



Mitchell E. Daniels, Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
(800) 451-6027
www.IN.gov/idem

TO: Interested Parties / Applicant
DATE: April 20, 2007
RE: Bremen Castings, Inc. / 099-17583-00001
FROM: Nisha Sizemore
Chief, Permits Branch
Office of Air Quality

Notice of Decision: Approval – Effective Immediately

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to IC 13-15-5-3, this permit is effective immediately, unless a petition for stay of effectiveness is filed and granted, and may be revoked or modified in accordance with the provisions of IC 13-15-7-1.

If you wish to challenge this decision, IC 4-21.5-3-7 and IC 13-15-6-1(b) or IC 13-15-6-1(a) require that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Room 1049, Indianapolis, IN 46204.

For an **initial Title V Operating Permit**, a petition for administrative review must be submitted to the Office of Environmental Adjudication within **thirty (30)** days from the receipt of this notice provided under IC 13-15-5-3, pursuant to IC 13-15-6-1(b).

For a **Title V Operating Permit renewal**, a petition for administrative review must be submitted to the Office of Environmental Adjudication within **fifteen (15)** days from the receipt of this notice provided under IC 13-15-5-3, pursuant to IC 13-15-6-1(a).

The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

- (1) the date the document is delivered to the Office of Environmental Adjudication (OEA);
- (2) the date of the postmark on the envelope containing the document, if the document is mailed to OEA by U.S. mail; or
- (3) The date on which the document is deposited with a private carrier, as shown by receipt issued by the carrier, if the document is sent to the OEA by private carrier.

The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by the decision or otherwise entitled to review by law. Please identify the permit, decision, or other order for which you seek review by permit number, name of the applicant, location, date of this notice and all of the following:

- (1) the name and address of the person making the request;
- (2) the interest of the person making the request;
- (3) identification of any persons represented by the person making the request;
- (4) the reasons, with particularity, for the request;
- (5) the issues, with particularity, proposed for considerations at any hearing; and
- (6) identification of the terms and conditions which, in the judgment of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing documents of the type issued by the Commissioner.

Pursuant to 326 IAC 2-7-18(d), any person may petition the U.S. EPA to object to the issuance of an initial Title V operating permit, permit renewal, or modification within sixty (60) days of the end of the forty-five (45) day EPA review period. Such an objection must be based only on issues that were raised with reasonable specificity during the public comment period, unless the petitioner demonstrates that it was impracticable to raise such issues, or if the grounds for such objection arose after the comment period.

To petition the U.S. EPA to object to the issuance of a Title V operating permit, contact:

U.S. Environmental Protection Agency
401 M Street
Washington, D.C. 20406

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178. Callers from within Indiana may call toll-free at 1-800-451-6027, ext. 3-0178.



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PART 70 OPERATING PERMIT RENEWAL OFFICE OF AIR QUALITY

**Bremen Casting, Inc.
500 N. Baltimore St.
Bremen, Indiana 46506**

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

The Permittee must comply with all conditions of this permit. Noncompliance with any provisions of this permit is grounds for enforcement action; permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. Noncompliance with any provision of this permit, except any provision specifically designated as not federally enforceable, constitutes a violation of the Clean Air Act. It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. An emergency does constitute an affirmative defense in an enforcement action provided the Permittee complies with the applicable requirements set forth in Section B, Emergency Provisions.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Operation Permit No.: T099-17583-00001	
Original signed by: Nisha Sizemore, Chief Permits Branch Office of Air Quality	Issuance Date: April 20, 2007 Expiration Date: April 20, 2012

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SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)] [326 IAC 2-7-1(22)]

The Permittee owns and operates a stationary gray and ductile iron castings manufacturing plant.

Source Address:	500 N. Baltimore St., Bremen, Indiana 46506
Mailing Address:	P.O. Box 129, Bremen, Indiana 46506-0129
General Source Phone Number:	(574) 546-2411
SIC Code:	3321
County Location:	Marshall
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Permit Program Major Source, under PSD Rules; Minor Source, Section 112 of the Clean Air Act 1 of 28 Source Categories

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary source consists of the following emission units and pollution control devices:

- (a) One (1) charge handling operation for charge materials for melting furnaces, installed in 1970, exhausting inside the building;
- (b) One (1) cupola melting operation consisting of the following:
 - (1) one (1) 14 tons per hour cupola furnace, identified as CUPOLA, installed in 1972, equipped with a natural gas fired cupola afterburner, rated at 4.3 million BTU (MMBTU) per hour and a wet scrubber, identified as WS#1, for particulate matter control, and exhausting through one (1) stack, identified as DS-9;
 - (2) one (1) 40 ton electric induction holding furnace for holding molten metal from the cupola furnace, installed in 1988; and
 - (3) ladles for pouring molten metal into the molds.
- (c) One (1) electric induction furnace (EIF) melting operation consisting of the following:
 - (1) two (2) 4.0 tons per hour electric induction furnaces, identified as #1 and #2, each installed in 1995, with particulate matter emissions controlled by a baghouse, identified as DC-2;
 - (2) One (1) inoculation operation for magnesium treatment of the molten metal in the furnaces to produce ductile iron; and
 - (3) ladles for pouring molten metal into the molds.
- (d) Five (5) mold making lines, with a combined maximum metal throughput capacity of 20 tons per hour and a combined green sand throughput of 100 tons per hour, exhausting inside the building as follows:
 - (1) One (1) mold making line, identified as Hunter #1, consisting of the following:

- (A) One (1) mold making machine, installed in 2002; and
 - (B) One (1) pouring and cooling operation, with a maximum metal throughput of 4 tons per hour;
- (2) One (1) mold making line, identified as Hunter #2, consisting of the following:
- (A) One (1) mold making machine, installed in 1974 and modified in 2005; and
 - (B) One (1) pouring and cooling operation, with a maximum metal throughput of 4 tons per hour;
- (3) One (1) mold making line, identified as Hunter #5, consisting of the following:
- (A) One (1) mold making machine, installed in 1979; and
 - (B) One (1) pouring and cooling operation, with a maximum metal throughput of 3 tons per hour;
- (4) One (1) mold making line, identified as Hunter #6, consisting of the following:
- (A) One (1) mold machine, identified as Hunter #6, installed in 1981; and
 - (B) One (1) pouring and cooling operation, with a maximum metal throughput of 3 tons per hour;
- (5) One (1) mold making line, identified as Sinto #1, consisting of the following:
- (A) One (1) mold machine, identified as Sinto #1, installed in 1998; and
 - (B) One (1) pouring and cooling operation, with a maximum metal throughput of 6 tons per hour;
- (e) A mold sand handling system for all molding lines, installed in 1975, with a maximum sand throughput of 100 tons per hour, consisting of:
- (1) one (1) shakeout system, including one (1) shaker pan and one (1) rotary shakeout, with particulate matter emissions controlled by a baghouse, identified as DC-2,
 - (2) one (1) sand muller, two (2) silos, two (2) sand storage tanks, two (2) elevators, conveyors, one (1) magnetic separator, one (1) sand cooler, one (1) sand screen, and one (1) recycle sand hopper, with particulate matter emissions controlled by a baghouse, identified as DC-2;
- (f) A shell core making process consisting of seven (7) natural gas fired shell core machines, identified as shell core machines #1, #2, #3, #4, #5, #6 and #7 installed in 1964, 1964, 1964, 1972, 1970, 1970, and 1963, respectively, with shell core machines #1 through #4 each rated at 0.15 MMBtu per hour, shell core machines #5 and #6 each rated at 0.125 MMBtu per hour, and shell core machine #7 rated at 0.093 MMBtu per hour, with a maximum capacity of 0.70 tons of cores per hour in total, exhausting through two stacks identified as RE-19 and RE-20;
- (g) An isocure core making process consisting of the following:
- (A) one (1) New Sand Silo, exhausting through Bin Vent #3 which exhausts through stack BV-3;
 - (B) one (1) sand mixer, exhausting through Bin Vent #4 which exhausts inside the building;

- (C) three (3) phenolic urethane isocure core machines, identified as Isocure #1, Isocure #2 and Isocure #3, installed in 1978, 1978 and 2002, respectively, each with a maximum capacity of 1.0 ton of cores per hour, exhausting through one (1) stack, identified as DS-12; and
 - (D) two (2) working core storage areas, exhausting through stacks EF-1 and EF-2.
- (h) A grinding/cleaning operation, controlled by a baghouse (DC-1), and exhausting through one (1) stack (DC-1), including:
- (1) three (3) shot blast machines, identified as Shot #1 - #3, installed in 1944, 1963 and 1974, respectively, with a combined metal throughput capacity of 8.4 tons per hour, and
 - (2) grinding/finishing, identified as Grinder #1 - #9, installed in 1987, 1987, 1987, 1987, 1987, 2000, 2001, and 2001, respectively, with a combined metal throughput capacity of 8.4 tons per hour, and
 - (3) one robotic grinder, identified as Grinder Auto Foxall #10, installed in 2005.

A.3 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)]
[326 IAC 2-7-5(15)]

This stationary source also includes the following insignificant activities which are specifically regulated, as defined in 326 IAC 2-7-1(21):

- (a) Grinding and machining operations controlled with fabric filters, scrubbers, mist collectors, wet collectors and electrostatic precipitators with a design grain loading of less than or equal to 0.03 grains per actual cubic foot and a gas flow rate less than or equal to 4,000 actual cubic feet per minute, including the following: deburring, buffing, polishing, abrasive blasting, pneumatic conveying, and woodworking operations;
 - (1) Two (2) grinding units with PM emissions controlled by baghouse DC-1 and exhausting through stack DC-1; and [326 IAC 6-3]
- (b) Paved and unpaved roads and parking lots with public access; [326 IAC 6-4]

A.4 Part 70 Permit Applicability [326 IAC 2-7-2]

This stationary source is required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because:

- (a) It is a major source, as defined in 326 IAC 2-7-1(22);
- (b) It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).

SECTION B GENERAL CONDITIONS

B.1 Definitions [326 IAC 2-7-1]

Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, the applicable definitions found in the statutes or regulations (IC 13-11, 326 IAC 1-2 and 326 IAC 2-7) shall prevail.

B.2 Permit Term [326 IAC 2-7-5(2)] [326 IAC 2-1.1-9.5] [326 IAC 2-7-4(a)(1)(D)] [IC 13-15-3-6(a)]

- (a) This permit, T099-17583-00001, is issued for a fixed term of five (5) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date of this permit.
- (b) If IDEM, OAQ, upon receiving a timely and complete renewal permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect, including any permit shield provided in 326 IAC 2-7-15, until the renewal permit has been issued or denied.

B.3 Term of Conditions [326 IAC 2-1.1-9.5]

Notwithstanding the permit term of a permit to construct, a permit to operate, or a permit modification, any condition established in a permit issued pursuant to a permitting program approved in the state implementation plan shall remain in effect until:

- (a) the condition is modified in a subsequent permit action pursuant to Title I of the Clean Air Act; or
- (b) the emission unit to which the condition pertains permanently ceases operation.

B.4 Enforceability [326 IAC 2-7-7]

Unless otherwise stated, all terms and conditions in this permit, including any provisions designed to limit the source's potential to emit, are enforceable by IDEM, the United States Environmental Protection Agency (U.S. EPA) and by citizens in accordance with the Clean Air Act.

B.5 Severability [326 IAC 2-7-5(5)]

The provisions of this permit are severable; a determination that any portion of this permit is invalid shall not affect the validity of the remainder of the permit.

B.6 Property Rights or Exclusive Privilege [326 IAC 2-7-5(6)(D)]

This permit does not convey any property rights of any sort or any exclusive privilege.

B.7 Duty to Provide Information [326 IAC 2-7-5(6)(E)]

- (a) The Permittee shall furnish to IDEM, OAQ within a reasonable time, any information that IDEM, OAQ may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The submittal by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34). Upon request, the Permittee shall also furnish to IDEM, OAQ copies of records required to be kept by this permit.
- (b) For information furnished by the Permittee to IDEM, OAQ, the Permittee may include a claim of confidentiality in accordance with 326 IAC 17.1. When furnishing copies of requested records directly to U. S. EPA, the Permittee may assert a claim of confidentiality in accordance with 40 CFR 2, Subpart B.

B.8 Certification [326 IAC 2-7-4(f)] [326 IAC 2-7-6(1)] [326 IAC 2-7-5(3)(C)]

- (a) Where specifically designated by this permit or required by an applicable requirement, any application form, report, or compliance certification submitted shall contain certification by a responsible official of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
- (b) One (1) certification shall be included, using the attached Certification Form, with each submittal requiring certification. One (1) certification may cover multiple forms in one (1) submittal.
- (c) A responsible official is defined at 326 IAC 2-7-1(34).

B.9 Annual Compliance Certification [326 IAC 2-7-6(5)]

- (a) The Permittee shall annually submit a compliance certification report which addresses the status of the source's compliance with the terms and conditions contained in this permit, including emission limitations, standards, or work practices. All certifications shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted no later than July 1 of each year to:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue
Indianapolis, Indiana 46204-2251

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Air Enforcement Branch - Indiana (AE-17J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

- (b) The annual compliance certification report required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.
- (c) The annual compliance certification report shall include the following:
 - (1) The appropriate identification of each term or condition of this permit that is the basis of the certification;
 - (2) The compliance status;
 - (3) Whether compliance was continuous or intermittent;
 - (4) The methods used for determining the compliance status of the source, currently and over the reporting period consistent with 326 IAC 2-7-5(3); and
 - (5) Such other facts, as specified in Sections D of this permit, as IDEM, OAQ may require to determine the compliance status of the source.

The submittal by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

B.10 Preventive Maintenance Plan [326 IAC 2-7-5(1),(3) and (13)] [326 IAC 2-7-6(1) and (6)]
[326 IAC 1-6-3]

- (a) If required by specific condition(s) in Section D of this permit, the Permittee shall maintain and implement Preventive Maintenance Plans (PMPs) including the following information on each facility:
- (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
 - (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and
 - (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.
- (b) A copy of the PMPs shall be submitted to IDEM, OAQ upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions or potential to emit. The PMPs do not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).
- (c) To the extent the Permittee is required by 40 CFR Part 60/63 to have an Operation Maintenance, and Monitoring (OMM) Plan for a unit, such Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

B.11 Emergency Provisions [326 IAC 2-7-16]

- (a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for noncompliance with a federal or state health-based emission limitation.
- (b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a health-based or technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that describe the following:
- (1) An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;
 - (2) The permitted facility was at the time being properly operated;
 - (3) During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit;
 - (4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

Telephone Number: 1-800-451-6027 (ask for Office of Air Quality,
Compliance Section), or
Telephone Number: 317-233-0178 (ask for Compliance Section)
Facsimile Number: 317-233-6865

- (5) For each emergency lasting one (1) hour or more, the Permittee submitted the attached Emergency Occurrence Report Form or its equivalent, either by mail or facsimile to:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue
Indianapolis, Indiana 46204-2251

within two (2) working days of the time when emission limitations were exceeded due to the emergency.

The notice fulfills the requirement of 326 IAC 2-7-5(3)(C)(ii) and must contain the following:

- (A) A description of the emergency;
- (B) Any steps taken to mitigate the emissions; and
- (C) Corrective actions taken.

The notification which shall be submitted by the Permittee does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (6) The Permittee immediately took all reasonable steps to correct the emergency.
- (c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.
 - (d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.
 - (e) The Permittee seeking to establish the occurrence of an emergency shall make records available upon request to ensure that failure to implement a PMP did not cause or contribute to an exceedance of any limitations on emissions. However, IDEM, OAQ may require that the Preventive Maintenance Plans required under 326 IAC 2-7-4(c)(9) be revised in response to an emergency.
 - (f) Failure to notify IDEM, OAQ by telephone or facsimile of an emergency lasting more than one (1) hour in accordance with (b)(4) and (5) of this condition shall constitute a violation of 326 IAC 2-7 and any other applicable rules.
 - (g) If the emergency situation causes a deviation from a technology-based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.
 - (h) The Permittee shall include all emergencies in the Quarterly Deviation and Compliance Monitoring Report.

B.12 Permit Shield [326 IAC 2-7-15] [326 IAC 2-7-20] [326 IAC 2-7-12]

- (a) Pursuant to 326 IAC 2-7-15, the Permittee has been granted a permit shield. The permit shield provides that compliance with the conditions of this permit shall be deemed compliance with any applicable requirements as of the date of permit issuance, provided that either the applicable requirements are included and specifically identified in this permit or the permit contains an explicit determination or concise summary of a determination that other specifically identified requirements are not applicable. The Indiana statutes from IC 13 and rules from 326 IAC, referenced in conditions in this permit, are those applicable at the time the permit was issued. The issuance or possession of this permit shall not alone constitute a defense against an alleged violation of any law, regulation or standard, except for the requirement to obtain a Part 70 permit under 326 IAC 2-7 or for applicable requirements for which a permit shield has been granted.

This permit shield does not extend to applicable requirements which are promulgated after the date of issuance of this permit unless this permit has been modified to reflect such new requirements.

- (b) If, after issuance of this permit, it is determined that the permit is in nonconformance with an applicable requirement that applied to the source on the date of permit issuance, IDEM, OAQ shall immediately take steps to reopen and revise this permit and issue a compliance order to the Permittee to ensure expeditious compliance with the applicable requirement until the permit is reissued. The permit shield shall continue in effect so long as the Permittee is in compliance with the compliance order.
- (c) No permit shield shall apply to any permit term or condition that is determined after issuance of this permit to have been based on erroneous information supplied in the permit application. Erroneous information means information that the Permittee knew to be false, or in the exercise of reasonable care should have been known to be false, at the time the information was submitted.
- (d) Nothing in 326 IAC 2-7-15 or in this permit shall alter or affect the following:
- (1) The provisions of Section 303 of the Clean Air Act (emergency orders), including the authority of the U.S. EPA under Section 303 of the Clean Air Act;
 - (2) The liability of the Permittee for any violation of applicable requirements prior to or at the time of this permit's issuance;
 - (3) The applicable requirements of the acid rain program, consistent with Section 408(a) of the Clean Air Act; and
 - (4) The ability of U.S. EPA to obtain information from the Permittee under Section 114 of the Clean Air Act.
- (e) This permit shield is not applicable to any change made under 326 IAC 2-7-20(b)(2) (Sections 502(b)(10) of the Clean Air Act changes) and 326 IAC 2-7-20(c)(2) (trading based on State Implementation Plan (SIP) provisions).
- (f) This permit shield is not applicable to modifications eligible for group processing until after IDEM, OAQ has issued the modifications. [326 IAC 2-7-12(c)(7)]
- (g) This permit shield is not applicable to minor Part 70 permit modifications until after IDEM, OAQ has issued the modification. [326 IAC 2-7-12(b)(8)]

B.13 Prior Permits Superseded [326 IAC 2-1.1-9.5] [326 IAC 2-7-10.5]

- (a) All terms and conditions of permits established prior to T099-17583-00001 and issued pursuant to permitting programs approved into the state implementation plan have been either:
- (1) incorporated as originally stated,
 - (2) revised under 326 IAC 2-7-10.5, or
 - (3) deleted under 326 IAC 2-7-10.5.
- (b) Provided that all terms and conditions are accurately reflected in this permit, all previous registrations and permits are superseded by this Part 70 operating permit.

B.14 Termination of Right to Operate [326 IAC 2-7-10] [326 IAC 2-7-4(a)]

The Permittee's right to operate this source terminates with the expiration of this permit unless a timely and complete renewal application is submitted at least nine (9) months prior to the date of expiration of the source's existing permit, consistent with 326 IAC 2-7-3 and 326 IAC 2-7-4(a).

B.15 Deviations from Permit Requirements and Conditions [326 IAC 2-7-5(3)(C)(ii)]

- (a) Deviations from any permit requirements (for emergencies see Section B - Emergency Provisions), the probable cause of such deviations, and any response steps or preventive measures taken shall be reported to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue
Indianapolis, Indiana 46204-2251

using the attached Quarterly Deviation and Compliance Monitoring Report, or its equivalent. A deviation required to be reported pursuant to an applicable requirement that exists independent of this permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report.

The Quarterly Deviation and Compliance Monitoring Report does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (b) A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.

B.16 Permit Modification, Reopening, Revocation and Reissuance, or Termination [326 IAC 2-7-5(6)(C)] [326 IAC 2-7-8(a)] [326 IAC 2-7-9]

- (a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a Part 70 permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any condition of this permit. [326 IAC 2-7-5(6)(C)] The notification by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).
- (b) This permit shall be reopened and revised under any of the circumstances listed in IC 13-15-7-2 or if IDEM, OAQ determines any of the following:
- (1) That this permit contains a material mistake.
 - (2) That inaccurate statements were made in establishing the emissions standards or other terms or conditions.

- (3) That this permit must be revised or revoked to assure compliance with an applicable requirement. [326 IAC 2-7-9(a)(3)]
- (c) Proceedings by IDEM, OAQ to reopen and revise this permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of this permit for which cause to reopen exists. Such reopening and revision shall be made as expeditiously as practicable. [326 IAC 2-7-9(b)]
- (d) The reopening and revision of this permit, under 326 IAC 2-7-9(a), shall not be initiated before notice of such intent is provided to the Permittee by IDEM, OAQ at least thirty (30) days in advance of the date this permit is to be reopened, except that IDEM, OAQ may provide a shorter time period in the case of an emergency. [326 IAC 2-7-9(c)]

B.17 Permit Renewal [326 IAC 2-7-3] [326 IAC 2-7-4] [326 IAC 2-7-8(e)]

- (a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ and shall include the information specified in 326 IAC 2-7-4. Such information shall be included in the application for each emission unit at this source, except those emission units included on the trivial or insignificant activities list contained in 326 IAC 2-7-1(21) and 326 IAC 2-7-1(40). The renewal application does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

Request for renewal shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue
Indianapolis, Indiana 46204-2251

- (b) A timely renewal application is one that is:
 - (1) Submitted at least nine (9) months prior to the date of the expiration of this permit; and
 - (2) If the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.
- (c) If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-7 until IDEM, OAQ, takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified in writing by IDEM, OAQ, any additional information identified as being needed to process the application.

B.18 Permit Amendment or Modification [326 IAC 2-7-11] [326 IAC 2-7-12]

- (a) Permit amendments and modifications are governed by the requirements of 326 IAC 2-7-11 or 326 IAC 2-7-12 whenever the Permittee seeks to amend or modify this permit.
- (b) Any application requesting an amendment or modification of this permit shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue
Indianapolis, Indiana 46204-2251

Any such application shall be certified by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]

B.19 Permit Revision Under Economic Incentives and Other Programs [326 IAC 2-7-5(8)]
[326 IAC 2-7-12 (b)(2)]

- (a) No Part 70 permit revision shall be required under any approved economic incentives, marketable Part 70 permits, emissions trading, and other similar programs or processes for changes that are provided for in a Part 70 permit.
- (b) Notwithstanding 326 IAC 2-7-12(b)(1) and 326 IAC 2-7-12(c)(1), minor Part 70 permit modification procedures may be used for Part 70 modifications involving the use of economic incentives, marketable Part 70 permits, emissions trading, and other similar approaches to the extent that such minor Part 70 permit modification procedures are explicitly provided for in the applicable State Implementation Plan (SIP) or in applicable requirements promulgated or approved by the U.S. EPA.

B.20 Operational Flexibility [326 IAC 2-7-20] [326 IAC 2-7-10.5]

- (a) The Permittee may make any change or changes at the source that are described in 326 IAC 2-7-20(b), (c), or (e), without a prior permit revision, if each of the following conditions is met:

- (1) The changes are not modifications under any provision of Title I of the Clean Air Act;
- (2) Any preconstruction approval required by 326 IAC 2-7-10.5 has been obtained;
- (3) The changes do not result in emissions which exceed the limitations provided in this permit (whether expressed herein as a rate of emissions or in terms of total emissions);
- (4) The Permittee notifies the:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue
Indianapolis, Indiana 46204-2251

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Regulation Development Branch - Indiana (AR-18J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

in advance of the change by written notification at least ten (10) days in advance of the proposed change. The Permittee shall attach every such notice to the Permittee's copy of this permit; and

- (5) The Permittee maintains records on-site, on a rolling five (5) year basis, which document all such changes and emission trades that are subject to 326 IAC 2-7-20(b), (c), or (e). The Permittee shall make such records available, upon reasonable request, for public review.

Such records shall consist of all information required to be submitted to IDEM, OAQ in the notices specified in 326 IAC 2-7-20(b)(1), (c)(1), and (e)(2).

- (b) The Permittee may make Section 502(b)(10) of the Clean Air Act changes (this term is defined at 326 IAC 2-7-1(36)) without a permit revision, subject to the constraint of 326 IAC 2-7-20(a). For each such Section 502(b)(10) of the Clean Air Act change, the required written notification shall include the following:
- (1) A brief description of the change within the source;
 - (2) The date on which the change will occur;
 - (3) Any change in emissions; and
 - (4) Any permit term or condition that is no longer applicable as a result of the change.

The notification which shall be submitted is not considered an application form, report or compliance certification. Therefore, the notification by the Permittee does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (c) Emission Trades [326 IAC 2-7-20(c)]
The Permittee may trade emissions increases and decreases at the source, where the applicable SIP provides for such emission trades without requiring a permit revision, subject to the constraints of Section (a) of this condition and those in 326 IAC 2-7-20(c).
- (d) Alternative Operating Scenarios [326 IAC 2-7-20(d)]
The Permittee may make changes at the source within the range of alternative operating scenarios that are described in the terms and conditions of this permit in accordance with 326 IAC 2-7-5(9). No prior notification of IDEM, OAQ, or U.S. EPA is required.
- (e) Backup fuel switches specifically addressed in, and limited under, Section D of this permit shall not be considered alternative operating scenarios. Therefore, the notification requirements of part (a) of this condition do not apply.

B.21 Source Modification Requirement [326 IAC 2-7-10.5] [326 IAC 2-2-2] [326 IAC 2-3-2]

- (a) A modification, construction, or reconstruction is governed by the requirements of 326 IAC 2 and 326 IAC 2-7-10.5.
- (b) Any modification at an existing major source is governed by the requirements of 326 IAC 2-2-2 and/or 326 IAC 2-3-2.

B.22 Inspection and Entry [326 IAC 2-7-6] [IC 13-14-2-2] [IC 13-30-3-1] [IC 13-17-3-2]

Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee's right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAQ, U.S. EPA, or an authorized representative to perform the following:

- (a) Enter upon the Permittee's premises where a Part 70 source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
- (b) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, have access to and copy any records that must be kept under the conditions of this permit;

- (c) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, inspect any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;
- (d) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, sample or monitor at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and
- (e) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

B.23 Transfer of Ownership or Operational Control [326 IAC 2-7-11]

- (a) The Permittee must comply with the requirements of 326 IAC 2-7-11 whenever the Permittee seeks to change the ownership or operational control of the source and no other change in the permit is necessary.
- (b) Any application requesting a change in the ownership or operational control of the source shall contain a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new Permittee. The application shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue
Indianapolis, Indiana 46204-2251

The application which shall be submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).
- (c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]

B.24 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-7-5(7)][326 IAC 2-1.1-7]

- (a) The Permittee shall pay annual fees to IDEM, OAQ within thirty (30) calendar days of receipt of a billing. Pursuant to 326 IAC 2-7-19(b), if the Permittee does not receive a bill from IDEM, OAQ, the applicable fee is due April 1 of each year.
- (b) Except as provided in 326 IAC 2-7-19(e), failure to pay may result in administrative enforcement action or revocation of this permit.
- (c) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-4230 (ask for OAQ, Billing, Licensing, and Training Section), to determine the appropriate permit fee.

B.25 Credible Evidence [326 IAC 2-7-5(3)][326 IAC 2-7-6][62 FR 8314] [326 IAC 1-1-6]

For the purpose of submitting compliance certifications or establishing whether or not the Permittee has violated or is in violation of any condition of this permit, nothing in this permit shall preclude the use, including the exclusive use, of any credible evidence or information relevant to whether the Permittee would have been in compliance with the condition of this permit if the appropriate performance or compliance test or procedure had been performed.

SECTION C

SOURCE OPERATION CONDITIONS

Entire Source

Emission Limitations and Standards [326 IAC 2-7-5(1)]

C.1 Particulate Emission Limitations For Processes with Process Weight Rates Less Than One Hundred (100) Pounds per Hour [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2(e)(2), particulate emissions from any process not exempt under 326 IAC 6-3-1(b) or (c) which has a maximum process weight rate less than 100 pounds per hour and the methods in 326 IAC 6-3-2(b) through (d) do not apply shall not exceed 0.551 pounds per hour.

C.2 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

C.3 Open Burning [326 IAC 4-1] [IC 13-17-9]

The Permittee shall not open burn any material except as provided in 326 IAC 4-1-3, 326 IAC 4-1-4 or 326 IAC 4-1-6. The previous sentence notwithstanding, the Permittee may open burn in accordance with an open burning approval issued by the Commissioner under 326 IAC 4-1-4.1. 326 IAC 4-1-3 (a)(2)(A) and (B) are not federally enforceable.

C.4 Incineration [326 IAC 4-2] [326 IAC 9-1-2]

The Permittee shall not operate an incinerator or incinerate any waste or refuse except as provided in 326 IAC 4-2 and 326 IAC 9-1-2. 326 IAC 9-1-2 is not federally enforceable.

C.5 Fugitive Dust Emissions [326 IAC 6-4]

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions). 326 IAC 6-4-2(4) is not federally enforceable.

C.6 Stack Height [326 IAC 1-7]

The Permittee shall comply with the applicable provisions of 326 IAC 1-7 (Stack Height Provisions), for all exhaust stacks through which a potential (before controls) of twenty-five (25) tons per year or more of particulate matter or sulfur dioxide is emitted. The provisions of 326 IAC 1-7-1(3), 326 IAC 1-7-2, 326 IAC 1-7-3(c) and (d), 326 IAC 1-7-4, and 326 IAC 1-7-5(a), (b), and (d) are not federally enforceable.

C.7 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]

- (a) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is at least 260 linear feet on pipes or 160 square feet on other facility components, or at least thirty-five (35) cubic feet on all facility components, then the notification requirements of 326 IAC 14-10-3 are mandatory. All demolition projects require notification whether or not asbestos is present.
- (b) The Permittee shall ensure that a written notification is sent on a form provided by the Commissioner at least ten (10) working days before asbestos stripping or removal work or before demolition begins, per 326 IAC 14-10-3, and shall update such notice as necessary, including, but not limited to the following:
 - (1) When the amount of affected asbestos containing material increases or decreases by at least twenty percent (20%); or
 - (2) If there is a change in the following:
 - (A) Asbestos removal or demolition start date;
 - (B) Removal or demolition contractor; or
 - (C) Waste disposal site.
- (c) The Permittee shall ensure that the notice is postmarked or delivered according to the guidelines set forth in 326 IAC 14-10-3(2).
- (d) The notice to be submitted shall include the information enumerated in 326 IAC 14-10-3(3).

All required notifications shall be submitted to:

Indiana Department of Environmental Management
Asbestos Section, Office of Air Quality
100 North Senate Avenue
Indianapolis, Indiana 46204-2251

The notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project. The notifications do not require a certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (e) **Procedures for Asbestos Emission Control**
The Permittee shall comply with the applicable emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-1, emission control requirements are applicable for any removal or disturbance of RACM greater than three (3) linear feet on pipes or three (3) square feet on any other facility components or a total of at least 0.75 cubic feet on all facility components.
- (f) **Demolition and Renovation**
The Permittee shall thoroughly inspect the affected facility or part of the facility where the demolition or renovation will occur for the presence of asbestos pursuant to 40 CFR 61.145(a).

- (g) Indiana Accredited Asbestos Inspector
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Accredited Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos. The requirement to use an Indiana Accredited Asbestos inspector is not federally enforceable.

Testing Requirements [326 IAC 2-7-6(1)]

C.8 Performance Testing [326 IAC 3-6]

- (a) All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

A test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue
Indianapolis, Indiana 46204-2251

no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require certification by the "responsible official" as defined by 326 IAC 2-7-1(34).
- (c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ if the Permittee submits to IDEM, OAQ, a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

Compliance Requirements [326 IAC 2-1.1-11]

C.9 Compliance Requirements [326 IAC 2-1.1-11]

The commissioner may require stack testing, monitoring, or reporting at any time to assure compliance with all applicable requirements by issuing an order under 326 IAC 2-1.1-11. Any monitoring or testing shall be performed in accordance with 326 IAC 3 or other methods approved by the commissioner or the U. S. EPA.

Compliance Monitoring Requirements [326 IAC 2-7-5(1)] [326 IAC 2-7-6(1)]

C.10 Compliance Monitoring [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

Unless otherwise specified in this permit, all monitoring and record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance. If required by Section D, the Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. If due to circumstances beyond its control, that equipment cannot be installed and operated within ninety (90) days, the Permittee may extend the compliance schedule related to the equipment for an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue
Indianapolis, Indiana 46204-2251

in writing, prior to the end of the initial ninety (90) day compliance schedule, with full justification of the reasons for the inability to meet this date.

The notification which shall be submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

Unless otherwise specified in the approval for the new emission unit(s), compliance monitoring for new emission units or emission units added through a source modification shall be implemented when operation begins.

C.11 Monitoring Methods [326 IAC 3] [40 CFR 60] [40 CFR 63]

Any monitoring or testing required by Section D of this permit shall be performed according to the provisions of 326 IAC 3, 40 CFR 60, Appendix A, 40 CFR 60 Appendix B, 40 CFR 63, or other approved methods as specified in this permit.

C.12 Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

- (a) When required by any condition of this permit, an analog instrument used to measure a parameter related to the operation of an air pollution control device shall have a scale such that the expected maximum reading for the normal range shall be no less than twenty percent (20%) of full scale.
- (b) The Permittee may request that the IDEM, OAQ approve the use of an instrument that does not meet the above specifications provided the Permittee can demonstrate that an alternative instrument specification will adequately ensure compliance with permit conditions requiring the measurement of the parameters.

Corrective Actions and Response Steps [326 IAC 2-7-5] [326 IAC 2-7-6]

C.13 Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]

Pursuant to 326 IAC 1-5-2 (Emergency Reduction Plans; Submission):

- (a) The Permittee prepared and submitted written emergency reduction plans (ERPs) consistent with safe operating procedures on January 21, 1999.
- (b) Upon direct notification by IDEM, OAQ, that a specific air pollution episode level is in effect, the Permittee shall immediately put into effect the actions stipulated in the approved ERP for the appropriate episode level.
[326 IAC 1-5-3]

C.14 Risk Management Plan [326 IAC 2-7-5(12)] [40 CFR 68]

If a regulated substance, as defined in 40 CFR 68, is present at a source in more than a threshold quantity, the Permittee must comply with the applicable requirements of 40 CFR 68.

C.15 Response to Excursions or Exceedances [326 IAC 2-7-5] [326 IAC 2-7-6]

- (a) Upon detecting an excursion or exceedance, the Permittee shall restore operation of the emissions unit (including any control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions.

- (b) The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Corrective actions may include, but are not limited to, the following:
 - (1) initial inspection and evaluation;
 - (2) recording that operations returned to normal without operator action (such as through response by a computerized distribution control system); or
 - (3) any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.
- (c) A determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, the following:
 - (1) monitoring results;
 - (2) review of operation and maintenance procedures and records;
 - (3) inspection of the control device, associated capture system, and the process.
- (d) Failure to take reasonable response steps shall be considered a deviation from the permit.
- (e) The Permittee shall maintain the following records:
 - (1) monitoring data;
 - (2) monitor performance data, if applicable; and
 - (3) corrective actions taken.

C.16 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5] [326 IAC 2-7-6]

-
- (a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall take appropriate response actions. The Permittee shall submit a description of these response actions to IDEM, OAQ, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize excess emissions from the affected facility while the response actions are being implemented.
 - (b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAQ that retesting in one-hundred and twenty (120) days is not practicable, IDEM, OAQ may extend the retesting deadline.
 - (c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

The response action documents submitted pursuant to this condition do require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

C.17 Emission Statement [326 IAC 2-7-5(3)(C)(iii)][326 IAC 2-7-5(7)][326 IAC 2-7-19(c)][326 IAC 2-6]

- (a) Pursuant to 326 IAC 2-6-3(a)(1), the Permittee shall submit by July 1 of each year an emission statement covering the previous calendar year. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4(c) and shall meet the following requirements:
- (1) Indicate estimated actual emissions of all pollutants listed in 326 IAC 2-6-4(a);
 - (2) Indicate estimated actual emissions of regulated pollutants as defined by 326 IAC 2-7-1 (32) ("Regulated pollutant, which is used only for purposes of Section 19 of this rule") from the source, for purpose of fee assessment.

The statement must be submitted to:

Indiana Department of Environmental Management
Technical Support and Modeling Section, Office of Air Quality
100 North Senate Avenue
Indianapolis, Indiana 46204-2251

The emission statement does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (b) The emission statement required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

C.18 General Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-6] [326 IAC 2-2] [326 IAC 2-3]

- (a) Records of all required monitoring data, reports and support information required by this permit shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.
- (b) Unless otherwise specified in this permit, all record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance.
- (c) If there is a "project" (as defined in 326 IAC 2-2-1 (qq)) at an existing emissions unit or at a source with Plant-wide Applicability Limitation (PAL), which is not part of a "major modification" (as defined in 326 IAC 2-2-1 (ee)) and the Permittee elects to utilize the "projected actual emissions" (as defined in 326 IAC 2-2-1 (rr) and/or IAC 2-3-1 (mm)), the Permittee shall comply with following:
- (1) Before beginning actual construction of the "project" (as defined in 326 IAC 2-2-1 (qq) and/or 326 IAC 2-3-1 (ll)) at an existing emissions unit, document and maintain the following records:
 - (A) A description of the project.

- (B) Identification of any emissions unit whose emissions of a regulated new source review pollutant could be affected by the project.
 - (C) A description of the applicability test used to determine that the project is not a major modification for any regulated NSR pollutant, including:
 - (i) Baseline actual emissions;
 - (ii) Projected actual emissions;
 - (iii) Amount of emissions excluded under section 326 IAC 2-2-1(rr)(2)(A)(iii) and/or 326 IAC 2-3-1(mm)(2)(A)(iii); and
 - (iv) An explanation for why the amount was excluded, and any netting calculations, if applicable.
- (2) Monitor the emissions of any regulated NSR pollutant that could increase as a result of the project and that is emitted by any existing emissions unit identified in (1)(B) above; and
- (3) Calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of five (5) years following resumption of regular operations after the change, or for a period of ten (10) years following resumption of regular operations after the change if the project increases the design capacity of or the potential to emit that regulated NSR pollutant at the emissions unit.

C.19 General Reporting Requirements [326 IAC 2-7-5(3)(C)] [326 IAC 2-1.1-11] [326 IAC 2-2] [326 IAC 2-3]

- (a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported. This report shall be submitted within thirty (30) days of the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).
- (b) The report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue
Indianapolis, Indiana 46204-2251
- (c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.
- (d) Unless otherwise specified in this permit, all reports required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. All reports do require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).
- (e) Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit "calendar year" means the twelve (12) month period from January 1 to December 31 inclusive.

- (f) If the Permittee is required to comply with the recordkeeping provisions of (c) in Section C- General Record Keeping Requirements for any "project" (as defined in 326 IAC 2-2-1 (qq) and/or 326 IAC 2-3-1 (ll)) at an existing emissions unit, and the project meets the following criteria, then the Permittee shall submit a report to IDEM, OAQ :
- (1) The annual emissions, in tons per year, from the project identified in (c)(1) in Section C- General Record Keeping Requirements exceed the baseline actual emissions, as documented and maintained under Section C- General Record Keeping Requirements (c)(1)(C)(i), by a significant amount, as defined in 326 IAC 2-2-1 (xx) and/or 326 IAC 2-3-1 (qq), for that regulated NSR pollutant, and
 - (2) The emissions differ from the preconstruction projection as documented and maintained under Section C- General Record Keeping Requirements (c)(1)(C)(ii).
- (g) The report for a project at an existing emissions unit shall be submitted within sixty (60) days after the end of the year and contain the following:
- (1) The name, address, and telephone number of the major stationary source.
 - (2) The annual emissions calculated in accordance with (c)(2) and (3) in Section C- General Record Keeping Requirements.
 - (3) The emissions calculated under the actual-to-projected actual test stated in 326 IAC 2-2-2(d)(3) and/or 326 IAC 2-3-2(c)(3).
 - (4) Any other information that the Permittee deems fit to include in this report,

Reports required in this part shall be submitted to:

Indiana Department of Environmental Management
Air Compliance Section, Office of Air Quality
100 North Senate Avenue
Indianapolis, Indiana 46204-2251

- (h) The Permittee shall make the information required to be documented and maintained in accordance with (c) in Section C- General Record Keeping Requirements available for review upon a request for inspection by IDEM, OAQ. The general public may request this information from the IDEM, OAQ under 326 IAC 17.1.

Stratospheric Ozone Protection

C.20 Compliance with 40 CFR 82 and 326 IAC 22-1

Pursuant to 40 CFR 82 (Protection of Stratospheric Ozone), Subpart F, except as provided for motor vehicle air conditioners in Subpart B, the Permittee shall comply with the standards for recycling and emissions reduction:

- (a) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to 40 CFR 82.156.
- (b) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 CFR 82.158.
- (c) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR 82.161.

SECTION D.1 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]:

- (a) One (1) charge handling operation for charge materials for melting furnaces, installed in 1970, exhausting inside the building;
- (b) One (1) cupola melting operation consisting of the following:
 - (1) one (1) 14 tons per hour cupola furnace, identified as CUPOLA, installed in 1972, equipped with a natural gas fired cupola afterburner, rated at 4.3 million BTU (MMBTU) per hour and a wet scrubber, identified as WS#1, for particulate matter control, and exhausting through one (1) stack, identified as DS-9;
 - (2) one (1) 40 ton electric induction holding furnace for holding molten metal from the cupola furnace, installed in 1988; and
 - (3) ladles for pouring molten metal into the molds.
- (c) One (1) electric induction furnace (EIF) melting operation consisting of the following:
 - (1) two (2) 4.0 tons per hour electric induction furnaces, identified as #1 and #2, each installed in 1995, with particulate matter emissions controlled by a baghouse, identified as DC-2;
 - (2) One (1) inoculation operation for magnesium treatment of the molten metal in the furnaces to produce ductile iron; and
 - (3) ladles for pouring molten metal into the molds.
- (d) Five (5) mold making lines, with a combined maximum metal throughput capacity of 20 tons per hour and a combined green sand throughput of 100 tons per hour, exhausting inside the building as follows:
 - (1) One (1) mold making line, identified as Hunter #1, consisting of the following:
 - (A) One (1) mold making machine, installed in 2002; and
 - (B) One (1) pouring and cooling operation, with a maximum metal throughput of 4 tons per hour;
 - (2) One (1) mold making line, identified as Hunter #2, consisting of the following:
 - (A) One (1) mold making machine, installed in 1974 and modified in 2005; and
 - (B) One (1) pouring and cooling operation, with a maximum metal throughput of 4 tons per hour;
 - (3) One (1) mold making line, identified as Hunter #5, consisting of the following:
 - (A) One (1) mold making machine, installed in 1979; and
 - (B) One (1) pouring and cooling operation, with a maximum metal throughput of 3 tons per hour;
 - (4) One (1) mold making line, identified as Hunter #6, consisting of the following:
 - (A) One (1) mold machine, identified as Hunter #6, installed in 1981; and
 - (B) One (1) pouring and cooling operation, with a maximum metal throughput of 3 tons per hour;

- (5) One (1) mold making line, identified as Sinto #1, consisting of the following:
- (A) One (1) mold machine, identified as Sinto #1, installed in 1998; and
 - (B) One (1) pouring and cooling operation, with a maximum metal throughput of 6 tons per hour;
- (e) A mold sand handling system for all molding lines, installed in 1975, with a maximum sand throughput of 100 tons per hour, consisting of:
- (1) one (1) shakeout system, including one (1) shaker pan and one (1) rotary shakeout, with particulate matter emissions controlled by a baghouse, identified as DC-2,
 - (2) one (1) sand muller, two (2) silos, two (2) sand storage tanks, two (2) elevators, conveyors, one (1) magnetic separator, one (1) sand cooler, one (1) sand screen, and one (1) recycle sand hopper, with particulate matter emissions controlled by a baghouse, identified as DC-2;
- (The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.1.1 Prevention of Significant Deterioration (PSD) Minor Limit [326 IAC 2-2]

Pursuant to Significant Source Modification No.: 099-15758-00001, issued December 19, 2002, and revised by this permit:

- (a) The amount of iron poured on the mold line Hunter #1 shall not exceed 14,994 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (b) PM emissions from the Hunter #1 mold line shall not exceed 3.10 pounds of PM per ton of iron poured;
- (c) PM10 emissions from Hunter #1 mold line shall not exceed 2.00 pounds of PM10 per ton of iron poured.

Compliance with these limits will limit PM emissions from the Hunter #1 mold line to less than 25 tons per year and will limit PM10 emissions to less than 15 tons per year, therefore, the requirements of 326 IAC 2-2 (PSD) do not apply to the modification in 2002.

D.1.2 Prevention of Significant Deterioration (PSD) Minor Limit [326 IAC 2-2]

- (a) The amount of iron poured on the mold line Sinto #1 shall not exceed 30,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (b) Total CO emissions from pouring, cooling, and shakeout in the Sinto #1 molding line shall not exceed 6.0 pounds of CO per ton of iron poured.

Compliance with these limits will limit CO emissions from the Sinto #1 mold line to less than 100 tons per year, therefore, the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) do not apply to the modification in 1998.

D.1.3 Particulate Emission Limitations [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the facilities listed below are as follows:

The pounds per hour limitation was calculated with the following equation:

Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour}$$

and

Interpolation and extrapolation of the data for the process weight rate in excess of 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 55.0 P^{0.11} - 40 \quad \text{where } E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour}$$

Process Description	Process Weight Rate (ton/hr)	326 IAC 6-3-2 Allowable (lb/hr)
Two (2) Electric Induction Furnace	4.0 each	10.38 each
Inoculation (Mg Treatment)	8.0	16.51
Charge Handling	12.0	21.67
Pouring / Cooling		
Hunter #1 Line	45.2	43.64
Hunter #2 Line	45.2	43.64
Hunter #5 Line	21.9	32.42
Hunter #6 Line	21.9	32.42
Sinto #1 Line	54.0	45.29
Casting Shakeout	20.0	21.67
Mold Sand Handling	100	51.28

D.1.4 Particulate Emission Limitations [326 IAC 11-1-2]

Pursuant to 326 IAC 11-1-2, the allowable particulate emission rate from the cupola shall not exceed 26.4 pounds per hour when operating at a process weight rate of 24,000 pounds per hour.

D.1.5 Metallic HAP Minor Limits

- (a) Emissions of lead from the cupola shall not exceed 6.88 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (b) Emissions of manganese from the cupola shall not exceed 2.06 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (c) Emission of any combination of HAPs from the cupola shall not exceed 6.88 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (d) Emissions of lead from the two (2) electric induction furnaces and the inoculation process shall not exceed 0.36 ton per twelve (12) consecutive month period, with compliance determined at the end of each month;

- (e) Emissions of manganese from the two (2) electric induction furnaces and the inoculation process shall not exceed 0.09 ton per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (f) Emissions of any combination of HAPs from the two (2) electric induction furnaces and the inoculation process shall not exceed 0.36 ton per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (g) Total emissions of lead from the casting shakeout operation for all mold lines shall not exceed 0.26 ton per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (h) Total emissions of manganese from the casting shakeout operation for all mold lines shall not exceed 0.80 ton per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (i) Total emissions of any combination of metal HAPs from the casting shakeout operation for all mold lines shall not exceed 1.30 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;

Compliance with the lead and manganese emission limits above in conjunction with the other lead and manganese limits included in this permit limit source-wide lead emissions and source-wide manganese emissions to less than 10 tons per year, each. Compliance with the combined metal HAP limits above in conjunction with the other combined HAP limits included in this permit limit source-wide emissions of any combination of HAPs to less than 25 tons per year.

- (j) The Permittee shall operate the cupola afterburner such that the 15-minute average combustion zone temperature does not fall below 1,300 degrees Fahrenheit (°F). 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.

D.1.6 Organic HAP Minor Limits

- (a) The total emissions of toluene from the Pouring/Casting Cooling operations identified as Hunter #1, Hunter #2, Hunter #5, Hunter #6, and Sinto #1, and the casting shakeout operations for all mold lines shall not exceed 4.79 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (b) The total emissions of phenol from the Pouring/Casting Cooling operations identified as Hunter #1, Hunter #2, Hunter #5, Hunter #6, and Sinto #1, and the casting shakeout operations for all mold lines shall not exceed 4.79 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (c) The total emissions of benzene from the Pouring/Casting Cooling operations identified as Hunter #1, Hunter #2, Hunter #5, Hunter #6, and Sinto #1, and the casting shakeout operations for all mold lines shall not exceed 4.79 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (d) The total emissions of any combination of organic HAPs from the Pouring/Casting Cooling operations identified as Hunter #1, Hunter #2, Hunter #5, Hunter #6, and Sinto #1, and the casting shakeout operations for all mold lines shall not exceed 4.79 ton per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (e) The total organic HAPs emissions from the cupola shall not exceed 0.02 pounds per hour.

Compliance with the toluene, phenol and benzene emission limits above limit source-wide toluene, phenol and benzene emissions to less than 10 tons per year, each. Compliance with the combined organic HAP limits above in conjunction with the other combined HAP limits included in this permit limit source-wide emissions of any combination of HAPs to less than 25 tons per year.

D.1.7 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for the cupola, the electric induction furnaces and their control devices, and the metal pouring/cooling operations.

Compliance Determination Requirements

D.1.8 Particulate and HAP Emission Control

- (a) In order to comply with conditions D.1.3, D.1.4, and D.1.5, the baghouse, wet scrubber and afterburner for particulate and metal HAP control shall be in operation and control emissions from the cupola, casting shakeout, and the electric induction furnaces at all times that the facilities are in operation.
- (b) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.
- (c) In order to comply with Condition D.1.6, the afterburner shall be in operation and control organic HAPs emissions from the cupola at all times that the cupola is in operation.

D.1.9 Testing Requirements [326 IAC 2-7-6(1), (6)]

- (a) Between July 2011 and January 2012, the Permittee shall conduct PM (filterable) stack testing for the metal pouring/cooling operation for one (1) of the Hunter #2, Hunter #5, Hunter #6 lines utilizing methods approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C- Performance Testing.
- (b) Between January 2010 and July 2010, the Permittee shall conduct a PM (filterable) stack test for the Sinto #1 line utilizing methods approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C- Performance Testing.
- (c) Between August 2009 and February 2010, the Permittee shall conduct PM (filterable) and PM-10 (filterable and condensable) stack tests for the Hunter #1 line utilizing methods approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C- Performance Testing.
- (d) Within 180 days after issuance of this Part 70 permit, in order to demonstrate compliance with Conditions D.1.1 and D.1.2, the Permittee shall perform CO and total organic HAP testing on the each of the pouring, cooling and casting shakeout operations utilizing methods as approved by the Commissioner. These tests shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C- Performance Testing.

- (e) Within 180 days after issuance of this Part 70 permit, in order to demonstrate compliance with Condition D.1.5, the Permittee shall perform lead and manganese testing on the cupola, one of the induction furnaces and inoculation process, and the casting shakeout operation utilizing methods as approved by the Commissioner. These tests shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C- Performance Testing.
- (f) Within 180 days after issuance of this Part 70 permit, in order to demonstrate compliance with Condition D.1.6, the Permittee shall perform total organic HAPs testing on the cupola, utilizing methods as approved by the Commissioner. These tests shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C- Performance Testing.

D.1.10 Metal HAP Emissions

Compliance with the HAP limits in condition D.1.5 shall be demonstrated using the following equations:

- (a) Lead Emissions from the cupola (tons/yr) = EF_{CPb} (lb/ton) x M_C (tons per twelve (12) consecutive month period) x (1 ton / 2000 pounds)

Where:

EF_{CPb} = 0.0534 pound lead per ton of metal throughput (or an emission factor determined from the most recent compliance stack test)

M_C = total metal throughput to the cupola (tons per twelve (12) consecutive month period)

- (b) Lead Emissions from the two (2) electric induction furnaces and inoculation process (tons/yr) = EF_{FPb} (lb/ton) x M_F (tons per twelve (12) consecutive month period) x (1 ton / 2000 pounds)

Where:

EF_{FPb} = 0.001635 pound lead per ton of metal throughput (or an emission factor determined from the most recent compliance stack test)

M_F = total metal throughput to the two (2) electric induction furnaces and inoculation process (tons per twelve (12) consecutive month period)

- (c) Lead Emissions from the Casting Shakeout operation (tons/yr) = EF_{CSPb} (lb/ton) x M_{CS} (tons per twelve (12) consecutive month period)] x (1 ton / 2000 pounds)

Where:

EF_{CSPb} = 0.00037 pound lead per ton of metal throughput (or an emission factor determined from the most recent compliance stack test)

M_{CS} = total metal throughput to the Casting Shakeout operation (tons per twelve (12) consecutive month period)

- (d) Manganese Emissions from the cupola (tons/yr) = EF_{CMn} (lb/ton) x M_C (tons per twelve (12) consecutive month period) x (1 ton / 2000 pounds)

Where:

EF_{CMn} = 0.038 pound manganese per ton of metal throughput (or an emission factor determined from the most recent compliance stack test)

M_C = total metal throughput to the cupola (tons per twelve (12) consecutive month period)

- (e) Manganese Emissions from the two (2) electric induction furnaces (tons/yr) = EF_{FMn} (lb/ton) x M_F (tons per twelve (12) consecutive month period) x (1 ton / 2000 pounds)

Where:

EF_{FMn} = 0.000837 pound manganese per ton of metal throughput (or an emission factor determined from the most recent compliance stack test)

M_F = total metal throughput to the two (2) electric induction furnaces (tons per twelve (12) consecutive month period)

- (f) Manganese Emissions from the Casting Shakeout operation (tons/yr) = EF_{CSMn} (lb/ton) x M_{CS} (tons per twelve (12) consecutive month period)] x (1 ton / 2000 pounds)

Where:

EF_{CSMn} = 0.003 pound manganese per ton of metal throughput (or an emission factor determined from the most recent compliance stack test)

M_{CS} = total metal throughput to the Casting Shakeout operation (tons per twelve (12) consecutive month period)

- (g) Total Metal HAP Emissions from the cupola (tons/yr) = EF_{CTM} (lb/ton) x M_C (tons per twelve (12) consecutive month period) x (1 ton / 2000 pounds)

Where:

EF_{CTM} = 0.0952 pound combined metal HAP per ton of metal throughput (or an emission factor determined from the most recent compliance stack test)

M_C = total metal throughput to the cupola (tons per twelve (12) consecutive month period)

- (h) Total Metal HAP Emissions from the two (2) electric induction furnaces (tons/yr) = EF_{FTM} (lb/ton) x M_F (tons per twelve (12) consecutive month period) x (1 ton / 2000 pounds)

Where:

EF_{FTM} = 0.00255 pound combined metal HAP per ton of metal throughput (or an emission factor determined from the most recent compliance stack test)

M_F = total metal throughput to the two (2) electric induction furnaces (tons per twelve (12) consecutive month period)

- (i) Total Metal HAP Emissions from the Casting Shakeout operation (tons/yr) = EF_{CSTM} (lb/ton) x M_{CS} (tons per twelve (12) consecutive month period)] x (1 ton / 2000 pounds)

Where:

EF_{CSTM} = 0.0036 pound combined metal HAP per ton of metal throughput (or an emission factor determined from the most recent compliance stack test)

M_{CS} = total metal throughput to the Casting Shakeout operation (tons per twelve (12) consecutive month period)

- (j) Upon IDEM approval of lead and manganese compliance stack test results on the cupola and one (1) of the two (2) electric induction furnaces, the following shall apply:

- (1) The lead and manganese emission factors in pound per ton obtained from the IDEM approved stack test results shall be used for the variables identified above as EF_{CPb} , EF_{CMn} , EF_{FPb} , and EF_{FMn} .
- (2) The total metal HAP emission factor in pound per ton that shall be used for the variables EF_{CTM} and EF_{FTM} shall be the sum of the lead emission factor obtained from the stack test, the manganese emission factor obtained from the stack test and the remaining non-lead and non-manganese metal HAP emission factors used to calculate emissions.

- (k) Upon IDEM approval of total metal HAP compliance stack test results on the Casting Shakeout operation, the following shall apply:
- (1) The lead and manganese emission factors in pound per ton obtained from the IDEM approved stack test results shall be used for the variables identified above as EF_{CSPb} and EF_{CSMn} .
 - (2) The total metal HAP emission factor in pound per ton that shall be used for the variable EF_{CSTM} shall be the total metal HAP emission factor obtained from the stack test.

D.1.11 Organic HAP Emissions

Compliance with the HAP limits in condition D.1.6 shall be demonstrated using the following equations:

- (a) Toluene Emissions from the Pouring/Casting Cooling operations identified as Hunter #1, Hunter #2, Hunter #5, Hunter #6, and Sinto #1, and the casting shakeout operation (tons/yr) = $EF_{H1PCST} \text{ (lb/ton)} \times M_{H1PCS} \text{ (tons per twelve (12) consecutive month period)} \times (1 \text{ ton} / 2000 \text{ pounds}) + EF_{H2PCST} \text{ (lb/ton)} \times M_{H2PCS} \text{ (tons per twelve (12) consecutive month period)} \times (1 \text{ ton} / 2000 \text{ pounds}) + EF_{H5PCST} \text{ (lb/ton)} \times M_{H5PCS} \text{ (tons per twelve (12) consecutive month period)} \times (1 \text{ ton} / 2000 \text{ pounds}) + EF_{H6PCST} \text{ (lb/ton)} \times M_{H6PCS} \text{ (tons per twelve (12) consecutive month period)} \times (1 \text{ ton} / 2000 \text{ pounds}) + EF_{S1PCST} \text{ (lb/ton)} \times M_{S1PCS} \text{ (tons per twelve (12) consecutive month period)} \times (1 \text{ ton} / 2000 \text{ pounds})$

Where:

EF_{H1PCST} =toluene emissions from Hunter #1 pouring, cooling, and shakeout (0.0647 pound per ton of metal throughput or an emission factor determined from the most recent compliance stack test)

EF_{H2PCST} =toluene emissions from Hunter #2 pouring, cooling, and shakeout (0.0647 pound per ton of metal throughput or an emission factor determined from the most recent compliance stack test)

EF_{H5PCST} =toluene emissions from Hunter #5 pouring, cooling, and shakeout (0.0647 pound per ton of metal throughput or an emission factor determined from the most recent compliance stack test)

EF_{H6PCST} =toluene emissions from Hunter #6 pouring, cooling, and shakeout (0.0647 pound per ton of metal throughput or an emission factor determined from the most recent compliance stack test)

EF_{S1PCST} =toluene emissions from Sinto #1 pouring, cooling, and shakeout (0.0647 pound per ton of metal throughput or an emission factor determined from the most recent compliance stack test)

M_{H1PCS} = total metal throughput to the Hunter #1 pouring, cooling and shakeout operations (tons per twelve (12) consecutive month period)

M_{H2PCS} = total metal throughput to the Hunter #2 pouring, cooling and shakeout operations (tons per twelve (12) consecutive month period)

M_{H5PCS} = total metal throughput to the Hunter #5 pouring, cooling and shakeout operations (tons per twelve (12) consecutive month period)

M_{H6PCS} = total metal throughput to the Hunter #6 pouring, cooling and shakeout operations (tons per twelve (12) consecutive month period)

M_{s1PCS} = total metal throughput to the Sinto #1 pouring, cooling and shakeout operations (tons per twelve (12) consecutive month period)

- (b) Phenol Emissions from the Pouring/Casting Cooling operations identified as Hunter #1, Hunter #2, Hunter #5, Hunter #6, and Sinto #1, and the casting shakeout operation (tons/yr) = EF_{H1PCSP} (lb/ton) x M_{H1PCS} (tons per twelve (12) consecutive month period) x (1 ton / 2000 pounds) + EF_{H2PCSP} (lb/ton) x M_{H2PCS} (tons per twelve (12) consecutive month period) x (1 ton / 2000 pounds) + EF_{H5PCSP} (lb/ton) x M_{H5PCS} (tons per twelve (12) consecutive month period) x (1 ton / 2000 pounds) + EF_{H6PCSP} (lb/ton) x M_{H6PCS} (tons per twelve (12) consecutive month period) x (1 ton / 2000 pounds) + EF_{S1PCSP} (lb/ton) x M_{S1PCS} (tons per twelve (12) consecutive month period) x (1 ton / 2000 pounds)

Where:

EF_{H1PCSP} = phenol emissions from Hunter #1 pouring, cooling, and shakeout (0.0718 pound per ton of metal throughput or an emission factor determined from the most recent compliance stack test)

EF_{H2PCSP} = phenol emissions from Hunter #2 pouring, cooling, and shakeout (0.0718 pound per ton of metal throughput or an emission factor determined from the most recent compliance stack test)

EF_{H5PCSP} = phenol emissions from Hunter #5 pouring, cooling, and shakeout (0.0718 pound per ton of metal throughput or an emission factor determined from the most recent compliance stack test)

EF_{H6PCSP} = phenol emissions from Hunter #6 pouring, cooling, and shakeout (0.0718 pound per ton of metal throughput or an emission factor determined from the most recent compliance stack test)

EF_{S1PCSP} = phenol emissions from Sinto #1 pouring, cooling, and shakeout (0.0718 pound per ton of metal throughput or an emission factor determined from the most recent compliance stack test)

M_{H1PCS} = total metal throughput to the Hunter #1 pouring, cooling and shakeout operations (tons per twelve (12) consecutive month period)

M_{H2PCS} = total metal throughput to the Hunter #2 pouring, cooling and shakeout operations (tons per twelve (12) consecutive month period)

M_{H5PCS} = total metal throughput to the Hunter #5 pouring, cooling and shakeout operations (tons per twelve (12) consecutive month period)

M_{H6PCS} = total metal throughput to the Hunter #6 pouring, cooling and shakeout operations (tons per twelve (12) consecutive month period)

M_{s1PCS} = total metal throughput to the Sinto #1 pouring, cooling and shakeout operations (tons per twelve (12) consecutive month period)

- (c) Benzene Emissions from the Pouring/Casting Cooling operations identified as Hunter #1, Hunter #2, Hunter #5, Hunter #6, and Sinto #1, and the casting shakeout operation (tons/yr) = $EF_{H1PCSB} \text{ (lb/ton)} \times M_{H1PCS} \text{ (tons per twelve (12) consecutive month period)} \times (1 \text{ ton} / 2000 \text{ pounds}) + EF_{H2PCSB} \text{ (lb/ton)} \times M_{H2PCS} \text{ (tons per twelve (12) consecutive month period)} \times (1 \text{ ton} / 2000 \text{ pounds}) + EF_{H5PCSB} \text{ (lb/ton)} \times M_{H5PCS} \text{ (tons per twelve (12) consecutive month period)} \times (1 \text{ ton} / 2000 \text{ pounds}) + EF_{H6PCSB} \text{ (lb/ton)} \times M_{H6PCS} \text{ (tons per twelve (12) consecutive month period)} \times (1 \text{ ton} / 2000 \text{ pounds}) + EF_{S1PCSB} \text{ (lb/ton)} \times M_{S1PCS} \text{ (tons per twelve (12) consecutive month period)} \times (1 \text{ ton} / 2000 \text{ pounds})$

Where:

EF_{H1PCSB} = benzene emissions from Hunter #1 pouring, cooling, and shakeout (0.1643 pound per ton of metal throughput or an emission factor determined from the most recent compliance stack test)

EF_{H2PCSB} = benzene emissions from Hunter #2 pouring, cooling, and shakeout (0.1643 pound per ton of metal throughput or an emission factor determined from the most recent compliance stack test)

EF_{H5PCSB} = benzene emissions from Hunter #5 pouring, cooling, and shakeout (0.1643 pound per ton of metal throughput or an emission factor determined from the most recent compliance stack test)

EF_{H6PCSB} = benzene emissions from Hunter #6 pouring, cooling, and shakeout (0.1643 pound per ton of metal throughput or an emission factor determined from the most recent compliance stack test)

EF_{S1PCSB} = benzene emissions from Sinto #1 pouring, cooling, and shakeout (0.1643 pound per ton of metal throughput or an emission factor determined from the most recent compliance stack test)

M_{H1PCS} = total metal throughput to the Hunter #1 pouring, cooling and shakeout operations (tons per twelve (12) consecutive month period)

M_{H2PCS} = total metal throughput to the Hunter #2 pouring, cooling and shakeout operations (tons per twelve (12) consecutive month period)

M_{H5PCS} = total metal throughput to the Hunter #5 pouring, cooling and shakeout operations (tons per twelve (12) consecutive month period)

M_{H6PCS} = total metal throughput to the Hunter #6 pouring, cooling and shakeout operations (tons per twelve (12) consecutive month period)

M_{S1PCS} = total metal throughput to the Sinto #1 pouring, cooling and shakeout operations (tons per twelve (12) consecutive month period)

- (d) Total organic HAP Emissions from the Pouring/Casting Cooling operations identified as Hunter #1, Hunter #2, Hunter #5, Hunter #6, and Sinto #1, and the casting shakeout operation (tons/yr) = $EF_{H1PCSTO} \text{ (lb/ton)} \times M_{H1PCS} \text{ (tons per twelve (12) consecutive month period)} \times (1 \text{ ton} / 2000 \text{ pounds}) + EF_{H2PCSO} \text{ (lb/ton)} \times M_{H2PCS} \text{ (tons per twelve (12) consecutive month period)} \times (1 \text{ ton} / 2000 \text{ pounds}) + EF_{H5PCSO} \text{ (lb/ton)} \times M_{H5PCS} \text{ (tons per twelve (12) consecutive month period)} \times (1 \text{ ton} / 2000 \text{ pounds}) + EF_{H6PCSO} \text{ (lb/ton)} \times M_{H6PCS} \text{ (tons per twelve (12) consecutive month period)} \times (1 \text{ ton} / 2000 \text{ pounds}) + EF_{S1PCSO} \text{ (lb/ton)} \times M_{S1PCS} \text{ (tons per twelve (12) consecutive month period)} \times (1 \text{ ton} / 2000 \text{ pounds})$

Where:

EF_{H1PCSO} = total organic HAPs emissions from Hunter #1 pouring, cooling, and shakeout (0.4475 pound per ton of metal throughput or an emission factor determined from the most recent compliance stack test)

EF_{H2PCSO} = total organic HAPs emissions from Hunter #2 pouring, cooling, and shakeout (0.4475 pound per ton of metal throughput or an emission factor determined from the most recent compliance stack test)

EF_{H5PCSO} = total organic HAPs emissions from Hunter #5 pouring, cooling, and shakeout (0.4475 pound per ton of metal throughput or an emission factor determined from the most recent compliance stack test)

EF_{H6PCSO} = total organic HAPs emissions from Hunter #6 pouring, cooling, and shakeout (0.4475 pound per ton of metal throughput or an emission factor determined from the most recent compliance stack test)

EF_{S1PCSO} = total organic HAPs emissions from Sinto #1 pouring, cooling, and shakeout (0.4475 pound per ton of metal throughput or an emission factor determined from the most recent compliance stack test)

M_{H1PCS} = total metal throughput to the Hunter #1 pouring, cooling and shakeout operations (tons per twelve (12) consecutive month period)

M_{H2PCS} = total metal throughput to the Hunter #2 pouring, cooling and shakeout operations (tons per twelve (12) consecutive month period)

M_{H5PCS} = total metal throughput to the Hunter #5 pouring, cooling and shakeout operations (tons per twelve (12) consecutive month period)

M_{H6PCS} = total metal throughput to the Hunter #6 pouring, cooling and shakeout operations (tons per twelve (12) consecutive month period)

M_{S1PCS} = total metal throughput to the Sinto #1 pouring, cooling and shakeout operations (tons per twelve (12) consecutive month period)

- (e) Upon IDEM approval of total organic HAP compliance stack test results on the Sinto #1 pouring, cooling and casting shakeout operations, the toluene, phenol, benzene and total organic HAP emission factors in pound per pound obtained from the IDEM approved stack test results shall be used for the variables identified above as EF_{H1PCST} , EF_{H2PCST} , EF_{H5PCST} , EF_{H6PCST} , EF_{S1PCST} , EF_{H1PCSP} , EF_{H2PCSP} , EF_{H5PCSP} , EF_{H6PCSP} , EF_{S1PCSP} , EF_{H1PCSB} , EF_{H2PCSB} , EF_{H5PCSB} , EF_{H6PCSB} , EF_{S1PCSB} , EF_{H1PCSO} , EF_{H2PCSO} , EF_{H5PCSO} , EF_{H6PCSO} , and EF_{S1PCSO} .

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.1.12 Visible Emissions Notations [40 CFR Part 64]

- (a) Daily visible emission notations of the electric induction furnaces, mold sand handling, and casting shakeout baghouse stack exhaust (DC-2), and the pouring/cooling operations shall be performed during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

Compliance with the above monitoring conditions shall also satisfy the requirements of 40 CFR 64, Compliance Assurance Monitoring for the mold sand handling and casting shakeout operations.

D.1.13 Parametric Monitoring [40 CFR Part 64]

- (a) The Permittee shall record the pressure drop across the scrubber used in conjunction with the cupola, at least once per day when the cupola is in operation. When for any one reading, the scrubbing water flow rate is less than 70 gallons per minute and the pressure drop across the scrubber is less than 23 inches of water or water flow rate and pressure drop ranges established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. A water flow rate and pressure reading that are outside the above mentioned ranges are not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ and shall be calibrated at least once every six (6) months.

Compliance with the above monitoring conditions shall also satisfy the requirements of 40 CFR 64, Compliance Assurance Monitoring for the cupola.

- (b) The Permittee shall record the pressure drop across the baghouse used in conjunction with the electric induction furnaces, mold sand handling, and casting shakeout, at least once per day when the processes are in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 3.0 and 9.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ and shall be calibrated at least once every six (6) months.

Compliance with the above monitoring conditions shall also satisfy the requirements of 40 CFR 64, Compliance Assurance Monitoring for the mold sand handling and casting shakeout operations.

D.1.14 Broken or Failed Bag Detection

- (a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).
- (b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the line. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Bag failure can be indicated by a significant drop in the baghouse=s pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces or triboflows.

D.1.15 Scrubber Failure Detection [40 CFR Part 64]

In the event that scrubber failure has been observed:

Failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions). Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

Compliance with the above monitoring conditions shall also satisfy the requirements of 40 CFR 64, Compliance Assurance Monitoring for the cupola.

D.1.16 Afterburner Temperature

- (a) A continuous monitoring system shall be calibrated, maintained, and operated on the cupola for measuring operating temperature of the cupola gas stream. For the purpose of this condition, continuous shall mean no less than once per 15-minute period. The output of this system shall be recorded as 1 hour average. From the date of issuance of this permit until the approved stack test results are available, the Permittee shall take appropriate response steps in accordance with Section C - Response to Excursions or Exceedances whenever the 1-hour average temperature of the afterburner is below 1300°F. A 1-hour average temperature that is below 1300°F is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.
- (b) The Permittee shall determine the 1-hour average temperature from the most recent valid stack test that demonstrates compliance with limits in Condition D.1.5, as approved by IDEM.
- (c) On and after the date the approved stack test results are available, the Permittee shall take appropriate response steps in accordance with Section C - Response to Excursions or Exceedances whenever the 1-hour average temperature of the afterburner is below the 15-minute average temperature as observed during the compliant stack test. A 1-hour average temperature that is below the 1-hour average temperature as observed during the compliant stack test is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

- (f) These minimum temperature requirements apply at all times during operation of the cupola, except for the following:
- (1) periods when the cupola blast air is turned off;
 - (2) periods when the blast air has been turned on for less than 30 consecutive minutes;
and
 - (3) during the last 30 minutes of operation of the cupola.

The Permittee shall monitor the times that the cupola blast air is turned on and off.

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.1.17 Record Keeping Requirements

- (a) To document compliance with Condition D.1.1(a), the Permittee shall maintain records of the amount of iron poured on the mold line Hunter #1.
- (b) To document compliance with Condition D.1.2(a), the Permittee shall maintain records of the amount of iron poured on the mold line Sinto #1.
- (c) To document compliance with Condition D.1.5, the Permittee shall maintain records of the following:
- (1) tons of metal throughput to each of the cupola, electric induction furnaces, and Casting Shakeout operation for each month;
 - (2) Metallic HAP stack test results for the cupola, electric induction furnaces, and Casting Shakeout operations as applicable;
 - (3) Metallic HAP emission calculations performed using the equations in condition D.1.10; and
 - (4) Metallic HAP emissions in tons per year.
- (d) To document compliance with Condition D.1.6, the Permittee shall maintain records of the following:
- (1) tons of metal throughput to each of the pouring, cooling and shakeout operations for each month;
 - (2) Organic HAP stack test results for the each of the pouring, cooling and casting shakeout operations as applicable;
 - (3) Organic HAP emission calculations performed using the equations in condition D.1.11; and
 - (4) Organic HAP emissions in tons per year.
- (e) To document compliance with Condition D.1.12, the Permittee shall maintain records of once per day visible emission notations of the electric induction furnaces, mold sand handling, and casting shakeout baghouse stack exhaust (DC-2), the pouring/cooling operations, and the shot blaster and grinding/finishing baghouse stack exhaust (DC-1).
- (f) To document compliance with Condition D.1.13, the Permittee shall maintain records once per day of the water flow rate and pressure drop.
- (g) To document compliance with Condition D.1.16, the Permittee shall maintain the continuous temperature records for the afterburner (reduced to hourly averages), the 1-hour average temperature used to demonstrate compliance during the most recent compliant stack test, and the times when the cupola blast air is turned on and off.

- (h) The Permittee shall maintain a record of the annual emissions for the electric induction furnaces EIF #1 and #2, in tons per year on a calendar year basis, for a period of ten (10) years following February 2005.
- (i) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.1.18 Reporting Requirements

A quarterly summary of the information to document compliance with Conditions D.1.1(a), D.1.2(a), D.1.5 and D.1.6 shall be submitted to the addresses listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

SECTION D.2

FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

- (f) A shell core making process consisting of seven (7) natural gas fired shell core machines, identified as shell core machines #1, #2, #3, #4, #5, #6 and #7 installed in 1964, 1964, 1964, 1972, 1970, 1970, and 1963, respectively, with shell core machines #1 through #4 each rated at 0.15 MMBtu per hour, shell core machines #5 and #6 each rated at 0.125 MMBtu per hour, and shell core machine #7 rated at 0.093 MMBtu per hour, with a maximum capacity of 0.70 tons of cores per hour in total, exhausting through two stacks identified as RE-19 and RE-20;
- (g) An isocure core making process consisting of the following:
- (A) one (1) New Sand Silo, exhausting through Bin Vent #3 which exhausts through stack BV-3;
 - (B) one (1) sand mixer, exhausting through Bin Vent #4 which exhausts inside the building;
 - (C) three (3) phenolic urethane isocure core machines, identified as Isocure #1, Isocure #2 and Isocure #3, installed in 1978, 1978 and 2002, respectively, each with a maximum capacity of 1.0 ton of cores per hour, exhausting through one (1) stack, identified as DS-12; and
 - (D) two (2) working core storage areas, exhausting through stacks EF-1 and EF-2.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.2.1 Particulate Emission Limitations [326 IAC 6-3-2]

- (a) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the shell core sand handling operation shall not exceed 3.23 pounds per hour when operating at a process weight rate of 0.7 tons per hour.
- (b) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the Isocure core sand handling process shall not exceed 8.56 pounds per hour when operating at a process weight rate of 3.0 tons per hour.

The pounds per hour limitations were calculated using the following equation:

Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour}$$

D.2.2 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities.

Compliance Determination Requirements [326 IAC 2-7-6(1)][326 IAC 2-7-5(1)]

D.2.3 Particulate Emission Control

In order to comply with condition D.2.1(b), the bin vent filters identified as Bin Vent #3 and Bin Vent #4 shall be in operation at all times that Isocure sand handling is in operation.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.2.4 Visible Emissions Notations

- (a) Daily visible emission notations of the core sand handling bin vent stack exhaust (BV-3) shall be performed during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.2.5 Record Keeping Requirements

- (a) To document compliance with Condition D.2.4, the Permittee shall maintain records of visible emission notations of the core sand handling bin vent stack exhaust (BV-3) once per day.
- (b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

SECTION D.3

FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

- (h) A grinding/cleaning operation, controlled by a baghouse (DC-1), and exhausting through one (1) stack (DC-1), including:
- (1) three (3) shot blast machines, identified as Shot #1 - #3, installed in 1944, 1963 and 1974, respectively, with a combined metal throughput capacity of 8.4 tons per hour, and
 - (2) grinding/finishing, identified as Grinder #1 - #9, installed in 1987, 1987, 1987, 1987, 1987, 1987, 2000, 2001, and 2001, respectively, with a combined metal throughput capacity of 8.4 tons per hour, and
 - (3) one robotic grinder, identified as Grinder Auto Foxall #10, installed in 2005.

Insignificant Activity:

- (a) Grinding and machining operations controlled with fabric filters, scrubbers, mist collectors, wet collectors and electrostatic precipitators with a design grain loading of less than or equal to 0.03 grains per actual cubic foot and a gas flow rate less than or equal to 4,000 actual cubic feet per minute, including the following: deburring, buffing, polishing, abrasive blasting, pneumatic conveying, and woodworking operations;
- (1) Two (2) grinding units with PM emissions controlled by baghouse DC-1 and exhausting through stack DC-1; [326 IAC 6-3]

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.3.1 Prevention of Significant Deterioration (PSD) Minor Limit [326 IAC 2-2]

- (a) Total PM emissions from Grinders #1 through #9 shall not exceed 5.68 pounds per hour;
- (b) Total PM10 emissions from Grinders #1 through #9 shall not exceed 3.4 pounds per hour;

Compliance with the above limits for Grinders #1 through #9 shall limit PM and PM10 emissions to less than 25 and 15 tons per year, respectively, therefore the requirements of 326 IAC 2-2 (PSD) do not apply to the modifications in 1987, 2000 and 2001.

D.3.2 Particulate Emission Limitations [326 IAC 6-3-2]

- (a) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the shot blast machines #1 - #3 and grinding/finishing operations are as follows:

The pounds per hour limitations were calculated using the following equation:

Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

Process Description	Process Weight Rate (ton/hr)	326 IAC 6-3-2 Allowable (lb/hr)
Shotblast #1 - #3	8.4	17.06
Grinding /Finishing	8.4	17.06

- (b) Pursuant to 326 IAC 6-3-2(e)(2), particulate emissions from any process not exempt under 326 IAC 6-3-1(b) or (c) which has a maximum process weight rate less than 100 pounds per hour and the methods in 326 IAC 6-3-2(b) through (d) do not apply shall not exceed 0.551 pounds per hour. This limit applies to the following insignificant activities:
- (1) Grinding and machining operations controlled with fabric filters, scrubbers, mist collectors, wet collectors and electrostatic precipitators with a design grain loading of less than or equal to 0.03 grains per actual cubic foot and a gas flow rate less than or equal to 4,000 actual cubic feet per minute, including the following: deburring, buffing, polishing, abrasive blasting, pneumatic conveying, and woodworking operations;
- (A) Two (2) grinding units with PM emissions controlled by baghouse DC-1 and exhausting through stack DC-1. [326 IAC 6-3]

D.3.3 Metallic HAP Minor Limits

- (a) Emissions of lead from the shot blast machines Shot #1 - #3 shall not exceed 0.58 ton per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (b) Emissions of manganese from the shot blast machines Shot #1 - #3 shall not exceed 1.78 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (c) Emission of any combination of metal HAPs from the shot blast machines Shot #1 - #3 shall not exceed 2.90 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (d) Emissions of lead from the grinding/finishing operation Grinder #1 - #9 and Grinder Auto Foxall #10 shall not exceed 0.58 ton per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (e) Emissions of manganese from the grinding/finishing operation Grinder #1 - #9 and Grinder Auto Foxall #10 shall not exceed 1.78 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (f) Emission of any combination of metal HAPs from the grinding/finishing operation Grinder #1 - #9 and Grinder Auto Foxall #10 shall not exceed 2.90 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with the lead and manganese emission limits above in conjunction with the other lead and manganese limits included in this permit limit source-wide lead emissions and source-wide manganese emissions to less than 10 tons per year, each. Compliance with the combined metal HAP limits above in conjunction with the other combined HAP limits included in this permit limit source-wide emissions of any combination of HAPs to less than 25 tons per year.

D.3.4 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for the grinding/cleaning operation and any control devices.

Compliance Determination Requirements [326 IAC 2-7-6(1)][326 IAC 2-7-5(1)]

D.3.5 Particulate and HAP Emission Control

- (a) In order to comply with conditions D.3.1, D.3.2, and D.3.3, the baghouse (DC-1) for particulate and metal HAP control shall be in operation and control emissions from the grinding/cleaning operation at all times that the facilities are in operation.
- (b) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

D.3.6 Metal HAP Emissions

Compliance with the HAP limits in condition D.3.3 shall be demonstrated using the following equations:

- (a) Lead Emissions from the shot blast machines Shot #1 - #3 (tons/yr) = EF_{SBPb} (lb/ton) x M_{SB} (tons per twelve (12) consecutive month period) x (1 ton / 2000 pounds)

Where:

EF_{SBPb} = 0.002 pound lead per ton of metal throughput (or an emission factor determined from the most recent compliance stack test)

M_{SB} = total metal throughput to the shot blast machines Shot #1 - #3 (tons per twelve (12) consecutive month period)

- (b) Lead Emissions from the grinding/finishing operation Grinder #1 - #9 and Grinder Auto Foxall #10 (tons/yr) = EF_{GPb} (lb/ton) x M_G (tons per twelve (12) consecutive month period) x (1 ton / 2000 pounds)

Where:

EF_{GPb} = 0.002 pound lead per ton of metal throughput (or an emission factor determined from the most recent compliance stack test)

M_G = total metal throughput to the grinding/finishing operation Grinder #1 - #9 and Grinder Auto Foxall #10 (tons per twelve (12) consecutive month period)

- (c) Manganese Emissions from the shot blast machines Shot #1 - #3 (tons/yr) = EF_{SBMn} (lb/ton) x M_{SB} (tons per twelve (12) consecutive month period) x (1 ton / 2000 pounds)

Where:

EF_{SBMn} = 0.016 pound manganese per ton of metal throughput (or an emission factor determined from the most recent compliance stack test)

M_{SB} = total metal throughput to the shot blast machines Shot #1 - #3 (tons per twelve (12) consecutive month period)

- (d) Manganese Emissions from the grinding/finishing operation Grinder #1 - #9 and Grinder Auto Foxall #10 (tons/yr) = EF_{GMn} (lb/ton) x M_G (tons per twelve (12) consecutive month period) x (1 ton / 2000 pounds)

Where:

EF_{GMn} = 0.016 pound manganese per ton of metal throughput (or an emission factor determined from the most recent compliance stack test)

M_G = total metal throughput to the grinding/finishing operation Grinder #1 - #9 and Grinder Auto Foxall #10 (tons per twelve (12) consecutive month period)

- (e) Total Metal HAP Emissions from the shot blast machines Shot #1 - #3 (tons/yr) = $EF_{SBTM} \text{ (lb/ton)} \times M_{SB} \text{ (tons per twelve (12) consecutive month period)} \times (1 \text{ ton} / 2000 \text{ pounds})$

Where:

EF_{SBTM} = 0.019 pound combined metal HAP per ton of metal throughput (or an emission factor determined from the most recent compliance stack test)

M_{SB} = total metal throughput to the shot blast machines Shot #1 - #3 (tons per twelve (12) consecutive month period)

- (f) Total Metal HAP Emissions from the grinding/finishing operation Grinder #1 - #9 and Grinder Auto Foxall #10 (tons/yr) = $EF_{GTM} \text{ (lb/ton)} \times M_G \text{ (tons per twelve (12) consecutive month period)} \times (1 \text{ ton} / 2000 \text{ pounds})$

Where:

EF_{GTM} = 0.019 pound combined metal HAP per ton of metal throughput (or an emission factor determined from the most recent compliance stack test)

M_G = total metal throughput to the grinding/finishing operation Grinder #1 - #9 and Grinder Auto Foxall #10 (tons per twelve (12) consecutive month period)

- (g) Upon IDEM approval of any HAP compliance stack test results on the shot blast machines Shot #1 - #3 or the grinding/finishing operation Grinder #1 - #9 and Grinder Auto Foxall #10, the HAP emission factors obtained from the IDEM approved stack test results shall be used for the variables identified above as EF_{SBPb} , EF_{GPb} , EF_{SBMn} , EF_{GMn} , EF_{SBTM} , and EF_{GTM} as applicable.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.3.7 Visible Emissions Notations [40 CFR Part 64]

Pursuant to 40 CFR Part 64, the following requirements apply:

- (a) Daily visible emission notations of the shot blaster and grinding/finishing baghouse stack exhaust (DC-1) shall be performed during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

D.3.8 Parametric Monitoring [40 CFR Part 64]

Pursuant to 40 CFR Part 64, the Permittee shall record the pressure drop across the baghouse (DC-1) used in conjunction with the grinding/cleaning operation, at least once per day when the processes are in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 3.0 and 9.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ and shall be calibrated at least once every six (6) months.

D.3.9 Broken or Failed Bag Detection

- (a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).
- (b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the line. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces or triboflows.

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.3.10 Record Keeping Requirements

- (a) To document compliance with Condition D.3.7, the Permittee shall maintain records of visible emission notations of the grinding/cleaning operation baghouse stack exhaust once per day.
- (b) To document compliance with Condition D.3.8, the Permittee shall maintain records once per day of the pressure drop.
- (c) To document compliance with Condition D.3.3, the Permittee shall maintain records of the following:
 - (1) tons of metal throughput to each of the shot blast machines Shot #1 - #3 and the grinding/finishing operation Grinder #1 - #9 and Grinder Auto Foxall #10 for each month;
 - (2) Metallic HAP stack test results for the shot blast machines Shot #1 - #3 or the grinding/finishing operation Grinder #1 - #9 and Grinder Auto Foxall #10 as applicable;
 - (3) Metallic HAP emission calculations performed using the equations in condition D.3.6; and
 - (4) Metallic HAP emissions in tons per year.

- (d) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.3.11 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.3.3 shall be submitted to the addresses listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF AIR QUALITY

PART 70 OPERATING PERMIT CERTIFICATION

Source Name: Bremen Casting, Inc.
Source Address: 500 North Baltimore Street, Bremen, Indiana 46506
Mailing Address: P.O. Box 129, Bremen, Indiana 46506
Part 70 Permit No.: T099-17583-00001

This certification shall be included when submitting monitoring, testing reports/results or other documents as required by this permit.

Please check what document is being certified:

- Annual Compliance Certification Letter
- Test Result (specify)
- Report (specify)
- Notification (specify)
- Affidavit (specify)
- Other (specify)

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Signature:

Printed Name:

Title/Position:

Phone:

Date:

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY**

**COMPLIANCE BRANCH
100 North Senate Avenue
Indianapolis, Indiana 46204-2251
Phone: 317-233-0178
Fax: 317-233-6865**

**PART 70 OPERATING PERMIT
EMERGENCY OCCURRENCE REPORT**

Source Name: Bremen Casting, Inc.
Source Address: 500 North Baltimore Street, Bremen, Indiana 46506
Mailing Address: P.O. Box 129, Bremen, Indiana 46506
Part 70 Permit No.: T099-17583-00001

This form consists of 2 pages

Page 1 of 2

- | |
|--|
| <input type="checkbox"/> This is an emergency as defined in 326 IAC 2-7-1(12) |
| X The Permittee must notify the Office of Air Quality (OAQ), within four (4) business hours (1-800-451-6027 or 317-233-0178, ask for Compliance Section); and |
| X The Permittee must submit notice in writing or by facsimile within two (2) working days (Facsimile Number: 317-233-6865), and follow the other requirements of 326 IAC 2-7-16. |

If any of the following are not applicable, mark N/A

Facility/Equipment/Operation:
Control Equipment:
Permit Condition or Operation Limitation in Permit:
Description of the Emergency:
Describe the cause of the Emergency:

If any of the following are not applicable, mark N/A

Date/Time Emergency started:
Date/Time Emergency was corrected:
Was the facility being properly operated at the time of the emergency? Y N
Type of Pollutants Emitted: TSP, PM-10, SO ₂ , VOC, NO _x , CO, Pb, other:
Estimated amount of pollutant(s) emitted during emergency:
Describe the steps taken to mitigate the problem:
Describe the corrective actions/response steps taken:
Describe the measures taken to minimize emissions:
If applicable, describe the reasons why continued operation of the facilities are necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw materials of substantial economic value:

Form Completed by:

Title / Position:

Date:

Phone:

A certification is not required for this report.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF AIR QUALITY COMPLIANCE DATA SECTION

Part 70 Quarterly Report

Source Name: Bremen Casting, Inc.
Source Address: 500 North Baltimore Street, Bremen, Indiana 46506
Mailing Address: P.O. Box 129, Bremen, Indiana 46506
Part 70 Permit No.: T099-17583-00001
Facility: Mold line Hunter #1
Parameter: Iron poured on Hunter #1
Limit: 14,994 tons per twelve (12) consecutive month period, with compliance determined at the end of each month

YEAR:

Month	Column 1	Column 2	Column 1 + Column 2
	Iron Poured This Month	Iron Poured Previous 11 Months	Iron Poured 12 Month Total
Month 1			
Month 2			
Month 3			

No deviation occurred in this quarter.

Deviation/s occurred in this quarter.
Deviation has been reported on:

Submitted by:
Title / Position:
Signature:
Date:
Phone:

Attach a signed certification to complete this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION**

Part 70 Quarterly Report

Source Name: Bremen Casting, Inc.
Source Address: 500 North Baltimore Street, Bremen, Indiana 46506
Mailing Address: P.O. Box 129, Bremen, Indiana 46506
Part 70 Permit No.: T099-17583-00001
Facility: Mold line Sinto #1
Parameter: Iron poured on Sinto #1
Limit: 30,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month

YEAR:

Month	Column 1	Column 2	Column 1 + Column 2
	Iron Poured This Month	Iron Poured Previous 11 Months	Iron Poured 12 Month Total
Month 1			
Month 2			
Month 3			

No deviation occurred in this quarter.

Deviation/s occurred in this quarter.
Deviation has been reported on:

Submitted by:
Title / Position:
Signature:
Date:
Phone:

Attach a signed certification to complete this report.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF AIR QUALITY COMPLIANCE DATA SECTION

Part 70 Quarterly Report

Source Name: Bremen Casting, Inc.
 Source Address: 500 North Baltimore Street, Bremen, Indiana 46506
 Mailing Address: P.O. Box 129, Bremen, Indiana 46506
 Part 70 Permit No.: T099-17583-00001
 Facility: cupola
 Parameter: Lead, Manganese, and Total Metal HAP emissions
 Limit: (a) Emissions of lead from the cupola shall not exceed 6.88 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
 (b) Emissions of manganese from the cupola shall not exceed 2.06 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
 (c) Emission of any combination of HAPs from the cupola shall not exceed 6.88 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;

Compliance with the above limits shall be determined using the equations in condition D.1.10(a), (d), and (g). Please attach supporting calculations and data used for determining HAP emissions reported.

YEAR:

Month	Column 1a	Column 1b	Column 1c	Column 2a	Column 2b	Column 2c
	Lead Emissions This Month (tons)	Manganese Emissions This Month (tons)	Total HAP Emissions This Month (tons)	Lead Emissions Previous 11 Months (tons)	Manganese Emissions Previous 11 Months (tons)	Total HAP Emissions Previous 11 Months (tons)

This Part 70 Operating Permit Quarterly Report consists of 2 pages.

This Part 70 Operating Permit Quarterly Report consists of 2 pages.

Month	Column 1a + Column 2a	Column 1b + Column 2b	Column 1c + Column 2c
	12 Month Total Lead Emissions (tons)	12 Month Total Mn Emissions (tons)	12 Month Total HAP Emissions (tons)

No deviation occurred in this quarter.

Deviation/s occurred in this quarter.
Deviation has been reported on:

Submitted by:
Title / Position:
Signature:
Date:
Phone:

Attach a signed certification to complete this report.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF AIR QUALITY COMPLIANCE DATA SECTION

Part 70 Quarterly Report

Source Name: Bremen Casting, Inc.
 Source Address: 500 North Baltimore Street, Bremen, Indiana 46506
 Mailing Address: P.O. Box 129, Bremen, Indiana 46506
 Part 70 Permit No.: T099-17583-00001
 Facility: two (2) electric induction furnaces and inoculation process
 Parameter: Lead, Manganese, and Total Metal HAP emissions
 Limit: (a) Emissions of lead from the two (2) electric induction furnaces and inoculation process shall not exceed 0.36 ton per twelve (12) consecutive month period, with compliance determined at the end of each month;
 (b) Emissions of manganese from the two (2) electric induction furnaces and inoculation process shall not exceed 0.09 ton per twelve (12) consecutive month period, with compliance determined at the end of each month;
 (c) Emissions of any combination of HAPs from the two (2) electric induction furnaces and inoculation process shall not exceed 0.36 ton per twelve (12) consecutive month period, with compliance determined at the end of each month;

Compliance with the above limits shall be determined using the equations in condition D.1.10(b), (e), and (h). Please attach supporting calculations and data used for determining HAP emissions reported.

YEAR:

Month	Column 1a	Column 1b	Column 1c	Column 2a	Column 2b	Column 2c
	Lead Emissions This Month (tons)	Manganese Emissions This Month (tons)	Total HAP Emissions This Month (tons)	Lead Emissions Previous 11 Months (tons)	Manganese Emissions Previous 11 Months (tons)	Total HAP Emissions Previous 11 Months (tons)

This Part 70 Operating Permit Quarterly Report consists of 2 pages.

This Part 70 Operating Permit Quarterly Report consists of 2 pages.

Month	Column 1a + Column 2a	Column 1b + Column 2b	Column 1c + Column 2c
	12 Month Total Lead Emissions (tons)	12 Month Total Mn Emissions (tons)	12 Month Total HAP Emissions (tons)

No deviation occurred in this quarter.

Deviation/s occurred in this quarter.
Deviation has been reported on:

Submitted by:
Title / Position:
Signature:
Date:
Phone:

Attach a signed certification to complete this report.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF AIR QUALITY COMPLIANCE DATA SECTION

Part 70 Quarterly Report

Source Name: Bremen Casting, Inc.
 Source Address: 500 North Baltimore Street, Bremen, Indiana 46506
 Mailing Address: P.O. Box 129, Bremen, Indiana 46506
 Part 70 Permit No.: T099-17583-00001
 Facility: casting shakeout operation
 Parameter: Lead, Manganese, and Total Metal HAP emissions
 Limit: (a) Total emissions of lead from the casting shakeout operation for all mold lines shall not exceed 0.26 ton per twelve (12) consecutive month period, with compliance determined at the end of each month;
 (b) Total emissions of manganese from the casting shakeout operation for all mold lines shall not exceed 0.80 ton per twelve (12) consecutive month period, with compliance determined at the end of each month;
 (c) Total emissions of any combination of metal HAPs from the casting shakeout operation for all mold lines shall not exceed 1.30 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;

Compliance with the above limits shall be determined using the equations in condition D.1.10(c), (f), and (i). Please attach supporting calculations and data used for determining HAP emissions reported.

YEAR:

Month	Column 1a	Column 1b	Column 1c	Column 2a	Column 2b	Column 2c
	Lead Emissions This Month (tons)	Manganese Emissions This Month (tons)	Total HAP Emissions This Month (tons)	Lead Emissions Previous 11 Months (tons)	Manganese Emissions Previous 11 Months (tons)	Total HAP Emissions Previous 11 Months (tons)

This Part 70 Operating Permit Quarterly Report consists of 2 pages.

This Part 70 Operating Permit Quarterly Report consists of 2 pages.

Month	Column 1a + Column 2a	Column 1b + Column 2b	Column 1c + Column 2c
	12 Month Total Lead Emissions (tons)	12 Month Total Mn Emissions (tons)	12 Month Total HAP Emissions (tons)

No deviation occurred in this quarter.

Deviation/s occurred in this quarter.
Deviation has been reported on:

Submitted by:
Title / Position:
Signature:
Date:
Phone:

Attach a signed certification to complete this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION**

Part 70 Quarterly Report

Source Name: Bremen Casting, Inc.
Source Address: 500 North Baltimore Street, Bremen, Indiana 46506
Mailing Address: P.O. Box 129, Bremen, Indiana 46506
Part 70 Permit No.: T099-17583-00001
Facility: Pouring/Casting Cooling operations identified as Hunter #1, Hunter #2, Hunter #5, Hunter #6, and Sinto #1, and the casting shakeout operations
Parameter: Toluene, Phenol, Benzene, and Total Organic HAP emissions
Limit: (a) The total emissions of toluene from the Pouring/Casting Cooling operations identified as Hunter #1, Hunter #2, Hunter #5, Hunter #6, and Sinto #1, and the casting shakeout operations for all mold lines shall not exceed 4.79 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
(b) The total emissions of phenol from the Pouring/Casting Cooling operations identified as Hunter #1, Hunter #2, Hunter #5, Hunter #6, and Sinto #1, and the casting shakeout operations for all mold lines shall not exceed 4.79 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
(c) The total emissions of benzene from the Pouring/Casting Cooling operations identified as Hunter #1, Hunter #2, Hunter #5, Hunter #6, and Sinto #1, and the casting shakeout operations for all mold lines shall not exceed 4.79 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
(d) The total emissions of any combination of organic HAPs from the Pouring/Casting Cooling operations identified as Hunter #1, Hunter #2, Hunter #5, Hunter #6, and Sinto #1, and the casting shakeout operations for all mold lines shall not exceed 4.79 ton per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with the above limits shall be determined using the equations in condition D.1.11. Please attach supporting calculations and data used for determining HAP emissions reported.

This Part 70 Operating Permit Quarterly Report consists of 2 pages.

This Part 70 Operating Permit Quarterly Report consists of 2 pages.

YEAR:

Month	Column 1a	Column 1b	Column 1c	Column 1d	Column 2a	Column 2b	Column 2c	Column 2d
	Toluene Emissions This Month (tons)	Phenol Emissions This Month (tons)	Benzene Emissions This Month (tons)	Total HAP Emissions This Month (tons)	Toluene Emissions Previous 11 Months (tons)	Phenol Emissions Previous 11 Months (tons)	Benzene Emissions Previous 11 Months (tons)	Total HAP Emissions Previous 11 Months (tons)

Month	Column 1a + Column 2a	Column 1b + Column 2b	Column 1c + Column 2c	Column 1d + Column 2d
	12 Month Total Toluene Emissions (tons)	12 Month Total Phenol Emissions (tons)	12 Month Total Benzene Emissions (tons)	12 Month Total HAP Emissions (tons)

No deviation occurred in this quarter.

Deviation/s occurred in this quarter.
 Deviation has been reported on:

Submitted by:
 Title / Position:
 Signature:
 Date:
 Phone:

Attach a signed certification to complete this report.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF AIR QUALITY COMPLIANCE DATA SECTION

Part 70 Quarterly Report

Source Name: Bremen Casting, Inc.
 Source Address: 500 North Baltimore Street, Bremen, Indiana 46506
 Mailing Address: P.O. Box 129, Bremen, Indiana 46506
 Part 70 Permit No.: T099-17583-00001
 Facility: shot blast machines Shot #1 - #3
 Parameter: Lead, Manganese, and Total Metal HAP emissions
 Limit: (a) Emissions of lead from the shot blast machines Shot #1 - #3 shall not exceed 0.58 ton per twelve (12) consecutive month period, with compliance determined at the end of each month;
 (b) Emissions of manganese from the shot blast machines Shot #1 - #3 shall not exceed 1.78 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
 (c) Emission of any combination of metal HAPs from the shot blast machines Shot #1 - #3 shall not exceed 2.90 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;

Compliance with the above limits shall be determined using the equations in condition D.3.6(a), (c), and (e). Please attach supporting calculations and data used for determining HAP emissions reported.

YEAR:

Month	Column 1a	Column 1b	Column 1c	Column 2a	Column 2b	Column 2c
	Lead Emissions This Month (tons)	Manganese Emissions This Month (tons)	Total HAP Emissions This Month (tons)	Lead Emissions Previous 11 Months (tons)	Manganese Emissions Previous 11 Months (tons)	Total HAP Emissions Previous 11 Months (tons)

This Part 70 Operating Permit Quarterly Report consists of 2 pages.

This Part 70 Operating Permit Quarterly Report consists of 2 pages.

Month	Column 1a + Column 2a	Column 1b + Column 2b	Column 1c + Column 2c
	12 Month Total Lead Emissions (tons)	12 Month Total Mn Emissions (tons)	12 Month Total HAP Emissions (tons)

No deviation occurred in this quarter.

Deviation/s occurred in this quarter.
Deviation has been reported on:

Submitted by:
Title / Position:
Signature:
Date:
Phone:

Attach a signed certification to complete this report.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF AIR QUALITY COMPLIANCE DATA SECTION

Part 70 Quarterly Report

Source Name: Bremen Casting, Inc.
 Source Address: 500 North Baltimore Street, Bremen, Indiana 46506
 Mailing Address: P.O. Box 129, Bremen, Indiana 46506
 Part 70 Permit No.: T099-17583-00001
 Facility: shot blast machines Shot #1 - #3
 Parameter: Lead, Manganese, and Total Metal HAP emissions
 Limit: (a) Emissions of lead from the grinding/finishing operation Grinder #1 - #9 and Grinder Auto Foxall #10 shall not exceed 0.58 ton per twelve (12) consecutive month period, with compliance determined at the end of each month;
 (b) Emissions of manganese from the grinding/finishing operation Grinder #1 - #9 and Grinder Auto Foxall #10 shall not exceed 1.78 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
 (c) Emission of any combination of metal HAPs from the grinding/finishing operation Grinder #1 - #9 and Grinder Auto Foxall #10 shall not exceed 2.90 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with the above limits shall be determined using the equations in condition D.3.6(b), (d), and (f). Please attach supporting calculations and data used for determining HAP emissions reported.

YEAR:

Month	Column 1a	Column 1b	Column 1c	Column 2a	Column 2b	Column 2c
	Lead Emissions This Month (tons)	Manganese Emissions This Month (tons)	Total HAP Emissions This Month (tons)	Lead Emissions Previous 11 Months (tons)	Manganese Emissions Previous 11 Months (tons)	Total HAP Emissions Previous 11 Months (tons)

This Part 70 Operating Permit Quarterly Report consists of 2 pages.

This Part 70 Operating Permit Quarterly Report consists of 2 pages.

Month	Column 1a + Column 2a	Column 1b + Column 2b	Column 1c + Column 2c
	12 Month Total Lead Emissions (tons)	12 Month Total Mn Emissions (tons)	12 Month Total HAP Emissions (tons)

No deviation occurred in this quarter.

Deviation/s occurred in this quarter.
Deviation has been reported on:

Submitted by:
Title / Position:
Signature:
Date:
Phone:

Attach a signed certification to complete this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION**

**PART 70 OPERATING PERMIT
QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT**

Source Name: Bremen Casting, Inc.
Source Address: 500 North Baltimore Street, Bremen, Indiana 46506
Mailing Address: P.O. Box 129, Bremen, Indiana 46506
Part 70 Permit No.: T099-17583-00001

Months: _____ to _____ Year: _____

Page 1 of 2

<p>This report shall be submitted quarterly based on a calendar year. Any deviation from the requirements, the date(s) of each deviation, the probable cause of the deviation, and the response steps taken must be reported. A deviation required to be reported pursuant to an applicable requirement that exists independent of the permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. Additional pages may be attached if necessary. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period".</p>	
<input type="checkbox"/> NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.	
<input type="checkbox"/> THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD	
Permit Requirement (specify permit condition #)	
Date of Deviation:	Duration of Deviation:
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	
Permit Requirement (specify permit condition #)	
Date of Deviation:	Duration of Deviation:
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Permit Requirement (specify permit condition #)	
Date of Deviation:	Duration of Deviation:
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	
Permit Requirement (specify permit condition #)	
Date of Deviation:	Duration of Deviation:
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	
Permit Requirement (specify permit condition #)	
Date of Deviation:	Duration of Deviation:
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Form Completed By:

Title/Position:

Date:

Phone:

Attach a signed certification to complete this report.

**Indiana Department of Environmental Management
Office of Air Quality**

Technical Support Document (TSD) for a Part 70 Operating Permit Renewal

Source Background and Description

Source Name:	Bremen Castings, Inc.
Source Location:	500 North Baltimore Street, Bremen, Indiana 46506
County:	Marshall
SIC Code:	3321
Permit Renewal No.:	099-17583-00001
Permit Reviewer:	Trish Earls/EVP

The Office of Air Quality (OAQ) has reviewed the operating permit renewal application from Bremen Castings, Inc. relating to the operation of following emission units and pollution control devices:

- (a) One (1) charge handling operation for charge materials for melting furnaces, installed in 1970, exhausting inside the building;
- (b) One (1) cupola melting operation consisting of the following:
 - (1) one (1) 14 tons per hour cupola furnace, identified as CUPOLA, installed in 1972, equipped with a natural gas fired cupola afterburner, rated at 4.3 million BTU (MMBTU) per hour and a wet scrubber, identified as WS#1, for particulate matter control, and exhausting through one (1) stack, identified as DS-9;
 - (2) one (1) 40 ton electric induction holding furnace for holding molten metal from the cupola furnace, installed in 1988; and
 - (3) ladles for pouring molten metal into the molds.
- (c) One (1) electric induction furnace (EIF) melting operation consisting of the following:
 - (1) two (2) 4.0 tons per hour electric induction furnaces, identified as #1 and #2, each installed in 1995, with particulate matter emissions controlled by a baghouse, identified as DC-2;
 - (2) One (1) inoculation operation for magnesium treatment of the molten metal in the furnaces to produce ductile iron; and
 - (3) ladles for pouring molten metal into the molds.
- (d) Five (5) mold making lines, with a combined maximum metal throughput capacity of 20 tons per hour and a combined green sand throughput of 100 tons per hour, exhausting inside the building as follows:
 - (1) One (1) mold making line, identified as Hunter #1, consisting of the following:
 - (A) One (1) mold making machine, installed in 2002; and
 - (B) One (1) pouring and cooling operation, with a maximum metal throughput of 4 tons per hour;
 - (2) One (1) mold making line, identified as Hunter #2, consisting of the following:
 - (A) One (1) mold making machine, installed in 1974 and modified in 2005; and
 - (B) One (1) pouring and cooling operation, with a maximum metal throughput of 4 tons per hour;

- (3) One (1) mold making line, identified as Hunter #5, consisting of the following:
 - (A) One (1) mold making machine, installed in 1979; and
 - (B) One (1) pouring and cooling operation, with a maximum metal throughput of 3 tons per hour;
- (4) One (1) mold making line, identified as Hunter #6, consisting of the following:
 - (A) One (1) mold machine, identified as Hunter #6, installed in 1981; and
 - (B) One (1) pouring and cooling operation, with a maximum metal throughput of 3 tons per hour;
- (5) One (1) mold making line, identified as Sinto #1, consisting of the following:
 - (A) One (1) mold machine, identified as Sinto #1, installed in 1998; and
 - (B) One (1) pouring and cooling operation, with a maximum metal throughput of 6 tons per hour;
- (e) A mold sand handling system for all molding lines, installed in 1975, with a maximum sand throughput of 100 tons per hour, consisting of:
 - (1) one (1) shakeout system, including one (1) shaker pan and one (1) rotary shakeout, with particulate matter emissions controlled by a baghouse, identified as DC-2,
 - (2) one (1) sand muller, two (2) silos, two (2) sand storage tanks, two (2) elevators, conveyors, one (1) magnetic separator, one (1) sand cooler, one (1) sand screen, and one (1) recycle sand hopper, with particulate matter emissions controlled by a baghouse, identified as DC-2;
- (f) A shell core making process consisting of seven (7) natural gas fired shell core machines, identified as shell core machines #1, #2, #3, #4, #5, #6 and #7 installed in 1964, 1964, 1964, 1972, 1970, 1970, and 1963, respectively, with shell core machines #1 through #4 each rated at 0.15 MMBtu per hour, shell core machines #5 and #6 each rated at 0.125 MMBtu per hour, and shell core machine #7 rated at 0.093 MMBtu per hour, with a maximum capacity of 0.70 tons of cores per hour in total, exhausting through two stacks identified as RE-19 and RE-20;
- (g) An isocure core making process consisting of the following:
 - (A) one (1) New Sand Silo, exhausting through Bin Vent #3 which exhausts through stack BV-3;
 - (B) one (1) sand mixer, exhausting through Bin Vent #4 which exhausts inside the building;
 - (C) three (3) phenolic urethane isocure core machines, identified as Isocure #1, Isocure #2 and Isocure #3, installed in 1978, 1978 and 2002, respectively, each with a maximum capacity of 1.0 ton of cores per hour, exhausting through one (1) stack, identified as DS-12; and
 - (D) two (2) working core storage areas, exhausting through stacks EF-1 and EF-2.
- (h) A grinding/cleaning operation, controlled by a baghouse (DC-1), and exhausting through one (1) stack (DC-1), including:
 - (1) three (3) shot blast machines, identified as Shot #1 - #3, installed in 1944, 1963 and 1974, respectively, with a combined metal throughput capacity of 8.4 tons per hour, and

- (2) grinding/finishing, identified as Grinder #1 - #9, installed in 1987, 1987, 1987, 1987, 1987, 1987, 2000, 2001, and 2001, respectively, with a combined metal throughput capacity of 8.4 tons per hour, and
- (3) one robotic grinder, identified as Grinder Auto Foxall #10, installed in 2005.

Insignificant Activities

- (a) Natural gas-fired combustion sources with heat input equal to or less than ten (10) million BTU per hour:
 - (1) Thirteen (13) gas heaters (Gas #01 – Gas #13), with a total heat input rate of 1.5 million BTU per hour,
 - (2) Four (4) dock heaters (Dock #01 – Dock #04), with a total heat input rate of 3.0 million BTU per hour,
 - (3) Sixteen (16) infra heaters (Infra #01IR – Infra #16IR)), with a total heat input rate of 0.737 million BTU per hour,
 - (4) Six (6) tube heaters (Tube #01TIR – Tube #06TIR), with a total heat input rate of 0.6 million BTU per hour,
 - (5) Seven (7) air make-up units (AMU #1 – AMU #7), rated at 4.8, 4.8, 3.75, 5.0, 3.75, 3.75 and 0.0 million BTU per hour, respectively,
 - (6) One (1) core oven rated at 0.51 million BTU per hour,
 - (7) Two (2) pan heaters, each rated at 1.2 million BTU per hour,
 - (8) One (1) didion inlet rated at 1.3 million BTU per hour, and
 - (9) One (1) natural gas fired hot blast heater for cupola combustion air, rated at 5.2 MMBTU per hour.
- (b) Propane or liquified petroleum gas, or butane fired combustion sources with heat input equal to or less than 6.0 mmBtu/hr;
- (c) Storage tanks with capacity less than or equal to 1,000 gallons and annual throughput less than 12,000 gallons;
- (d) Refractory storage not requiring air pollution control equipment;
- (e) Machining where an aqueous cutting coolant continuously floods the machining interface;
- (f) Replacement or repair of electrostatic precipitators, bags in baghouses and filters in other air filtration equipment;
- (g) Paved and unpaved roads and parking lots with public access; and [326 IAC 6-4]
- (h) Grinding and machining operations controlled with fabric filters, scrubbers, mist collectors, wet collectors and electrostatic precipitators with a design grain loading of less than or equal to 0.03 grains per actual cubic foot and a gas flow rate less than or equal to 4,000 actual cubic feet per minute, including the following: deburring, buffing, polishing, abrasive blasting, pneumatic conveying, and woodworking operations;
 - (1) Two (2) grinding units with PM emissions controlled by baghouse DC-1 and exhausting through stack DC-1. [326 IAC 6-3]

History

On April 11, 2003, Bremen Castings, Inc. submitted applications to the OAQ requesting to renew its operating permit. Bremen Castings, Inc. was issued a Part 70 Operating Permit on January 21, 1999.

Existing Approvals

Since the issuance of the Part 70 Operating Permit T099-6206-00001 on January 21, 1999, the source has constructed or has been operating under the following approvals as well:

- (a) Part 70 Operating Permit No.: 099-6206-00001, issued January 21, 1999;
- (b) First Administrative Amendment No.: 099-10532-00001, issued April 9, 1999;
- (c) Second Administrative Amendment No.: 099-11720-00001, issued March 8, 2000;
- (d) Third Administrative Amendment No.: 099-11952-00001, issued April 12, 2000;
- (e) Fourth Administrative Amendment No.: 099-12984-00001, issued January 8, 2001;
- (f) Fifth Administrative Amendment No.: 099-13779-00001, issued February 28, 2001;
- (g) First Reopening No.: 099-13408-00001, issued November 8, 2001;
- (h) First Minor Source Modification No.: 099-15480-00001, issued June 14, 2002;
- (i) First Significant Permit Modification No.: 099-15684-00001, issued August 12, 2002;
- (j) First Significant Source Modification No.: 099-15758-00001, issued December 19, 2002;
- (k) Second Significant Permit Modification No.: 099-16245-00001, issued January 6, 2003;
- (l) Sixth Administrative Amendment No.: 099-18570-00001, issued April 23, 2004;
- (m) Second Minor Source Modification No.: 099-19820-00001, issued on December 9, 2004;
- (n) Third Significant Permit Modification No.: 099-19619-00001, issued February 11, 2005;
- (o) Seventh Administrative Amendment No.: 099-20662-00001, issued March 28, 2005; and
- (p) Eighth Administrative Amendment No.: 099-21164-00001, issued August 5, 2005.

All terms and conditions of previous permits issued pursuant to permitting programs approved into the state implementation plan have been either incorporated as originally stated, revised, or deleted by this permit. All previous registrations and permits are superseded by this permit.

Enforcement Issue

There are no enforcement actions pending.

Emission Calculations

See Appendix A of this document for detailed emission calculations.

County Attainment Status

The source is located in Marshall County.

Pollutant	Status
PM ₁₀	Attainment
PM _{2.5}	Attainment
SO ₂	Attainment
NO _x	Attainment
8-hour Ozone	Attainment
CO	Attainment
Lead	Attainment

- (a) Marshall County has been classified as unclassifiable or attainment for PM_{2.5}. U.S. EPA has not yet established the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 for PM_{2.5} emissions. Therefore, until the U.S.EPA adopts specific provisions for PSD review for PM_{2.5} emissions, it has directed states to regulate PM₁₀ emissions as a surrogate for PM_{2.5} emissions. See the State Rule Applicability – Entire Source section.
- (b) Volatile organic compounds (VOC) and Nitrogen Oxides (NO_x) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC emissions and NO_x emissions are considered when evaluating the rule applicability relating to ozone. Marshall County has been designated as attainment or unclassifiable for ozone. Therefore, VOC emissions and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability for the source section.
- (c) Marshall County has been classified as attainment or unclassifiable in Indiana for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability for the source section.
- (d) On October 25, 2006, the Indiana Air Pollution Control Board finalized a rule revision to 326 IAC 1-4-1 revoking the one-hour ozone standard in Indiana.
- (e) Fugitive Emissions
 Since this type of operation is in one of the twenty-eight (28) listed source categories under 326 IAC 2-2 or 326 IAC 2-3, fugitive emissions are counted toward the determination of PSD and Emission Offset applicability.

Unrestricted Potential Emissions

This table reflects the unrestricted potential emissions of the source.

Pollutant	tons/year
PM	Greater than 250
PM-10	Greater than 250
SO ₂	Less than 100
VOC	Greater than 100, Less than 250
CO	Greater than 250
NO _x	Less than 100

HAPs	tons/year
Lead	39.76
Manganese	74.33
Antimony	4.44
Hexane	0.75
Phenol	6.29
Benzene	14.39
Toluene	5.67
Xylene	3.36
Total	162.18

For additional HAP emissions see Appendix A

- (a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of PM-10, VOC, and CO is equal to or greater than 100 tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7.
- (b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is equal to or greater than ten (10) tons per year and the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination of HAPs is equal to or greater than twenty-five (25) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7.
- (c) Pursuant to 326 IAC 2-7-2(e), all fugitive emissions are included in the determination of Part 70 applicability.

Actual Emissions

The following table shows the actual emissions from the source. This information reflects the 2003 OAQ emission data.

Pollutant	Actual Emissions (tons/year)
PM2.5	26.0
PM-10	31.0
SO₂	2.0
VOC	20.0
CO	91.0
NO_x	5.0
HAP (Lead)	0.31

Part 70 Permit Conditions

This source is subject to the requirements of 326 IAC 2-7, pursuant to which the source has to meet the following:

- (a) Emission limitations and standards, including those operational requirements and limitations that assure compliance with all applicable requirements at the time of issuance of Part 70 permits.
- (b) Monitoring and related record keeping requirements which assume that all reasonable information is provided to evaluate continuous compliance with the applicable requirements.

Potential to Emit After Issuance

The table below summarizes the potential to emit, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of this Part 70 permit renewal, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

Process/Emission Unit	Potential to Emit (tons/year)							Single HAP	Total HAPs
	PM	PM10	SO ₂	VOC	CO	NO _x			
Cupola - 1972	64.55	58.01	47.30	9.46	7621.20	5.26	6.88 (Pb)	6.97	
Electric Induction Furnaces - 1995	0.95	0.90	0.00	0.00	0.00	0.00	0.36 (Pb)	0.36	
Charge Handling - 1970	31.54	18.92	0.00	0.00	0.00	0.00	0.98 (Mn)	1.19	
Inoculation - 1995	1.89	1.89	0.00	0.00	0.00	0.00	Combined with EIFS	Combined with EIFS	
Pouring/Casting Cooling (Hunter #1) - 2002	2.50	7.42	0.15	1.05	44.98	0.07	4.79 (Benzene)	4.79	
Pouring/Casting Cooling (Hunter #2) - constructed in 1974, modified 2005	17.96	17.96	0.35	2.45	105.12	0.18			
Pouring/Casting Cooling (Hunter #5) - 1979	13.47	13.47	0.26	1.84	78.84	0.13			
Pouring/Casting Cooling (Hunter #6) - 1981	13.47	13.47	0.26	1.84	78.84	0.13			
Pouring/Casting Cooling (Sinto #1) - 1998	15.38	15.38	0.30	2.10	90.00	0.15			
Casting Shakeout for all Mold Lines - 1975	6.36	4.46	0.00	79.56	**	0.00			
Mold Sand Handling - 1975	47.30	7.10	0.00	0.00	0.00	0.00	0.00	0.00	
Shotblast #1 - #3 - 1944, 1963 and 1974	18.76	1.88	0.00	0.00	0.00	0.00	1.78 (Mn)	2.90	
Grinding/Finishing - 1987, 2000, 2001	18.76	1.88	0.00	0.00	0.00	0.00	1.78 (Mn)	2.90	
Isocure Core Machines - 1978, 1978 and 2002	0.00	0.00	0.00	38.41	0.00	0.00	0.18 (Phenol)	0.52	
Isocure Core Machines Sand Handling - 1978	0.0047	0.0007	0.00	0.00	0.00	0.00	0.00	0.00	
Shell Core Machines - 1964, 1972, 1970, and 1963	0.00	0.00	0.98	6.13	0.00	1.53	0.74 (Phenol)	0.74	
Shell Core Machines Sand Handling - 1963	11.04	1.66	0.00	0.00	0.00	0.00	0.00	0.00	
Natural Gas combustion	0.38	1.51	0.12	1.09	16.72	19.90	0.36 (Hexane)	0.37	
Total	264.31	165.88	49.73	143.93	8035.70	27.35	9.90 (Mn)	24.99	
Major Source Threshold	250	250	250	250	250	250	N/A	N/A	

** CO emissions for pouring/cooling operations also include emissions from shakeout.

- (a) This existing stationary source is major for PSD because the emissions of at least one criteria pollutant are greater than one hundred (>100) tons per year, and it is one of the twenty-eight (28) listed source categories.
- (b) Fugitive Emissions
 Since this type of operation is in one of the twenty-eight (28) listed source categories under 326 IAC 2-2 or 326 IAC 2-3, fugitive emissions are counted toward the determination of PSD and Emission Offset applicability.

Federal Rule Applicability

The following federal rules are applicable to the source:

- (a) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is applicable to existing emission units that involve a pollutant-specific emission unit and meet the following criteria:
- (1) has a potential to emit before controls equal to or greater than the major source threshold for the pollutant involved;
 - (2) is subject to an emission limitation or standard for that pollutant; and
 - (3) uses a control device, as defined in 40 CFR 64.1, to comply with that emission limitation or standard.

The following table is used to identify the applicability of each of the criteria, under 40 CFR 64.1, to each existing emission unit involved:

Emission Unit / Pollutant	Control Device Used	Emission Limitation (Y/N)	Uncontrolled PTE (tons/year)	Controlled PTE (tons/year)	Major Source Threshold (tons/year)	CAM Applicable (Y/N)	Large Unit (Y/N)
Cupola - SO ₂	None	N	47.30	47.30	100	N	N
Cupola - NOx	None	N	5.26	5.26	100	N	N
Cupola - CO	afterburner	N	7,621.20	7,621.20	100	N	N
Cupola - VOC	None	N	9.46	9.46	100	N	N
Cupola – lead	Wet scrubber	Y	31.5	2.4	10	Y	N
Cupola – manganese	Wet scrubber	Y	22.5	1.7	10	Y	N
Cupola – any single organic HAP	afterburner	Y	Less than 10 for each single organic HAP	Less than 10 for each single organic HAP	10	N	N
Electric Induction Furnaces - PM10	Baghouse DC-2	Y	30.13	0.90	100	N	N
Charge Handling - PM10	None	Y	18.92	18.92	100	N	N
Inoculation - PM10	Baghouse DC-2	Y	63.07	1.89	100	N	N
Pouring/Casting Cooling (Hunter #1) ⁽¹⁾ - PM10	None	Y	17.34	7.42	100	N	N
Pouring/Casting Cooling (Hunter #1) ⁽¹⁾ - SO ₂	None	N	0.35	0.15	100	N	N
Pouring/Casting Cooling (Hunter #1) ⁽¹⁾ - NOx	None	N	0.18	0.07	100	N	N
Pouring/Casting Cooling (Hunter #1) ⁽¹⁾ - CO	None	Y	105.12	44.98	100	N	N
Pouring/Casting Cooling (Hunter #1) ⁽¹⁾ - VOC	None	N	2.45	1.05	100	N	N
Pouring/Casting Cooling (Hunter #2) - PM10	None	Y	17.96	17.96	100	N	N
Pouring/Casting Cooling (Hunter #2) - SO ₂	None	N	0.35	0.35	100	N	N
Pouring/Casting Cooling (Hunter #2) - NOx	None	N	0.18	0.18	100	N	N

Emission Unit / Pollutant	Control Device Used	Emission Limitation (Y/N)	Uncontrolled PTE (tons/year)	Controlled PTE (tons/year)	Major Source Threshold (tons/year)	CAM Applicable (Y/N)	Large Unit (Y/N)
Pouring/Casting Cooling (Hunter #2) - CO	None	N	105.12	105.12	100	N	N
Pouring/Casting Cooling (Hunter #2) - VOC	None	N	2.45	2.45	100	N	N
Pouring/Casting Cooling (Hunter #5) - PM10	None	Y	13.47	13.47	100	N	N
Pouring/Casting Cooling (Hunter #5) - SO ₂	None	N	0.26	0.26	100	N	N
Pouring/Casting Cooling (Hunter #5) - NOx	None	N	0.13	0.13	100	N	N
Pouring/Casting Cooling (Hunter #5) - CO	None	N	78.84	78.84	100	N	N
Pouring/Casting Cooling (Hunter #5) - VOC	None	N	1.84	1.84	100	N	N
Pouring/Casting Cooling (Hunter #6) - PM10	None	Y	13.47	13.47	100	N	N
Pouring/Casting Cooling (Hunter #6) - SO ₂	None	N	0.26	0.26	100	N	N
Pouring/Casting Cooling (Hunter #6) - NOx	None	N	0.13	0.13	100	N	N
Pouring/Casting Cooling (Hunter #6) - CO	None	N	78.84	78.84	100	N	N
Pouring/Casting Cooling (Hunter #6) - VOC	None	N	1.84	1.84	100	N	N
Pouring/Casting Cooling (Sinto #1) ⁽²⁾ - PM10	None	Y	26.94	15.38	100	N	N
Pouring/Casting Cooling (Sinto #1) ⁽²⁾ - SO ₂	None	N	0.53	0.30	100	N	N
Pouring/Casting Cooling (Sinto #1) ⁽²⁾ - NOx	None	N	0.26	0.15	100	N	N
Pouring/Casting Cooling (Sinto #1) ⁽²⁾ - CO	None	Y	157.68	90.00	100	N	N
Pouring/Casting Cooling (Sinto #1) ⁽²⁾ - VOC	None	N	3.68	2.10	100	N	N
Casting Shakeout for all Mold Lines ⁽³⁾ - PM10	Baghouse DC-2	Y	196.22	4.46	100	Y	N
Casting Shakeout for all Mold Lines ⁽³⁾ - VOC	None	N	105.12	79.56	100	N	N
Mold Sand Handling - PM10	Baghouse DC-2	Y	236.52	7.10	100	Y	N
Shotblast #1 - #3 - PM10	Baghouse DC-1	Y	62.55	1.88	100	N	N
Shotblast #1 - #3 - manganese	Baghouse DC-1	Y	19.4	0.6	10	Y	N
Grinding/Finishing - PM10	Baghouse DC-1	Y	62.55	1.88	100	N	N
Grinding/Finishing - manganese	Baghouse DC-1		19.4	0.6	10	Y	N
Isocure Core Machines - VOC	None	N	38.41	38.41	100	N	N
Isocure Core Machines Sand Handling - PM10	Bin Vent Filters #3 and #4	Y	7.10	0.0007	100	N	N
Shell Core Machines - SO ₂	None	N	0.98	0.98	100	N	N
Shell Core Machines - NOx	None	N	1.53	1.53	100	N	N
Shell Core Machines - VOC	None	N	6.13	6.13	100	N	N
Shell Core Machines Sand Handling - PM10	None	Y	1.66	1.66	100	N	N
Natural Gas combustion - PM10	None	N	1.51	1.51	100	N	N

Emission Unit / Pollutant	Control Device Used	Emission Limitation (Y/N)	Uncontrolled PTE (tons/year)	Controlled PTE (tons/year)	Major Source Threshold (tons/year)	CAM Applicable (Y/N)	Large Unit (Y/N)
Natural Gas combustion - SO ₂	None	N	0.12	0.12	100	N	N
Natural Gas combustion - NO _x	None	N	19.90	19.90	100	N	N
Natural Gas combustion - CO	None	N	16.72	16.72	100	N	N
Natural Gas combustion - VOC	None	N	1.09	1.09	100	N	N

- (1) Controlled emissions for the Pouring/Casting Cooling (Hunter #1) represent emissions after a metal throughput limit of 14,994 tons per twelve (12) consecutive month period in order to render the requirements of 326 IAC 2-2 (PSD) not applicable.
- (2) Controlled emissions for the Pouring/Casting Cooling (Sinto #1) represent emissions after a metal throughput limit of 30,000 tons per twelve (12) consecutive month period in order to render the requirements of 326 IAC 2-2 (PSD) not applicable.
- (3) Controlled emissions for the Casting Shakeout for all Mold Lines represent emissions after applying the metal throughput limits referenced above for the Pouring/Casting Cooling operations identified as Hunter #1 and Sinto #1 to render the requirements of 326 IAC 2-2 (PSD) not applicable. PM10 emissions also include the control efficiency of the baghouse.

Based on this evaluation, the requirements of 40 CFR Part 64, CAM are applicable to the cupola, casting shakeout for all mold lines, and the mold sand handling operations for PM10, and for the cupola, shotblasting, and grinding for at least one metallic HAP. The Compliance Determination and Monitoring Requirements section includes a detailed description of the CAM requirements.

- (b) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included in the permit for this source.
- (c) On April 22, 2004, U.S. EPA promulgated a NESHAP for iron and steel foundries. The NESHAP, 40 CFR 63.7680 - 63.7762, Subpart EEEEE, applies to each new or existing iron and steel foundry that is a major source of HAPs. A major source of HAPs is a source that emits or has the potential to emit any single HAP at a rate of 10 tons or more per year or any combination of HAPs at a rate of 25 tons or more per year. The affected source covered by this rule is each new or existing iron and steel foundry and the rule covers emissions from metal melting furnaces, scrap preheaters, pouring areas, pouring stations, automated conveyor and pallet cooling lines, automated shakeout lines, and mold and core making lines. This rule also covers fugitive emissions from foundry operations. Pursuant to this rule, the Permittee must comply with 40 CFR 63, Subpart EEEEE on and after April 23, 2007, except as provided in paragraph (b) of 40 CFR 63.7682, or accept and meet an enforceable HAP emissions limit below the major source threshold prior to the compliance date of April 23, 2007.

The source has requested that enforceable HAP emission limits be included in the Part 70 permit to limit the potential to emit any single HAP to less than 10 tons per year and the potential to emit of any combination of HAPs to less than 25 tons per year. Therefore, this source will no longer be a major source of HAPs and the requirements of this rule will not be included in the Part 70 permit.

The metallic HAP limits that will be included in the Part 70 permit are as follows:

- (1) Emissions of lead from the cupola shall not exceed 6.88 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;

- (2) Emissions of manganese from the cupola shall not exceed 2.06 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (3) Emission of any combination of HAPs from the cupola shall not exceed 6.88 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (4) Emissions of lead from the two (2) electric induction furnaces shall not exceed 0.36 ton per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (5) Emissions of manganese from the two (2) electric induction furnaces shall not exceed 0.09 ton per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (6) Emissions of any combination of HAPs from the two (2) electric induction furnaces shall not exceed 0.36 ton per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (7) Total emissions of lead from the casting shakeout operation for all mold lines shall not exceed 0.26 ton per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (8) Total emissions of manganese from the casting shakeout operation for all mold lines shall not exceed 0.80 ton per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (9) Total emissions of any combination of metal HAPs from the casting shakeout operation for all mold lines shall not exceed 1.30 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (10) Emissions of lead from the shot blast machines Shot #1 - #3 shall not exceed 0.58 ton per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (11) Emissions of manganese from the shot blast machines Shot #1 - #3 shall not exceed 1.78 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (12) Emission of any combination of metal HAPs from the shot blast machines Shot #1 - #3 shall not exceed 2.90 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (13) Emissions of lead from the grinding/finishing operation Grinder #1 - #9 and Grinder Auto Foxall #10 shall not exceed 0.58 ton per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (14) Emissions of manganese from the grinding/finishing operation Grinder #1 - #9 and Grinder Auto Foxall #10 shall not exceed 1.78 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (15) Emission of any combination of metal HAPs from the grinding/finishing operation Grinder #1 - #9 and Grinder Auto Foxall #10 shall not exceed 2.90 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

The above lead and manganese limits shall limit source-wide lead emissions and source-wide manganese emissions to less than 10 tons per year, each. The combined metal HAP limits above in conjunction with the combined organic HAP limits listed below will limit source-wide emissions of any combination of HAPs to less than 25 tons per year.

The organic HAP limits that will be included in the Part 70 permit are as follows:

- (1) The total emissions of toluene from the Pouring/Casting Cooling operations identified as Hunter #1, Hunter #2, Hunter #5, Hunter #6, and Sinto #1, and the casting shakeout operations for all mold lines shall not exceed 4.79 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (2) The total emissions of phenol from the Pouring/Casting Cooling operations identified as Hunter #1, Hunter #2, Hunter #5, Hunter #6, and Sinto #1, and the casting shakeout operations for all mold lines shall not exceed 4.79 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (3) The total emissions of benzene from the Pouring/Casting Cooling operations identified as Hunter #1, Hunter #2, Hunter #5, Hunter #6, and Sinto #1, and the casting shakeout operations for all mold lines shall not exceed 4.79 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (4) The total emissions of any combination of organic HAPs from the Pouring/Casting Cooling operations identified as Hunter #1, Hunter #2, Hunter #5, Hunter #6, and Sinto #1, and the casting shakeout operations for all mold lines shall not exceed 4.79 ton per twelve (12) consecutive month period, with compliance determined at the end of each month.

The above organic HAP limits shall limit source-wide emissions of any single HAP to less than 10 tons per year. The combined organic HAP limits above in conjunction with the combined metallic HAP limits will limit source-wide emissions of any combination of HAPs to less than 25 tons per year.

State Rule Applicability - Entire Source

326 IAC 2-2 (Prevention of Significant Deterioration)

This existing secondary metal production source, which is one of the 28 listed source categories, is a major PSD source.

- (a) The one (1) cupola furnace, the charge handling operation, the inoculation process, the shakeout process, one (1) mold making machine, identified as Hunter #2 (which was previously identified as Hunter #4), three (3) shot blast machines (ID Nos. #1, #2 and #3), seven (7) shell core making machines, sand handling system and the core oven were each constructed prior to the rule applicability date of August 7, 1977. However, the total potential CO, PM and PM-10 emissions from these emission units are greater than 100 tons per year. Therefore, the source is considered a major PSD source with respect to the subsequent modifications to the source.
- (b) The two (2) isocure core making machines (Isocure #1 and Isocure #2), both installed in 1978, are not subject to this rule because the total PM, PM-10 and VOC emissions from the two (2) isocure core making machines and associated core sand handling after control are <0.01, <0.001, and 25.4 tons per year, respectively, which are each less than the PSD significant levels of 25, 15, and 40 tons per year, respectively.

- (c) Hunter #5, installed in 1979, is not subject to this rule because the uncontrolled PM and PM10 emissions from this unit are 13.47 tons per year, each, which is less than the PSD significant levels of 25 and 15 tons per year, respectively. Additionally, CO emissions from this unit are less than 100 tons per year.
- (d) Hunter #6, installed in 1981, is not subject to this rule because the uncontrolled PM and PM10 emissions from this unit are 13.47 tons per year, each, which is less than the PSD significant levels of 25 and 15 tons per year, respectively.
- (e) The six (6) grinders, identified as Grinder # 1 - Grinder #6, all installed in 1987, and Grinders #7, #8 and #9 installed in 2000, 2001 and 2001, respectively, have uncontrolled potential to emit of PM and PM-10 greater than 25 and 15 tons per year, respectively. The following limits shall apply to render the requirements of 326 IAC 2-2 (PSD) not applicable:
 - (1) Total PM emissions from Grinders #1 through #9 shall not exceed 5.68 pounds per hour;
 - (2) Total PM10 emissions from Grinders #1 through #9 shall not exceed 3.4 pounds per hour;

Compliance with the above limits for Grinders #1 through #9 shall limit PM and PM10 emissions to less than 25 and 15 tons per year, respectively, therefore the requirements of this rule do not apply to the modifications in 1987, 2000 and 2001.

The baghouse controlling emissions from the grinding/cleaning operation shall be in operation at all times that the grinding/cleaning operation is operating to comply with the above limits. Therefore, 326 IAC 2-2 does not apply.

- (f) Two (2) electric induction furnaces, each installed in 1995, are not subject to this rule because the controlled PM and PM10 emissions are less than the PSD significant levels of 25 and 15 tons per year, respectively. A 2nd power supply was added to the two (2) electric induction furnaces in 2005, which allowed the furnaces to melt at a higher rate of 4.0 tons per hour each. The modification was not considered a major modification because based on projected future actual emissions to baseline actual emissions, as determined in Second Minor Source Modification No. 099-19820-00001, issued on December 9, 2004, the net emissions increase for PM, PM-10, VOC, SO₂, NO_x and Lead are 19.0, 12.91, 8.10, 0.22, 0.11 and 0.32 tons per year, respectively. The net emissions are less than the PSD significant levels of 25, 15, 40, 40, 40 and 0.6 tons per year, respectively. The Permittee shall maintain a record of the annual emissions for the electric induction furnaces EIF #1 and #2, in tons per year on a calendar year basis, for a period of ten (10) years following February 2005. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply to the modification in 1995.
- (g) The installation of Sinto #1 in 1998 was permitted under CP 099-9992-00001, issued on October 9, 1998. As determined during that permit review, the addition of the new Sinto #1 molding line to the existing six (6) permitted molding lines was for added flexibility in producing castings. The allowable gray iron handled at the source by all molding lines combined remained the same at 12 tons per hour, before and after the addition of the new Sinto #1 molding line. Therefore, there was no net PTE increase for any of the criteria pollutants.

It has been determined by IDEM, OAQ that the pouring, cooling, and shakeout operations are sources of CO emissions that were not previously identified. Unrestricted CO emissions from the Sinto #1 molding line are greater than the PSD significant level of 100 tons per year. However, based on the actual metal throughput to this operation, the actual CO emissions have never exceeded 100 tons per year. Therefore, the following limits will be added to the permit to limit CO emissions to less than 100 tons per year from the Sinto #1 molding line to render the requirements of this rule not applicable:

- (1) The amount of iron poured on the mold line Sinto #1 shall not exceed 30,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
 - (2) Total CO emissions from pouring, cooling, and shakeout in the Sinto #1 molding line shall not exceed 6.0 pounds of CO per ton of iron poured.
- (h) Hunter #1, installed in 2002, has limited PM and PM10 potential emissions of less than the PSD significant levels of 25 and 15 tons per year, respectively. Pursuant to Significant Source Modification No.: 099-15758-00001, issued December 19, 2002:
- (1) The amount of iron poured on the mold line Hunter #1 shall not exceed 14,994 tons per year.
 - (2) PM emissions from the Hunter #1 mold line shall not exceed 3.10 pounds of PM per ton of iron poured;
 - (3) PM10 emissions from Hunter #1 mold line shall not exceed 2.00 pounds of PM10 per ton of iron poured.

Compliance with these limits will limit PM emissions to 23.24 tons per year and will limit PM10 emissions to 14.99 tons per year, therefore, the requirements of 326 IAC 2-2 (PSD) do not apply to the modification in 2002.

The SSM referenced above also included limits on SO₂, VOC, NO_x and Lead and HAPs to render PSD not applicable. Since the unrestricted emissions of each of these pollutants is well below the PSD significant levels of 40, 40, 40, and 0.6 tons per year, respectively, it has been determined that these limits are not required to render PSD not applicable and will be removed from the permit.

As stated above, it has been determined by IDEM, OAQ that the pouring, cooling, and shakeout operations are sources of CO emissions that were not previously identified. Unrestricted CO emissions from the Hunter #1 molding line are greater than the PSD significant level of 100 tons per year. However, based on the actual metal throughput to this operation, the actual CO emissions have never exceeded 100 tons per year. Therefore, the following CO emission limit will be added to the permit so that the emission limit combined with the existing metal throughput limit to limit PM and PM10 emissions, will limit CO emissions to less than 100 tons per year from the Hunter #1 molding line to render the requirements of this rule not applicable:

Total CO emissions from pouring, cooling, and shakeout in the Hunter #1 molding line shall not exceed 6.0 pounds of CO per ton of iron poured.

The one (1) isocure core machine, identified as Isocure #3, also installed in 2002, is not subject to this rule because uncontrolled VOC emissions from the addition of this unit is 12.70 tons per year, which is less than the PSD significant level of 40 tons per year. Additionally, these emissions when combined with the VOC emissions from the Hunter #1 mold line of 1.05 tons per year are less than the PSD significant level, therefore, the requirements of this rule do not apply to the modification in 2002.

- (i) The modification to the Hunter #2 mold line (previously identified as Hunter #4 mold line, originally constructed in 1974) in 2005, permitted under Administrative Amendment No. 099-20662-00001, issued on March 28, 2005, did not result in a change in the method of operation, the materials used in the process, or emissions. Therefore, there were no emissions increases as a result of this modification and the requirements of 326 IAC 2-2 (PSD) do not apply to this modification in 2005.

326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))

Based on the HAP emission limits included under the Federal Rule Applicability section of this document above, this source will emit less than 10 tons per year of a single HAP or 25 tons per year of a combination of HAPs. Therefore, 326 IAC 2-4.1 does not apply.

326 IAC 2-6 (Emission Reporting)

Since this source is required to have an operating permit under 326 IAC 2-7, Part 70 Permit Program, this source is subject to 326 IAC 2-6 (Emission Reporting). This source is subject to 326 IAC 2-6-3 (a)(1) because it has the potential to emit more than 2,500 tons per year of CO. Pursuant to this rule, the owner/operator of the source must annually submit an emission statement for the source. The annual statement must be received by July 1 of each year and contain the minimum requirement as specified in 326 IAC 2-6-4.

326 IAC 5-1 (Opacity Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in the permit:

- (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

326 IAC 6-4 (Fugitive Dust Emissions)

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions).

State Rule Applicability – Individual Facilities

326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)

- (a) The particulate from the facilities shall be limited by the following:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

and

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 55.0 P^{0.11} - 40 \quad \text{where } E = \text{rate of emission in pounds per hour and } P = \text{process weight rate in tons per hour}$$

Process Description	Process Weight Rate (ton/hr)	326 IAC 6-3-2 Allowable (lb/hr)	Controlled Emissions (lb/hr)
Two (2) Electric Induction Furnace	4.0 each	10.38 each	0.11 each
Inoculation (Mg Treatment)	8.0	16.51	0.43
Charge Handling	12.0	21.67	7.20
Pouring / Cooling			
Hunter #1 Line	45.2	43.64	0.57
Hunter #2 Line	45.2	43.64	4.10
Hunter #5 Line	21.9	32.42	3.08
Hunter #6 Line	21.9	32.42	3.08
Sinto #1 Line	54.0	45.29	3.51
Casting Shakeout	20.0	21.67	1.45
Isocure Core Sand Handling	3.0	8.56	0.001
Shell Core Sand Handling	0.7	3.23	2.52
Mold Sand Handling	100	51.28	10.80
Shotblast #1 - #3	8.4	17.06	4.28
Grinding /Finishing	8.4	17.06	4.28

Emissions from the charge handling, the electric induction furnaces, inoculation, shell core sand handling and all pouring/cooling operations are in compliance with 326 IAC 6-3-2 without using any control device. The baghouse DC-1 controlling the shot blast machines and grinding/finishing shall be in operation at all times the shot blast machines and grinders are in operation in order to comply with their respective limits. The baghouse DC-2 controlling the casting shakeout and mold sand handling operations shall be in operation at all times that casting shakeout and mold sand handling are in operation in order to comply with their respective limits. The bin vent filters identified as Bin Vent #3 and Bin Vent #4 shall be in operation at all times that Isocure sand handling is in operation in order to comply with the applicable limit.

- (b) The cupola is not subject to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), because the allowable emissions for 326 IAC 6-3-2 are less stringent than the allowable emissions for 326 IAC 11-1. Pursuant to 326 IAC 6-3-1(b) (1), the cupola is not subject to 326 IAC 6-3-2.
- (c) Pursuant to 326 IAC 6-3-2(e)(2), particulate emissions from any process not exempt under 326 IAC 6-3-1(b) or (c) which has a maximum process weight rate less than 100 pounds per hour and the methods in 326 IAC 6-3-2(b) through (d) do not apply shall not exceed 0.551 pounds per hour. This limit applies to the following insignificant activities:
 - (1) Grinding and machining operations controlled with fabric filters, scrubbers, mist collectors, wet collectors and electrostatic precipitators with a design grain loading of less than or equal to 0.03 grains per actual cubic foot and a gas flow rate less than or equal to 4,000 actual cubic feet per minute, including the following: deburring, buffing, polishing, abrasive blasting, pneumatic conveying, and woodworking operations;

- (A) Two (2) grinding units with PM emissions controlled by baghouse DC-1 and exhausting through stack DC-1. [326 IAC 6-3]

326 IAC 8-1-6 (New Facilities, General Reduction Requirements)

This rule applies to facilities constructed after January 1, 1980 which have the potential to emit 25 tons per year or more of VOC. The casting shakeout operation, Isocure #1, Isocure #2, and the shell core machines are not subject to the requirements of 326 IAC 8-1-6 (New Facilities, General Reduction Requirements), because these facilities commenced operation before January 1, 1980. Isocure #3 was constructed after 1980 but is not subject to this rule because it has the potential to emit less than 25 tons of VOC per year. Therefore, this rule does not apply.

326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations)

The cupola is subject to this rule because the cupola has the potential to emit greater than 25 tons per year or 10 pounds per hour of SO₂. However, there are no established limits for the combustion of coke. The OAQ has determined that the limit for coal applies because coke is a chemically different substance than coal.

326 IAC 9-1 (Carbon Monoxide Emission Rules)

Pursuant to 326 IAC 9-1, this rule applies to all stationary sources of carbon monoxide emissions commencing operation after March 21, 1972 that have a capacity of ten (10) tons per hour for cupolas. The source commenced operation before March 21, 1972 and is not subject to the requirements of 326 IAC 9-1.

326 IAC 11-1 (Emission Limitations for Existing Foundries)

This rule establishes specific emission limitations for particulate matter from foundries in operation on or before December 6, 1968. Foundries beginning operation after December 6, 1968 are required to comply with the emission limits specified in 326 IAC 6-3. This foundry was constructed prior to 1968, therefore, this rule is applicable to the cupola at this source. Pursuant to 326 IAC 11-1-2, the allowable particulate emission rate from the cupola shall not exceed 26.4 pounds per hour when operating at a process weight rate of 24,000 pounds per hour.

The controlled particulate emissions from the cupola is 14.74 pounds per hour. The wet scrubber (for cupola) shall be in operation at all times the cupola is in operation, in order to comply with this limit.

Compliance Determination and Monitoring Requirements

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with all applicable state and federal rules on a continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a continuous demonstration. When this occurs IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, Compliance Determination Requirements are included in the permit. The Compliance Determination Requirements in Section D of the permit are those conditions that are found directly within state and federal rules and the violation of which serves as grounds for enforcement action.

If the Compliance Determination Requirements are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also in Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

The compliance determination requirements applicable to this source are as follows:

Emission Unit	Control Device	Timeframe for Testing	Pollutant	Frequency of Testing	Limit or Requirement
Cupola	Wet Scrubber	Within 180 days of permit issuance	PM, Lead, Manganese, total organic HAPs	Once every 5 years	26.4 lbs/hr PM 6.88 tons/yr Pb 2.06 tons/yr Mn 0.02 lb/hr total organic HAPs
Electric Induction Furnaces and inoculation process	Baghouse DC-2	Within 180 days of permit issuance	Lead, Manganese	Once every 5 years	0.36 ton/yr Pb 0.09 ton/yr Mn
Pouring/Cooling Hunter #1	None	Between August 2009 and February 2010	PM, PM10	Once every 5 years	3.1 lb PM/ton metal 2.0 lb PM10 /ton metal
One (1) of Pouring/Cooling Hunter #2, #5, and #6	None	Between July 2011 and January 2012	PM	Once every 5 years	43.64 lbs/hr PM (Hunter #2) 32.42 lbs/hr PM (Hunter #5 and #6 each)
Pouring/Cooling Sinto #1	None	Between January 2010 and July 2010	PM	Once every 5 years	45.29 lbs/hr PM
Pouring/Cooling Sinto #1 and Casting shakeout*	None	Within 180 days of permit issuance	CO and total organic HAPs	Once every 5 years	6.0 lbs CO per ton of metal 4.79 tons/yr for each of toluene, phenol and benzene and 4.79 tons/yr total organic HAPs
Casting Shakeout	Baghouse DC-2	Within 180 days of permit issuance	Total metal HAPs	Once every 5 years	0.26 ton/yr Pb 0.80 ton/yr Mn 1.30 tons/yr total metal HAPs

*Note: Since the Sinto #1 mold line has the highest metal throughput capacity of all the mold lines, CO and organic HAP testing will only be required for the Sinto #1 mold line and the results shall also be used to demonstrate compliance with the CO limit for the Hunter #1 mold line and the single and organic HAP limits for all mold lines.

The compliance monitoring requirements applicable to this source are as follows:

1. The electric induction furnaces, pouring/cooling, sand handling, casting shakeout, grinding/cleaning and core sand handling operations have applicable compliance monitoring conditions as specified below:

- (a) Daily visible emission notations of the electric induction furnaces, mold sand handling, and casting shakeout baghouse stack exhaust (DC-2), the pouring/cooling operations, the shot blaster and grinding/finishing baghouse stack exhaust (DC-1), and core sand handling bin vent stack exhaust (BV-3) shall be performed during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal. For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time. In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions. A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process. If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.
- (b) The Permittee shall record the pressure drop across each of the baghouses used in conjunction with the electric induction furnaces, sand handling, casting shakeout and grinding/cleaning, at least once per day when the processes are in operation. When for any one reading, the pressure drop across any baghouse is outside the normal range of 3.0 and 9.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ and shall be calibrated at least once every six (6) months.

- (c) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).
- (d) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the line. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces or triboflows.

These monitoring conditions are necessary because the baghouses for the electric induction furnaces, sand handling, casting shakeout and grinding/cleaning operation must operate properly to ensure compliance with 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the metal HAP limits to render the NESHAP 40 CFR 63, Subpart EEEEE not applicable, 326 IAC 2-7 (Part 70) and 40 CFR Part 64.

2. The cupola has applicable compliance monitoring conditions as specified below:
 - (a) The Permittee shall record the scrubbing water flow rate and pressure drop across the wet scrubber used in conjunction with the cupola, at least once per day when the cupola is in operation. When for any one reading, the scrubbing water flow rate is less than 70 gallons per minute and the pressure drop across the scrubber is less than 23 inches of water or water flow rate and pressure drop ranges established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. A water flow rate and pressure reading that are outside the above mentioned ranges are not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ and shall be calibrated at least once every six (6) months.
 - (b) In the event that scrubber failure has been observed:

Failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions). Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.
 - (c) A continuous monitoring system shall be calibrated, maintained, and operated on the cupola afterburner for measuring operating temperature. For the purpose of this condition, continuously means no less than once per 15-minute period. The output of this system shall be recorded as an hourly average. From the date of issuance of this permit until the approved stack test results are available, the Permittee shall take appropriate response steps in accordance with Section C - Response to Excursions or Exceedances whenever the 15-minute average temperature of the afterburner is below 1300°F. A 15-minute average temperature that is below 1300°F is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.
 - (d) The Permittee shall determine the 15-minute average temperature from the most recent valid stack test that demonstrates compliance with the metal HAP limits in Condition D.1.5, as approved by IDEM.

- (e) On and after the date the approved stack test results are available, the Permittee shall take appropriate response steps in accordance with Section C - Response to Excursions or Exceedances whenever the 15-minute average temperature of the afterburner is below the 15-minute average temperature as observed during the compliant stack test. A 15-minute average temperature that is below the 15-minute average temperature as observed during the compliant stack test is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

These monitoring conditions are necessary because the scrubber for the cupola must operate properly to ensure compliance with 326 IAC 11-1-2 (Emission Limitations for Existing Foundries), the metal HAP limits to render the NESHAP 40 CFR 63, Subpart EEEEE not applicable, 326 IAC 2-7 (Part 70) and 40 CFR Part 64.

Recommendation

The staff recommends to the Commissioner that the Part 70 Operating Permit be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An administratively complete Part 70 permit renewal application for the purposes of this review was received on April 11, 2003. Additional information was received on March 8 and 13, 2007.

Conclusion

The operation of this gray and ductile iron castings manufacturer shall be subject to the conditions of the attached Part 70 Operating Permit Renewal No. 099-17583-00001.

**Appendix A: Gray Iron Foundry Operations
Potential HAP Emission Calculations - Core Making Operations**

**Company Name: Bremen Castings, Inc.
Address City IN Zip: 500 North Baltimore Street, Bremen, Indiana 46506
Permit No.: T099-17583-00001
Reviewer: Trish Earls/EVP**

Material	Maximum Usage (tons/hr)	Formaldehyde EF (lb/ton sand)	Phenol EF (lb/ton sand)	Naphthalene EF (lb/ton sand)	Potential Formaldehyde Emissions (ton/yr)	Potential Phenol Emissions (ton/yr)	Potential Naphthalene Emissions (ton/yr)
Isocure Core Making Operation - Core Mixing*							
Core sand	3.00	0.0001	0.003	0	0.001	0.039	0.000
Isocure Core Making Operation - Core Making*							
Core sand	3.00	0.0028	0.0108	0.0131	0.037	0.142	0.172
Isocure Core Making Operation - Core Storage*							
Core sand	3.00	0.0005	0	0.009	0.007	0.000	0.118
Shell Core Making Operation**							
Resin coated sand	0.70	0.002	0.24	0	0.006	0.736	0.000
					0.05	0.92	0.29

Total Potential Emissions (tons/yr): 1.26

METHODOLOGY

* Isocure core making emission factors from a report titled "Core Room Baseline" prepared by Technikon, LLC for the Casting Emission Reduction Program (CERP) under contract for the US Army published December 9, 2008, estimating emissions from phenolic urethane Cold Box (Isocure in this case) core mixing, core making and core storage.

** Shell core making emission factors were provided by the supplier of the resin coated sand in a letter included with the original Title V permit application.

HAP Emissions = Sand Throughput Rate (tons/hr) * EF (lb/ton sand) * 8760 hours per year * 1 tons/2000 lbs

None of the release agents used in coremaking contain HAPs.

**Appendix A: Secondary Metal Production
Gray Iron Foundry**

**Company Name: Bremen Castings, Inc.
Address City IN Zip: 500 North Baltimore Street, Bremen, Indiana 46506
Permit No.: T099-17583-00001
Reviewer: Trish Earls/EVP**

Emission Factors (lbs/ton)							
Description	SCC	PM	PM10	SO ₂	NOx	CO	VOC
Cupola	30400301	13.80	12.40	0.90	0.10	145.00	0.18
Melting Dept. - Charge Handling	30400315	0.60	0.36	0.00	0.00	0.00	0.00
Melting Dept. - Induction Furnaces	30400303	0.90	0.86	0.00	0.00	0.00	0.00
Melting Dept. - Inoculation (Mg treatment)	30400321	1.80	1.80	0.00	0.00	0.00	0.00
Pouring/Casting Cooling (Hunter #1)	30400320	0.33	0.99	0.02	0.01	6.00	0.14
Pouring/Casting Cooling (Hunter #2)	30400320	1.03	1.03	0.02	0.01	6.00	0.14
Pouring/Casting Cooling (Hunter #5)	30400320	1.03	1.03	0.02	0.01	6.00	0.14
Pouring/Casting Cooling (Hunter #6)	30400320	1.03	1.03	0.02	0.01	6.00	0.14
Pouring/Casting Cooling (Sinto #1)	30400320	1.03	1.03	0.02	0.01	6.00	0.14
Casting Shakeout for all Mold Lines	30400331	3.20	2.24	0.00	0.00	*	1.20
Mold Sand Handling	30400350	3.60	0.54	0.00	0.00	0.00	0.00
Shotblast #1 - #3	30400340	17.00	1.70	0.00	0.00	0.00	0.00
Grinding/Finishing	30400340	17.00	1.70	0.00	0.00	0.00	0.00
Isocure Core Machines	30400371	0.00	0.00	0.00	0.00	0.00	**
Isocure Core Machines Sand Handling	30400350	3.60	0.54	0.00	0.00	0.00	0.00
Shell Core Machines	30400370	0.00	0.00	0.32	0.50	0.00	**
Shell Core Machines Sand Handling	30400350	3.60	0.54	0.00	0.00	0.00	0.00

** See page 5 for VOC emission calculations for coremaking.

* CO emission factor for pouring/cooling includes emissions from shakeout.

Particulate Matter Control Efficiencies		
Description	Control Device	Efficiency
Cupola	Wet scrubber	91.1%
Isocure Core Sand Handling	Bin Vents	99.99%
Shotblasting, Grinding/Finishing	DC-1	97.0%
Induction Furnaces, Inoculation, Shakeout, Mold Sand Handling	DC-2	97%

Note:

AP-42/Fire emission factors were used for calculations except for pouring and cooling operations where actual stack test data was used for PM and PM10 emissions.

CO emission factors based on best available information for CO emissions from pouring, cooling and shakeout operations combined.

The tests were conducted on August 25, 2004 for Hunter #1, July 26, 2006 for Hunter #2 and January 13, 2005 for Sinto #1.

**Appendix A: Secondary Metal Production
Gray Iron Foundry**

**Company Name: Bremen Castings, Inc.
Address City IN Zip: 500 North Baltimore Street, Bremen, Indiana 46506
Permit No.: T099-17583-00001
Reviewer: Trish Earls/EVP**

Uncontrolled Potential Emissions (tons/yr)

Process	Maximum Throughput (ton/hr)	PM	PM10	SOx	NOx	CO	VOC
Cupola	12.0	725.33	651.74	47.30	5.26	7621.20	9.46
Melting Dept. - Charge Handling	12.0	31.54	18.92	0.00	0.00	0.00	0.00
Melting Dept. - Induction Furnaces	8.0	31.54	30.13	0.00	0.00	0.00	0.00
Melting Dept. - Inoculation (Mg treatment)	8.0	63.07	63.07	0.00	0.00	0.00	0.00
Pouring/Casting Cooling (Hunter #1)	4.0	5.83	17.34	0.35	0.18	105.12	2.45
Pouring/Casting Cooling (Hunter #2)	4.0	17.96	17.96	0.35	0.18	105.12	2.45
Pouring/Casting Cooling (Hunter #5)	3.0	13.47	13.47	0.26	0.13	78.84	1.84
Pouring/Casting Cooling (Hunter #6)	3.0	13.47	13.47	0.26	0.13	78.84	1.84
Pouring/Casting Cooling (Sinto #1)	6.0	26.94	26.94	0.53	0.26	157.68	3.68
Casting Shakeout for all Mold Lines	20.0	280.32	196.22	0.00	0.00	*	105.12
Mold Sand Handling	100.0	1576.80	236.52	0.00	0.00	0.00	0.00
Shotblast #1 - #3	8.4	625.46	62.55	0.00	0.00	0.00	0.00
Grinding/Finishing	8.4	625.46	62.55	0.00	0.00	0.00	0.00
Isocure Core Machines	3.0	0.00	0.00	0.00	0.00	0.00	38.41
Isocure Core Machines Sand Handling	3.0	47.30	7.10	0.00	0.00	0.00	0.00
Shell Core Machines	0.7	0.00	0.00	0.98	1.53	0.00	6.13
Shell Core Machines Sand Handling	0.7	11.04	1.66	0.00	0.00	0.00	0.00
Natural gas combustion	N/A	0.38	1.51	0.12	19.90	16.72	1.09
Total Uncontrolled Emissions (tons/yr)		4095.91	1421.15	50.16	27.57	8163.52	172.47

* CO emissions for pouring/cooling includes emissions from shakeout.

Controlled/ Limited Emissions (tons/yr)

Process	Limited Throughput (ton/hr)	PM	PM10	SOx	NOx	CO	VOC
Cupola	12.0	64.55	58.01	47.30	5.26	7621.20	9.46
Melting Dept. - Charge Handling	12.0	31.54	18.92	0.00	0.00	0.00	0.00
Melting Dept. - Induction Furnaces	8.0	0.95	0.90	0.00	0.00	0.00	0.00
Melting Dept. - Inoculation (Mg treatment)	8.0	1.89	1.89	0.00	0.00	0.00	0.00
Pouring/Casting Cooling (Hunter #1)	1.7	2.50	7.42	0.15	0.07	44.98	1.05
Pouring/Casting Cooling (Hunter #2)	4.0	17.96	17.96	0.35	0.18	105.12	2.45
Pouring/Casting Cooling (Hunter #5)	3.0	13.47	13.47	0.26	0.13	78.84	1.84
Pouring/Casting Cooling (Hunter #6)	3.0	13.47	13.47	0.26	0.13	78.84	1.84
Pouring/Casting Cooling (Sinto #1)	3.4	15.38	15.38	0.30	0.15	90.00	2.10
Casting Shakeout for all Mold Lines	15.1	6.36	4.46	0.00	0.00	*	79.56
Mold Sand Handling	100.0	47.30	7.10	0.00	0.00	0.00	0.00
Shotblast #1 - #3	8.4	18.76	1.88	0.00	0.00	0.00	0.00
Grinding/Finishing	8.4	18.76	1.88	0.00	0.00	0.00	0.00
Isocure Core Machines	3.0	0.00	0.00	0.00	0.00	0.00	38.41
Isocure Core Machines Sand Handling	3.0	0.0047	0.0007	0.00	0.00	0.00	0.00
Shell Core Machines	0.7	0.00	0.00	0.98	1.53	0.00	6.13
Shell Core Machines Sand Handling	0.7	11.04	1.66	0.00	0.00	0.00	0.00
Natural gas combustion	N/A	0.38	1.51	0.12	19.90	16.72	1.09
Total Controlled Emissions (tons/yr)		264.31	165.88	49.73	27.35	8035.70	143.93

Note:

See Appendix A pages 3, 4 and 7 through 10 for HAP calculations

Potential Emissions (lb/hr) = Emission Factor (lb/ton) * Material throughput (ton/hr)*8760 hr/yr * 1/2000 ton/lb

Although the Cupola at the source has a melting capacity of 14 ton/hr, the maximum process rate is limited by shot blaster's and grinder's process rates to 12 ton/hr.

* CO emissions for pouring/cooling includes emissions from shakeout.

**Appendix A: Emission Calculations
HAP Emissions from Foundry Operations**

Company Name: Bremen Castings, Inc.
Address City IN Zip: 500 North Baltimore Street, Bremen, Indiana 46506
Permit No.: T099-17583-00001
Reviewer: Trish Earls/EVP

** Process Emissions **

Process	Maximum Rate (tons iron/hr)	Limited Rate** (tons iron/hr)	PM emission factor lb/ton	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Eac (ton/yr)	Control Device	Control Efficiency (%)
Charge Handling SCC# 3-04-003-15 AP-42 Ch. 12.10	12	10.27	0.60	chromium	0.00023	0.012	0.010	N/A	
				nickel	0.00040	0.021	0.018		
				arsenic	0.00008	0.004	0.004		
				Lead	0.00231	0.121	0.104		
				Manganese	0.01860	0.978	0.837		
				Antimony	0.00111	0.058	0.050		
TOTAL				0.02273	1.19	1.02			
Melting - Cupola EPA SCC# 3-04-003-01 AP-42 Ch. 12.10	12	10.27	13.80	chromium	0.00524	0.276	0.021	Wet scrubber	91.10%
				nickel	0.00925	0.486	0.037		
				arsenic	0.00179	0.094	0.007		
				Lead	0.60000	31.536	2.403		
				Manganese	0.42780	22.485	1.713		
				Antimony	0.02553	1.342	0.102		
				phenol	0.01152	0.605	0.000	afterburner	100.00%
				benzene	0.06246	3.283	0.000		
				formaldehyde	0.00126	0.066	0.000		
				xylene	0.02160	1.135	0.000		
				toluene	0.02538	1.334	0.000		
				TOTAL				1.19183	62.64
Melting - Electric Induction Furnaces EPA SCC# 3-04-003-03 AP-42 Ch. 12.10	8	8.00	0.90	chromium	0.00034	0.012	0.000	Baghouse	97.00%
				nickel	0.00060	0.021	0.001	DC-2	
				arsenic	0.00012	0.004	0.000		
				Lead	0.05450	1.910	0.057		
				Manganese	0.02790	0.978	0.029		
				Antimony	0.00167	0.058	0.002		
TOTAL				0.08513	2.98	0.09			
Pouring/Casting Cooling Hunter #1 EPA SCC#3-04-003-20	4.0	1.71	0.33 stack test	chromium	0.00013	0.002	0.001	N/A	
				nickel	0.00022	0.004	0.002		
				arsenic	0.00004	0.001	0.000		
				Lead	0.00127	0.022	0.010		
				Manganese	0.01023	0.179	0.077		
				Antimony	0.00061	0.011	0.005		
TOTAL				0.01250	0.22	0.09			
Pouring/Casting Cooling Hunter #2 EPA SCC#3-04-003-20	4.0	4.00	1.03 stack test	chromium	0.00039	0.007	0.007	N/A	
				nickel	0.00069	0.012	0.012		
				arsenic	0.00013	0.002	0.002		
				Lead	0.00397	0.069	0.069		
				Manganese	0.03193	0.559	0.559		
				Antimony	0.00191	0.033	0.033		
TOTAL				0.03902	0.68	0.68			
Pouring/Casting Cooling Hunter #5 EPA SCC#3-04-003-20	3.0	3.00	1.03 stack test	chromium	0.00039	0.005	0.005	N/A	
				nickel	0.00069	0.009	0.009		
				arsenic	0.00013	0.002	0.002		
				Lead	0.00397	0.052	0.052		
				Manganese	0.03193	0.420	0.420		
				Antimony	0.00191	0.025	0.025		
TOTAL				0.03902	0.51	0.51			
Pouring/Casting Cooling Hunter #6 EPA SCC#3-04-003-20	3.0	3.00	1.03 stack test	chromium	0.00039	0.005	0.005	N/A	
				nickel	0.00069	0.009	0.009		
				arsenic	0.00013	0.002	0.002		
				Lead	0.00397	0.052	0.052		
				Manganese	0.03193	0.420	0.420		
				Antimony	0.00191	0.025	0.025		
TOTAL				0.03902	0.51	0.51			
Pouring/Casting Cooling Sinto #1 EPA SCC#3-04-003-20	6.0	3.42	1.03 stack test	chromium	0.00039	0.010	0.006	N/A	
				nickel	0.00069	0.018	0.010		
				arsenic	0.00013	0.004	0.002		
				Lead	0.00397	0.104	0.059		
				Manganese	0.03193	0.839	0.479		
				Antimony	0.00191	0.050	0.029		
TOTAL				0.03902	1.03	0.59			

Methodology:

Ef = Emission factor

Ebc = Potential Emissions before controls = Rate (units/hr) x Ef(lbs/unit) x 8760 hrs/yr / 2000 lbs/hr

Eac = Potential Emissions after controls = (1-efficiency/100) x Ebc

1 lb = 2000 tons

**Appendix A: Emission Calculations
HAP Emissions from Foundry Operations**

Company Name: **Bremen Castings, Inc.**
Address City IN Zip: **500 North Baltimore Street, Bremen, Indiana 46506**
Permit No.: **T099-17583-0001**
Reviewer: **Trish Earls/EVP**

** Process Emissions (cont'd.)**

Process	Maximum Rate (tons iron/hr)	Limited Rate** (tons iron/hr)	PM emission factor lb/ton	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Eac (ton/yr)	Control Device	Control Efficiency (%)
Casting Shakeout All Mold Lines EPA SCC#3-04-003-31 AP-42 Ch. 12.10	20.0	15.14	3.20	chromium	0.00122	0.107	0.002	Baghouse	97.0%
				nickel	0.00214	0.188	0.004	DC-2	
				arsenic	0.00042	0.036	0.001		
				Lead	0.01232	1.079	0.025		
				Manganese	0.09920	8.690	0.197		
				Antimony	0.00592	0.519	0.012		
				TOTAL	0.12122	10.62	0.24		
Shotblast #1 - #3 SCC# 3-04-003-40 AP-42 Ch. 12.10	8.4	8.40	17.00	chromium	0.00646	0.238	0.007	Baghouse	97.0%
				nickel	0.01139	0.419	0.013	DC-1	
				arsenic	0.00221	0.081	0.002		
				Lead	0.06545	2.408	0.072		
				Manganese	0.52700	19.389	0.582		
				Antimony	0.03145	1.157	0.035		
				TOTAL	0.64396	23.69	0.71		
Grinding/Finishing SCC# 3-04-003-40 AP-42 Ch. 12.10	8.40	8.40	17.00	chromium	0.00646	0.238	0.007	Baghouse	97.0%
				nickel	0.01139	0.419	0.013	DC-1	
				arsenic	0.00221	0.081	0.002		
				Lead	0.06545	2.408	0.072		
				Manganese	0.52700	19.389	0.582		
				Antimony	0.03145	1.157	0.035		
				TOTAL	0.64396	23.69	0.71		

* Note: HAP emission factors for the pouring/casting cooling operations are based on the PM emission factor from in-house stack tests performed on August 25, 2004, July 26, 2006, and January 13, 2005 and percent of PM that is HAP based on information from SPECIATE, v 3.1. Lead emission factors for cupola and electric induction furnaces are from US EPA's AP-42.

**Limited metal throughput rates for cupola and charge handling are not included as limits in the permit. They are based on information from Bremen Casting and are used to establish the HAP emission limits in the permit in tons/yr.

All other HAP emission factors are based on the AP-42 emission factors for PM and the percent of PM that is HAP based on information from SPECIATE, v 3.1.

USEPA Speciate v 3.1 Data	
Metal	Gen. Foundry
Manganese	3.100%
Chromium	0.038%
Nickel	0.067%
Arsenic	0.013%
Antimony	0.185%
Lead	0.385%

Total Potential Emissions Before Controls

chromium	0.91 tons/year
nickel	1.61 tons/year
arsenic	0.31 tons/year
Lead	39.76 tons/year
Manganese	74.33 tons/year
Antimony	4.43 tons/year
Total	121.35 tons/year

Total Limited Emissions After Controls

chromium	0.07 tons/year
nickel	0.13 tons/year
arsenic	0.02 tons/year
Lead	2.98 tons/year
Manganese	5.89 tons/year
Antimony	0.25 tons/year
Total	9.34 tons/year

Methodology:

Ef = Emission factor

Ebc = Potential Emissions before controls = Rate (units/hr) x Ef(lbs/unit) x 8760 hrs/yr / 2000 lbs/hr

Eac = Potential Emissions after controls = (1-efficiency/100) x Ebc

1 lb = 2000 tons

Appendix A: Emission Calculations

Company Name: Bremen Castings, Inc.
Address City IN Zip: 500 North Baltimore Street, Bremen, Indiana 46506
Permit No.: T099-17583-00001
Reviewer: Trish Earls/EVP

Core Making Process

Machine	Date of Construction	Capacity (tons cores/hr)	Maximum Resin Content (%)	VOC Emission Factor from Resin Evaporation (lb/ton cores)	Max. Catalyst Usage (lb/ton cores)	Potential VOC Emissions from resin evap (tons/yr)	Potential VOC Emissions from Catalyst Usage (tons/yr)	Total Potential VOC Emissions (tons/yr)
Isocure #1	1978	1	1.5%	1.5	1.4	6.57	6.13	12.70
Isocure #2	1978	1	1.5%	1.5	1.4	6.57	6.13	12.70
Isocure #3	2002	1	1.5%	1.5	1.4	6.57	6.13	12.70
Total						19.71	18.40	38.11

Note: The source is using a non-HAP DMIPA catalyst.

For Isocure cold box core making, the OCMA study shows an emission factor of 0.65 lb/ton of cores for VOC emissions from resin evaporation, based on 1% resin usage. This facility has a maximum resin content of 1.5%, therefore an emission factor of 1.5 lb/ton was used to provide a conservative estimate.

Material	Solvent Name	Density (lb/gal)	Usage Rate (lbs/hr)	Weight % VOC	Potential VOC Emissions (ton/yr)
Isocure Core Making					
Release Agent	Cobra 212	6.84	0.08	90%	0.30
Shell Core Making					
Resin Coated Sand	N/A		1400.00	0.10%	6.13
Release Agent	Nix Stix 46	8.35	0.80	0%	0.00

**Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100**

**Company Name: Bremen Castings, Inc.
Address City IN Zip: 500 North Baltimore Street, Bremen, Indiana 46506
Permit No.: T099-17583-00001
Reviewer: Trish Earls/EVP**

Heat Input Capacity MMBtu/hr	Unit ID	Potential Throughput MMCF/yr
5.2	Cupola hot blast heater	44.659
4.3	Cupola afterburner	36.929
1.500	Gas #01 - Gas #13	12.882
3.000	Dock #01 - Dock #04	25.765
0.737	Infra #01IR – Infra #16IR	6.330
0.600	Tube #01TIR – Tube #06TIR	5.153
25.850	AMU#1 - AMU#7	222.006
0.510	Core oven	4.380
2.400	Pan heaters	20.612
1.300	didion inlet heater	11.165
0.150	Shell Core Machine #1	1.288
0.150	Shell Core Machine #2	1.288
0.150	Shell Core Machine #3	1.288
0.150	Shell Core Machine #4	1.288
0.125	Shell Core Machine #5	1.074
0.125	Shell Core Machine #6	1.074
0.093	Shell Core Machine #7	0.799
	Total	397.979

Emission Factor in lb/MMCF	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
	1.9	7.6	0.6	100.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.38	1.51	0.12	19.90	1.09	16.72

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

See next page for HAPs emissions calculations.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Boilers
HAPs Emissions

Company Name: Bremen Castings, Inc.
Address City IN Zip: 500 North Baltimore Street, Bremen, Indiana 46506
Permit No.: T099-17583-00001
Reviewer: Trish Earls/EVP

HAPs - Organics					
Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	4.179E-04	2.388E-04	1.492E-02	3.582E-01	6.766E-04

HAPs - Metals					
Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	9.949E-05	2.189E-04	2.786E-04	7.562E-05	4.179E-04

Methodology is the same as previous page.

The five highest organic and metal HAPs emission factors are provided above.
 Additional HAPs emission factors are available in AP-42, Chapter 1.4.

**Appendix A: Secondary Metal Production
Gray Iron Foundry
Pouring, Cooling and Shakeout HAP Emissions**

**Company Name: Bremen Castings, Inc.
Address City IN Zip: 500 North Baltimore Street, Bremen, Indiana 46506
Permit No.: T099-17583-00001
Reviewer: Trish Earls/EVP**

Organic Hazardous Air Pollution Emission Estimates

Maximum Rate for Pouring/Cooling/Shakeout	20	tons/hr	
Limited Rate for Pouring/Cooling/Shakeout*	90,000	tons/yr	
Analyte	Combined PCS Ef (lbs/ton)	Emission Before Limitations (tons/yr)	Emissions After Limitations (tons/yr)
Phenol	0.0718	6.2897	3.2310
Benzene	0.1643	14.3927	7.3935
Aniline	0.0366	3.2062	1.6470
o-Cresol	0.0185	1.6206	0.8325
Naphthalene	0.0048	0.4205	0.2160
N,N-Dimethylaniline	0.0085	0.7446	0.3825
Toluene	0.0647	5.6677	2.9115
m, p-Cresol	0.0059	0.5168	0.2655
m, p-Xylene	0.0044	0.3854	0.1980
Xylene (Total)	0.0383	3.3551	1.7235
Acetaldehyde	0.0100	0.8760	0.4500
Ethylbenzene	0.0070	0.6132	0.3150
Formaldehyde	0.0011	0.0964	0.0495
Hexane	0.0046	0.4030	0.2070
Other HAPs	0.0070	0.6132	0.3150
Total HAPs	0.4475	39.2010	20.1375

METHODOLOGY

HAP Emissions = Usage Rate (tons/hr) * 8760 hrs/yr * EF (lb/ton) * 1 tons/2000 lbs

Emission factors from Reference Tests Recommended in "Organic Hazardous Air Pollutant Emission Factors for Iron Foundries", Prepared by the Air Quality Committee (10-E) of the American Foundry Society August 16, 2005 for Calculating Emission Factors for Pouring, Cooling and Shakeout.

*Limited metal throughput rates for pouring, cooling and shakeout are not included as limits in the permit. They are based on information from Bremen Casting and are used to establish the HAP emission limits in the permit in tons/yr.

**Appendix A: Gray Iron Foundry Operations
Potential HAP Emission Calculations - Core Making Operations**

**Company Name: Bremen Castings, Inc.
Address City IN Zip: 500 North Baltimore Street, Bremen, Indiana 46506
Permit No.: T099-17583-00001
Reviewer: Trish Earls/EVP**

Material	Maximum Usage (tons/hr)	Formaldehyde EF (lb/ton sand)	Phenol EF (lb/ton sand)	Naphthalene EF (lb/ton sand)	Potential Formaldehyde Emissions (ton/yr)	Potential Phenol Emissions (ton/yr)	Potential Naphthalene Emissions (ton/yr)
Isocure Core Making Operation - Core Mixing*							
Core sand	3.00	0.0001	0.003	0	0.001	0.039	0.000
Isocure Core Making Operation - Core Making*							
Core sand	3.00	0.0028	0.0108	0.0131	0.037	0.142	0.172
Isocure Core Making Operation - Core Storage*							
Core sand	3.00	0.0005	0	0.009	0.007	0.000	0.118
Shell Core Making Operation**							
Resin coated sand	0.70	0.002	0.24	0	0.006	0.736	0.000
					0.05	0.92	0.29

Total Potential Emissions (tons/yr): 1.26

METHODOLOGY

* Isocure core making emission factors from a report titled "Core Room Baseline" prepared by Technikon, LLC for the Casting Emission Reduction Program (CERP) under contract for the US Army published December 9, 2008, estimating emissions from phenolic urethane Cold Box (Isocure in this case) core mixing, core making and core storage.

** Shell core making emission factors were provided by the supplier of the resin coated sand in a letter included with the original Title V permit application.

HAP Emissions = Sand Throughput Rate (tons/hr) * EF (lb/ton sand) * 8760 hours per year * 1 tons/2000 lbs

None of the release agents used in coremaking contain HAPs.

Appendix A: Emission Calculations
Single HAP Emission Limits for HAPs with Unrestricted PTE Greater Than 10 Tons Per Year
and Combined HAP Emission Limits

Company Name: Bremen Castings, Inc.
Address City IN Zip: 500 North Baltimore Street, Bremen, Indiana 46506
Permit No.: T099-17583-00001
Reviewer: Trish Earls/EVP

Unrestricted HAP emissions (tons/yr)

Unit	Lead	Manganese	Toluene	Phenol	Benzene	Total Metal HAPs*	Total Organic HAPs*
Cupola	31.54	22.49	0.00	0.00	0.00	56.22	0.00
Melting Dept. - Charge Handling	0.12	0.98	0.00	0.00	0.00	1.19	0.00
Melting Dept. - Induction Furnaces	1.91	0.98	0.00	0.00	0.00	2.98	0.00
Melting Dept. - Inoculation (Mg treatment)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pouring/Casting Cooling (Hunter #1)	0.02	0.18				0.22	
Pouring/Casting Cooling (Hunter #2)	0.07	0.559				0.68	
Pouring/Casting Cooling (Hunter #5)	0.05	0.42	5.67	6.29	14.39	0.51	39.20
Pouring/Casting Cooling (Hunter #6)	0.05	0.42				0.51	
Pouring/Casting Cooling (Sinto #1)	0.10	0.839				1.03	
Casting Shakeout for all Mold Lines	1.08	8.69				10.62	
Mold Sand Handling	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Shotblast #1 - #3	2.41	19.39	0.00	0.00	0.00	23.69	0.00
Grinding/Finishing	2.41	19.39	0.00	0.00	0.00	23.69	0.00
Isocure Core Machines	0.00	0.00	0.00	0.18	0.00	0.00	0.52
Isocure Core Machines Sand Handling	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Shell Core Machines	0.00	0.00	0.00	0.74	0.00	0.00	0.74
Shell Core Machines Sand Handling	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Natural gas combustion	9.9E-05	7.6E-05	6.8E-04	0.0E+00	4.2E-04	1.1E-03	0.37
Total	39.76	74.33	5.67	7.21	14.39	121.34	40.83

Total HAPs **162.17**

*Note: Total metal HAPs and total organic HAPs include HAPs listed above and all other HAPs emitted at each emission unit not shown here.

Limited HAP emissions (tons/yr)

Unit	Lead	Manganese	Toluene	Phenol	Benzene	Total Metal HAPs*	Total Organic HAPs*
Cupola	6.88	2.06	0.00	0.00	0.00	6.88	0.00
Melting Dept. - Charge Handling	0.12	0.98	0.00	0.00	0.00	1.19	0.00
Melting Dept. - Induction Furnaces	0.36	0.09	0.00	0.00	0.00	0.36	0.00
Melting Dept. - Inoculation (Mg treatment)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pouring/Casting Cooling (Hunter #1)	0.02	0.18				0.22	
Pouring/Casting Cooling (Hunter #2)	0.07	0.559				0.68	
Pouring/Casting Cooling (Hunter #5)	0.05	0.42	4.79	4.79	4.79	0.51	4.79
Pouring/Casting Cooling (Hunter #6)	0.05	0.42				0.51	
Pouring/Casting Cooling (Sinto #1)	0.10	0.839				1.03	
Casting Shakeout for all Mold Lines	0.26	0.80				1.30	
Mold Sand Handling	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Shotblast #1 - #3	0.58	1.78				2.90	0.00
Grinding/Finishing	0.58	1.78				2.90	0.00
Isocure Core Machines	0.00	0.00	0.00	0.18	0.00	0.00	0.52
Isocure Core Machines Sand Handling	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Shell Core Machines	0.00	0.00	0.00	0.74	0.00	0.00	0.74
Shell Core Machines Sand Handling	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Natural gas combustion	9.9E-05	7.6E-05	6.8E-04	0.0E+00	4.2E-04	1.1E-03	0.37
Total	9.08	9.90	4.79	5.71	4.79	18.47	6.43

Total HAPs **24.90**

Napthalene Emissions from Source	Methanol Emissions from Source	Formaldehyde Emissions from Source	HCN Emissions from Source	Toluene Emissions from Source	Acrolein Emissions from Source	Aromatic Amines Emissions from Source
4.03	0.9	0.64	3.2	2.49	0.09	1.04

Aldehyde Emissions from Source	Other Metal HAP Emissions from Source	Total
0.72	12.54	25.65