Office, of any material charged to this emissions unit that does not meet the criteria specified in section B.7. The report shall be submitted within 30 days of the occurrence and shall include the date and a description of the material charged.

E. Testing Requirements

1. Compliance with the emission limitations and operational restrictions in sections A and B of these terms and conditions shall be determined in accordance with the following methods:

Emission Limitation:
Visible particulate emissions from the stack serving P901 and P902 shall not exceed twenty percent opacity, as a six minute average, except as provided by rule.

Applicable Compliance Method:
Compliance with the above visible particulate limitation shall be determined in accordance with U.S. EPA Reference Method 9 of 40 CFR Part 60, Appendix A.

Emission Limitation:
Fugitive visible particulate emissions from this emissions unit shall not exceed twenty percent opacity, as a three minute average.

Applicable Compliance Method:
Compliance with the above fugitive visible particulate limitation shall be determined in accordance with U.S. EPA Reference Method 9 of 40 CFR Part 60, Appendix A.

Emission Limitation:
Particulate emissions from the stack serving P901 and P902 shall not exceed 14.5 pounds per hour.

Applicable Compliance Method:
Compliance with the above particulate emissions limitation shall be determined by stack testing in accordance with section E.2. below.

Emission Limitation:
Sulfur dioxide emissions from the stack serving P901 and P902 shall not exceed 106.2 pounds per hour.

Applicable Compliance Method:
If required, the permittee shall demonstrate compliance with this emissions limitation through emissions testing performed at the outlet of the stack serving P901 and P902 in accordance with 40 CFR Part 60, Appendix A, Method 6.

Emission Limitation:
Carbon monoxide emissions from this emissions unit P901 shall not exceed 37.08 tons per rolling 12-months

Applicable Compliance Method:
The permittee shall conduct, or have conducted, carbon monoxide testing at the outlet of the stack serving P901 and P902 to determine an hourly CO emissions rate, in accordance with section E.2. below. The hourly emissions rate shall be used in the following equation to determine compliance with the above emissions limitation:

$$E = \text{lbs CO/hour} \times H \times \text{tons}/2,000 \text{ lbs}$$

where H = the cumulative total number of operating hours on a rolling 12-month basis, as recorded in section C.1.

Emission Limitation:

PM 10 emissions from this emissions unit P901 shall not exceed 6.98 tons per rolling 12-months

Applicable Compliance Method:

The permittee shall conduct, or have conducted, PM 10 testing at the outlet of the stack serving P901 and P902 to determine an hourly PM 10 emissions rate, in accordance with section E.2. below. The hourly emissions rate shall be used in the following equation to determine compliance with the above emissions limitation:

$$E = \text{lbs PM 10/hour} \times H \times \text{tons}/2,000 \text{ lbs}$$

where H = the cumulative total number of operating hours on a rolling 12-month basis, as recorded in section C.1.

Emission Limitation:

VOC emissions from this emissions unit P902 shall not exceed 0.77 ton per rolling 12-months

Applicable Compliance Method:

Compliance with the above emissions limitation shall be demonstrated by the monitoring and record keeping requirement in section C.4.

Operational Restriction:

The maximum melting capacity of 6.6 tons per hour for this emissions unit shall not be exceeded.

Applicable Compliance Method:

Compliance with the above operational restriction shall be demonstrated by the monitoring and record keeping requirement in section C.1.e.

Operational Restriction:

The maximum hours of operation for this emissions unit P902 shall not exceed 1,550 hours per rolling 12 months.

Applicable Compliance Method:

Compliance with the above operational restriction shall be demonstrated by the monitoring and record keeping requirement in section C.1.

Operational Restriction:

The pressure drop across the scrubber shall be continuously maintained above 7.3 inches of water column at all times while this emissions unit is in operation.

Applicable Compliance Method:

Compliance with the above operational restriction shall be demonstrated by the monitoring and record keeping requirements in section C.6.

Operational Restriction:

The 15-minute average combustion zone temperature within the afterburner shall be at least 1,300 degrees Fahrenheit while this emissions unit is in operation. Periods when the cupola is off blast and for 15 minutes after going on blast from an off blast condition are not included in the 15-minute average.

Applicable Compliance Method:

Compliance with the above operational restriction shall be demonstrated by the monitoring and record keeping requirements in section C.8.

2. The permittee shall conduct, or have conducted, emission testing at the outlet of the stack serving P901 and P902 for the following pollutants in accordance with the respective methods:

Particulates, in accordance with 40 CFR Part 60, Appendix A, Methods 1 - 5.

Carbon monoxide, in accordance with 40 CFR Part 60, Appendix A, Method 10.

PM 10, in accordance with 40 CFR Part 60, Appendix A, Methods 1 -4 and 40 CFR Part 51, Appendix M, Method 201A.

The combustion zone temperature, in degrees Fahrenheit, within the afterburner shall be monitored and recorded during testing.

The combustion zone temperature, in degrees Fahrenheit, within the afterburner shall be monitored and recorded during testing.

No later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA Northeast District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the tests, and the person(s) who will be conducting the tests. Failure to submit such notification for review and approval prior to the tests may result in the Ohio EPA Northeast District Office's refusal to accept the results of the emission tests.

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

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

3. Reasonably Available Control Measures required by OAC rule 3745-17-08(B) that are employed for this emissions unit shall be considered adequate if compliance with the visible particulate emissions limitation contained in OAC rule 3745-17-07 is achieved.

F. Miscellaneous Requirements

1. The terms and conditions in sections A, B, C, D and E of this permit are federally enforceable.

2. The permittee shall comply with the provisions of the Consent Order and Final Judgement Entry for State of Ohio ex rel. Petro v. Col-Pump Company, Inc., Columbiana County Court of Common Pleas, Case No. CV 2004 04 1204.