



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

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

TO: Interested Parties / Applicant

DATE: October 12, 2011

RE: Warsaw Foundry Company / 085-30084-00006

FROM: Matthew Stuckey, Branch 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 according to IC 13-15-6-3, 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 and IC 13-15-6-1 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, Suite N 501E, Indianapolis, IN 46204, **within eighteen (18) calendar days of the mailing of this notice**. 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.

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.

Enclosures
FNPER.dot12/03/07



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**Federally Enforceable State Operating Permit
Renewal
OFFICE OF AIR QUALITY**

**Warsaw Foundry Company, Inc.
1212 North Detroit Street
Warsaw, Indiana 46581**

(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. 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 2-8 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.

Indiana statutes from IC 13 and rules from 326 IAC, quoted 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 FESOP under 326 IAC 2-8.

Operation Permit No.: F085-30084-00006	
Issued by:  Iryn Calilung, Section Chief Permits Branch Office of Air Quality	Issuance Date: October 12, 2011 Expiration Date: October 12, 2016

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Attachment A: NESHAP Subpart ZZZZZ - Iron and Steel Foundries Area Sources

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 2-8-3(b)]

The Permittee owns and operates a stationary gray and ductile iron foundry.

Source Address:	1212 North Detroit Street, Warsaw, Indiana 46581
General Source Phone Number:	574-267-8772
SIC Code:	3321 (Gray and Ductile Iron Foundries)
County Location:	Kosciusko
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Federally Enforceable State Operating Permit Program Minor Source, under PSD and Emission Offset Rules Minor Source, Section 112 of the Clean Air Act 1 of 28 Source Categories (Secondary Metal Production)

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-8-3(c)(3)]

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

- (a) One (1) charge handling operation, identified as EU1, installed prior to 1960, capacity: 1.6 tons of metal per hour, with emissions uncontrolled.
- (b) One (1) cupola, identified as EU2, installed prior to 1960, equipped with a natural gas-fired afterburner rated at 1.0 million British thermal units per hour, and a venturi scrubber, exhausted through Stack C1, capacity: 5.0 tons of metal per hour. This cupola serves as a back-up unit to the electric induction furnace.
- (c) One (1) electric induction furnace, identified as EU3, installed in November 2000, capacity: 1.6 tons of metal per hour, with emissions uncontrolled.
- (d) One (1) magnesium treatment process, installed in 2000, capacity: 1.5 tons of metal per hour, with emissions uncontrolled.
- (e) One (1) inoculation process, identified as inoculation process, installed in 1960, capacity: 1.6 tons of metal per hour, with emissions uncontrolled.

Note: The source operates either the magnesium treatment or inoculation process.

- (f) One (1) pouring/casting operation, identified as EU4, installed prior to 1979, with emissions uncontrolled, capacity: 1.6 tons of metal per hour and 9.6 tons of sand per hour.
- (g) One (1) castings cooling operation, identified as EU5A and EU5B, installed prior to 1979, capacity: 1.6 tons of metal per hour and 9.6 tons of sand per hour, consisting of: one (1) south area, identified as EU5A, controlled by Mold/Dump Baghouse (MDBH), and exhausted through Stack B4 and one (1) east area, identified as EU5B, controlled by Main Baghouse (MBH), and exhausted through Stack B3.
- (h) One (1) castings shakeout operation, identified as EU6, installed prior to 1979, equipped with a baghouse, identified as Main Baghouse (MBH), installed in 1991, exhausted through Stack B3, capacity: 1.6 tons of metal per hour and 9.6 tons of sand per hour.

- (i) One (1) cleaning and finishing operation, identified as EU8A and EU8B, installed prior to 1979, consisting of the following:
 - (1) One (1) grinding area (EU8A), consisting of two (2) single station and two (2) double station grinding machines, equipped with a baghouse, identified as Grinding Baghouse (GBH), exhausted through Stack B1, capacity: 1.6 tons of metal per hour.
 - (2) One (1) Wheelabrator shot blast unit (EU8B), equipped with a baghouse, identified as Wheelabrator Baghouse (WBH), exhausted through Stack B2, capacity: 1.6 tons of metal per hour.
- (j) One (1) sand handling operation, identified as EU9, installed prior to 1979, equipped with a baghouse, identified as Main Baghouse (MBH), installed in 1991, exhausted through Stack B3, capacity: 9.6 tons of sand per hour.

Note: Since the cupola is not currently in operation the charge handling, magnesium treatment, inoculation, pouring/casting, castings cooling, castings shakeout, grinding, wheelabrator shot blast unit, and sand handling operations are bottlenecked by the melt operations of the electric induction furnace. Therefore, these operations have been de-rated based on the maximum capacity of the induction furnace.
- (k) One (1) natural gas-fired oil core oven, identified as EU10, installed in 1946, exhausted through Stack O1, rated at 0.5 million British thermal units per hour, capacity: 0.75 tons of sand per hour.
- (l) One (1) core wash and mold parting, identified as EU12, installed prior to 1987, capacity: 0.85 tons of cores per hour, 0.178 pounds of core wash per hour, 0.226 pounds of thinner per hour, and 2.76 pounds of liquid parting per hour.
- (m) One (1) core making operation, consisting of fifteen (15) shell core machines, collectively identified as EU11, capacity: 0.75 tons of sand per hour, total, with emissions uncontrolled, consisting of the following:
 - (1) Three (3) U180 Shalco machines, installed in 1998, capacity: 200 pounds per hour, each.
 - (2) One (1) U150 Shalco machine, installed in 1998, capacity: 100 pounds per hour.
 - (3) Three (3) Dependable 100 machines, installed between 1960 and 1980, capacity: 100 pounds per hour, each.
 - (4) Five (5) Dependable 200 machines, installed between 1960 and 1980, capacity: 150 pounds per hour, each.
 - (5) One (1) Dependable 300 machines, installed between 1960 and 1980, capacity: 200 pounds per hour.
 - (6) Two (2) Redford HP43 machines, installed between 1960 and 1980, capacity: 200 pounds per hour, each.

This iron foundry is an affected source under the provisions of 40 CFR 63, Subpart ZZZZZ.

A.3 Insignificant Activities [326 IAC 2-7-1(21)][326 IAC 2-8-3(c)(3)(I)]

This stationary source also includes the following insignificant activities:

- (a) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) British thermal units per hour with a total rating of 1.20 million British thermal units per hour consisting of:
 - (1) Two (2) ladle heating torches, identified as EU13, installed prior to 1987, capacity: 0.60 million British thermal units per hour, total.
- (b) The following VOC and HAP storage containers: vessels storing lubricating oil, hydraulic oils, machining oils, and machining fluids.
- (c) Degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6. [326 IAC 8-3-2] [326 IAC 8-3-5]
- (d) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment. [326 IAC 6-3-2]
- (e) Replacement or repair of electrostatic precipitators, bags in baghouses and filters in other air filtration equipment.
- (f) Paved and unpaved roads and parking lots with public access.

A.4 FESOP Applicability [326 IAC 2-8-2]

This stationary source, otherwise required to have a Part 70 permit as described in 326 IAC 2-7-2(a), has applied to the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) to renew a Federally Enforceable State Operating Permit (FESOP).

SECTION B GENERAL CONDITIONS

B.1 Definitions [326 IAC 2-8-1]

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 2-8-4(2)][326 IAC 2-1.1-9.5][IC 13-15-3-6(a)]

- (a) This permit, F085-30084-00006, is issued for a fixed term of ten (10) 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, 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 2-8-6] [IC 13-17-12]

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 2-8-4(4)]

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 2-8-4(5)(D)]

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

B.7 Duty to Provide Information [326 IAC 2-8-4(5)(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. 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 2-8-3(d)][326 IAC 2-8-4(3)(C)(i)][326 IAC 2-8-5(1)]

- (a) A certification required by this permit meets the requirements of 326 IAC 2-8-5(a)(1) if:
- (1) it contains a certification by an "authorized individual", as defined by 326 IAC 2-1.1-1(1), and
 - (2) the certification states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
- (b) The Permittee may use the attached Certification Form, or its equivalent with each submittal requiring certification. One (1) certification may cover multiple forms in one (1) submittal.
- (c) An "authorized individual" is defined at 326 IAC 2-1.1-1(1).

B.9 Annual Compliance Certification [326 IAC 2-8-5(a)(1)]

- (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 and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

- (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 2-8-4(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 a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

B.10 Compliance Order Issuance [326 IAC 2-8-5(b)]

IDEM, OAQ may issue a compliance order to this Permittee upon discovery that this permit is in nonconformance with an applicable requirement. The order may require immediate compliance or contain a schedule for expeditious compliance with the applicable requirement.

B.11 Preventive Maintenance Plan [326 IAC 1-6-3][326 IAC 2-8-4(9)][326 IAC 2-8-5(a)(1)]

- (a) A Preventive Maintenance Plan meets the requirements of 326 IAC 1-6-3 if it includes, at a minimum:
- (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.

The Permittee shall implement the PMPs.

- (b) If required by specific condition(s) in Section D of this permit where no PMP was previously required, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) no later than ninety (90) days after issuance of this permit or ninety (90) days after initial start-up, whichever is later, 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.

If, due to circumstances beyond the Permittee's control, the PMPs cannot be prepared and maintained within the above time frame, the Permittee may extend the date an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

The PMP extension notification does not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

The Permittee shall implement the PMPs.

- (c) 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. The PMPs and their submittal do not require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (d) 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.12 Emergency Provisions [326 IAC 2-8-12]

- (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 except as provided in 326 IAC 2-8-12.
- (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, or Northern Regional Office 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 and Enforcement Branch), or
Telephone Number: 317-233-0178 (ask for Office of Air Quality, Compliance and Enforcement Branch)
Facsimile Number: 317-233-6865
Northern Regional Office phone: (574) 245-4870; fax: (574) 245-4877.

- (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 and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
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 2-8-4(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 a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (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 2-8-3(c)(6) 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 2-8 and any other applicable rules.
- (g) Operations may continue during an emergency only if the following conditions are met:
 - (1) 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.
 - (2) If an emergency situation causes a deviation from a health-based limit, the Permittee may not continue to operate the affected emissions facilities unless:
 - (A) The Permittee immediately takes all reasonable steps to correct the emergency situation and to minimize emissions; and
 - (B) Continued operation of the facilities is necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw material of substantial economic value.

Any operations shall continue no longer than the minimum time required to prevent the situations identified in (g)(2)(B) of this condition.

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

- (a) All terms and conditions of permits established prior to F085-30084-00006 and issued pursuant to permitting programs approved into the state implementation plan have been either:
 - (1) incorporated as originally stated,
 - (2) revised, or
 - (3) deleted.
- (b) All previous registrations and permits are superseded by this permit.

B.14 Termination of Right to Operate [326 IAC 2-8-9][326 IAC 2-8-3(h)]

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 2-8-3(h) and 326 IAC 2-8-9.

B.15 Permit Modification, Reopening, Revocation and Reissuance, or Termination
[326 IAC 2-8-4(5)(C)][326 IAC 2-8-7(a)][326 IAC 2-8-8]

- (a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a Federally Enforceable State Operating 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 2-8-4(5)(C)] The notification by the Permittee does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (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 2-8-8(a)]
- (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 2-8-8(b)]
- (d) The reopening and revision of this permit, under 326 IAC 2-8-8(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 2-8-8(c)]

B.16 Permit Renewal [326 IAC 2-8-3(h)]

- (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 2-8-3. 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 a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Request for renewal shall be submitted to:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
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 2-8 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, pursuant to 326 IAC 2-8-3(g), in writing by IDEM, OAQ any additional information identified as being needed to process the application.

B.17 Permit Amendment or Revision [326 IAC 2-8-10][326 IAC 2-8-11.1]

- (a) Permit amendments and revisions are governed by the requirements of 326 IAC 2-8-10 or 326 IAC 2-8-11.1 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
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

Any such application does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-10(b)(3)]

B.18 Operational Flexibility [326 IAC 2-8-15][326 IAC 2-8-11.1]

- (a) The Permittee may make any change or changes at the source that are described in 326 IAC 2-8-15(b) through (d) 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 approval required by 326 IAC 2-8-11.1 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
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
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 2-8-15(b) through (d). 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 2-8-15(b)(2), (c)(1), and (d).

- (b) Emission Trades [326 IAC 2-8-15(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 2-8-15(c).
- (c) Alternative Operating Scenarios [326 IAC 2-8-15(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 2-8-4(7). No prior notification of IDEM, OAQ, or U.S. EPA is required.
- (d) 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.19 Source Modification Requirement [326 IAC 2-8-11.1]

A modification, construction, or reconstruction is governed by the requirements of 326 IAC 2.

B.20 Inspection and Entry [326 IAC 2-8-5(a)(2)][IC 13-14-2-2][IC 13-17-3-2][IC 13-30-3-1]

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 FESOP 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, at reasonable times, 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, at reasonable times, 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.21 Transfer of Ownership or Operational Control [326 IAC 2-8-10]

- (a) The Permittee must comply with the requirements of 326 IAC 2-8-10 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
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

Any such application does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-10(b)(3)]

B.22 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-8-4(6)] [326 IAC 2-8-16][326 IAC 2-1.1-7]

- (a) The Permittee shall pay annual fees to IDEM, OAQ no later than 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) 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.23 Credible Evidence [326 IAC 2-8-4(3)][326 IAC 2-8-5][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 2-8-4(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 Overall Source Limit [326 IAC 2-8]

The purpose of this permit is to limit this source's potential to emit to less than major source levels for the purpose of Section 502(a) of the Clean Air Act.

(a) Pursuant to 326 IAC 2-8:

- (1) The potential to emit any regulated pollutant, except particulate matter (PM) and greenhouse gases (GHGs), from the entire source shall be limited to less than one hundred (100) tons per twelve (12) consecutive month period.
- (2) The potential to emit any individual hazardous air pollutant (HAP) from the entire source shall be limited to less than ten (10) tons per twelve (12) consecutive month period; and
- (3) The potential to emit any combination of HAPs from the entire source shall be limited to less than twenty-five (25) tons per twelve (12) consecutive month period.
- (4) The potential to emit greenhouse gases (GHGs) from the entire source shall be limited to less than one hundred thousand (100,000) tons of CO₂ equivalent emissions (CO₂e) per twelve (12) consecutive month period.

(b) Pursuant to 326 IAC 2-2 (PSD), potential to emit particulate matter (PM) from the entire source shall be limited to less than one hundred (100) tons per twelve (12) consecutive month period.

(c) This condition shall include all emission points at this source including those that are insignificant as defined in 326 IAC 2-7-1(21). The source shall be allowed to add insignificant activities not already listed in this permit, provided that the source's potential to emit does not exceed the above specified limits.

(d) Section D of this permit contains independently enforceable provisions to satisfy this requirement.

C.3 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-1 (Applicability) and 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.4 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.

C.5 Incineration [326 IAC 4-2] [326 IAC 9-1-2]

The Permittee shall not operate an incinerator except as provided in 326 IAC 4-2 or in this permit. The Permittee shall not operate a refuse incinerator or refuse burning equipment except as provided in 326 IAC 9-1-2 or in this permit.

C.6 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).

C.7 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.

C.8 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

Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
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 that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (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 Licensed 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 Licensed Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos.

Testing Requirements [326 IAC 2-8-4(3)]

C.9 Performance Testing [326 IAC 3-6]

- (a) For performance testing required by this permit, a test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
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 a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (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 a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (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.10 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 2-8-4][326 IAC 2-8-5(a)(1)]

C.11 Compliance Monitoring [326 IAC 2-8-4(3)][326 IAC 2-8-5(a)(1)]

Unless otherwise specified in this permit, for all monitoring requirements not already legally required, the Permittee shall be allowed up to ninety (90) days from the date of permit issuance or of initial start-up, whichever is later, to begin such monitoring. If due to circumstances beyond the Permittee's control, any monitoring equipment required by this permit cannot be installed and operated no later than ninety (90) days after permit issuance or the date of initial startup, whichever is later, 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 and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
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 a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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

C.12 Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-8-4(3)][326 IAC 2-8-5(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 2-8-4][326 IAC 2-8-5(a)(1)]

C.13 Risk Management Plan [326 IAC 2-8-4] [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.14 Response to Excursions or Exceedances [326 IAC 2-8-4] [326 IAC 2-8-5]

Upon detecting an excursion where a response step is required by the D Section or an exceedance of a limitation in this permit:

- (a) The Permittee shall take reasonable response steps to 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 excess emissions.
- (b) The response shall include minimizing the period of any startup, shutdown or malfunction. The response may include, but is not limited to, the following:
 - (1) initial inspection and evaluation;
 - (2) recording that operations returned or are returning 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 normal or usual manner of operation.
- (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; and/or
 - (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 record the reasonable response steps taken.

C.15 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-8-4][326 IAC 2-8-5]

- (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 submit a description of its response actions to IDEM, OAQ, no later than seventy-five (75) days after the date of the test.
- (b) A retest to demonstrate compliance shall be performed no later than one hundred eighty (180) days after the date of the test. Should the Permittee demonstrate to IDEM, OAQ that retesting in one hundred eighty (180) 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 a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)]

C.16 Emission Statement [326 IAC 2-6] [326 IAC 2-8-4(3)]

In accordance with the compliance schedule specified in 326 IAC 2-6-3(b)(1), starting in 2007 and every three (3) years thereafter, the Permittee shall submit by July 1 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
MC 61-50 IGCN 1003
Indianapolis, Indiana 46204-2251

The emission statement does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

C.17 General Record Keeping Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-5]

- (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, for all record keeping requirements not already legally required, the Permittee shall be allowed up to ninety (90) days from the date of permit issuance or the date of initial start-up, whichever is later, to begin such record keeping.

C.18 General Reporting Requirements [326 IAC 2-8-4(3)(C)] [326 IAC 2-1.1-11]

- (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 except that 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. This report shall be submitted not later than thirty (30) days after the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1). A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.

- (b) The address for report submittal is:
- Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
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) 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.

Stratospheric Ozone Protection

C.19 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 applicable standards for recycling and emissions reduction.

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description: Melting, pouring operations

- (a) One (1) charge handling operation, identified as EU1, installed prior to 1960, capacity: 1.6 tons of metal per hour, with emissions uncontrolled.
- (b) One (1) cupola, identified as EU2, installed prior to 1960, equipped with a natural gas-fired afterburner rated at 1.0 million British thermal units per hour, and a venturi scrubber, exhausted through Stack C1, capacity: 5.0 tons of metal per hour. This cupola serves as a back-up unit to the electric induction furnace.
- (c) One (1) electric induction furnace, identified as EU3, installed in November 2000, capacity: 1.6 tons of metal per hour, with emissions uncontrolled.
- (d) One (1) magnesium treatment process, installed in 2000, capacity: 1.5 tons of metal per hour, with emissions uncontrolled.
- (e) One (1) inoculation process, identified as inoculation process, installed in 1960, capacity: 1.6 tons of metal per hour, with emissions uncontrolled.

Note: The source operates either the magnesium treatment or inoculation process.

(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 2-8-4(1)]

D.1.1 Particulate Matter (PM) [326 IAC 2-2]

In order to render 326 IAC 2-2 not applicable, the Permittee shall comply with the following:

- (a) The total combined metal throughput to the one (1) cupola (EU2) and the one (1) electric induction furnace (EU3) shall not exceed 10,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (b) The PM emissions from the following units shall not exceed the emission limits listed in the table below:

Unit ID	Unit Description	PM Emission Limit (lbs/ton of metal melted)
EU1	Charge Handling	0.60
EU2	Cupola	1.86
EU3	Electric Induction Furnace	0.90
N/A	Magnesium Treatment Process	1.80
N/A	Inoculation Process	4.0

Compliance with these limits, combined with the potential to emit PM from all other emission units at this source, shall limit the source-wide total potential to emit of PM to less than 100 tons per 12 consecutive month period and shall render 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

D.1.2 FESOP Limits [326 IAC 2-8-4] [326 IAC 2-2]

Pursuant to 326 IAC 2-8-4, the Permittee shall comply with the following:

- (a) The total combined metal throughput to the one (1) cupola (EU2) and the one (1) electric induction furnace (EU3) shall not exceed 10,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (b) The PM10 and PM2.5 emissions from the following units shall not exceed the emission limits listed in the table below:

Unit ID	Unit Description	PM10 Emission Limit (lbs/ton of metal melted)	PM2.5 Emission Limit (lbs/ton of metal melted)
EU1	Charge Handling	0.36	0.36
EU2	Cupola	1.67	1.67
EU3	Electric Induction Furnace	0.86	0.86
N/A	Magnesium Treatment Process	1.80	1.80
N/A	Inoculation Process	4.0	4.0

- (c) The CO emission rate from the one (1) cupola (EU2) after control shall not exceed 10.87 pounds per ton of metal melted.

Compliance with these limits, combined with the potential to emit PM10, PM2.5, and CO from all other emission units at this source, shall limit the source-wide total potential to emit of PM10, PM2.5, and CO to less than 100 tons per 12 consecutive month period, each, and shall render 326 IAC 2-7 (Part 70 Permits) and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

D.1.3 Metallic HAP Minor Limits [326 IAC 2-8-4] [326 IAC 2-2]

Pursuant to 326 IAC 2-8-4, the Permittee shall comply with the following:

- (a) The emissions of lead from the cupola (EU2) shall not exceed 5.50 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (b) The emissions of manganese from the cupola (EU2) shall not exceed 2.14 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (c) The emissions of any combination of HAPs from the cupola (EU2) shall not exceed 7.85 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (d) The emissions of lead from the electric induction furnace (EU3) shall not exceed 0.50 ton per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (e) The emissions of manganese from the electric induction furnace (EU3) shall not exceed 0.14 ton per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (f) The emissions of any combination of HAPs from the electric induction furnace (EU3) shall not exceed 0.65 ton per twelve (12) consecutive month period, with compliance determined at the end of each month.

- (g) The Permittee shall operate the cupola afterburner such that the 15-minute average combustion zone temperature does not fall below 1,400 degrees Fahrenheit (°F). Periods when the cupola is off blast and for 15 minutes after going on blast from an off blast condition is not included in the 15-minute average.

Compliance with these limits, combined with the potential to emit HAPs from all other emission units at this source, shall limit the source-wide total potential to emit of any single HAP to less than ten (10) tons per 12 consecutive month period, total HAPs to less than twenty-five (25) tons per 12 consecutive month period, and shall render 326 IAC 2-7 (Part 70 Permits) and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

D.1.4 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2, particulate emissions from each of following operations shall not exceed the pound per hour limit listed in the table below:

Unit Description	Max. Throughput Rate (tons/hr)	Particulate Emission Limit (lbs/hr)
Charge Handling (EU1)	1.60	5.62
Electric Induction Furnace (EU3)	1.60	5.62
Magnesium Treatment	1.50	5.38
Inoculation Process	1.60	5.62

The above pounds per hour limitations were 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:

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

D.1.5 Particulate [326 IAC 11-1]

Pursuant to 326 IAC 11-1 (Existing Foundries), the particulate emission rate from the one (1) cupola (EU2) shall not exceed 16.65 pounds per hour when operating at a process weight rate of 5.0 tons per hour.

D.1.6 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

A Preventive Maintenance Plan is required for the one (1) cupola, the cupola charge door, and any control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

Compliance Determination Requirements

D.1.7 Emission Controls

In order to comply with Conditions D.1.1(b), D.1.2(b), D.1.2(c), D.1.3(a), D.1.3(b), D.1.3(c), and D.1.5, the afterburner and wet scrubber shall be in operation and control emissions from the one (1) cupola at all times that the one (1) cupola is in operation.

D.1.8 Testing Requirements [326 IAC 2-8-5(a)(1), (4)] [326 IAC 2-1.1-11]

No later than 180 days after the first day of restarting operation of the cupola, in order to demonstrate compliance with Conditions D.1.1(b), D.1.2(b), D.1.2(c), D.1.3(a), D.1.3(b), D.1.3(c), and D.1.5, the Permittee shall perform PM, PM10, PM2.5, CO, lead, manganese, and total metal HAPs testing utilizing methods as approved by the Commissioner. This testing shall be repeated at least once every two and one-half (2.5) years from the date of the most recent valid compliance demonstration. PM10 and PM2.5 includes filterable and condensable PM. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling

Procedures). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

D.1.9 Metal HAP Emissions

Compliance with the HAP limits in Condition D.1.3 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} = 1.10 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 electric induction furnace (tons/yr) = EF_{FPb} (lb/ton) x M_F (tons per twelve (12) consecutive month period) x (1 ton / 2000 pounds)

Where:

EF_{FPb} = 0.10 pound lead per ton of metal throughput
 M_F = total metal throughput to the electric induction furnace and (tons per twelve (12) consecutive month period)

- (c) 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} = 0.4278 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)

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

Where:

EF_{FMn} = 0.0279 pound manganese per ton of metal throughput
 M_F = total metal throughput to the electric induction furnace (tons per twelve (12) consecutive month period)

- (e) 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} = 1.57 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)

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

Where:

EF_{FTM} = 0.13 pound combined metal HAP per ton of metal throughput
 M_F = total metal throughput to the electric induction furnace (tons per twelve (12) consecutive month period)

- (g) On and after the date the lead and manganese stack test results are available for the cupola, the following shall apply:
- (1) The lead and manganese emission factors in pound per ton obtained from the 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.

Compliance Monitoring Requirements [326 IAC 2-8-4] [326 IAC 2-8-5(a)(1)]

D.1.10 Visible Emissions Notations

- (a) Visible emission notations of the cupola stack exhaust (Stack C1) and the cupola charge door shall be performed once per day during normal daylight operations. 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. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

D.1.11 Parametric Monitoring

From the date of issuance of this permit, F085-30084-00006, until the stack test results are available; the Permittee shall record the flow rate and the pressure drop across the scrubber at least once per day when the one (1) cupola is in operation. When for any one (1) reading, the pressure drop across the scrubber is less than the minimum of 16.0 inches of water, the Permittee shall take reasonable response. When for any one (1) reading, the flow rate for the scrubbing liquor is less than the minimum of 198 gallons of water per minute, the Permittee shall take reasonable response. On and after the date the stack test results are available the flow rate and the pressure drop shall be maintained within the normal range or minimum as observed during the compliant stack test. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pressure reading or a flow rate less than the above mentioned minimums is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

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

D.1.12 Scrubber Detection

In the event that a scrubber malfunction 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 shall be considered a deviation from this permit. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition.

D.1.13 Afterburner Temperature

- (a) A continuous monitoring system shall be calibrated, maintained, and operated on the afterburner for measuring operating temperature. For the purpose of this condition, continuously means no less than once per minute. The output of this system shall be recorded as an hourly average. From the date of issuance of this permit until the stack test results are available, the Permittee shall take appropriate response whenever the hourly average temperature of the afterburner is below 1400°F. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. An hourly average temperature that is below 1400°F is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.
- (b) The Permittee shall determine the hourly average temperature from the most recent valid stack test that demonstrates compliance with limits in Conditions D.1.1(b), D.1.2(b), D.1.2(c), D.1.3, and D.1.5.
- (c) On and after the date the stack test results are available, the Permittee shall take appropriate response whenever the hourly average temperature of the afterburner is below the hourly average temperature as observed during the most recent compliant stack test. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. An hourly average temperature that is below the hourly average temperature as observed during the compliant stack test is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)]

D.1.14 Record Keeping Requirements

- (a) To document the compliance status with Conditions D.1.1(a) and D.1.2(b), the Permittee shall maintain monthly records of the amount of metal melted in the one (1) cupola and the amount of metal melted in the one (1) electric induction furnace.
- (b) To document the compliance status with Condition D.1.3, the Permittee shall maintain records of the following:
 - (1) Tons of metal throughput to the cupola and electric induction furnace for each month;
 - (2) Metallic HAP stack test results for the cupola as applicable;
 - (3) Metallic HAP emission calculations performed using the equations in Condition D.1.9; and
 - (4) Metallic HAP emissions in tons per year.
- (c) To document the compliance status with Condition D.1.10, the Permittee shall maintain a once per day record of the visible emission notations of the cupola stack exhaust (Stack

- C1) and the cupola charge door. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation, (e.g. the process did not operate that day).
- (d) To document the compliance status with Condition D.1.11, the Permittee shall maintain once per day records of the pressure drop and flow rate. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of visible emission notation, (e.g. the process did not operate that day).
 - (e) To document compliance with Condition D.1.13, the Permittee shall maintain the continuous temperature records (reduced to an hourly average basis) for the afterburner and the hourly average temperature used to demonstrate compliance during the most recent compliant stack test.
 - (f) Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the recordkeeping requirements of this requirement.

D.1.15 Reporting Requirements

A quarterly summary of the information to document the compliance status with Conditions D.1.1(a), D.1.2(a), and D.1.3 shall be submitted not later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification that meet the requirements of 326 IAC 2-8-5(a)(1) by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description: Casting, cooling, sand and finishing

- (f) One (1) pouring/casting operation, identified as EU4, installed prior to 1979, with emissions uncontrolled, capacity: 1.6 tons of metal per hour and 9.6 tons of sand per hour.
- (g) One (1) castings cooling operation, identified as EU5A and EU5B, installed prior to 1979, capacity: 1.6 tons of metal per hour and 9.6 tons of sand per hour, consisting of: one (1) south area, identified as EU5A, controlled by Mold/Dump Baghouse (MDBH), and exhausted through Stack B4 and one (1) east area, identified as EU5B, controlled by Main Baghouse (MBH), and exhausted through Stack B3.
- (h) One (1) castings shakeout operation, identified as EU6, installed prior to 1979, equipped with a baghouse, identified as Main Baghouse (MBH), installed in 1991, exhausted through Stack B3, capacity: 1.6 tons of metal per hour and 9.6 tons of sand per hour.
- (i) One (1) cleaning and finishing operation, identified as EU8A and EU8B, installed prior to 1979, consisting of the following:
 - (1) One (1) grinding area (EU8A), consisting of two (2) single station and two (2) double station grinding machines, equipped with a baghouse, identified as Grinding Baghouse (GBH), exhausted through Stack B1, capacity: 1.6 tons of metal per hour.
 - (2) One (1) Wheelabrator shot blast unit (EU8B), equipped with a baghouse, identified as Wheelabrator Baghouse (WBH), exhausted through Stack B2, capacity: 1.6 tons of metal per hour.
- (j) One (1) sand handling operation, identified as EU9, installed prior to 1979, equipped with a baghouse, identified as Main Baghouse (MBH), installed in 1991, exhausted through Stack B3, capacity: 9.6 tons of sand per hour.

Note: Since the cupola is not currently in operation the charge handling, magnesium treatment, inoculation, pouring/casting, castings cooling, castings shakeout, grinding, wheelabrator shot blast unit, and sand handling operations are bottlenecked by the melt operations of the electric induction furnace. Therefore, these operations have been de-rated based on the maximum capacity of the induction furnace.

(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 2-8-4(1)]

D.2.1 Particulate Matter (PM) [326 IAC 2-2]

In order to render 326 IAC 2-2 not applicable, the Permittee shall comply with the following:

- (a) The throughput of metal to the pouring/casting operation (EU4), grinding area (EU8A), and wheelabrator shot blast unit (EU8B), shall not exceed 10,000 tons per twelve (12) consecutive month period, each, with compliance determined at the end of each month.

- (b) The PM emissions from the following units shall not exceed the emission limits listed in the tables below:

Unit ID	Unit Description	Control ID	Stack ID	PM Emission Limit (lbs/ton of metal)
EU4	Pouring/Casting Operation	N/A	N/A	4.20
EU8A	Grinding Area	GBH	B1	0.51
EU8B	Wheelabrator Shot Blast	WBH	B2	0.51

Unit ID	Unit Description	Control ID	Stack ID	PM Emission Limit (lbs/hr)
EU5A	South Castings Cooling Operation	Baghouse MDBH	B4	1.24
EU5B	East Castings Cooling Operation	Baghouse MBH	B3	4.32
EU6	Castings Shakeout Operation			
EU9	Sand Handling Operation			

Compliance with these limits, combined with the potential to emit PM from all other emission units at this source, shall limit the source-wide total potential to emit of PM to less than 250 tons per 12 consecutive month period and shall render 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

D.2.2 FESOP Limits [326 IAC 2-8-4] [326 IAC 2-2]

Pursuant to 326 IAC 2-8-4, the Permittee shall comply with the following:

- (a) The throughput of metal to the pouring/casting operation (EU4), grinding area (EU8A), and wheelabrator shot blast unit (EU8B), shall not exceed 10,000 tons per twelve (12) consecutive month period, each, with compliance determined at the end of each month.
- (b) The PM10 and PM2.5 emissions from the following units shall not exceed the emission limits listed in the tables below:

Unit ID	Unit Description	Control ID	Stack ID	PM10 Emission Limit (lbs/ton of metal)	PM2.5 Emission Limit (lbs/ton of metal)
EU4	Pouring/Casting Operation	N/A	N/A	2.06	2.06
EU8A	Grinding Area	GBH	B1	0.051	0.051
EU8B	Wheelabrator Shot Blast Unit	WBH	B2	0.051	0.051

Unit ID	Unit Description	Control ID	Stack ID	PM10 Emission Limit (lbs/hr)	PM2.5 Emission Limit (lbs/hr)
EU5A	South Castings Cooling Operation	Baghouse MDBH	B4	0.59	0.59
EU5B	East Castings Cooling Operation	Baghouse MBH	B3	1.24	1.24
EU6	Castings Shakeout Operation				
EU9	Sand Handling Operation				

- (c) The combined CO emissions from the pouring/casting (EU4), castings cooling (EU5A and EU5B), and castings shakeout (EU6) operations shall not exceed 6.0 pounds per ton of metal.

Compliance with these limits, combined with the potential to emit PM10, PM2.5, and CO from all other emission units at this source, shall limit the source-wide total potential to emit of PM10, PM2.5, and CO to less than 100 tons per 12 consecutive month period, each, and shall render 326 IAC 2-7 (Part 70 Permits) and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

D.2.3 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2, particulate emissions from each of following operations shall not exceed the pound per hour limit listed in the table below:

Unit Description	Max. Throughput Rate (tons/hr)	Particulate Emission Limit (lbs/hr)
Pouring/Casting (EU4)	1.60	5.62
South Castings Cooling (EU5A)	1.60	5.62
East Castings Cooling (EU5B)	1.60	5.62
Casting Shakeout (EU6)	1.60	5.62
Grinding (EU8A)	1.60	5.62
Wheelabrator Shot Blaster (EU8B)	1.60	5.62
Sand Handling (EU9)	9.6	18.66

The above pounds per hour limitations were 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:

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

D.2.4 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

A Preventive Maintenance Plan is required for these facilities and any control device. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

Compliance Determination Requirements

D.2.5 Particulate Control

- (a) In order to comply with Conditions D.2.1(b), D.2.2(b), and D.2.3, the baghouses for particulate control shall be in operation and control emissions from the emission units at all times that the emission units are in operation as listed in the table below, when these units are in operation:

Unit ID	Unit Description	Control ID
EU5A	South Castings Cooling Operation	Baghouse MDBH
EU5B	East Castings Cooling Operation	Baghouse MBH
EU6	Castings Shakeout Operation	
EU9	Sand Handling Operation	
EU8A	Grinding Area	Baghouse GBH
EU8B	Wheelabrator Shot Blast Unit	Baghouse WBH

- (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.2.6 Testing Requirements [326 IAC 2-8-5(a)(1), (4)] [326 IAC 2-1.1-11]

In order to demonstrate compliance with Conditions D.2.1(b), D.2.2(b), and D.2.3, the Permittee shall perform PM, PM10, and PM2.5 testing of the east castings cooling operation (EU5B), the castings shakeout process (EU6) and the sand handling process (EU9) not later than five (5) years from the date of the most recent valid compliance demonstration. This testing shall be conducted utilizing methods approved by the Commissioner and shall be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee’s obligation with regard to the performance testing required by this condition. PM10 and PM2.5 includes filterable and condensable PM.

Compliance Monitoring Requirements [326 IAC 2-8-4] [326 IAC 2-8-5(a)(1)]

D.2.7 Visible Emissions Notations

- (a) Visible emission notations of the castings cooling operation, the castings shakeout operation, the cleaning and finishing operations, and the sand handling system stack exhausts (Stacks B1, B2, B3 and B4) shall be performed once per day during normal daylight operations. 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. Section C - Response to Excursions or Exceedances contains the Permittee’s obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

D.2.8 Parametric Monitoring

The Permittee shall record the pressure drop across the Main Baghouse (MBH), Mold/Dump Baghouse (MDBH), Grinding Baghouse (GBH), and Wheelabrator Baghouse (WBH) used in conjunction with castings cooling operation (EU5A and EU5B), castings shakeout operation (EU6), cleaning and finishing operations (EU8A and EU8B), and the sand handling operation (EU9) at least once per day when any of the processes are in operation. When for any one reading, the pressure drop across each baghouse is outside the normal range of 1.0 and 8.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response. Section C – Response to Excursions and Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside of the above mentioned range is not a deviation from this permit. Failure to take response steps 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 or replaced at least once every six (6) months.

D.2.9 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 or dust traces.

Record Keeping and Reporting Requirement [326 IAC 2-8-4(3)] [326 IAC 2-8-16]

D.2.10 Record Keeping Requirements

- (a) To document the compliance status with Conditions D.2.1(a) and D.2.2(a), the Permittee shall maintain monthly records of the amount of metal processed in the pouring/casting operation (EU4), grinding area (EU8A), and wheelabrator shot blast unit (EU8B).
- (b) To document the compliance status with Condition D.2.7, the Permittee shall maintain daily records of visible emission notations for the castings cooling operation, the castings shakeout operation, the cleaning and finishing operations, and the sand handling system stack exhausts (Stacks B1, B2, B3 and B4) during normal daylight operations. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation, (e.g. the process did not operate that day).
- (c) To document compliance with Condition D.2.8, the Permittee shall maintain once per day records of the pressure drop. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading, (e.g. the process did not operate that day).
- (d) Section C - General Record Keeping Requirements contains the Permittee's obligation with regard to the recordkeeping requirements of this requirement.

D.2.11 Reporting Requirements

A quarterly summary of the information to document the compliance status with Conditions D.2.1(a) and D.2.2(a) shall be submitted not later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification that meet the requirements of 326 IAC 2-8-5(a)(1) by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

SECTION D.3 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description: Coremaking operations

(i) One (1) natural gas-fired oil core oven, identified as EU10, installed in 1946, exhausted through Stack O1, rated at 0.5 million British thermal units per hour, capacity: 0.75 tons of sand per hour.

(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 2-8-4(1)]

D.3.1 Particulate [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 oil core oven (EU10), shall not exceed 3.38 pounds per hour when operating at a process weight rate of 0.75 tons per hour.

This pound 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:

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

SECTION D.4 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description: Insignificant Activities

- (c) Degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6. [326 IAC 8-3-2] [326 IAC 8-3-5]

(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 2-8-4(1)]

D.4.1 Volatile Organic Compounds (VOC) [326 IAC 8-3-2]

Pursuant to 326 IAC 8-3-2 (Cold Cleaner Operations) for cold cleaning operations constructed after January 1, 1980, the Permittee shall:

- (a) Equip the cleaner with a cover;
- (b) Equip the cleaner with a facility for draining cleaned parts;
- (c) Close the degreaser cover whenever parts are not being handled in the cleaner;
- (d) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;
- (e) Provide a permanent, conspicuous label summarizing the operation requirements;
- (f) Store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere.

D.4.2 Volatile Organic Compounds (VOC) [326 IAC 8-3-5]

(a) Pursuant to 326 IAC 8-3-5(a) (Cold Cleaner Degreaser Operation and Control), for a cold cleaner degreaser without remote solvent reservoirs constructed after July 1, 1990, the Permittee shall ensure that the following requirements are met:

- (1) Equip the degreaser with a cover. The cover must be designed so that it can be easily operated with one (1) hand if:
 - (A) The solvent volatility is greater than two (2) kiloPascals (fifteen (15) millimeters of mercury or three-tenths (0.3) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F));
 - (B) The solvent is agitated; or
 - (C) The solvent is heated.
- (2) Equip the degreaser with a facility for draining cleaned articles. If the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F)), then the drainage facility must be internal such that articles are enclosed under the cover while draining. The drainage facility may be external for applications where an internal type cannot fit into the cleaning system.
- (3) Provide a permanent, conspicuous label which lists the operating requirements outlined in subsection (b).

- (4) The solvent spray, if used, must be a solid, fluid stream and shall be applied at a pressure which does not cause excessive splashing.
 - (5) Equip the degreaser with one (1) of the following control devices if the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F)), or if the solvent is heated to a temperature greater than forty-eight and nine-tenths degrees Celsius (48.9°C) (one hundred twenty degrees Fahrenheit (120°F)):
 - (A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.
 - (B) A water cover when solvent is used is insoluble in, and heavier than, water.
 - (C) Other systems of demonstrated equivalent control such as a refrigerated chiller or carbon adsorption. Such systems shall be submitted to the U.S. EPA as a SIP revision.
- (b) Pursuant to 326 IAC 8-3-5(b) (Cold Cleaner Degreaser Operation and Control), for a cold cleaning facility construction of which commenced after July 1, 1990, the Permittee shall ensure that the following operating requirements are met:
- (1) Close the cover whenever articles are not being handled in the degreaser.
 - (2) Drain cleaned articles for at least fifteen (15) seconds or until dripping ceases.
 - (3) Store waste solvent only in covered containers and prohibit the disposal or transfer of waste solvent in any manner in which greater than twenty percent (20%) of the waste solvent by weight could evaporate.

SECTION E.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (a) One (1) charge handling operation, identified as EU1, installed prior to 1960, capacity: 1.6 tons of metal per hour, with emissions uncontrolled.
- (b) One (1) cupola, identified as EU2, installed prior to 1960, equipped with a natural gas-fired afterburner rated at 1.0 million British thermal units per hour, and a venturi scrubber, exhausted through Stack C1, capacity: 5.0 tons of metal per hour. This cupola serves as a back-up unit to the electric induction furnace.
- (c) One (1) electric induction furnace, identified as EU3, installed in November 2000, capacity: 1.6 tons of metal per hour, with emissions uncontrolled.
- (d) One (1) magnesium treatment process, installed in 2000, capacity: 1.5 tons of metal per hour, with emissions uncontrolled.
- (e) One (1) inoculation process, identified as inoculation process, installed in 1960, capacity: 1.6 tons of metal per hour, with emissions uncontrolled.

Note: The source operates either the magnesium treatment or inoculation process.

- (f) One (1) pouring/casting operation, identified as EU4, installed prior to 1979, with emissions uncontrolled, capacity: 1.6 tons of metal per hour and 9.6 tons of sand per hour.
- (g) One (1) castings cooling operation, identified as EU5A and EU5B, installed prior to 1979, capacity: 1.6 tons of metal per hour and 9.6 tons of sand per hour, consisting of: one (1) south area, identified as EU5A, controlled by Mold/Dump Baghouse (MDBH), and exhausted through Stack B4 and one (1) east area, identified as EU5B, controlled by Main Baghouse (MBH), and exhausted through Stack B3.
- (h) One (1) castings shakeout operation, identified as EU6, installed prior to 1979, equipped with a baghouse, identified as Main Baghouse (MBH), installed in 1991, exhausted through Stack B3, capacity: 1.6 tons of metal per hour and 9.6 tons of sand per hour.
- (i) One (1) cleaning and finishing operation, identified as EU8A and EU8B, installed prior to 1979, consisting of the following:
 - (1) One (1) grinding area (EU8A), consisting of two (2) single station and two (2) double station grinding machines, equipped with a baghouse, identified as Grinding Baghouse (GBH), exhausted through Stack B1, capacity: 1.6 tons of metal per hour.
 - (2) One (1) Wheelabrator shot blast unit (EU8B), equipped with a baghouse, identified as Wheelabrator Baghouse (WBH), exhausted through Stack B2, capacity: 1.6 tons of metal per hour.
- (j) One (1) sand handling operation, identified as EU9, installed prior to 1979, equipped with a baghouse, identified as Main Baghouse (MBH), installed in 1991, exhausted through Stack B3, capacity: 9.6 tons of sand per hour.

Note: Since the cupola is not currently in operation the charge handling, magnesium treatment, inoculation, pouring/casting, castings cooling, castings shakeout, grinding, wheelabrator shot blast unit, and sand handling operations are bottlenecked by the melt operations of the electric induction furnace. Therefore, these emissions have been de-rated based on the maximum capacity of the induction furnace.

- (k) One (1) natural gas-fired oil core oven, identified as EU10, installed in 1946, exhausted through Stack O1, rated at 0.5 million British thermal units per hour, capacity: 0.75 tons of sand per hour.
- (l) One (1) core wash and mold parting, identified as EU12, installed prior to 1987, capacity: 0.85 tons of cores per hour, 0.178 pounds of core wash per hour, 0.226 pounds of thinner per hour, and 2.76 pounds of liquid parting per hour.
- (m) One (1) core making operation, consisting of fifteen (15) shell core machines, collectively identified as EU11, capacity: 0.75 tons of sand per hour, total, with emissions uncontrolled, consisting of the following:
 - (1) Three (3) U180 Shalco machines, installed in 1998, capacity: 200 pounds per hour, each.
 - (2) One (1) U150 Shalco machine, installed in 1998, capacity: 100 pounds per hour.
 - (3) Three (3) Dependable 100 machines, installed between 1960 and 1980, capacity: 100 pounds per hour, each.
 - (4) Five (5) Dependable 200 machines, installed between 1960 and 1980, capacity: 150 pounds per hour, each.
 - (5) One (1) Dependable 300 machines, installed between 1960 and 1980, capacity: 200 pounds per hour.
 - (6) Two (2) Redford HP43 machines, installed between 1960 and 1980, capacity: 200 pounds per hour, each.

This iron foundry is an affected source under the provisions of 40 CFR 63, Subpart ZZZZZ.

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

National Emission Standards for Hazardous Air Pollutants (NESHAP) Requirements

E.1.1 General Provisions Relating to NESHAP [40 CFR Part 63, Subpart A] [326 IAC 20-1]

Pursuant to 40 CFR 63, the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 20-1, except as otherwise specified in 40 CFR 63, Subpart ZZZZZ.

E.1.2 National Emission Standards for Hazardous Air Pollutants for Iron and Steel Foundries Area Sources [40 CFR Part 63, Subpart ZZZZZ]

The Permittee, which owns and operates an gray and ductile iron foundry that is an area source of hazardous air pollutant (HAP) emissions shall comply with the following provisions of 40 CFR Part 63, Subpart ZZZZZ (included as Attachment A of this permit):

- (a) 40 CFR 63.10880(a), (b)(1), (c), (e), and (f)
- (b) 40 CFR 63.10881(a)(1) and (2) and (d)
- (c) 40 CFR 63.10885
- (d) 40 CFR 63.10886
- (e) 40 CFR 63.10890
- (f) 40 CFR 63.10899
- (g) 40 CFR 63.10905
- (h) 40 CFR 63.10906

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH**

**FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
CERTIFICATION**

Source Name: Warsaw Foundry Company, Inc.
Source Address: 1212 North Detroit Street, Warsaw, Indiana 46581
FESOP Permit No.: F085-30084-00006

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:

Date:

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
Phone: (317) 233-0178
Fax: (317) 233-6865**

**FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
EMERGENCY OCCURRENCE REPORT**

Source Name: Warsaw Foundry Company, Inc.
Source Address: 1212 North Detroit Street, Warsaw, Indiana 46581
FESOP Permit No.: F085-30084-00006

This form consists of 2 pages

Page 1 of 2

- | |
|--|
| <p><input type="checkbox"/> This is an emergency as defined in 326 IAC 2-7-1(12)</p> <ul style="list-style-type: none">• 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• 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

Page 2 of 2

Date/Time Emergency started:
Date/Time Emergency was corrected:
Was the facility being properly operated at the time of the emergency? Y N Describe:
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: _____

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH**

FESOP Quarterly Report

Source Name: Warsaw Foundry Company, Inc.
Source Address: 1212 North Detroit Street, Warsaw, Indiana 46581
FESOP Permit No.: F085-30084-00006
Facility: The one (1) cupola and the one (1) electric induction furnace
Parameter: Total amount of metal melted
Limit: The total combined metal throughput to the one (1) cupola and the one (1) electric induction furnace shall not exceed 10,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

YEAR: _____

Month	Tons of metal melted	Tons of metal melted	Tons of metal melted
	This Month	Previous 11 Months	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: _____

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF AIR QUALITY
 COMPLIANCE AND ENFORCEMENT BRANCH**

FESOP Quarterly Report

Source Name: Warsaw Foundry Company, Inc.
 Source Address: 1212 North Detroit Street, Warsaw, Indiana 46581
 FESOP Permit No.: F085-30084-00006
 Facility: One (1) cupola
 Parameter: Lead, Manganese, and Total HAP Emissions
 Limit: The emissions of lead from the cupola (EU2) before control shall not exceed 5.50 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. The emissions of manganese from the cupola (EU2) shall not exceed 2.14 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. The total combination of HAPs emitted from the cupola (EU2) shall not exceed 7.85 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;

YEAR: _____

Month	Pollutant	Tons Emitted	Tons Emitted	Tons Emitted
		This Month	Previous 11 Months	12 Month Total
Month 1	Lead			
	Manganese			
	Total HAPs			
Month 2	Lead			
	Manganese			
	Total HAPs			
Month 3	Lead			
	Manganese			
	Total HAPs			

- No deviation occurred in this quarter.
- Deviation/s occurred in this quarter.
 Deviation has been reported on: _____

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

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF AIR QUALITY
 COMPLIANCE AND ENFORCEMENT BRANCH**

FESOP Quarterly Report

Source Name: Warsaw Foundry Company, Inc.
 Source Address: 1212 North Detroit Street, Warsaw, Indiana 46581
 FESOP Permit No.: F085-30084-00006
 Facility: One (1) electric induction furnace
 Parameter: Lead, Manganese, and Total HAP Emissions
 Limit: The emissions of lead from the electric induction furnace (EU3) shall not exceed 0.50 ton per twelve (12) consecutive month period, with compliance determined at the end of each month. The emissions of manganese from the electric induction furnace (EU3) shall not exceed 0.14 ton per twelve (12) consecutive month period, with compliance determined at the end of each month. The total combination of HAPs emitted from the electric induction furnace (EU3) shall not exceed 0.65 ton per twelve (12) consecutive month period, with compliance determined at the end of each month.

YEAR: _____

Month	Pollutant	Tons Emitted	Tons Emitted	Tons Emitted
		This Month	Previous 11 Months	12 Month Total
Month 1	Lead			
	Manganese			
	Total HAPs			
Month 2	Lead			
	Manganese			
	Total HAPs			
Month 3	Lead			
	Manganese			
	Total HAPs			

- No deviation occurred in this quarter.
- Deviation/s occurred in this quarter.
 Deviation has been reported on: _____

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

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF AIR QUALITY
 COMPLIANCE AND ENFORCEMENT BRANCH**

FESOP Quarterly Report

Source Name: Warsaw Foundry Company, Inc.
 Source Address: 1212 North Detroit Street, Warsaw, Indiana 46581
 FESOP Permit No.: F085-30084-00006
 Facility: One (1) pouring/casting operation and one (1) cleaning and finishing operation
 Parameter: Total metal throughput
 Limit: The throughput of metal to the pouring/casting operation (EU4), grinding area (EU8A), and wheelabrator shot blast unit (EU8B), shall not exceed 10,000 tons per twelve (12) consecutive month period, each, with compliance determined at the end of each month.

YEAR: _____

Month	Process	Tons of metal	Tons of metal	Tons of metal
		This Month	Previous 11 Months	12 Month Total
Month 1	Pouring/Casting Operation			
	Grinding Area			
	Wheelabrator Shot Blast Unit			
Month 2	Pouring/Casting Operation			
	Grinding Area			
	Wheelabrator Shot Blast Unit			
Month 3	Pouring/Casting Operation			
	Grinding Area			
	Wheelabrator Shot Blast Unit			

- No deviation occurred in this quarter.
- Deviation/s occurred in this quarter.
 Deviation has been reported on: _____

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

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF AIR QUALITY
 COMPLIANCE AND ENFORCEMENT BRANCH
 FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
 QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT**

Source Name: Warsaw Foundry Company, Inc.
 Source Address: 1212 North Detroit Street, Warsaw, Indiana 46581
 FESOP Permit No.: F085-30084-00006

Months: _____ **to** _____ **Year:** _____

<p>This report shall be submitted quarterly based on a calendar year. Any deviation from the requirements of this permit, 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: _____

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

Attachment A

Title 40: Protection of Environment

Subpart ZZZZZ—National Emission Standards for Hazardous Air Pollutants for Iron and Steel Foundries Area Sources

Source: 73 FR 252, Jan. 2, 2008, unless otherwise noted.

Applicability and Compliance Dates

§ 63.10880 Am I subject to this subpart?

(a) You are subject to this subpart if you own or operate an iron and steel foundry that is an area source of hazardous air pollutant (HAP) emissions.

(b) This subpart applies to each new or existing affected source. The affected source is each iron and steel foundry.

(1) An affected source is existing if you commenced construction or reconstruction of the affected source before September 17, 2007.

(2) An affected source is new if you commenced construction or reconstruction of the affected source on or after September 17, 2007. If an affected source is not new pursuant to the preceding sentence, it is not new as a result of a change in its compliance obligations pursuant to §63.10881(d).

(c) On and after January 2, 2008, if your iron and steel foundry becomes a major source as defined in §63.2, you must meet the requirements of 40 CFR part 63, subpart EEEEE.

(d) This subpart does not apply to research and development facilities, as defined in section 112(c)(7) of the Clean Air Act.

(e) You are exempt from the obligation to obtain a permit under 40 CFR part 70 or 40 CFR part 71, provided you are not otherwise required by law to obtain a permit under 40 CFR 70.3(a) or 40 CFR 71.3(a). Notwithstanding the previous sentence, you must continue to comply with the provisions of this subpart.

(f) If you own or operate an existing affected source, you must determine the initial applicability of the requirements of this subpart to a small foundry or a large foundry based on your facility's metal melt production for calendar year 2008. If the metal melt production for calendar year 2008 is 20,000 tons or less, your area source is a small foundry. If your metal melt production for calendar year 2008 is greater than 20,000 tons, your area source is a large foundry. You must submit a written notification to the Administrator that identifies your area source as a small foundry or a large foundry no later than January 2, 2009.

(g) If you own or operate a new affected source, you must determine the initial applicability of the requirements of this subpart to a small foundry or a large foundry based on your facility's annual metal melting capacity at startup. If the annual metal melting capacity is 10,000 tons or less, your area source is a small foundry. If the annual metal melting capacity is greater than 10,000 tons, your area source is a large foundry. You must submit a written notification to the Administrator that identifies your area source as a small foundry or a large foundry no later than 120 days after startup.

§ 63.10881 What are my compliance dates?

(a) If you own or operate an existing affected source, you must achieve compliance with the applicable provisions of this subpart by the dates in paragraphs (a)(1) through (3) of this section.

(1) Not later than January 2, 2009 for the pollution prevention management practices for metallic scrap in §63.10885(a) and binder formulations in §63.10886.

(2) Not later than January 4, 2010 for the pollution prevention management practices for mercury in §63.10885(b).

(3) Except as provided in paragraph (d) of this section, not later than 2 years after the date of your large foundry's notification of the initial determination required in §63.10880(f) for the standards and management practices in §63.10895.

(b) If you have a new affected source for which the initial startup date is on or before January 2, 2008, you must achieve compliance with the provisions of this subpart not later than January 2, 2008.

(c) If you own or operate a new affected source for which the initial startup date is after January 2, 2008, you must achieve compliance with the provisions of this subpart upon startup of your affected source.

(d) Following the initial determination for an existing affected source required in §63.10880(f),

(1) Beginning January 1, 2010, if the annual metal melt production of your small foundry exceeds 20,000 tons during the preceding calendar year, you must submit a notification of foundry reclassification to the Administrator within 30 days and comply with the requirements in paragraphs (d)(1)(i) or (ii) of this section, as applicable.

(i) If your small foundry has never been classified as a large foundry, you must comply with the requirements for a large foundry no later than 2 years after the date of your foundry's notification that the annual metal melt production exceeded 20,000 tons.

(ii) If your small foundry had previously been classified as a large foundry, you must comply with the requirements for a large foundry no later than the date of your foundry's most recent notification that the annual metal melt production exceeded 20,000 tons.

(2) If your facility is initially classified as a large foundry (or your small foundry subsequently becomes a large foundry), you must comply with the requirements for a large foundry for at least 3 years before reclassifying your facility as a small foundry, even if your annual metal melt production falls below 20,000 tons. After 3 years, you may reclassify your facility as a small foundry provided your annual metal melt production for the preceding calendar year was 20,000 tons or less. If you reclassify your large foundry as a small foundry, you must submit a notification of reclassification to the Administrator within 30 days and comply with the requirements for a small foundry no later than the date you notify the Administrator of the reclassification. If the annual metal melt production exceeds 20,000 tons during a subsequent year, you must submit a notification of reclassification to the Administrator within 30 days and comply with the requirements for a large foundry no later than the date you notify the Administrator of the reclassification.

(e) Following the initial determination for a new affected source required in §63.10880(g),

(1) If you increase the annual metal melt capacity of your small foundry to exceed 10,000 tons, you must submit a notification of reclassification to the Administrator within 30 days and comply with the requirements for a large foundry no later than the startup date for the new equipment, if applicable, or the date of issuance for your revised State or Federal operating permit.

(2) If your facility is initially classified as a large foundry (or your small foundry subsequently becomes a large foundry), you must comply with the requirements for a large foundry for at least 3 years before reclassifying your facility as a small foundry. After 3 years, you may reclassify your facility as a small foundry provided your most recent annual metal melt capacity is 10,000 tons or less. If you reclassify your large foundry as a small foundry, you must notify the Administrator within 30 days and comply with the requirements for a small foundry no later than the date

your melting equipment was removed or taken out of service, if applicable, or the date of issuance for your revised State or Federal operating permit.

Pollution Prevention Management Practices for New and Existing Affected Sources

§ 63.10885 What are my management practices for metallic scrap and mercury switches?

(a) *Metallic scrap management program.* For each segregated metallic scrap storage area, bin or pile, you must comply with the materials acquisition requirements in paragraph (a)(1) or (2) of this section. You must keep a copy of the material specifications onsite and readily available to all personnel with material acquisition duties, and provide a copy to each of your scrap providers. You may have certain scrap subject to paragraph (a)(1) of this section and other scrap subject to paragraph (a)(2) of this section at your facility provided the metallic scrap remains segregated until charge make-up.

(1) *Restricted metallic scrap.* You must prepare and operate at all times according to written material specifications for the purchase and use of only metal ingots, pig iron, slitter, or other materials that do not include post-consumer automotive body scrap, post-consumer engine blocks, post-consumer oil filters, oily turnings, lead components, chlorinated plastics, or free liquids. For the purpose of this subpart, "free liquids" is defined as material that fails the paint filter test by EPA Method 9095B, "Paint Filter Liquids Test" (revision 2), November 2004 (incorporated by reference—see §63.14). The requirements for no free liquids do not apply if the owner or operator can demonstrate that the free liquid is water that resulted from scrap exposure to rain.

(2) *General iron and steel scrap.* You must prepare and operate at all times according to written material specifications for the purchase and use of only iron and steel scrap that has been depleted (to the extent practicable) of organics and HAP metals in the charge materials used by the iron and steel foundry. The materials specifications must include at minimum the information specified in paragraph (a)(2)(i) or (ii) of this section.

(i) Except as provided in paragraph (a)(2)(ii) of this section, specifications for metallic scrap materials charged to a scrap preheater or metal melting furnace to be depleted (to the extent practicable) of the presence of used oil filters, chlorinated plastic parts, accessible lead-containing components (such as batteries and wheel weights), and a program to ensure the scrap materials are drained of free liquids.

(ii) For scrap charged to a cupola metal melting furnace that is equipped with an afterburner, specifications for metallic scrap materials to be depleted (to the extent practicable) of the presence of chlorinated plastics, accessible lead-containing components (such as batteries and wheel weights), and a program to ensure the scrap materials are drained of free liquids.

(b) *Mercury requirements.* For scrap containing motor vehicle scrap, you must procure the scrap pursuant to one of the compliance options in paragraphs (b)(1), (2), or (3) of this section for each scrap provider, contract, or shipment. For scrap that does not contain motor vehicle scrap, you must procure the scrap pursuant to the requirements in paragraph (b)(4) of this section for each scrap provider, contract, or shipment. You may have one scrap provider, contract, or shipment subject to one compliance provision and others subject to another compliance provision.

(1) *Site-specific plan for mercury switches.* You must comply with the requirements in paragraphs (b)(1)(i) through (v) of this section.

(i) You must include a requirement in your scrap specifications for removal of mercury switches from vehicle bodies used to make the scrap.

(ii) You must prepare and operate according to a plan demonstrating how your facility will implement the scrap specification in paragraph (b)(1)(i) of this section for removal of mercury switches. You must submit the plan to the Administrator for approval. You must operate according to the plan as submitted during the review and approval process, operate according to the approved plan at all times after approval, and address any deficiency identified by the Administrator or delegated authority within 60 days following disapproval of a plan. You may request approval to revise the plan and may operate according to the revised plan unless and until the revision is disapproved by the Administrator or delegated authority. The Administrator or delegated authority may change the approval status of the plan upon 90-days written notice based upon the semiannual report or other information. The plan must include:

(A) A means of communicating to scrap purchasers and scrap providers the need to obtain or provide motor vehicle scrap from which mercury switches have been removed and the need to ensure the proper management of the mercury switches removed from the scrap as required under the rules implementing subtitle C of the Resource Conservation and Recovery Act (RCRA) (40 CFR parts 261 through 265 and 268). The plan must include documentation of direction to appropriate staff to communicate to suppliers throughout the scrap supply chain the need to promote the removal of mercury switches from end-of-life vehicles. Upon the request of the Administrator or delegated authority, you must provide examples of materials that are used for outreach to suppliers, such as letters, contract language, policies for purchasing agents, and scrap inspection protocols;

(B) Provisions for obtaining assurance from scrap providers motor vehicle scrap provided to the facility meet the scrap specification;

(C) Provisions for periodic inspections or other means of corroboration to ensure that scrap providers and dismantlers are implementing appropriate steps to minimize the presence of mercury switches in motor vehicle scrap and that the mercury switches removed are being properly managed, including the minimum frequency such means of corroboration will be implemented; and

(D) Provisions for taking corrective actions (i.e., actions resulting in scrap providers removing a higher percentage of mercury switches or other mercury-containing components) if needed, based on the results of procedures implemented in paragraph (b)(1)(ii)(C) of this section).

(iii) You must require each motor vehicle scrap provider to provide an estimate of the number of mercury switches removed from motor vehicle scrap sent to the facility during the previous year and the basis for the estimate. The Administrator may request documentation or additional information at any time.

(iv) You must establish a goal for each scrap supplier to remove at least 80 percent of the mercury switches. Although a site-specific plan approved under paragraph (b)(1) of this section may require only the removal of convenience light switch mechanisms, the Administrator will credit all documented and verifiable mercury-containing components removed from motor vehicle scrap (such as sensors in anti-locking brake systems, security systems, active ride control, and other applications) when evaluating progress towards the 80 percent goal.

(v) For each scrap provider, you must submit semiannual progress reports to the Administrator that provide the number of mercury switches removed or the weight of mercury recovered from the switches, the estimated number of vehicles processed, an estimate of the percent of mercury switches removed, and certification that the removed mercury switches were recycled at RCRA-permitted facilities or otherwise properly managed pursuant to RCRA subtitle C regulations referenced in paragraph (b)(1)(ii)(A) of this section. This information can be submitted in aggregate form and does not have to be submitted for each shipment. The Administrator may change the approval status of a site-specific plan following 90-days notice based on the progress reports or other information.

(2) *Option for approved mercury programs.* You must certify in your notification of compliance status that you participate in and purchase motor vehicle scrap only from scrap providers who participate in a program for removal of mercury switches that has been approved by the Administrator based on the criteria in paragraphs (b)(2)(i) through (iii) of this section. If you purchase motor vehicle scrap from a broker, you must certify that all scrap received from that broker was obtained from other scrap providers who participate in a program for the removal of mercury switches that has been approved by the Administrator based on the criteria in paragraphs (b)(2)(i) through (iii) of this section. The National Mercury Switch Recovery Program and the State of Maine Mercury Switch Removal Program are EPA-approved programs under paragraph (b)(2) of this section unless and until the Administrator disapproves the program (in part or in whole) under paragraph (b)(2)(iii) of this section.

(i) The program includes outreach that informs the dismantlers of the need for removal of mercury switches and provides training and guidance for removing mercury switches;

(ii) The program has a goal to remove at least 80 percent of mercury switches from motor vehicle scrap the scrap provider processes. Although a program approved under paragraph (b)(2) of this section may require only the removal of convenience light switch mechanisms, the Administrator will credit all documented and verifiable mercury-containing components removed from motor vehicle scrap (such as sensors in anti-locking brake systems, security systems, active ride control, and other applications) when evaluating progress towards the 80 percent goal; and

(iii) The program sponsor agrees to submit progress reports to the Administrator no less frequently than once every year that provide the number of mercury switches removed or the weight of mercury recovered from the switches, the estimated number of vehicles processed, an estimate of the percent of mercury switches recovered, and certification that the recovered mercury switches were recycled at facilities with permits as required under the rules implementing subtitle C of RCRA (40 CFR parts 261 through 265 and 268). The progress reports must be based on a database that includes data for each program participant; however, data may be aggregated at the State level for progress reports that will be publicly available. The Administrator may change the approval status of a program or portion of a program (e.g., at the State level) following 90-days notice based on the progress reports or on other information.

(iv) You must develop and maintain onsite a plan demonstrating the manner through which your facility is participating in the EPA-approved program.

(A) The plan must include facility-specific implementation elements, corporate-wide policies, and/or efforts coordinated by a trade association as appropriate for each facility.

(B) You must provide in the plan documentation of direction to appropriate staff to communicate to suppliers throughout the scrap supply chain the need to promote the removal of mercury switches from end-of-life vehicles. Upon the request of the Administrator or delegated authority, you must provide examples of materials that are used for outreach to suppliers, such as letters, contract language, policies for purchasing agents, and scrap inspection protocols.

(C) You must conduct periodic inspections or other means of corroboration to ensure that scrap providers are aware of the need for and are implementing appropriate steps to minimize the presence of mercury in scrap from end-of-life vehicles.

(3) *Option for specialty metal scrap.* You must certify in your notification of compliance status and maintain records of documentation that the only materials from motor vehicles in the scrap are materials recovered for their specialty alloy (including, but not limited to, chromium, nickel, molybdenum, or other alloys) content (such as certain exhaust systems) and, based on the nature of the scrap and purchase specifications, that the type of scrap is not reasonably expected to contain mercury switches.

(4) *Scrap that does not contain motor vehicle scrap.* For scrap not subject to the requirements in paragraphs (b)(1) through (3) of this section, you must certify in your notification of compliance status and maintain records of documentation that this scrap does not contain motor vehicle scrap.

§ 63.10886 What are my management practices for binder formulations?

For each furfuryl alcohol warm box mold or core making line at a new or existing iron and steel foundry, you must use a binder chemical formulation that does not use methanol as a specific ingredient of the catalyst formulation. This requirement does not apply to the resin portion of the binder system.

Requirements for New and Existing Affected Sources Classified as Small Foundries

§ 63.10890 What are my management practices and compliance requirements?

(a) You must comply with the pollution prevention management practices for metallic scrap and mercury switches in §63.10885 and binder formulations in §63.10886.

(b) You must submit an initial notification of applicability according to §63.9(b)(2).

(c) You must submit a notification of compliance status according to §63.9(h)(1)(i). You must send the notification of compliance status before the close of business on the 30th day after the applicable compliance date specified in §63.10881. The notification must include the following compliance certifications, as applicable:

(1) "This facility has prepared, and will operate by, written material specifications for metallic scrap according to §63.10885(a)(1)" and/or "This facility has prepared, and will operate by, written material specifications for general iron and steel scrap according to §63.10885(a)(2)."

(2) "This facility has prepared, and will operate by, written material specifications for the removal of mercury switches and a site-specific plan implementing the material specifications according to §63.10885(b)(1) and/or "This facility participates in and purchases motor vehicle scrap only from scrap providers who participate in a program for removal of mercury switches that has been approved by the Administrator according to §63.10885(b)(2) and has prepared a plan for participation in the EPA-approved program according to §63.10885(b)(2)(iv)" and/or "The only materials from motor vehicles in the scrap charged to a metal melting furnace at this facility are materials recovered for their specialty alloy content in accordance with §63.10885(b)(3) which are not reasonably expected to contain mercury switches" and/or "This facility complies with the requirements for scrap that does not contain motor vehicle scrap in accordance with §63.10885(b)(4)."

(3) "This facility complies with the no methanol requirement for the catalyst portion of each binder chemical formulation for a furfuryl alcohol warm box mold or core making line according to §63.10886."

(d) As required by §63.10(b)(1), you must maintain files of all information (including all reports and notifications) for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. At a minimum, the most recent 2 years of data shall be retained on site. The remaining 3 years of data may be retained off site. Such files may be maintained on microfilm, on a computer, on computer floppy disks, on magnetic tape disks, or on microfiche.

(e) You must maintain records of the information specified in paragraphs (e)(1) through (7) of this section according to the requirements in §63.10(b)(1).

(1) Records supporting your initial notification of applicability and your notification of compliance status according to §63.10(b)(2)(xiv).

(2) Records of your written materials specifications according to §63.10885(a) and records that demonstrate compliance with the requirements for restricted metallic scrap in §63.10885(a)(1) and/or for the use of general scrap in §63.10885(a)(2) and for mercury in §63.10885(b)(1) through (3), as applicable. You must keep records documenting compliance with §63.10885(b)(4) for scrap that does not contain motor vehicle scrap.

(3) If you are subject to the requirements for a site-specific plan for mercury switch removal under §63.10885(b)(1), you must:

(i) Maintain records of the number of mercury switches removed or the weight of mercury recovered from the switches and properly managed, the estimated number of vehicles processed, and an estimate of the percent of mercury switches recovered; and

(ii) Submit semiannual reports of the number of mercury switches removed or the weight of mercury recovered from the switches and properly managed, the estimated number of vehicles processed, an estimate of the percent of mercury switches recovered, and a certification that the recovered mercury switches were recycled at RCRA-permitted facilities. The semiannual reports must include a certification that you have conducted periodic inspections or taken other means of corroboration as required under §63.10885(b)(1)(ii)(C). You must identify which option in paragraph §63.10885(b) applies to each scrap provider, contract, or shipment. You may include this information in the semiannual compliance reports required under paragraph (f) of this section.

(4) If you are subject to the option for approved mercury programs under §63.10885(b)(2), you must maintain records identifying each scrap provider and documenting the scrap provider's participation in an approved mercury switch removal program. If you purchase motor vehicle scrap from a broker, you must maintain records identifying each broker and documentation that all scrap provided by the broker was obtained from other scrap providers who participate in an approved mercury switch removal program.

(5) Records to document use of binder chemical formulation that does not contain methanol as a specific ingredient of the catalyst formulation for each furfuryl alcohol warm box mold or core making line as required by §63.10886. These records must be the Material Safety Data Sheet (provided that it contains appropriate information), a certified product data sheet, or a manufacturer's hazardous air pollutant data sheet.

(6) Records of the annual quantity and composition of each HAP-containing chemical binder or coating material used to make molds and cores. These records must be copies of purchasing records, Material Safety Data Sheets, or other documentation that provides information on the binder or coating materials used.

(7) Records of metal melt production for each calendar year.

(f) You must submit semiannual compliance reports to the Administrator according to the requirements in §63.10(e). The report must clearly identify any deviation from the pollution prevention management practices in §§63.10885 or 63.10886 and the corrective action taken.

(g) You must submit a written notification to the Administrator of the initial classification of your facility as a small foundry as required in §63.10880(f) and (g), as applicable, and for any subsequent reclassification as required in §63.10881(d)(1) or (e), as applicable.

(h) Following the initial determination for an existing affected source as a small foundry, if the annual metal melt production exceeds 20,000 tons during the preceding year, you must comply with the requirements for large foundries by the applicable dates in §63.10881(d)(1)(i) or (d)(1)(ii). Following the initial determination for a new affected source as a small foundry, if you increase the annual metal melt capacity to exceed 10,000 tons, you must comply with the requirements for a large foundry by the applicable dates in §63.10881(e)(1).

(i) You must comply with the following requirements of the General Provisions (40 CFR part 63, subpart A): §§63.1 through 63.5; §63.6(a), (b), (c), and (e)(1); §63.9; §63.10(a), (b)(1), (b)(2)(xiv), (b)(3), (d)(1), (d)(4), and (f); and §§63.13 through 63.16. Requirements of the General Provisions not cited in the preceding sentence do not apply to the owner or operator of a new or existing affected source that is classified as a small foundry.

Requirements for New and Existing Affected Sources Classified as Large Iron and Steel Foundries

§ 63.10895 What are my standards and management practices?

(a) If you own or operate an affected source that is a large foundry as defined in §63.10906, you must comply with the pollution prevention management practices in §§63.10885 and 63.10886, the requirements in paragraphs (b) through (e) of this section, and the requirements in §§63.10896 through 63.10900.

(b) You must operate a capture and collection system for each metal melting furnace at a new or existing iron and steel foundry unless that furnace is specifically uncontrolled as part of an emissions averaging group. Each capture and collection system must meet accepted engineering standards, such as those published by the American Conference of Governmental Industrial Hygienists.

(c) You must not discharge to the atmosphere emissions from any metal melting furnace or group of all metal melting furnaces that exceed the applicable limit in paragraph (c)(1) or (2) of this section. When an alternative emissions limit is provided for a given emissions source, you are not restricted in the selection of which applicable alternative emissions limit is used to demonstrate compliance.

(1) For an existing iron and steel foundry, 0.8 pounds of particulate matter (PM) per ton of metal charged or 0.06 pounds of total metal HAP per ton of metal charged.

(2) For a new iron and steel foundry, 0.1 pounds of PM per ton of metal charged or 0.008 pounds of total metal HAP per ton of metal charged.

(d) If you own or operate a new affected source, you must comply with each control device parameter operating limit in paragraphs (d)(1) and (2) of this section that applies to you.

(1) For each wet scrubber applied to emissions from a metal melting furnace, you must maintain the 3-hour average pressure drop and scrubber water flow rate at or above the minimum levels established during the initial or subsequent performance test.

(2) For each electrostatic precipitator applied to emissions from a metal melting furnace, you must maintain the voltage and secondary current (or total power input) to the control device at or above the level established during the initial or subsequent performance test.

(e) If you own or operate a new or existing iron and steel foundry, you must not discharge to the atmosphere fugitive emissions from foundry operations that exhibit opacity greater than 20 percent (6-minute average), except for one 6-minute average per hour that does not exceed 30 percent.

§ 63.10896 What are my operation and maintenance requirements?

(a) You must prepare and operate at all times according to a written operation and maintenance (O&M) plan for each control device for an emissions source subject to a PM, metal HAP, or opacity emissions limit in §63.10895. You must maintain a copy of the O&M plan at the facility and make it available for review upon request. At a minimum, each plan must contain the following information:

(1) General facility and contact information;

(2) Positions responsible for inspecting, maintaining, and repairing emissions control devices which are used to comply with this subpart;

(3) Description of items, equipment, and conditions that will be inspected, including an inspection schedule for the items, equipment, and conditions. For baghouses that are equipped with bag leak detection systems, the O&M plan must include the site-specific monitoring plan required in §63.10897(d)(2).

(4) Identity and estimated quantity of the replacement parts that will be maintained in inventory; and

(5) For a new affected source, procedures for operating and maintaining a CPMS in accordance with manufacturer's specifications.

(b) You may use any other O&M, preventative maintenance, or similar plan which addresses the requirements in paragraph (a)(1) through (5) of this section to demonstrate compliance with the requirements for an O&M plan.

§ 63.10897 What are my monitoring requirements?

(a) You must conduct an initial inspection of each PM control device for a metal melting furnace at an existing affected source. You must conduct each initial inspection no later than 60 days after your applicable compliance date for each installed control device which has been operated within 60 days of the compliance date. For an installed control device which has not operated within 60 days of the compliance date, you must conduct an initial inspection prior to startup of the control device. Following the initial inspections, you must perform periodic inspections and maintenance of each PM control device for a metal melting furnace at an existing affected source. You must perform the initial and periodic inspections according to the requirements in paragraphs (a)(1) through (4) of this section. You must record the results of each initial and periodic inspection and any maintenance action in the logbook required in §63.10899(b)(13).

(1) For the initial inspection of each baghouse, you must visually inspect the system ductwork and baghouse units for leaks. You must also inspect the inside of each baghouse for structural integrity and fabric filter condition. Following the initial inspections, you must inspect and maintain each baghouse according to the requirements in paragraphs (a)(1)(i) and (ii) of this section.

(i) You must conduct monthly visual inspections of the system ductwork for leaks.

(ii) You must conduct inspections of the interior of the baghouse for structural integrity and to determine the condition of the fabric filter every 6 months.

(2) For the initial inspection of each dry electrostatic precipitator, you must verify the proper functioning of the electronic controls for corona power and rapper operation, that the corona wires are energized, and that adequate air pressure is present on the rapper manifold. You must also visually inspect the system ductwork and electrostatic

housing unit and hopper for leaks and inspect the interior of the electrostatic precipitator to determine the condition and integrity of corona wires, collection plates, hopper, and air diffuser plates. Following the initial inspection, you must inspect and maintain each dry electrostatic precipitator according to the requirements in paragraphs (a)(2)(i) through (iii) of this section.

(i) You must conduct a daily inspection to verify the proper functioning of the electronic controls for corona power and rapper operation, that the corona wires are energized, and that adequate air pressure is present on the rapper manifold.

(ii) You must conduct monthly visual inspections of the system ductwork, housing unit, and hopper for leaks.

(iii) You must conduct inspections of the interior of the electrostatic precipitator to determine the condition and integrity of corona wires, collection plates, plate rappers, hopper, and air diffuser plates every 24 months.

(3) For the initial inspection of each wet electrostatic precipitator, you must verify the proper functioning of the electronic controls for corona power, that the corona wires are energized, and that water flow is present. You must also visually inspect the system ductwork and electrostatic precipitator housing unit and hopper for leaks and inspect the interior of the electrostatic precipitator to determine the condition and integrity of corona wires, collection plates, plate wash spray heads, hopper, and air diffuser plates. Following the initial inspection, you must inspect and maintain each wet electrostatic precipitator according to the requirements in paragraphs (a)(3)(i) through (iii) of this section.

(i) You must conduct a daily inspection to verify the proper functioning of the electronic controls for corona power, that the corona wires are energized, and that water flow is present.

(ii) You must conduct monthly visual inspections of the system ductwork, electrostatic precipitator housing unit, and hopper for leaks.

(iii) You must conduct inspections of the interior of the electrostatic precipitator to determine the condition and integrity of corona wires, collection plates, plate wash spray heads, hopper, and air diffuser plates every 24 months.

(4) For the initial inspection of each wet scrubber, you must verify the presence of water flow to the scrubber. You must also visually inspect the system ductwork and scrubber unit for leaks and inspect the interior of the scrubber for structural integrity and the condition of the demister and spray nozzle. Following the initial inspection, you must inspect and maintain each wet scrubber according to the requirements in paragraphs (a)(4)(i) through (iii) of this section.

(i) You must conduct a daily inspection to verify the presence of water flow to the scrubber.

(ii) You must conduct monthly visual inspections of the system ductwork and scrubber unit for leaks.

(iii) You must conduct inspections of the interior of the scrubber to determine the structural integrity and condition of the demister and spray nozzle every 12 months.

(b) For each wet scrubber applied to emissions from a metal melting furnace at a new affected source, you must use a continuous parameter monitoring system (CPMS) to measure and record the 3-hour average pressure drop and scrubber water flow rate.

(c) For each electrostatic precipitator applied to emissions from a metal melting furnace at a new affected source, you must measure and record the hourly average voltage and secondary current (or total power input) using a CPMS.

(d) If you own or operate an existing affected source, you may install, operate, and maintain a bag leak detection system for each negative pressure baghouse or positive pressure baghouse as an alternative to the baghouse inspection requirements in paragraph (a)(1) of this section. If you own or operate a new affected source, you must install, operate, and maintain a bag leak detection system for each negative pressure baghouse or positive pressure baghouse. You must install, operate, and maintain each bag leak detection system according to the requirements in paragraphs (d)(1) through (3) of this section.

(1) Each bag leak detection system must meet the requirements in paragraphs (d)(1)(i) through (vii) of this section.

(i) The system must be certified by the manufacturer to be capable of detecting emissions of particulate matter at concentrations of 10 milligrams per actual cubic meter (0.00044 grains per actual cubic foot) or less.

(ii) The bag leak detection system sensor must provide output of relative particulate matter loadings and the owner or operator shall continuously record the output from the bag leak detection system using a strip chart recorder, data logger, or other means.

(iii) The system must be equipped with an alarm that will sound when an increase in relative particulate loadings is detected over the alarm set point established in the operation and maintenance plan, and the alarm must be located such that it can be heard by the appropriate plant personnel.

(iv) The initial adjustment of the system must, at minimum, consist of establishing the baseline output by adjusting the sensitivity (range) and the averaging period of the device, and establishing the alarm set points. If the system is equipped with an alarm delay time feature, you also must adjust the alarm delay time.

(v) Following the initial adjustment, do not adjust the sensitivity or range, averaging period, alarm set point, or alarm delay time. Except, once per quarter, you may adjust the sensitivity of the bag leak detection system to account for seasonable effects including temperature and humidity according to the procedures in the monitoring plan required by paragraph (d)(2) of this section.

(vi) For negative pressure baghouses, induced air baghouses, and positive pressure baghouses that are discharged to the atmosphere through a stack, the bag leak detector sensor must be installed downstream of the baghouse and upstream of any wet scrubber.

(vii) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors.

(2) You must prepare a site-specific monitoring plan for each bag leak detection system to be incorporated in your O&M plan. You must operate and maintain each bag leak detection system according to the plan at all times. Each plan must address all of the items identified in paragraphs (d)(2)(i) through (vi) of this section.

(i) Installation of the bag leak detection system.

(ii) Initial and periodic adjustment of the bag leak detection system including how the alarm set-point will be established.

(iii) Operation of the bag leak detection system including quality assurance procedures.

(iv) Maintenance of the bag leak detection system including a routine maintenance schedule and spare parts inventory list.

(v) How the bag leak detection system output will be recorded and stored.

(vi) Procedures for determining what corrective actions are necessary in the event of a bag leak detection alarm as required in paragraph (d)(3) of this section.

(3) In the event that a bag leak detection system alarm is triggered, you must initiate corrective action to determine the cause of the alarm within 1 hour of the alarm, initiate corrective action to correct the cause of the problem within 24 hours of the alarm, and complete corrective action as soon as practicable, but no later than 10 calendar days from the date of the alarm. You must record the date and time of each valid alarm, the time you initiated corrective action, the correction action taken, and the date on which corrective action was completed. Corrective actions may include, but are not limited to:

(i) Inspecting the bag house for air leaks, torn or broken bags or filter media, or any other condition that may cause an increase in emissions.

- (ii) Sealing off defective bags or filter media.
 - (iii) Replacing defective bags or filter media or otherwise repairing the control device.
 - (iv) Sealing off a defective baghouse department.
 - (v) Cleaning the bag leak detection system probe, or otherwise repairing the bag leak detection system.
 - (vi) Shutting down the process producing the particulate emissions.
- (e) You must make monthly inspections of the equipment that is important to the performance of the total capture system (i.e., pressure sensors, dampers, and damper switches). This inspection must include observations of the physical appearance of the equipment (e.g., presence of holes in the ductwork or hoods, flow constrictions caused by dents or accumulated dust in the ductwork, and fan erosion). You must repair any defect or deficiency in the capture system as soon as practicable, but no later than 90 days. You must record the date and results of each inspection and the date of repair of any defect or deficiency.
- (f) You must install, operate, and maintain each CPMS or other measurement device according to your O&M plan. You must record all information needed to document conformance with these requirements.
- (g) In the event of an exceedance of an established emissions limitation (including an operating limit), you must restore operation of the emissions source (including the control device and associated capture system) to its normal or usual manner or operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. 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 exceedance. You must record the date and time correction action was initiated, the correction action taken, and the date corrective action was completed.
- (h) If you choose to comply with an emissions limit in §63.10895(c) using emissions averaging, you must calculate and record for each calendar month the pounds of PM or total metal HAP per ton of metal melted from the group of all metal melting furnaces at your foundry. You must calculate and record the weighted average pounds per ton emissions rate for the group of all metal melting furnaces at the foundry determined from the performance test procedures in §63.10898(d) and (e).

§ 63.10898 What are my performance test requirements?

- (a) You must conduct a performance test to demonstrate initial compliance with the applicable emissions limits for each metal melting furnace or group of all metal melting furnaces that is subject to an emissions limit in §63.10895(c) and for each building or structure housing foundry operations that is subject to the opacity limit for fugitive emissions in §63.10895(e). You must conduct the test within 180 days of your compliance date and report the results in your notification of compliance status.
- (1) If you own or operate an existing iron and steel foundry, you may choose to submit the results of a prior performance test for PM or total metal HAP that demonstrates compliance with the applicable emissions limit for a metal melting furnace or group of all metal melting furnaces provided the test was conducted within the last 5 years using the methods and procedures specified in this subpart and either no process changes have been made since the test, or you can demonstrate that the results of the performance test, with or without adjustments, reliably demonstrate compliance with the applicable emissions limit despite such process changes.
- (2) If you own or operate an existing iron and steel foundry and you choose to submit the results of a prior performance test according to paragraph (a)(1) of this section, you must submit a written notification to the Administrator of your intent to use the previous test data no later than 60 days after your compliance date. The notification must contain a full copy of the performance test and contain information to demonstrate, if applicable, that either no process changes have been made since the test, or that the results of the performance test, with or without adjustments, reliably demonstrate compliance despite such process changes.

(3) If you have an electric induction furnace equipped with an emissions control device at an existing foundry, you may use the test results from another electric induction furnace to demonstrate compliance with the applicable PM or total metal HAP emissions limit in §63.10895(c) provided the furnaces are similar with respect to the type of emission control device that is used, the composition of the scrap charged, furnace size, and furnace melting temperature.

(4) If you have an uncontrolled electric induction furnace at an existing foundry, you may use the test results from another electric induction furnace to demonstrate compliance with the applicable PM or total metal HAP emissions limit in §63.10895(c) provided the test results are prior to any control device and the electric induction furnaces are similar with respect to the composition of the scrap charged, furnace size, and furnace melting temperature.

(5) For electric induction furnaces that do not have emission capture systems, you may install a temporary enclosure for the purpose of representative sampling of emissions. A permanent enclosure and capture system is not required for the purpose of the performance test.

(b) You must conduct subsequent performance tests to demonstrate compliance with all applicable PM or total metal HAP emissions limits in §63.10895(c) for a metal melting furnace or group of all metal melting furnaces no less frequently than every 5 years and each time you elect to change an operating limit or make a process change likely to increase HAP emissions.

(c) You must conduct each performance test according to the requirements in §63.7(e)(1), Table 1 to this subpart, and paragraphs (d) through (g) of this section.

(d) To determine compliance with the applicable PM or total metal HAP emissions limit in §63.10895(c) for a metal melting furnace in a lb/ton of metal charged format, compute the process-weighted mass emissions (E_p) for each test run using Equation 1 of this section:

$$E_p = \frac{C \times Q \times T}{P \times K} \quad (\text{Eq. 1})$$

Where:

E_p = Process-weighted mass emissions rate of PM or total metal HAP, pounds of PM or total metal HAP per ton (lb/ton) of metal charged;

C = Concentration of PM or total metal HAP measured during performance test run, grains per dry standard cubic foot (gr/dscf);

Q = Volumetric flow rate of exhaust gas, dry standard cubic feet per hour (dscf/hr);

T = Total time during a test run that a sample is withdrawn from the stack during melt production cycle, hr;

P = Total amount of metal charged during the test run, tons; and

K = Conversion factor, 7,000 grains per pound.

(e) To determine compliance with the applicable emissions limit in §63.10895(c) for a group of all metal melting furnaces using emissions averaging,

(1) Determine and record the monthly average charge rate for each metal melting furnace at your iron and steel foundry for the previous calendar month; and

(2) Compute the mass-weighted PM or total metal HAP using Equation 2 of this section.

$$E_c = \frac{\sum_{i=1}^n (E_{pi} \times T_{ii})}{\sum_{i=1}^n T_{ii}} \quad (\text{Eq. 2})$$

Where:

E_c = The mass-weighted PM or total metal HAP emissions for the group of all metal melting furnaces at the foundry, pounds of PM or total metal HAP per ton of metal charged;

E_{pi} = Process-weighted mass emissions of PM or total metal HAP for individual emission unit i as determined from the performance test and calculated using Equation 1 of this section, pounds of PM or total metal HAP per ton of metal charged;

T_{ii} = Total tons of metal charged for individual emission unit i for the calendar month prior to the performance test, tons; and

n = The total number of metal melting furnaces at the iron and steel foundry.

(3) For an uncontrolled electric induction furnace that is not equipped with a capture system and has not been previously tested for PM or total metal HAP, you may assume an emissions factor of 2 pounds per ton of PM or 0.13 pounds of total metal HAP per ton of metal melted in Equation 2 of this section instead of a measured test value. If the uncontrolled electric induction furnace is equipped with a capture system, you must use a measured test value.

(f) To determine compliance with the applicable PM or total metal HAP emissions limit for a metal melting furnace in §63.10895(c) when emissions from one or more regulated furnaces are combined with other non-regulated emissions sources, you may demonstrate compliance using the procedures in paragraphs (f)(1) through (3) of this section.

(1) Determine the PM or total metal HAP process-weighted mass emissions for each of the regulated streams prior to the combination with other exhaust streams or control device.

(2) Measure the flow rate and PM or total metal HAP concentration of the combined exhaust stream both before and after the control device and calculate the mass removal efficiency of the control device using Equation 3 of this section.

$$\% \text{ reduction} = \frac{E_i - E_o}{E_i} \times 100\% \quad (\text{Eq. 3})$$

Where:

E_i = Mass emissions rate of PM or total metal HAP at the control device inlet, lb/hr;

E_o = Mass emissions rate of PM or total metal HAP at the control device outlet, lb/hr.

(3) Meet the applicable emissions limit based on the calculated PM or total metal HAP process-weighted mass emissions for the regulated emissions source using Equation 4 of this section:

$$E_{pl, \text{new}} = E_{pl} \times \left(1 - \frac{\% \text{ reduction}}{100} \right) \quad (\text{Eq. 4})$$

Where:

$E_{p1released}$ = Calculated process-weighted mass emissions of PM (or total metal HAP) predicted to be released to the atmosphere from the regulated emissions source, pounds of PM or total metal HAP per ton of metal charged; and

E_{p1i} = Process-weighted mass emissions of PM (or total metal HAP) in the uncontrolled regulated exhaust stream, pounds of PM or total metal HAP per ton of metal charged.

(g) To determine compliance with an emissions limit for situations when multiple sources are controlled by a single control device, but only one source operates at a time or other situations that are not expressly considered in paragraphs (d) through (f) of this section, you must submit a site-specific test plan to the Administrator for approval according to the requirements in §63.7(c)(2) and (3).

(h) You must conduct each opacity test for fugitive emissions according to the requirements in §63.6(h)(5) and Table 1 to this subpart.

(i) You must conduct subsequent performance tests to demonstrate compliance with the opacity limit in §63.10895(e) no less frequently than every 6 months and each time you make a process change likely to increase fugitive emissions.

(j) In your performance test report, you must certify that the capture system operated normally during the performance test.

(k) You must establish operating limits for a new affected source during the initial performance test according to the requirements in Table 2 of this subpart.

(l) You may change the operating limits for a wet scrubber, electrostatic precipitator, or baghouse if you meet the requirements in paragraphs (l)(1) through (3) of this section.

(1) Submit a written notification to the Administrator of your plan to conduct a new performance test to revise the operating limit.

(2) Conduct a performance test to demonstrate compliance with the applicable emissions limitation in §63.10895(c).

(3) Establish revised operating limits according to the applicable procedures in Table 2 to this subpart.

§ 63.10899 What are my recordkeeping and reporting requirements?

(a) As required by §63.10(b)(1), you must maintain files of all information (including all reports and notifications) for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. At a minimum, the most recent 2 years of data shall be retained on site. The remaining 3 years of data may be retained off site. Such files may be maintained on microfilm, on a computer, on computer floppy disks, on magnetic tape disks, or on microfiche.

(b) In addition to the records required by 40 CFR 63.10, you must keep records of the information specified in paragraphs (b)(1) through (13) of this section.

(1) You must keep records of your written materials specifications according to §63.10885(a) and records that demonstrate compliance with the requirements for restricted metallic scrap in §63.10885(a)(1) and/or for the use of general scrap in §63.10885(a)(2) and for mercury in §63.10885(b)(1) through (3), as applicable. You must keep records documenting compliance with §63.10885(b)(4) for scrap that does not contain motor vehicle scrap.

(2) If you are subject to the requirements for a site-specific plan for mercury under §63.10885(b)(1), you must:

(i) Maintain records of the number of mercury switches removed or the weight of mercury recovered from the switches and properly managed, the estimated number of vehicles processed, and an estimate of the percent of mercury switches recovered; and

- (ii) Submit semiannual reports of the number of mercury switches removed or the weight of mercury recovered from the switches and properly managed, the estimated number of vehicles processed, an estimate of the percent of mercury switches recovered, and a certification that the recovered mercury switches were recycled at RCRA-permitted facilities. The semiannual reports must include a certification that you have conducted periodic inspections or taken other means of corroboration as required under §63.10885(b)(1)(ii)(C). You must identify which option in §63.10885(b) applies to each scrap provider, contract, or shipment. You may include this information in the semiannual compliance reports required under paragraph (c) of this section.
- (3) If you are subject to the option for approved mercury programs under §63.10885(b)(2), you must maintain records identifying each scrap provider and documenting the scrap provider's participation in an approved mercury switch removal program. If your scrap provider is a broker, you must maintain records identifying each of the broker's scrap suppliers and documenting the scrap supplier's participation in an approved mercury switch removal program.
- (4) You must keep records to document use of any binder chemical formulation that does not contain methanol as a specific ingredient of the catalyst formulation for each furfuryl alcohol warm box mold or core making line as required by §63.10886. These records must be the Material Safety Data Sheet (provided that it contains appropriate information), a certified product data sheet, or a manufacturer's hazardous air pollutant data sheet.
- (5) You must keep records of the annual quantity and composition of each HAP-containing chemical binder or coating material used to make molds and cores. These records must be copies of purchasing records, Material Safety Data Sheets, or other documentation that provide information on the binder or coating materials used.
- (6) You must keep records of monthly metal melt production for each calendar year.
- (7) You must keep a copy of the operation and maintenance plan as required by §63.10896(a) and records that demonstrate compliance with plan requirements.
- (8) If you use emissions averaging, you must keep records of the monthly metal melting rate for each furnace at your iron and steel foundry, and records of the calculated pounds of PM or total metal HAP per ton of metal melted for the group of all metal melting furnaces required by §63.10897(h).
- (9) If applicable, you must keep records for bag leak detection systems as follows:
- (i) Records of the bag leak detection system output;
 - (ii) Records of bag leak detection system adjustments, including the date and time of the adjustment, the initial bag leak detection system settings, and the final bag leak detection system settings; and
 - (iii) The date and time of all bag leak detection system alarms, and for each valid alarm, the time you initiated corrective action, the corrective action taken, and the date on which corrective action was completed.
- (10) You must keep records of capture system inspections and repairs as required by §63.10897(e).
- (11) You must keep records demonstrating conformance with your specifications for the operation of CPMS as required by §63.10897(f).
- (12) You must keep records of corrective action(s) for exceedances and excursions as required by §63.10897(g).
- (13) You must record the results of each inspection and maintenance required by §63.10897(a) for PM control devices in a logbook (written or electronic format). You must keep the logbook onsite and make the logbook available to the Administrator upon request. You must keep records of the information specified in paragraphs (b)(13)(i) through (iii) of this section.
- (i) The date and time of each recorded action for a fabric filter, the results of each inspection, and the results of any maintenance performed on the bag filters.

(ii) The date and time of each recorded action for a wet or dry electrostatic precipitator (including ductwork), the results of each inspection, and the results of any maintenance performed for the electrostatic precipitator.

(iii) The date and time of each recorded action for a wet scrubber (including ductwork), the results of each inspection, and the results of any maintenance performed on the wet scrubber.

(c) You must submit semiannual compliance reports to the Administrator according to the requirements in §63.10(e). The reports must include, at a minimum, the following information as applicable:

(1) Summary information on the number, duration, and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective action taken;

(2) Summary information on the number, duration, and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other calibration checks, if applicable); and

(3) Summary information on any deviation from the pollution prevention management practices in §§63.10885 and 63.10886 and the operation and maintenance requirements §63.10896 and the corrective action taken.

(d) You must submit written notification to the Administrator of the initial classification of your new or existing affected source as a large iron and steel facility as required in §63.10880(f) and (g), as applicable, and for any subsequent reclassification as required in §63.10881(d) or (e), as applicable.

§ 63.10900 What parts of the General Provisions apply to my large foundry?

(a) If you own or operate a new or existing affected source that is classified as a large foundry, you must comply with the requirements of the General Provisions (40 CFR part 63, subpart A) according to Table 3 of this subpart.

(b) If you own or operator a new or existing affected source that is classified as a large foundry, your notification of compliance status required by §63.9(h) must include each applicable certification of compliance, signed by a responsible official, in Table 4 of this subpart.

Other Requirements and Information

§ 63.10905 Who implements and enforces this subpart?

(a) This subpart can be implemented and enforced by EPA or a delegated authority such as your State, local, or tribal agency. If the EPA Administrator has delegated authority to your State, local, or tribal agency, then that agency has the authority to implement and enforce this subpart. You should contact your EPA Regional Office to find out if implementation and enforcement of this subpart is delegated to your State, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under 40 CFR part 63, subpart E, the authorities contained in paragraph (c) of this section are retained by the EPA Administrator and are not transferred to the State, local, or tribal agency.

(c) The authorities that cannot be delegated to State, local, or tribal agencies are specified in paragraphs (c)(1) through (6) of this section.

(1) Approval of an alternative non-opacity emissions standard under 40 CFR 63.6(g).

(2) Approval of an alternative opacity emissions standard under §63.6(h)(9).

(3) Approval of a major change to test methods under §63.7(e)(2)(ii) and (f). A "major change to test method" is defined in §63.90.

(4) Approval of a major change to monitoring under §63.8(f). A “major change to monitoring” under is defined in §63.90.

(5) Approval of a major change to recordkeeping and reporting under §63.10(f). A “major change to recordkeeping/reporting” is defined in §63.90.

(6) Approval of a local, State, or national mercury switch removal program under §63.10885(b)(2).

§ 63.10906 What definitions apply to this subpart?

Terms used in this subpart are defined in the Clean Air Act, in §63.2, and in this section.

Annual metal melt capacity means the lower of the total metal melting furnace equipment melt rate capacity assuming 8,760 operating hours per year summed for all metal melting furnaces at the foundry or, if applicable, the maximum permitted metal melt production rate for the iron and steel foundry calculated on an annual basis. Unless otherwise specified in the permit, permitted metal melt production rates that are not specified on an annual basis must be annualized assuming 24 hours per day, 365 days per year of operation. If the permit limits the operating hours of the furnace(s) or foundry, then the permitted operating hours are used to annualize the maximum permitted metal melt production rate.

Annual metal melt production means the quantity of metal melted in a metal melting furnace or group of all metal melting furnaces at the iron and steel foundry in a given calendar year. For the purposes of this subpart, metal melt production is determined on the basis on the quantity of metal charged to each metal melting furnace; the sum of the metal melt production for each furnace in a given calendar year is the annual metal melt production of the foundry.

Bag leak detection system means a system that is capable of continuously monitoring relative particulate matter (dust) loadings in the exhaust of a baghouse to detect bag leaks and other upset conditions. A bag leak detection system includes, but is not limited to, an instrument that operates on triboelectric, electrodynamic, light scattering, light transmittance, or other effect to continuously monitor relative particulate matter loadings.

Binder chemical means a component of a system of chemicals used to bind sand together into molds, mold sections, and cores through chemical reaction as opposed to pressure.

Capture system means the collection of components used to capture gases and fumes released from one or more emissions points and then convey the captured gas stream to a control device or to the atmosphere. A capture system may include, but is not limited to, the following components as applicable to a given capture system design: Duct intake devices, hoods, enclosures, ductwork, dampers, manifolds, plenums, and fans.

Chlorinated plastics means solid polymeric materials that contain chlorine in the polymer chain, such as polyvinyl chloride (PVC) and PVC copolymers.

Control device means the air pollution control equipment used to remove particulate matter from the effluent gas stream generated by a metal melting furnace.

Cupola means a vertical cylindrical shaft furnace that uses coke and forms of iron and steel such as scrap and foundry returns as the primary charge components and melts the iron and steel through combustion of the coke by a forced upward flow of heated air.

Deviation means any instance in which an affected source or an owner or operator of such an affected source:

(1) Fails to meet any requirement or obligation established by this subpart including, but not limited to, any emissions limitation (including operating limits), management practice, or operation and maintenance requirement;

(2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any iron and steel foundry required to obtain such a permit; or

(3) Fails to meet any emissions limitation (including operating limits) or management standard in this subpart during startup, shutdown, or malfunction, regardless of whether or not such failure is permitted by this subpart.

Electric arc furnace means a vessel in which forms of iron and steel such as scrap and foundry returns are melted through resistance heating by an electric current flowing through the arcs formed between the electrodes and the surface of the metal and also flowing through the metal between the arc paths.

Electric induction furnace means a vessel in which forms of iron and steel such as scrap and foundry returns are melted through resistance heating by an electric current that is induced in the metal by passing an alternating current through a coil surrounding the metal charge or surrounding a pool of molten metal at the bottom of the vessel.

Exhaust stream means gases emitted from a process through a conveyance as defined in this subpart.

Foundry operations mean all process equipment and practices used to produce metal castings for shipment. *Foundry operations* include: Mold or core making and coating; scrap handling and preheating; metal melting and inoculation; pouring, cooling, and shakeout; shotblasting, grinding, and other metal finishing operations; and sand handling.

Free liquids means material that fails the paint filter liquids test by EPA Method 9095B, Revision 2, November 1994 (incorporated by reference—see §63.14). That is, if any portion of the material passes through and drops from the filter within the 5-minute test period, the material contains *free liquids*.

Fugitive emissions means any pollutant released to the atmosphere that is not discharged through a system of equipment that is specifically designed to capture pollutants at the source, convey them through ductwork, and exhaust them using forced ventilation. *Fugitive emissions* include pollutants released to the atmosphere through windows, doors, vents, or other building openings. *Fugitive emissions* also include pollutants released to the atmosphere through other general building ventilation or exhaust systems not specifically designed to capture pollutants at the source.

Furfuryl alcohol warm box mold or core making line means a mold or core making line in which the binder chemical system used is that system commonly designated as a furfuryl alcohol warm box system by the foundry industry.

Iron and steel foundry means a facility or portion of a facility that melts scrap, ingot, and/or other forms of iron and/or steel and pours the resulting molten metal into molds to produce final or near final shape products for introduction into commerce. Research and development facilities, operations that only produce non-commercial castings, and operations associated with nonferrous metal production are not included in this definition.

Large foundry means, for an existing affected source, an iron and steel foundry with an annual metal melt production greater than 20,000 tons. For a new affected source, *large foundry* means an iron and steel foundry with an annual metal melt capacity greater than 10,000 tons.

Mercury switch means each mercury-containing capsule or switch assembly that is part of a convenience light switch mechanism installed in a vehicle.

Metal charged means the quantity of scrap metal, pig iron, metal returns, alloy materials, and other solid forms of iron and steel placed into a metal melting furnace. Metal charged does not include the quantity of fluxing agents or, in the case of a cupola, the quantity of coke that is placed into the metal melting furnace.

Metal melting furnace means a cupola, electric arc furnace, electric induction furnace, or similar device that converts scrap, foundry returns, and/or other solid forms of iron and/or steel to a liquid state. This definition does not include a holding furnace, an argon oxygen decarburization vessel, or ladle that receives molten metal from a metal melting furnace, to which metal ingots or other material may be added to adjust the metal chemistry.

Mold or core making line means the collection of equipment that is used to mix an aggregate of sand and binder chemicals, form the aggregate into final shape, and harden the formed aggregate. This definition does not include a line for making greensand molds or cores.

Motor vehicle means an automotive vehicle not operated on rails and usually is operated with rubber tires for use on highways.

Motor vehicle scrap means vehicle or automobile bodies, including automobile body hulks, that have been processed through a shredder. *Motor vehicle scrap* does not include automobile manufacturing bundles, or miscellaneous vehicle parts, such as wheels, bumpers, or other components that do not contain mercury switches.

Nonferrous metal means any pure metal other than iron or any metal alloy for which an element other than iron is its major constituent in percent by weight.

On blast means those periods of cupola operation when combustion (blast) air is introduced to the cupola furnace and the furnace is capable of producing molten metal. On blast conditions are characterized by both blast air introduction and molten metal production.

Responsible official means responsible official as defined in §63.2.

Scrap preheater means a vessel or other piece of equipment in which metal scrap that is to be used as melting furnace feed is heated to a temperature high enough to eliminate volatile impurities or other tramp materials by direct flame heating or similar means of heating. Scrap dryers, which solely remove moisture from metal scrap, are not considered to be scrap preheaters for purposes of this subpart.

Scrap provider means the person (including a broker) who contracts directly with an iron and steel foundry to provide motor vehicle scrap. Scrap processors such as shredder operators or vehicle dismantlers that do not sell scrap directly to a foundry are not *scrap providers*.

Scrubber blowdown means liquor or slurry discharged from a wet scrubber that is either removed as a waste stream or processed to remove impurities or adjust its composition or pH.

Small foundry means, for an existing affected source, an iron and steel foundry that has an annual metal melt production of 20,000 tons or less. For a new affected source, *small foundry* means an iron and steel foundry that has an annual metal melt capacity of 10,000 tons or less.

Total metal HAP means, for the purposes of this subpart, the sum of the concentrations of compounds of antimony, arsenic, beryllium, cadmium, chromium, cobalt, lead, manganese, mercury, nickel, and selenium as measured by EPA Method 29 (40 CFR part 60, appendix A–8). Only the measured concentration of the listed analytes that are present at concentrations exceeding one-half the quantitation limit of the analytical method are to be used in the sum. If any of the analytes are not detected or are detected at concentrations less than one-half the quantitation limit of the analytical method, the concentration of those analytes will be assumed to be zero for the purposes of calculating the total metal HAP for this subpart.

Table 1 to Subpart ZZZZZ of Part 63—Performance Test Requirements for New and Existing Affected Sources Classified as Large Foundries

As required in §63.10898(c) and (h), you must conduct performance tests according to the test methods and procedures in the following table:

For . . .	You must . . .	According to the following requirements. . .
1. Each metal melting furnace subject to a PM or total metal HAP limit in §63.10895(c)	a. Select sampling port locations and the number of traverse points in each stack or duct using EPA Method 1 or 1A (40 CFR part 60, appendix A)	Sampling sites must be located at the outlet of the control device (or at the outlet of the emissions source if no control device is present) prior to any releases to the atmosphere.

	<p>b. Determine volumetric flow rate of the stack gas using Method 2, 2A, 2C, 2D, 2F, or 2G (40 CFR part 60, appendix A)</p> <p>c. Determine dry molecular weight of the stack gas using EPA Method 3, 3A, or 3B (40 CFR part 60, appendix A).¹</p> <p>d. Measure moisture content of the stack gas using EPA Method 4 (40 CFR part 60, A)</p> <p>e. Determine PM concentration using EPA Method 5, 5B, 5D, 5F, or 5I, as applicable or total metal HAP concentration using EPA Method 29 (40 CFR part 60, appendix A)</p>	<p>i. Collect a minimum sample volume of 60 dscf of gas during each PM sampling run. The PM concentration is determined using only the front-half (probe rinse and filter) of the PM catch.</p> <p>ii. For Method 29, only the measured concentration of the listed metal HAP analytes that are present at concentrations exceeding one-half the quantification limit of the analytical method are to be used in the sum. If any of the analytes are not detected or are detected at concentrations less than one-half the quantification limit of the analytical method, the concentration of those analytes is assumed to be zero for the purposes of calculating the total metal HAP.</p>
		<p>iii. A minimum of three valid test runs are needed to comprise a PM or total metal HAP performance test.</p>
		<p>iv. For cupola metal melting furnaces, sample PM or total metal HAP only during times when the cupola is on blast.</p>
		<p>v. For electric arc and electric induction metal melting furnaces, sample PM or total metal HAP only during normal melt production conditions, which may include, but are not limited to the following operations: Charging, melting, alloying, refining, slagging, and tapping.</p>
		<p>vi. Determine and record the total combined weight of tons of metal charged during the duration of each test run. You must compute the process-weighted mass emissions of PM according to Equation 1 of §63.10898(d) for an individual furnace or Equation 2 of</p>

		<p>§63.10898(e) for the group of all metal melting furnaces at the foundry.</p>
<p>2. Fugitive emissions from buildings or structures housing any iron and steel foundry emissions sources subject to opacity limit in §63.10895(e)</p>	<p>a. Using a certified observer, conduct each opacity test according to EPA Method 9 (40 CFR part 60, appendix A-4) and 40 CFR 63.6(h)(5)</p>	<p>i. The certified observer may identify a limited number of openings or vents that appear to have the highest opacities and perform opacity observations on the identified openings or vents in lieu of performing observations for each opening or vent from the building or structure. Alternatively, a single opacity observation for the entire building or structure may be performed, if the fugitive release points afford such an observation.</p>
		<p>ii. During testing intervals when PM or total metal HAP performance tests, if applicable, are being conducted, conduct the opacity test such that the opacity observations are recorded during the PM or total metal HAP performance tests.</p>
	<p>b. As alternative to Method 9 performance test, conduct visible emissions test by Method 22 (40 CFR part 60, appendix A-7). The test is successful if no visible emissions are observed for 90 percent of the readings over 1 hour. If VE is observed greater than 10 percent of the time over 1 hour, then the facility must conduct another performance test as soon as possible, but no later than 15 calendar days after the Method 22 test, using Method 9 (40 CFR part 60, appendix A-4)</p>	<p>i. The observer may identify a limited number of openings or vents that appear to have the highest visible emissions and perform observations on the identified openings or vents in lieu of performing observations for each opening or vent from the building or structure. Alternatively, a single observation for the entire building or structure may be performed, if the fugitive release points afford such an observation.</p> <p>ii. During testing intervals when PM or total metal HAP performance tests, if applicable, are being conducted, conduct the visible emissions test such that the observations are recorded during the PM or total metal HAP performance tests.</p>

¹You may also use as an alternative to EPA Method 3B (40 CFR part 60, appendix A), the manual method for measuring the oxygen, carbon dioxide, and carbon monoxide content of exhaust gas, ANSI/ASME PTC 19.10–1981, “Flue and Exhaust Gas Analyses” (incorporated by reference—see §63.14).

Table 2 to Subpart ZZZZZ of Part 63—Procedures for Establishing Operating Limits for New Affected Sources Classified as Large Foundries

As required in §63.10898(k), you must establish operating limits using the procedures in the following table:

For . . .	You must . . .
1. Each wet scrubber subject to the operating limits in §63.10895(d)(1) for pressure drop and scrubber water flow rate.	Using the CPMS required in §63.10897(b), measure and record the pressure drop and scrubber water flow rate in intervals of no more than 15 minutes during each PM or total metal HAP test run. Compute and record the average pressure drop and average scrubber water flow rate for all the valid sampling runs in which the applicable emissions limit is met.
2. Each electrostatic precipitator subject to operating limits in §63.10895(d)(2) for voltage and secondary current (or total power input).	Using the CPMS required in §63.10897(c), measure and record voltage and secondary current (or total power input) in intervals of no more than 15 minutes during each PM or total metal HAP test run. Compute and record the minimum hourly average voltage and secondary current (or total power input) from all the readings for each valid sampling run in which the applicable emissions limit is met.

Table 3 to Subpart ZZZZZ of Part 63—Applicability of General Provisions to New and Existing Affected Sources Classified as Large Foundries

As required in §63.10900(a), you must meet each requirement in the following table that applies to you:

Citation	Subject	Applies to large foundry?	Explanation
63.1	Applicability	Yes.	
63.2	Definitions	Yes.	
63.3	Units and abbreviations	Yes.	
63.4	Prohibited activities	Yes.	
63.5	Construction/reconstruction	Yes.	
63.6(a)–(g)	Compliance with standards and maintenance requirements	Yes.	
63.6(h)	Opacity and visible emissions standards	Yes.	
63.6(i)(i)–(j)	Compliance extension and Presidential compliance exemption	Yes.	

63.7(a)(3), (b)–(h)	Performance testing requirements	Yes.	
63.7(a)(1)–(a)(2)	Applicability and performance test dates	No	Subpart ZZZZZ specifies applicability and performance test dates.
63.8(a)(1)–(a)(3), (b), (c)(1)–(c)(3), (c)(6)–(c)(8), (d), (e), (f)(1)–(f)(6), (g)(1)–(g)(4)	Monitoring requirements	Yes.	
63.8(a)(4)	Additional monitoring requirements for control devices in §63.11	No.	
63.8(c)(4)	Continuous monitoring system (CMS) requirements	No.	
63.8(c)(5)	Continuous opacity monitoring system (COMS) minimum procedures	No.	
63.8(g)(5)	Data reduction	No.	
63.9	Notification requirements	Yes.	
63.10(a), (b)(1)–(b)(2)(xii) – (b)(2)(xiv), (b)(3), (d)(1)–(2), (e)(1)–(2), (f)	Recordkeeping and reporting requirements	Yes.	
63.10(c)(1)–(6), (c)(9)–(15)	Additional records for continuous monitoring systems	No.	
63.10(c)(7)–(8)	Records of excess emissions and parameter monitoring exceedances for CMS	Yes.	
63.10(d)(3)	Reporting opacity or visible emissions observations	Yes.	
63.10(e)(3)	Excess emissions reports	Yes.	
63.10(e)(4)	Reporting COMS data	No.	
63.11	Control device requirements	No.	
63.12	State authority and delegations	Yes.	
63.13–63.16	Addresses of State air pollution control agencies and EPA regional offices. Incorporation by reference. Availability of	Yes.	

	information and confidentiality. Performance track provisions		
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Table 4 to Subpart ZZZZZ of Part 63—Compliance Certifications for New and Existing Affected Sources Classified as Large Iron and Steel Foundries

As required by §63.10900(b), your notification of compliance status must include certifications of compliance according to the following table:

For . . .	Your notification of compliance status required by §63.9(h) must include this certification of compliance, signed by a responsible official:
Each new or existing affected source classified as a large foundry and subject to scrap management requirements in §63.10885(a)(1) and/or (2)	“This facility has prepared, and will operate by, written material specifications for metallic scrap according to §63.10885(a)(1)” and/or “This facility has prepared, and will operate by, written material specifications for general iron and steel scrap according to §63.10885(a)(2).”
Each new or existing affected source classified as a large foundry and subject to mercury switch removal requirements in §63.10885(b)	“This facility has prepared, and will operate by, written material specifications for the removal of mercury switches and a site-specific plan implementing the material specifications according to §63.10885(b)(1)” and/or “This facility participates in and purchases motor vehicles scrap only from scrap providers who participate in a program for removal of mercury switches that has been approved by the EPA Administrator according to §63.10885(b)(2) and have prepared a plan for participation in the EPA approved program according to §63.10885(b)(2)(iv)” and/or “The only materials from motor vehicles in the scrap charged to a metal melting furnace at this facility are materials recovered for their specialty alloy content in accordance with §63.10885(b)(3) which are not reasonably expected to contain mercury switches” and/or “This facility complies with the requirements for scrap that does not contain motor vehicle scrap in accordance with §63.10885(b)(4).”
Each new or existing affected source classified as a large foundry and subject to §63.10886	“This facility complies with the no methanol requirement for the catalyst portion of each binder chemical formulation for a furfuryl alcohol warm box mold or core making line according to §63.10886.”
Each new or existing affected source classified as a large foundry and subject to §63.10895(b)	“This facility operates a capture and collection system for each emissions source subject to this subpart according to §63.10895(b).”
Each existing affected source	“This facility complies with the PM or total metal HAP

classified as a large foundry and subject to §63.10895(c)(1)	emissions limit in §63.10895(c) for each metal melting furnace or group of all metal melting furnaces based on a previous performance test in accordance with §63.10898(a)(1).”
Each new or existing affected source classified as a large foundry and subject to §63.10896(a)	“This facility has prepared and will operate by an operation and maintenance plan according to §63.10896(a).”
Each new or existing (if applicable) affected source classified as a large foundry and subject to §63.10897(d)	“This facility has prepared and will operate by a site-specific monitoring plan for each bag leak detection system and submitted the plan to the Administrator for approval according to §63.10897(d)(2).”

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

**Technical Support Document (TSD) for a Federally Enforceable State Operating
Permit Renewal**

Source Background and Description
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Source Name:	Warsaw Foundry Company, Inc.
Source Location:	1212 North Detroit Street, Warsaw, Indiana 46581
County:	Kosciusko
SIC Code:	3321 (Gray and Ductile Iron Foundries)
Permit Renewal No.:	F085-30084-00006
Permit Reviewer:	Brian Williams

The Office of Air Quality (OAQ) has reviewed the operating permit renewal application from Warsaw Foundry Company, Inc. relating to the operation of a stationary gray and ductile iron foundry. On January 5, 2011, Warsaw Foundry Company, Inc. submitted an application to the OAQ requesting to renew its operating permit. Warsaw Foundry Company, Inc. was issued an initial FESOP (F085-14520-00006) on October 20, 2006.

Permitted Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units:

- (a) One (1) charge handling operation, identified as EU1, installed prior to 1960, capacity: 1.6 tons of metal per hour, with emissions uncontrolled.
- (b) One (1) cupola, identified as EU2, installed prior to 1960, equipped with a natural gas-fired afterburner rated at 1.0 million British thermal units per hour, and a venturi scrubber, exhausted through Stack C1, capacity: 5.0 tons of metal per hour. This cupola serves as a back-up unit to the electric induction furnace.
- (c) One (1) electric induction furnace, identified as EU3, installed in November 2000, capacity: 1.6 tons of metal per hour, with emissions uncontrolled.
- (d) One (1) magnesium treatment process, installed in 2000, capacity: 1.5 tons of metal per hour, with emissions uncontrolled.
- (e) One (1) inoculation process, identified as inoculation process, installed in 1960, capacity: 1.6 tons of metal per hour, with emissions uncontrolled.

Note: The source operates either the magnesium treatment or inoculation process.

- (f) One (1) pouring/casting operation, identified as EU4, installed prior to 1979, with emissions uncontrolled, capacity: 1.6 tons of metal per hour and 9.6 tons of sand per hour.
- (g) One (1) castings cooling operation, identified as EU5A and EU5B, installed prior to 1979, capacity: 1.6 tons of metal per hour and 9.6 tons of sand per hour, consisting of: one (1) south area, identified as EU5A, controlled by Mold/Dump Baghouse (MDBH), and exhausted through Stack B4 and one (1) east area, identified as EU5B, controlled by Main Baghouse (MBH), and exhausted through Stack B3.

- (h) One (1) castings shakeout operation, identified as EU6, installed prior to 1979, equipped with a baghouse, identified as Main Baghouse (MBH), installed in 1991, exhausted through Stack B3, capacity: 1.6 tons of metal per hour and 9.6 tons of sand per hour.
- (i) One (1) cleaning and finishing operation, identified as EU8A and EU8B, installed prior to 1979, consisting of the following:
 - (1) One (1) grinding area (EU8A), consisting of two (2) single station and two (2) double station grinding machines, equipped with a baghouse, identified as Grinding Baghouse (GBH), exhausted through Stack B1, capacity: 1.6 tons of metal per hour.
 - (2) One (1) Wheelabrator shot blast unit (EU8B), equipped with a baghouse, identified as Wheelabrator Baghouse (WBH), exhausted through Stack B2, capacity: 1.6 tons of metal per hour.
- (j) One (1) sand handling operation, identified as EU9, installed prior to 1979, equipped with a baghouse, identified as Main Baghouse (MBH), installed in 1991, exhausted through Stack B3, capacity: 9.6 tons of sand per hour.

Note: Since the cupola is not currently in operation, the charge handling, magnesium treatment, inoculation, pouring/casting, castings cooling, castings shakeout, grinding, wheelabrator shot blast unit, and sand handling operations are bottlenecked by the melt operations of the electric induction furnace. Therefore, these operations have been de-rated based on the maximum capacity of the induction furnace.
- (k) One (1) natural gas-fired oil core oven, identified as EU10, installed in 1946, exhausted through Stack O1, rated at 0.5 million British thermal units per hour, capacity: 0.75 tons of sand per hour.
- (l) One (1) core wash and mold parting, identified as EU12, installed prior to 1987, capacity: 0.85 tons of cores per hour, 0.178 pounds of core wash per hour, 0.226 pounds of thinner per hour, and 2.76 pounds of liquid parting per hour.
- (m) One (1) core making operation, consisting of fifteen (15) shell core machines, collectively identified as EU11, capacity: 0.75 tons of sand per hour, total, with emissions uncontrolled, consisting of the following:
 - (1) Three (3) U180 Shalco machines, installed in 1998, capacity: 200 pounds per hour, each.
 - (2) One (1) U150 Shalco machine, installed in 1998, capacity: 100 pounds per hour.
 - (3) Three (3) Dependable 100 machines, installed between 1960 and 1980, capacity: 100 pounds per hour, each.
 - (4) Five (5) Dependable 200 machines, installed between 1960 and 1980, capacity: 150 pounds per hour, each.
 - (5) One (1) Dependable 300 machines, installed between 1960 and 1980, capacity: 200 pounds per hour.
 - (6) Two (2) Redford HP43 machines, installed between 1960 and 1980, capacity: 200 pounds per hour, each.

Insignificant Activities

The source also consists of the following insignificant activities:

- (a) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) British thermal units per hour with a total rating of 1.20 million British thermal units per hour consisting of:
 - (1) Two (2) ladle heating torches, identified as EU13, installed prior to 1987, capacity: 0.60 million British thermal units per hour, total.
- (b) The following VOC and HAP storage containers: vessels storing lubricating oil, hydraulic oils, machining oils, and machining fluids.
- (c) Degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6. [326 IAC 8-3-2] [326 IAC 8-3-5]
- (d) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment. [326 IAC 6-3-2]
- (e) Replacement or repair of electrostatic precipitators, bags in baghouses and filters in other air filtration equipment.
- (f) Paved and unpaved roads and parking lots with public access.

Existing Approvals

Since the issuance of the FESOP No. 085-14520-00006 on October 20, 2006, the source has constructed or has been operating under the following additional approvals:

- (a) First Significant Permit Revision No. 085-24317-00006 issued on October 23, 2007; and
- (b) Second Significant Permit Revision No. 085-25528-00006 issued on March 25, 2009.

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.

The throughput capacities for the charge handling, magnesium treatment, inoculation, pouring and casting, casting shakeouts, grinding, wheelbrator shotblast unit, and sand handling operations are bottlenecked by the melt operations of the electric induction furnace. Therefore, the potential to emit for these operations is based on the maximum capacity of the induction furnace. In addition, the potential to emit is also based on the worst case emissions from one method of charging – either the cupola or the induction furnace. Finally, the potential to emit is also based on the worst case emissions from either the magnesium treatment or inoculation.

County Attainment Status

The source is located in Kosciusko County.

Pollutant	Designation
SO ₂	Better than national standards.
CO	Unclassifiable or attainment effective November 15, 1990.
O ₃	Unclassifiable or attainment as of June 15, 2004, for the 8-hour ozone standard. ¹
PM ₁₀	Unclassifiable effective November 15, 1990.
NO ₂	Cannot be classified or better than national standards.
Pb	Not designated.
¹ Unclassifiable or attainment effective October 18, 2000, for the 1-hour ozone standard which was revoked effective June 15, 2005.	
Unclassifiable or attainment effective April 5, 2005, for PM _{2.5} .	

- (a) **Ozone Standards**
 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 and NO_x emissions are considered when evaluating the rule applicability relating to ozone. Kosciusko County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
- (b) Kosciusko County has been classified as attainment for PM_{2.5}. On May 8, 2008, U.S. EPA promulgated the requirements for Prevention of Significant Deterioration (PSD) for PM_{2.5} emissions. These rules became effective on July 15, 2008. On May 4, 2011 the air pollution control board issued an emergency rule establishing the direct PM_{2.5} significant level at ten (10) tons per year. This rule became effective, June 28, 2011. Therefore, direct PM_{2.5} and SO₂ emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability – Entire Source section.
- (c) **Other Criteria Pollutants**
 Kosciusko 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.

Fugitive Emissions

Since this source is classified as a secondary metal production plant, it is considered one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2, 326 IAC 2-3, or 326 IAC 2-7. Therefore, fugitive emissions are counted toward the determination of PSD, Emission Offset, and Part 70 Permit applicability.

Unrestricted Potential Emissions

Appendix A of this TSD reflects the unrestricted potential emissions of the source.

- (a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of PM₁₀, PM_{2.5}, and CO is equal to or greater than 100 tons per year. However, the Permittee has agreed to limit the source's PM₁₀, PM_{2.5}, and CO emissions to less than Title V levels, therefore the Permittee will be issued a FESOP Renewal.

- (b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of all other criteria pollutants are less than 100 tons per year.
- (c) The potential to emit (as defined in 326 IAC 2-7-1(29)) of GHGs is less than one hundred thousand (100,000) tons of CO₂ equivalent emissions (CO₂e) per year.
- (d) 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/or 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. However, the Permittee has agreed to limit the source's single HAP emissions and total HAP emissions below Title V levels. Therefore, the Permittee will be issued a FESOP Renewal.

Potential to Emit After Issuance

The source has opted to remain a FESOP source. The table below summarizes the potential to emit, reflecting all limits of the emission units. Any control equipment is considered enforceable only after issuance of this FESOP 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 of the Entire Source After Issuance of Renewal (tons/year)									
	PM	PM ₁₀ *	PM _{2.5} **	SO ₂	NO _x	VOC	CO	GHGs as CO ₂ e***	Total HAPs	Worst Single HAP
Charge Handling (EU1)	3.00	1.80	1.80	0	0	0	0	0	0.16	0.13 Manganese
Cupola (EU2) or Electric Induction Furnace (EU3) Worst Case	9.32	8.37	8.37	6.00	0.50	0.90	54.35	15,381.31	7.85	5.50 Lead
Magnesium or Inoculation Treatment Worst Case	20.0	20.0	20.0	0	0	0.50	0	0	0	0
Pouring/Casting (EU4)	21.0	10.30	13.30	0.10	0.05	0.70	30.0	0	7.29	2.09 Hydrogen Cyanide
South Castings Cooling (EU5A)	5.43	2.58	2.58	0	0	0		0		
East Castings Cooling (EU5B)	18.92	5.43	5.43	0	0	0		0		
Castings Shakeout (EU6)				0	0	8.41		0		
Sand Handling (EU9)				0	0	0	0	0	0	0
Cleaning and Finishing Grinding (EU8A)	2.55	0.26	0.26	0	0	0	0	0	4.51	3.69 Manganese
Cleaning and Finishing Wheelabrator Shotblast Unit (EU8A)	2.55	0.26	0.26							
Oil Core Oven (EU10)	7.29	7.29	7.29	0.27	3.50	0	0	0	0	0
Shell Core Machines (EU11)	0	0	0	1.05	1.64	0	0	0	0.20	negl.
Core Wash and Mold Parting (EU12)	0	0	0	0	0	13.25	0	0	0.98	0.98 TEA
Natural Gas Combustion	0.02	0.07	0.07	0.01	0.92	0.05	0.77	1,110.48	0.02	0.016 Hexane
Unpaved Roads	5.29	1.35	0.13	0	0	0	0	0	0	0
Insignificant Activities	1.0	1.0	1.0	0	0	0	1.0	0	0	0
Total PTE of Entire Source	96.36	58.71	57.49	7.42	6.62	24.81	85.12	16,491.78	21.0	<10
Title V Major Source Thresholds***	NA	100	100	100	100	100	100	100,000	25	10
PSD Major Source Thresholds***	100	100	100	100	100	100	100	100,000	NA	NA
Emission Offset/ Nonattainment NSR Major Source Thresholds	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

*Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant".
 **PM_{2.5} listed is direct PM_{2.5}.
 *** The 100,000 CO₂e threshold represents the Title V and PSD subject to regulation thresholds for GHGs in order to determine whether a source's emissions are a regulated NSR pollutant under Title V and PSD.

(a) FESOP Status

This existing source is not a Title V major stationary source, because the potential to emit criteria pollutants from the entire source will be limited to less than the Title V major source threshold levels. In addition, this existing source is not a major source of HAPs, as defined in 40 CFR 63.41, because the potential to emit HAPs is limited to less than ten (10) tons per year for a single HAP and twenty-five (25) tons per year of total HAPs. Therefore, this source is an area source under Section 112 of the Clean Air Act and is subject to the provisions of 326 IAC 2-8 (FESOP).

In order to comply with the requirements of 326 IAC 2-8-4 (FESOP), the source shall comply with the following:

Note: Unless otherwise specified, existing emissions rates are not changed in this renewal.

Charge Handling, Cupola, Electric Induction Furnace, Magnesium Treatment, and Inoculation

- (1) The total combined metal throughput to the one (1) cupola (EU2) and the one (1) electric induction furnace (EU3) shall not exceed 10,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Note: In FESOP No. 085-14520-00006 on October 20, 2006, fugitive PM and PM10 emissions from unpaved roads were 0.91 and 0.28 tons per year, respectively. However, no calculations were included in the permit, so IDEM cannot determine if they were accurate. Fugitive emissions are counted toward the determination of PSD, Emission Offset, and Part 70 Permit applicability because this source is considered one of the twenty-eight (28) listed source categories. Based on updated the fugitive emission calculations the fugitive PM and PM10 emissions increased to 5.29 and 1.35 tons per year, respectively. As a result, in order to remain a minor source under 326 IAC 2-2 (PSD), IDEM revised the total combined metal throughput from 11,300 tons per year to 10,000 tons per year.

- (2) The PM10 and PM2.5 emissions from the following units shall not exceed the emission limits listed in the table below:

Unit ID	Unit Description	PM10 Emission Limit (lbs/ton of metal melted)	PM2.5 Emission Limit (lbs/ton of metal melted)**
EU1	Charge Handling	0.36	0.36
EU2	Cupola*	1.67	1.67
EU3	Electric Induction Furnace	0.86	0.86
N/A	Magnesium Treatment Process	1.80	1.80
N/A	Inoculation Process	4.0	4.0

*Note: The PM10 emission rate from the cupola was previously limited to 12.4 pounds per ton of metal melted after control and a total metal throughput of 11,300 tons per year. This equates to a potential to emit 70.06 tons of PM10 per year after control and when combined with the potential to emit PM10 from all other emission units at this source would make the source subject to the requirements of 326 IAC 2-7 (Part 70 Permits) and 326 IAC 2-2 (PSD). Therefore, IDEM has revised the metal throughput and the PM10 emission rate to 1.67 pounds per ton of metal melted after control. This is equivalent to 8.37 tons of PM10 per year after control and renders the requirements of 326 IAC 2-7 (Part 70 Permits) and 326 IAC 2-2 (PSD) not applicable.

**Note: IDEM is now required to regulate PM2.5 emissions. Therefore, the FESOP Renewal will include PM2.5 emission limits for the charge handling operation, cupola, electric induction furnace, magnesium treatment process, and inoculation process in order to render the requirements of 326 IAC 2-7 (Part 70 Permits) and 326 IAC 2-2 (PSD) not applicable.

- (3) The CO emission rate from the one (1) cupola (EU2) after control shall not exceed 10.87 pounds per ton of metal melted.

- (4) The emissions of lead from the cupola (EU2) shall not exceed 5.50 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Note: The lead emissions were previously limited to 6.22 tons per year, which was based on a limited throughput of 11,300 tons of metal per year.

- (5) The emissions of manganese from the cupola (EU2) shall not exceed 2.14 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Note: The manganese emissions were previously limited to 2.42 tons per year, which was based on a limited throughput of 11,300 tons of metal per year.

- (6) The total combination of HAPs emitted from the cupola (EU2) shall not exceed 7.85 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Note: The manganese emissions were previously limited to 8.87 tons per year, which was based on a limited throughput of 11,300 tons of metal per year.

- (7) The emissions of lead from the electric induction furnace (EU3) shall not exceed 0.50 ton per twelve (12) consecutive month period, with compliance determined at the end of each month;

- (8) The emissions of manganese from the electric induction furnace (EU3) shall not exceed 0.14 ton per twelve (12) consecutive month period, with compliance determined at the end of each month;

- (9) The total combination of HAPs emitted from the electric induction furnace (EU3) shall not exceed 0.65 ton per twelve (12) consecutive month period, with compliance determined at the end of each month;

Note: The HAPs limits for the electric induction furnace have been revised because the existing HAPs limits did not reflect that the total combined metal throughput to the one (1) cupola and the one (1) electric induction furnace shall not exceed 10,000 tons per year.

- (10) The Permittee shall operate the cupola afterburner such that the 15-minute average combustion zone temperature does not fall below 1,400 degrees Fahrenheit (°F). Periods when the cupola is off blast and for 15 minutes after going on blast from an off blast condition is not included in the 15-minute average.

Pouring, Casting, Cooling, Shakeout, Finishing, and Sand Handling

- (1) The throughput of metal to the pouring/casting operation (EU4), grinding area (EU8A), and wheelabrator shot blast unit (EU8B), shall not exceed 10,000 tons per twelve (12) consecutive month period, each, with compliance determined at the end of each month.

- (2) The PM10 and PM2.5 emissions from the following units shall not exceed the emission limits listed in the table below:

Unit ID	Unit Description	Control ID	Stack ID	PM10 Emission Limit (lbs/ton of metal)*	PM2.5 Emission Limit (lbs/ton of metal)**
EU4	Pouring/Casting Operation	N/A	N/A	2.06	2.06
EU8A	Grinding Area	GBH	B1	0.051	0.051
EU8B	Wheelabrator Shot Blast Unit	WBH	B2	0.051	0.051
Unit ID	Unit Description	Control ID	Stack ID	PM10 Emission Limit (lbs/hr)	PM2.5 Emission Limit (lbs/hr)**
EU5A	South Castings Cooling Operation	Baghouse MDBH	B4	0.59	0.59
EU5B	East Castings Cooling Operation	Baghouse MBH	B3	1.24	1.24
EU6	Castings Shakeout Operation				
EU9	Sand Handling Operation				
<p>*Note: The PM10 emission rate from pouring/casting operation was previously limited to 2.06 pounds per hour. Since the pouring/casting operation is uncontrolled this limit is not practically enforceable. Therefore, IDEM has revised the limit from pounds per hour to pounds per ton and included a total metal throughput limit for this operation (see above).</p> <p>**Note: IDEM is now required to regulate PM2.5 emissions. Therefore, the FESOP Renewal will include PM2.5 emission limits for the pouring/casting operation and Stacks B1 through B4 in order to render the requirements of 326 IAC 2-7 (Part 70 Permits) and 326 IAC 2-2 (PSD) not applicable.</p>					

- (3) The combined CO emissions from the pouring/casting (EU4), castings cooling (EU5A and EU5B), and castings shakeout (EU6) operations shall not exceed 6.0 pounds per ton of metal.

Note: The total emissions of any combination of organic HAPs from the pouring/casting cooling operations were previously limited to 4.50 tons per year. In addition, the total emissions of any combination of organic HAPs from the core making operation were previously limited to 4.50 tons per year. The majority of the organic HAPs emissions from the pouring/casting cooling operations originate from either the volatilization and/or thermal decomposition of the organic materials present in the mold or cores. As a result, IDEM has reevaluated the organic HAPs emission limits and determined they are not necessary because the previous emission calculations assumed organic HAPs were emitted from both the core making process (5.32 tons per year) and pouring/casting cooling operations (3.14 tons per year). The revised unlimited potential to emit organic HAPs from the core making process and pouring/casting cooling operations is now 5.53 tons per year. Metallic HAPs (lead, manganese...etc) represent the majority of the unlimited potential to emit total HAPs from this source. Therefore, IDEM will continue to limit the potential to emit metallic HAPs from the cupola and electric induction furnace. These limits combined with the unlimited potential to emit HAPs from all other emission units at this source, shall limit the source-

wide total potential to emit of any single HAP to less than ten (10) tons per 12 consecutive month period, total HAPs to less than twenty-five (25) tons per 12 consecutive month period.

Compliance with these limits, combined with the potential to emit PM10, PM2.5, and CO from all other emission units at this source, shall limit the source-wide total potential to emit of PM10, PM2.5, and CO to less than 100 tons per 12 consecutive month period, each, and shall render 326 IAC 2-7 (Part 70 Permits) and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

(b) PSD Minor Source

This existing source is not a major stationary source, under PSD (326 IAC 2-2), because the potential to emit PM is limited to less than 100 tons per year, the potential to emit all attainment regulated criteria pollutants are less than 100 tons per year, the potential to emit greenhouse gases (GHGs) is less than the PSD subject to regulation threshold of one hundred thousand (100,000) tons of CO₂ equivalent emissions (CO₂e) per year, and this source is one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(gg)(1). Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

In order to render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable, the source shall comply with the following:

Charge Handling, Cupola, Electric Induction Furnace, Magnesium Treatment, and Inoculation

- (1) The total combined metal throughput to the one (1) cupola (EU2) and the one (1) electric induction furnace (EU3) shall not exceed 10,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Note: In FESOP No. 085-14520-00006 on October 20, 2006, fugitive PM and PM10 emissions from unpaved roads were 0.91 and 0.28 tons per year, respectively. However, no calculations were included in the permit, so IDEM cannot determine if they were accurate. Fugitive emissions are counted toward the determination of PSD, Emission Offset, and Part 70 Permit applicability because this source is considered one of the twenty-eight (28) listed source categories. Based on updated the fugitive emission calculations the fugitive PM and PM10 emissions increased to 5.29 and 1.35 tons per year, respectively. As a result, in order to remain a minor source under 326 IAC 2-2 (PSD), IDEM revised the total combined metal throughput from 11,300 tons per year to 10,000 tons per year.

- (2) The PM emissions from the following units shall not exceed the emission limits listed in the table below:

Unit ID	Unit Description	PM Emission Limit (lbs/ton of metal melted)
EU1	Charge Handling	0.60
EU2	Cupola*	1.86
EU3	Electric Induction Furnace	0.90
N/A	Magnesium Treatment Process	1.80
N/A	Inoculation Process	4.0

*Note: The PM emission rate from the cupola was previously limited to 13.8 pounds per ton of metal melted after control and a total metal throughput of 11,300 tons per year. This equates to a potential to emit 77.97 tons of PM per year after control and when combined with the potential to emit PM from all other emission units at this source would make the source subject to the requirements of 326 IAC 2-2 (PSD). Therefore, IDEM has revised the metal throughput and PM emission rate to 1.86 pounds per ton of metal melted after control. This is equivalent to 9.32 tons of PM per year after control and renders the requirements of 326 IAC 2-2 (PSD) not applicable.

Pouring, Casting, Cooling, Shakeout, Finishing, and Sand Handling

- (1) The throughput of metal to the pouring/casting operation (EU4), grinding area (EU8A), and wheelabrator shot blast unit (EU8B), shall not exceed 10,000 tons per twelve (12) consecutive month period, each, with compliance determined at the end of each month.
- (2) The PM emissions from the following units shall not exceed the emission limits listed in the tables below:

Unit ID	Unit Description	Control ID	Stack ID	PM Emission Limit (lbs/ton of metal)*
EU4	Pouring/Casting Operation	N/A	N/A	4.20
EU8A	Grinding Area	GBH	B1	0.51
EU8B	Wheelabrator Shot Blast	WBH	B2	0.51

* The PM emission rate from pouring/casting operation was previously limited to 4.20 pounds per hour. Since the pouring/casting operation is uncontrolled this limit is not practically enforceable and to be consistent with the format of the other limits for uncontrolled emission units. Therefore, IDEM has revised the limit from pounds per hour to pounds per ton and included a total metal throughput limit for this operation.

Unit ID	Unit Description	Control ID	Stack ID	PM Emission Limit (lbs/hr)
EU5A	South Castings Cooling Operation	Baghouse MDBH	B4	1.24
EU5B	East Castings Cooling Operation	Baghouse MBH	B3	4.32
EU6	Castings Shakeout Operation			
EU9	Sand Handling Operation			

Compliance with these limits, combined with the potential to emit PM from all other emission units at this source, shall limit the source-wide total potential to emit of PM to less than 100 tons per 12 consecutive month period and shall render 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

Federal Rule Applicability

Compliance Assurance Monitoring (CAM)

- (a) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is not included in the permit, because the potential to emit of the source is limited to less than the Title V major source thresholds and the source is not required to obtain a Part 70 or Part 71 permit.

New Source Performance Standards (NSPS)

- (a) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included in the permit.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

- (a) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Iron and Steel Foundries, (40 CFR 63, Subpart EEEEE (326 IAC 20-92)), are not included in the permit, since this source has agreed to limit any single HAP to less than ten (10) tons per year and total HAPs to less than twenty-five (25) tons per year.
- (b) This gray and ductile iron foundry is subject to the National Emission Standards for Hazardous Air Pollutants for Iron and Steel Foundries Area Sources (40 CFR 63, Subpart ZZZZZ), because this source is a iron foundry per the definition in 40 CFR 63.10906 and is an area source of HAPs.

Note: This is a new requirement included in the permit.

Applicable portions of the NESHAP are the following:

- (1) 40 CFR 63.10880(a), (b)(1), (c), (e), and (f)
- (2) 40 CFR 63.10881(a)(1) and (2) and (d)
- (3) 40 CFR 63.10885
- (4) 40 CFR 63.10886
- (5) 40 CFR 63.10890
- (6) 40 CFR 63.10899
- (7) 40 CFR 63.10905
- (8) 40 CFR 63.10906

This affected source is not required to perform testing to comply with this NESHAP since it is currently classified as a small foundry.

The requirements of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated as 326 IAC 20-1-1, apply to the source except as otherwise specified in 40 CFR 63, Subpart ZZZZZ.

- (c) There are no other National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) included in the permit.

State Rule Applicability - Entire Source

- (a) 326 IAC 1-6-3 (Preventive Maintenance Plan)
The source is subject to 326 IAC 1-6-3.
- (b) 326 IAC 1-5-2 (Emergency Reduction Plans)
The source is not subject to 326 IAC 1-5-2 because the potential to emit of all pollutants is limited to less than one hundred (100) tons per year, each.
- (c) 326 IAC 2-2 (Prevention of Significant Deterioration(PSD))
PSD applicability is discussed under the PTE of the Entire Source After Issuance of the FESOP section above.
- (d) 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))
This source is not subject to the requirements of 326 IAC 2-4.1, since the unlimited potential to emit of HAPs from the emission units constructed after July 27, 1997 is less than ten (10) tons per year for any single HAP and less than twenty-five (25) tons per year of a combination of HAPs.
- (e) 326 IAC 2-6 (Emission Reporting)
This source is subject to 326 IAC 2-6 (Emission Reporting) because the limited potential to emit lead into the ambient air is equal to or greater than five (5) tons per year. Therefore, pursuant to 326 IAC 2-6-3(a)(2), triennial reporting is required. An emission statement shall be submitted in accordance with the compliance schedule in 326 IAC 2-6-3 by July 1, 2013, and every three (3) years thereafter. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4.

Note: The source was previously subject to 326 IAC 2-6 in FESOP No. 085-14520-00006, issued on October 20, 2006. However, this requirement was removed from the permit in Significant Permit Revision No. 085-24317-00006, issued on October 23, 2007 because the potential to emit lead after control was less than five (5) tons per year. However, this requirement was incorrectly removed from the permit because the lead emissions from the cupola were limited to 6.22 tons per year.

- (f) 326 IAC 2-8-4 (FESOP)
FESOP applicability is discussed under the PTE of the Entire Source After Issuance of the FESOP section above.
- (g) 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 Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:
 - (1) 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.
 - (2) 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.

- (h) 326 IAC 6-4 (Fugitive Dust Emissions Limitations)
 Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions Limitations), the source 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.

State Rule Applicability – Individual Facilities

- (a) 326 IAC 6-2 (Particulate Emission Limitations for Sources of Indirect Heating)
 The natural gas-fired combustion units are not subject to 326 IAC 6-2 (Particulate Emission Limitations for Sources of Indirect Heating), because, pursuant to 326 IAC 1-2-19, these emission units do not meet the definition of an indirect heating unit.
- (b) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
- (1) Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from each of the following operations shall not exceed the pounds per hour limit listed in the table below:

Unit Description	Max. Throughput Rate (tons/hr)	Particulate Emission Limit (lbs/hr)
Charge Handling (EU1)	1.60	5.62
Electric Induction Furnace (EU3)	1.60	5.62
Magnesium Treatment	1.50	5.38
Inoculation Process	1.60	5.62
Pouring/Casting (EU4)	1.60	5.62
South Castings Cooling (EU5A)	1.60	5.62
East Castings Cooling (EU5B)	1.60	5.62
Casting Shakeout (EU6)	1.60	5.62
Grinding (EU8A)	1.60	5.62
Wheelabrator Shot Blaster (EU8B)	1.60	5.62
Sand Handling (EU9)	9.6	18.66
Oil Core Oven (EU10)	0.75	3.83

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

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:

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

The baghouses shall be in operation at all times the castings cooling, castings shakeout, grinding area, wheelabrator shot blast unit, and sand handling operations are in operation, in order to comply with this limit.

- (2) The existing cupola is subject to a particulate matter limit in 326 IAC 11-1. Pursuant to 326 IAC 6-3-1(b)(4), existing foundry cupolas' manufacturing processes that are subject to the requirements of 326 IAC 11-1 are exempt from the requirements of 326 IAC 6-3.
- (3) The natural gas-fired combustion units are exempt from the requirements of 326 IAC 6-3, because, pursuant to 326 IAC 1-2-59, liquid and gaseous fuels and combustion air are not considered as part of the process weight.

- (c) 326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)
The cupola, pouring/casting operation, core making operation, and core wash and mold parting process are not subject to the requirements of 326 IAC 8-1-6, since the unlimited VOC potential emissions from each unit is less than twenty-five (25) tons per year.
- (d) 326 IAC 8-3-2 (Cold Cleaner Operations)
The one (1) degreasing operation is subject to the requirements of 326 IAC 8-3-2 (Cold Cleaner Operations) since it was constructed after January 1, 1980.
- (1) Pursuant to 326 IAC 8-3-2 (Cold Cleaner Operations) for cold cleaning operations the owner or operator shall:
- (A) Equip the cleaner with a cover;
 - (B) Equip the cleaner with a facility for draining cleaned parts;
 - (C) Close the degreaser cover whenever parts are not being handled in the cleaner;
 - (D) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;
 - (E) Provide a permanent, conspicuous label summarizing the operation requirements;
 - (F) Store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere.
- (e) 326 IAC 8-3-5 (Cold Cleaner Degreaser Operation and Control)
The one (1) degreasing operation is subject to the requirements of 326 IAC 8-3-5 (Cold Cleaner Operations) since it was constructed after July 1, 1990.
- (1) Pursuant to 326 IAC 8-3-5(a) (Cold Cleaner Degreaser Operation and Control), for cold cleaner degreaser operations constructed after July 1, 1990, the owner or operator shall ensure that the following control equipment requirements are met:
- (A) Equip the degreaser with a cover. The cover must be designed so that it can be easily operated with one (1) hand if:
 - (i) The solvent volatility is greater than two (2) kiloPascals (fifteen (15) millimeters of mercury or three-tenths (0.3) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F));
 - (ii) The solvent is agitated; or
 - (iii) The solvent is heated.
 - (B) Equip the degreaser with a facility for draining cleaned articles. If the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F)), then the drainage facility must be internal such that articles are enclosed under the cover while draining. The drainage facility may be external for applications where an internal type cannot fit into the cleaning system.

- (C) Provide a permanent, conspicuous label which lists the operating requirements outlined in subsection (b).
 - (D) The solvent spray, if used, must be a solid, fluid stream and shall be applied at a pressure which does not cause excessive splashing.
 - (E) Equip the degreaser with one (1) of the following control devices if the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F)), or if the solvent is heated to a temperature greater than forty-eight and nine-tenths degrees Celsius (48.9°C) (one hundred twenty degrees Fahrenheit (120°F)):
 - (i) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.
 - (ii) A water cover when solvent is used is insoluble in, and heavier than, water.
 - (iii) Other systems of demonstrated equivalent control such as a refrigerated chiller or carbon adsorption. Such systems shall be submitted to the U.S. EPA as a SIP revision.
- (2) Pursuant to 326 IAC 8-3-5(b) (Cold Cleaner Degreaser Operation and Control), the owner or operator shall ensure that the following operating requirements are met:
- (A) Close the cover whenever articles are not being handled in the degreaser.
 - (B) Drain cleaned articles for at least fifteen (15) seconds or until dripping ceases.
 - (C) Store waste solvent only in covered containers and prohibit the disposal or transfer of waste solvent in any manner in which greater than twenty percent (20%) of the waste solvent by weight could evaporate.
- (f) 326 IAC 9-1 (Carbon Monoxide Emission Limits)
The one (1) cupola is not subject to the requirements 326 IAC 9-1 because it was constructed prior to the March 21, 1972 applicability date of this rule and has a process weigh rate less than ten (10) tons per hour.
- (g) 326 IAC 11-1 (Existing Foundries)
This existing foundry was constructed prior to December 6, 1968. Pursuant to 326 IAC 11-1-2, the particulate matter emissions from the one (1) cupola, shall not exceed 16.65 pounds per hour when operating at a process weight rate of five (5) tons per hour.
- The scrubber shall be in operation at all times the cupola is in operation, in order to comply with this limit.
- (h) 326 IAC 15-1 (Lead Emission Limitations)
This source is not subject to the requirements of 326 IAC 15-1, because it is not specifically listed in 326 IAC 15-2.
- (i) 326 IAC 12 (New Source Performance Standards)
See Federal Rule Applicability Section of this TSD.
- (j) 326 IAC 20 (Hazardous Air Pollutants)
See Federal Rule Applicability Section of this TSD.

Compliance Determination and Monitoring Requirements

Permits issued under 326 IAC 2-8 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 2-8-4. 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 monitoring requirements applicable to this source are as follows:

Emission Unit	Control Device	Timeframe for Testing	Pollutant	Frequency of Testing
Cupola (EU2)	Afterburner and Scrubber	No later than 180 days after the first day of restarting the cupola	PM, PM10, PM2.5, CO, Lead, Manganese, and Total Metal HAPs	Once every 2.5 years
East Castings Cooling (EU5B), Castings Shakeout (EU6), and Sand Handling (EU9) Operations	Baghouse (MBH)	Five (5) years from the last valid compliance demonstration	PM, PM10, and PM2.5	Once every 5 years

The testing conditions are necessary in order to demonstrate compliance with 326 IAC 2-8-4 (FESOP), 326 IAC 2-2 (PSD), 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), and 326 IAC 11-1 (Existing Foundries).

The source last operated the cupola on June 28, 2005 and last tested the cupola on March 1 and 2, 1994. The source last performed PM and PM10 testing for the castings cooling (EU5A and EU5B), castings shakeout (EU6), and sand handling (EU9) operations on September 16, 2009. Upon further review, IDEM has determined that the source is not required to perform PM, PM10, and PM2.5 testing for the south castings cooling operation (EU5A) because the combined unlimited potential to emit PM, PM10, and PM2.5 from the castings cooling operation (EU5A and EU5B) is 9.81 tons per year. The limited potential to emit PM, PM10, and PM2.5 from the south castings cooling operation (EU5B) is 5.43 tons per year. Therefore, in order to comply with this limit the baghouse would not have to achieve a high control efficiency.

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

Emission Unit	Control Device	Operating Parameters	Frequency
Cupola (EU2)	Afterburner/Scrubber	Visible Emissions	Once per day
	Scrubber	Flow Rate	Once per day
		Pressure Drop	Once per day
	Afterburner	Temperature	Continuous
South Castings Cooling Operations (EU5A)	Baghouse (MDBH)	Visible Emissions	Once per day
East Castings Cooling (EU5B), Castings Shakeout (EU6), and Sand Handling (EU9) Operations		Pressure Drop	Once per day
Grinding Area (EU8A)	Baghouse (GBH)	Visible Emissions	Once per day
		Pressure Drop	Once per day
Wheelabrator Shot Blast Unit (EU8B)	Baghouse (WBH)	Visible Emissions	Once per day
		Pressure Drop	Once per day

These monitoring conditions are necessary because the afterburner and scrubber for the cupola must operate properly to ensure compliance with 326 IAC 2-8-4 (FESOP), 326 IAC 2-2 (PSD), and 326 IAC 11-1 (Existing Foundries). These monitoring conditions are necessary because the baghouses for the castings cooling, castings shakeout, grinding, wheelabrator shot blast unit, and sand handling operations must operate properly to ensure compliance with 326 IAC 2-8-4 (FESOP), 326 IAC 2-2 (PSD), and 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes).

Recommendation

The staff recommends to the Commissioner that the FESOP Renewal 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 application for the purposes of this review was received on January 5, 2011.

Conclusion

The operation of this stationary gray and ductile iron foundry shall be subject to the conditions of the attached FESOP Renewal No. 085-30084-00006.

IDEM Contact

- (a) Questions regarding this proposed permit can be directed to Brian Williams at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) 234-5375 or toll free at 1-800-451-6027 extension 4-5375.
- (b) A copy of the findings is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>
- (c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: www.idem.in.gov

**Appendix A: Emission Calculations
Summary of Emissions**

**Company Name: Warsaw Foundry Company, Inc.
Address City IN Zip: 1212 North Detroit Street, Warsaw, Indiana 46580
Permit Number: F085-30084-00006
Reviewer: Brian Williams**

Unlimited Potential to Emit (tons/year)								
Process*	PM	PM10	PM2.5	SO2	NOx	VOC	CO	GHGs as CO2e
Charge Handling (EU1)	4.20	2.52	2.52	0	0	0	0	0
Cupola (EU2)	302.22	271.56	271.56	26.28	2.19	3.94	3,175.50	15,381.31
Electric Induction Furnace (EU3)	6.31	6.03	6.03	0	0	0	0	0
Magnesium Treatment	11.83	11.83	11.83	0	0	0	0	0
Inoculation	28.03	28.03	28.03	0	0	0	0	0
Pouring and Casting (EU4)	29.43	14.44	14.44	0.14	0.07	0.98	42.05	0
South Castings Cooling (EU5A)	9.81	9.81	9.81	0	0	0		0
East Castings Cooling (EU5B)								0
Castings Shakeout (EU6)	22.43	15.70	15.70	0	0	8.41	0	0
Sand Handling (EU9)	151.37	22.71	22.71	0	0	0	0	0
Grinding and Wheelabrator Shot Blast Unit (EU8A and EU8B)	119.14	11.91	11.91	0	0	0	0	0
Oil Core Oven (EU10)	7.29	7.29	7.29	0.27	3.50	0	0	0
Shell Core Machine (EU11)	0	0	0	1.05	1.64	0	0	0
Core Wash/Mold Part	0	0	0	0	0	13.25	0	0
Natural Gas Combustion	0.02	0.07	0.07	0.01	0.92	0.05	0.77	1,110.48
Unpaved Roads	5.29	1.35	0.13	0	0	0	0	0
Other Insignificant	1.0	1.0	1.0	0	0	1.0	0	0
Total**	680.23	386.39	385.18	27.74	8.33	27.63	3,218.32	16,491.78

* Pursuant to FESOP Revision No. 085-24317-00006, issued on October 23, 2007, the throughput capacities for the charge handling, magnesium treatment, inoculation, pouring/casting, castings shakeout, grinding, wheelabrator shot blast unit, and sand handling operations are bottlenecked by the melt operations of the electric induction furnace. Therefore, PTE for these operations was based on the maximum capacity of the induction furnace.

** Total emissions only include worst case emissions from one method of charging (cupola or electric induction furnace) and either magnesium treatment or inoculation. The cupola serves as a back up to the induction furnace.

**Appendix A: Emission Calculations
Summary of Emissions**

**Company Name: Warsaw Foundry Company, Inc.
Address City IN Zip: 1212 North Detroit Street, Warsaw, Indiana 46580
Permit Number: F085-30084-00006
Reviewer: Brian Williams**

Limited Potential to Emit (tons/year)									
Process*	Stack/Control	PM	PM10	PM2.5	SO2	NOx	VOC	CO	GHGs as CO2e
Charge Handling (EU1)	-	3.00	1.80	1.80	0	0	0	0	0
Cupola (EU2)	C1	9.32	8.37	8.37	6.00	0.50	0.90	54.35	15,381.31
Electric Induction Furnace (EU3)	-	4.50	4.30	4.30	0	0	0	0	0
Magnesium Treatment	-	9.00	9.00	9.00	0	0	0.50	0	0
Inoculation	-	20.00	20.00	20.00	0	0	0.50	0	0
Pouring and Casting (EU4)	-	21.00	10.30	10.30	0.10	0.05	0.70	30.00	0
South Castings Cooling (EU5A)	B4/MBH	5.43	2.58	2.58	0	0	0		0
East Castings Cooling (EU5B)	B3/MBH	18.92	5.43	5.43	0	0	0		0
Castings Shakeout (EU6)					0	0	8.41		0
Sand Handling (EU9)	B1/GBH	2.55	0.26	0.26	0	0	0	0	
Grinding (EU8A)					0	0	0	0	
Wheelabrator Shot Blast Unit (EU8B)	B2/WBH	2.55	0.26	0.26	0	0	0	0	0
Oil Core Oven (EU10)	SO1	7.29	7.29	7.29	0.27	3.50	0	0	0
Shell Core Machine (EU11)	-	0	0	0	1.05	1.64	0	0	0
Core Wash/Mold Part	-	0	0	0	0	0	13.25	0	0
Natural Gas Combustion	-	0.02	0.07	0.07	0.01	0.92	0.05	0.77	1,110.48
Unpaved Roads	-	5.29	1.35	0.13	0	0	0	0	0
Other Insignificant	-	1.0	1.0	1.0	0	0	1.0	0	0
Total**		96.36	58.71	57.49	7.42	6.62	24.81	85.12	16,491.78

* Pursuant to FESOP Revision No. 085-24317-00006, issued on October 23, 2007, the throughput capacities for the charge handling, magnesium treatment, inoculation, pouring/casting, castings cooling, castings shakeout, grinding, wheelabrator shot blast unit, and sand handling operations are bottlenecked by the melt operations of the electric induction furnace. Therefore, PTE for these operations was based on the maximum capacity of the induction furnace.

* Total emissions only include worst case emissions from one method of charging (cupola or electric induction furnace) and either magnesium treatment or inoculation. The cupola serves as a back up to the induction furnace.

**Appendix A: Emission Calculations
Summary of HAPs**

Company Name: Warsaw Foundry Company, Inc.
Address City IN Zip: 1212 North Detroit Street, Warsaw, Indiana 46580
Permit Number: F085-30084-00006
Reviewer: Brian Williams

Unlimited Potential to Emit (tons/year)																																		
Process	Acrolein	Benzene	Dichloro-benzene	Formaldehyde	Hexane	Hydrogen Cyanide	M-Xylene	Naptha-lene	O-Xylene	Phenol	Toluene	Aromatic Amines	C5 Aldehydes	TEA	Cadmium	Chromium	Nickel	Arsenic	Lead	Manganese	Antimony	Total												
Charge Handling (EU1)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.002	0.003	0.001	0.016	0.130	0.008	0.16												
Cupola (EU2)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.11	0.20	0.04	24.09	9.37	0.56	34.37												
Electric Induction Furnace (EU3)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.002	0.004	0.001	0.701	0.196	0.012	0.92												
Magnesium Treatment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00												
Inoculation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00												
Pouring and Casting (EU4)	0.01	1.40	-	0.01	-	2.09	0.12	0.01	0.03	0.50	0.56	0.46	0.12	-	-	0.011	0.020	0.004	0.113	0.912	0.054	7.29												
Castings Cooling (EU5A)														-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	
Castings Cooling (EU5B)														-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-
Castings Shakeout (EU6)														-	-	0.009	0.015	0.003	0.086	0.695	0.041		-	-	-	-	-	-	-	-	-	-	-	-
Sand Handling (EU9)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00												
Grinding and Wheelabrator Shot Blast Unit (EU8A and EU8B)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.045	0.080	0.015	0.459	3.693	0.220	4.51												
Oil Core Oven (EU10)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00												
Shell Core Machine (EU11)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.20												
Core Wash/Mold Part	-	-	-	-	-	-	-	-	-	-	-	-	-	0.98	-	-	-	-	-	-	-	0.98												
Natural Gas Combustion	-	1.93E-05	1.10E-05	6.90E-04	1.66E-02	-	-	-	-	-	3.13E-05	-	-	-	1.01E-05	1.29E-05	1.93E-05	-	4.60E-06	3.50E-06	-	0.02												
Total*	0.01	1.40	0.00	0.01	0.02	2.09	0.12	0.01	0.03	0.50	0.56	0.46	0.12	0.98	0.00	0.18	0.32	0.06	24.76	14.80	0.88	47.53												

**Appendix A: Emission Calculations
Summary of HAPs**

Company Name: Warsaw Foundry Company, Inc.
Address City IN Zip: 1212 North Detroit Street, Warsaw, Indiana 46580
Permit Number: F085-30084-00006
Reviewer: Brian Williams

Limited Potential to Emit (tons/year)																																		
Process	Acrolein	Benzene	Dichloro-benzene	Formaldehyde	Hexane	Hydrogen Cyanide	M-Xylene	Napthalene	O-Xylene	Phenol	Toluene	Aromatic Amines	C5 Aldehydes	TEA	Cadmium	Chromium	Nickel	Arsenic	Lead	Manganese	Antimony	Total												
(EU1)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.002	0.003	0.001	0.016	0.130	0.008	0.16												
Cupola (EU2)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.03	0.05	0.01	5.50	2.14	0.13	7.85												
Electric Induction Furnace (EU3)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.002	0.003	0.001	0.500	0.140	0.008	0.65												
Magnesium Treatment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00												
Inoculation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00												
Pouring and Casting (EU4)	0.01	1.40	-	0.01	-	2.09	0.12	0.01	0.03	0.50	0.56	0.46	0.12	-	-	0.011	0.020	0.001	0.113	0.912	0.054	7.29												
Castings Cooling (EU5A)														-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	
Castings Cooling (EU5B)														-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-
Castings Shakeout (EU6)														-	-	0.009	0.015	0.003	0.086	0.695	0.041		-	-	-	-	-	-	-	-	-	-	-	-
Sand Handling (EU9)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00												
Grinding and Wheelabrator Shot Blast Unit (EU8A and EU8B)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.045	0.080	0.015	0.459	3.693	0.220	4.51												
Oil Core Oven (EU10)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00												
Shell Core Machine (EU11)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.20												
Core Wash/Mold Part	-	-	-	-	-	-	-	-	-	-	-	-	-	0.98	-	-	-	-	-	-	-	0.98												
Natural Gas Combustion	-	1.93E-05	1.10E-05	6.90E-04	1.66E-02	-	-	-	-	-	3.13E-05	-	-	-	1.29E-05	1.29E-05	1.93E-05	-	4.60E-06	3.50E-06	-	0.02												
Total*	0.01	1.40	0.00	0.01	0.02	2.09	0.12	0.01	0.03	0.50	0.56	0.46	0.12	0.98	0.00	0.09	0.16	0.03	6.17	7.57	0.45	21.00												

Appendix A: Emission Calculations

Iron Foundry Emissions

Company Name: Warsaw Foundry Company, Inc.
Address City IN Zip: 1212 North Detroit Street, Warsaw, Indiana 46580
Permit Number: F085-30084-00006
Reviewer: Brian Williams

** Process Emissions **

Process:	Rate (tons iron/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Type of control	Control Efficiency (%)	Eac (ton/yr)	Limited Melt Throughput (ton/yr) 10,000	Limited Emissions (ton/yr)
Charge Handling (EU1) SCC# 3-04-003-015	1.60	PM	0.60	4.20	None		4.20		3.0
		PM-10	0.36	2.52			2.52		1.80
		PM-2.5	0.36	2.52			2.52		1.80
		SO2	0.00	0.00			0.00		0.00
		NOx	0.00	0.00			0.00		0.00
		VOC	0.00	0.00			0.00		0.00
		CO	0.00	0.00			0.00		0.00

Note: Emissions factors from USEPA's Factor Information Retrieval Data System, version 6.25

Allowable Emissions:

The following calculations determine PM compliance with 326 IAC 6-3-2 for process weight rates up to 30 tons per hour:

$$\begin{aligned}
 &P = 1.6 \text{ tons/hr} \\
 \text{limit} &= 4.1 \times (1.6^{0.67}) = 5.62 \text{ lb/hr (allowable)} \\
 \text{with potential:} & \\
 &4.2 \text{ tons/yr} \times 2000 \text{ lb/ton} / 8760 \text{ hr/yr} = 0.96 \text{ lb/hr (will comply)}
 \end{aligned}$$

Process:	Rate (tons iron/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Type of control	Control Efficiency (%)	Eac (ton/yr)	Limited Emissions (ton/yr)
Cupola (EU2) SCC# 3-04-003-01	5.0	PM	13.80	302.22	Venturi Scrubber	86.50%	40.80	9.32
		PM-10	12.40	271.56	Venturi Scrubber	86.50%	36.66	8.37
		PM-2.5	12.40	271.56	Venturi Scrubber	86.50%	36.66	8.37
		SO2	1.20	26.28			26.28	6.00
		NOx	0.10	2.19			2.19	0.50
		VOC	0.18	3.94			3.94	0.90
		CO	145.00	3175.50	Venturi Scrubber	93%	238.16	54.35

Note: Emissions factors from USEPA's Factor Information Retrieval Data System, version 6.25 (see page 17 for CO2e emissions)

1.481

Allowable Emissions = 16.65 lb/hr 326 IAC 11-1

$$\begin{aligned}
 \text{with potential:} & \\
 &40.8 \text{ tons/yr} \times 2000 \text{ lb/ton} / 8760 \text{ hr/yr} = 9.32 \text{ lb/hr (will comply)}
 \end{aligned}$$

Warsaw Foundry Company, Inc.
1212 North Detroit Street, Warsaw, Indiana 46580

Reviewer: Brian Williams
Permit Number: F085-30084-00006

Process:	Rate (tons iron/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Type of control	Control Efficiency (%)	Eac (ton/yr)	Limited Emissions (ton/yr)
Melting Electric Induction Furnace (EU3) SCC# 3-04-003-03	1.60	PM	0.90	6.31	None		6.31	4.50
		PM-10	0.86	6.03			6.03	4.30
		PM-2.5	0.86	6.03			6.03	4.30
		SO2	0.00	0.00			0.00	0.00
		NOx	0.00	0.00			0.00	0.00
		VOC	0.00	0.00			0.00	0.00
		CO	0.00	0.00			0.00	0.00

Note: Emissions factors from USEPA's Factor Information Retrieval Data System, version 6.25

Allowable Emissions:

The following calculations determine PM compliance with 326 IAC 6-3-2 for process weight rates up to 30 tons per hour:

P= 1.6 tons/hr

limit = $4.1 \times (1.6^{0.67}) = 5.62 \text{ lb/hr}$ (allowable)

with potential:

$6.3 \text{ tons/yr} \times 2000 \text{ lb/ton} / 8760 \text{ hr/yr} = 1.44 \text{ lb/hr}$ (will comply)

Process:	Rate (tons iron/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Type of control	Control Efficiency (%)	Eac (ton/yr)	Limited Emissions (ton/yr)
Magnesium Treatment SCC# 3-04-003-21	1.50	PM	1.80	11.83	None		11.83	9.00
		PM-10	1.80	11.83			11.83	9.00
		PM-2.5	1.80	11.83			11.83	9.00
		SO2	0.00	0.00			0.00	0.00
		NOx	0.00	0.00			0.00	0.00
		VOC	0.10	0.66			0.66	0.50
		CO	0.00	0.00			0.00	0.00

Note: Emissions factors from USEPA's Factor Information Retrieval Data System, version 6.25

Allowable Emissions:

The following calculations determine PM compliance with 326 IAC 6-3-2 for process weight rates up to 30 tons per hour:

P= 1.50 tons/hr

limit = $4.1 \times (1.5^{0.67}) = 5.38 \text{ lb/hr}$ (allowable)

with potential:

$11.8 \text{ tons/yr} \times 2000 \text{ lb/ton} / 8760 \text{ hr/yr} = 2.70 \text{ lb/hr}$ (will comply)

Warsaw Foundry Company, Inc.
1212 North Detroit Street, Warsaw, Indiana 46580

Reviewer: Brian Williams
Permit Number: F085-30084-00006

Process:	Rate (tons iron/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Type of control	Control Efficiency (%)	Eac (ton/yr)	Limited Emissions (ton/yr)
Inoculation SCC# 3-04-003-21	1.60	PM	4.00	28.03	None		28.03	20.00
		PM-10	4.00	28.03			28.03	20.00
		PM-2.5	4.00	28.03			28.03	20.00
		SO2	0.00	0.00			0.00	0.00
		NOx	0.00	0.00			0.00	0.00
		VOC	0.10	0.70			0.70	0.50
		CO	0.00	0.00			0.00	0.00

Note: Emissions factors from USEPA's Factor Information Retrieval Data System, version 6.25

Allowable Emissions:

The following calculations determine PM compliance with 326 IAC 6-3-2 for process weight rates up to 30 tons per hour:

$$\begin{aligned}
 &P = 1.60 \text{ tons/hr} \\
 \text{limit} &= 4.1 \times (1.6^{0.67}) = 5.62 \text{ lb/hr} \quad (\text{allowable}) \\
 \text{with potential:} & \\
 &28.0 \text{ tons/yr} \times 2000 \text{ lb/ton} / 8760 \text{ hr/yr} = 6.40 \text{ lb/hr} \quad (\text{will not comply})
 \end{aligned}$$

Process:	Rate (tons iron/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Type of control	Control Efficiency (%)	Eac (ton/yr)	Limited Emissions (ton/yr)
Pouring and Casting (EU4) SCC# 3-04-003-20	1.60	PM	4.200	29.43	None		29.43	21.00
		PM-10	2.060	14.44			14.44	10.30
		PM-2.5	2.060	14.44			14.44	10.30
		SO2	0.02	0.14			0.14	0.10
		NOx	0.01	0.07			0.07	0.05
		VOC	0.14	0.98			0.98	0.70
		CO**	6.00	42.05			42.05	30.00

Note: Emissions factors from USEPA's Factor Information Retrieval Data System, version 6.25

** The August 11, 2006 Indiana Cast Metals Association memo contained the CO emission factor of 6.0 lbs/ton of metal poured for the combined pouring, cooling, and shakeout processes.

Allowable Emissions:

The following calculations determine PM compliance with 326 IAC 6-3-2 for process weight rates up to 30 tons per hour:

$$\begin{aligned}
 &P = 1.6 \text{ tons/hr} \\
 \text{limit} &= 4.1 \times (1.6^{0.67}) = 5.62 \text{ lb/hr} \quad (\text{allowable}) \\
 \text{with potential:} & \\
 &29.4 \text{ tons/yr} \times 2000 \text{ lb/ton} / 8760 \text{ hr/yr} = 6.72 \text{ lb/hr} \quad (\text{will not comply})
 \end{aligned}$$

Warsaw Foundry Company, Inc.
1212 North Detroit Street, Warsaw, Indiana 46580

Reviewer: Brian Williams
Permit Number: F085-30084-00006

Process:	Rate (tons iron/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Type of control	Control Efficiency (%)	Eac (ton/yr)	Limited Emissions (ton/yr)
Castings Cooling (EU5A and EU5B) SCC# 3-04-007-13	1.60	PM	1.40	9.81	Baghouse	97.00%	0.29	See Page 10
		PM-10	1.40	9.81	Baghouse	97.00%	0.29	
		PM-2.5	1.40	9.81	Baghouse	97.00%	0.29	
		SO2	0.00	0.00			0.00	0.00
		NOx	0.00	0.00			0.00	0.00
		VOC	0.00	0.00			0.00	0.00
		CO	**	0.00			0.00	0.00

Note: Emissions factors from USEPA's Factor Information Retrieval Data System, version 6.25

* PM/PM10 emission factors for the pouring and cooling processes are from stack test on the Airset line.

** See Pouring and Casting for CO emissions

Allowable Emissions:

The following calculations determine PM compliance with 326 IAC 6-3-2 for process weight rates up to 30 tons per hour:

$$\begin{aligned}
 &P = 1.6 \text{ tons/hr} \\
 \text{limit} &= 4.1 \times (1.6^{0.67}) = 5.62 \text{ lb/hr (allowable)} \\
 \text{with potential:} & \\
 &0.3 \text{ tons/yr} \times 2000 \text{ lb/ton} / 8760 \text{ hr/yr} = 0.07 \text{ lb/hr (will comply)}
 \end{aligned}$$

Process:	Rate (tons iron/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Type of control	Control Efficiency (%)	Eac (ton/yr)	Limited Emissions (ton/yr)
Castings Shakeout (EU6) SCC# 3-04-003-31	1.60	PM	3.20	22.43	Baghouse	97.00%	0.67	See Page 10
		PM-10	2.24	15.70	Baghouse	97.00%	0.47	
		PM-2.5	2.24	15.70	Baghouse	97.00%	0.47	
		SO2	0.00	0.00			0.00	0.00
		NOx	0.00	0.00			0.00	0.00
		VOC	1.20	8.41			8.41	8.41
		CO	**	0.00			0.00	0.00

Note: Emissions factors from USEPA's Factor Information Retrieval Data System, version 6.25

** See Pouring and Casting for CO emissions

Allowable Emissions:

The following calculations determine PM compliance with 326 IAC 6-3-2 for process weight rates up to 30 tons per hour:

$$\begin{aligned}
 &P = 1.60 \text{ tons/hr} \quad \text{Note: } P \text{ includes the weight of the metal poured and the weight of the castings.} \\
 \text{limit} &= 4.1 \times (1.6^{0.67}) = 5.62 \text{ lb/hr (allowable)} \\
 \text{with potential:} & \\
 &0.7 \text{ tons/yr} \times 2000 \text{ lb/ton} / 8760 \text{ hr/yr} = 0.15 \text{ lb/hr (will comply)}
 \end{aligned}$$

Warsaw Foundry Company, Inc.
1212 North Detroit Street, Warsaw, Indiana 46580

Reviewer: Brian Williams
Permit Number: F085-30084-00006

Process:	Rate (tons sand/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Type of control	Control Efficiency (%)	Eac (ton/yr)	Limited Emissions (ton/yr)
Sand Handling (EU9) EPA SCC# 3-04-003-50	9.60	PM	3.6	151.4	Baghouse	97.00%	4.5	See Page 10
		PM-10	0.54	22.7	Baghouse	97.00%	0.7	
		PM-2.5	0.54	22.7	Baghouse	97.00%	0.7	

Note: Emissions factors from USEPA's Factor Information Retrieval Data System, version 6.25

Allowable Emissions:

The following calculations determine PM compliance with 326 IAC 6-3-2 for process weight rates up to 30 tons per hour:

$$\begin{aligned}
 &P = 9.6 \text{ tons/hr} \\
 \text{limit} &= 4.1 \times (9.6^{0.67}) = 18.66 \text{ lb/hr} \quad (\text{allowable}) \\
 \text{with potential:} & \\
 4.5 \text{ tons/yr} \times & 2000 \text{ lb/ton} / 8760 \text{ hr/yr} = 1.04 \text{ lb/hr} \quad (\text{will comply})
 \end{aligned}$$

Process:	Rate (tons iron/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Type of control	Control Efficiency (%)	Eac (ton/yr)	Limited Grinding Emissions* (ton/yr)	Limited Shot Blasting Emissions* (ton/yr)
Grinding and Wheelabrator Shot Blast Unit (EU8A and EU8B) SCC# 3-04-003-40	1.60	PM	17.00	119.14	Baghouse	97.00%	3.57	2.55	2.55
		PM-10	1.70	11.91	Baghouse	97.00%	0.36	0.26	0.26
		PM-2.5	1.70	11.91	Baghouse	97.00%	0.36	0.26	0.26
		SO2	0.00	0.00			0.00	0.00	0.00
		NOx	0.00	0.00			0.00	0.00	0.00
		VOC	0.00	0.00			0.00	0.00	0.00
		CO	0.00	0.00			0.00	0.00	0.00

Note: Emissions factors from USEPA's Factor Information Retrieval Data System, version 6.25

* The grinding area and wheelabrator shot blast unit exhaust to separate baghouses and stacks. Therefore, each operation must have separate PM, PM10, and PM2.5 emission limits.

Allowable Emissions:

The following calculations determine PM compliance with 326 IAC 6-3-2 for process weight rates up to 30 tons per hour:

$$\begin{aligned}
 &P = 1.6 \text{ tons/hr} \\
 \text{limit} &= 4.1 \times (1.6^{0.67}) = 5.62 \text{ lb/hr} \quad (\text{allowable}) \\
 \text{with potential:} & \\
 3.6 \text{ tons/yr} \times & 2000 \text{ lb/ton} / 8760 \text{ hr/yr} = 0.82 \text{ lb/hr} \quad (\text{will comply})
 \end{aligned}$$

Warsaw Foundry Company, Inc.
1212 North Detroit Street, Warsaw, Indiana 46580

Reviewer: Brian Williams
Permit Number: F085-30084-00006

Process:	Rate (tons sand/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Type of control	Control Efficiency (%)	Eac (ton/yr)
Oil Core Oven (EU10) SCC# 3-04-003-53	0.75	PM	2.22	7.29	None		7.29
		PM-10	2.22	7.29			7.29
		PM-2.5	2.22	7.29			7.29
		SO2	0.038	0.27			0.27
		NOx	0.50	3.50			3.50
		VOC	0.00	0.00			0.00
		CO	0.00	0.00			0.00

Note: Emissions factors from USEPA's Factor Information Retrieval Data System, version 6.25

Allowable Emissions:

The following calculations determine PM compliance with 326 IAC 6-3-2 for process weight rates up to 30 tons per hour:

$$\begin{aligned}
 &P = \frac{0.75 \text{ tons/hr}}{4.1 \times (0.75^{0.67})} = 3.38 \text{ lb/hr (allowable)} \\
 &\text{with potential: } 7.3 \text{ tons/yr} \times 2000 \text{ lb/ton} / 8760 \text{ hr/yr} = 1.67 \text{ lb/hr (will comply)}
 \end{aligned}$$

Process:	Rate (tons sand/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Type of control	Control Efficiency (%)	Eac (ton/yr)
Shell Core Machines (EU11) SCC# 304-003-70	0.75	PM	0.00	0.00	None		0.00
		PM-10	0.00	0.00			0.00
		PM-11	1.00	3.29			3.29
		SO2	0.32	1.05			1.05
		NOx	0.50	1.64			1.64
		VOC	0.00	0.00			0.00
		CO	0.00	0.00			0.00

Note: Emissions factors from USEPA's Factor Information Retrieval Data System, version 6.25

Methodology:

Ef = Emission factor
 Ebc = Potential Emissions before controls = Rate (tons/hr) x Ef (lbs/tons) x 8760 hrs/yr / 2000 lbs/ton
 Eac = Potential Emissions after controls = (1 - efficiency/100) x Ebc
 Limited Emissions = Limited Metal Throughput (tons/yr) x EF (lbs/ton) x (1 - efficiency/100) / 2000 lbs/ton
 1 ton = 2000 lbs

Process:	Stack	Limited PM Emission Rate (lb/hr)	Limited PM10 Emission Rate (lb/hr)	Limited PM2.5 Emission Rate (lb/hr)	Limited PM Emissions (ton/yr)	Limited PM10 Emissions (ton/yr)	Limited PM2.5 Emissions (ton/yr)
Castings Cooling (EU5A)	B4	1.24	0.59	0.59	5.43	2.58	2.58
Castings Cooling (EU5B) Castings Shakeout (EU6) Sand Handling (EU9)	B3	4.32	1.24	1.24	18.92	5.43	5.43

Methodology:

Limited Emissions = Limited Emission Rate (lb/hr) x 8760 hrs/yr / 2000 lbs/ton

**Appendix A: Emission Calculations
Metal HAPs Emissions from Foundry Operations**

**Company Name: Warsaw Foundry Company, Inc.
Address City IN Zip: 1212 North Detroit Street, Warsaw, Indiana 46580
Permit Number: F085-30084-00006
Reviewer: Brian Williams**

Process	Maximum Rate (tons iron/hr)	PM emission factor lb/ton*	Pollutant	** Process Emissions **			Control Device	Control Efficiency (%)	Limited Melt Throughput (ton/yr)
				Ef (lb/ton produced)	Ebc (ton/yr)	Eac (ton/yr)			Limited Emissions (ton/yr)
Charge Handling (EU1) SCC# 3-04-003-015	1.60	0.60	chromium	0.00023	0.002	0.002	None		-
			nickel	0.00040	0.003	0.003			-
			arsenic	0.00008	0.001	0.001			-
			lead	0.00231	0.016	0.016			-
			manganese	0.01860	0.130	0.130			-
			antimony	0.00111	0.008	0.008			-
			Total	0.023	0.16	0.16			-
Cupola (EU2) SCC# 3-04-003-01	5.00	13.80	chromium	0.00524	0.115	0.016	Venturi Scrubber	86.50%	0.026
			nickel	0.00925	0.202	0.027			0.046
			arsenic	0.00179	0.039	0.005			0.009
			lead**	1.10000	24.09	3.252			5.500
			manganese	0.42780	9.369	1.265			2.139
			antimony	0.02553	0.559	0.075			0.128
			Total	1.57	34.37	4.64			7.85
Melting Electric Induction Furnace (EU3) SCC# 3-04-003-03	1.60	0.900	chromium	0.00034	0.002	0.002	None		0.002
			nickel	0.00060	0.004	0.004			0.003
			arsenic	0.00012	0.001	0.001			0.001
			lead**	0.10	0.701	0.701			0.500
			manganese	0.02790	0.196	0.196			0.140
			antimony	0.00167	0.012	0.012			0.008
			Total	0.13	0.92	0.92			0.65
Pouring and Casting (EU4) SCC# 3-04-003-20	1.60	4.20	chromium	0.00160	0.011	0.011	None		-
			nickel	0.00281	0.020	0.020			-
			arsenic	0.00055	0.004	0.004			-
			lead	0.01617	0.113	0.113			-
			manganese	0.13020	0.912	0.912			-
			antimony	0.00777	0.054	0.054			-
			Total	0.16	1.11	1.11			-
Castings Shakeout (EU6) SCC# 3-04-003-31	1.6	3.20	chromium	0.00122	0.009	0.000	Baghouse	97.0%	-
			nickel	0.00214	0.015	0.000			-
			arsenic	0.00042	0.003	0.000			-
			lead	0.01232	0.086	0.003			-
			manganese	0.09920	0.695	0.021			-
			antimony	0.00592	0.041	0.001			-
			Total	0.12	0.85	0.03			-
Grinding and Wheelabrator Shot Blast Unit (EU8A and EU8B) SCC# 3-04-003-40	1.6	17.00	chromium	0.00646	0.045	0.001	Baghouse	97.0%	-
			nickel	0.01139	0.080	0.002			-
			arsenic	0.00221	0.015	0.000			-
			lead	0.06545	0.459	0.014			-
			manganese	0.52700	3.693	0.111			-
			antimony	0.03145	0.220	0.007			-
			Total***	0.64	4.51	0.14			-

* PM emission factors from EPA's FIRE version 6.25.

** An emission factors for this pollutant was available in EPA's FIRE version 6.25.

HAP emission factors are based on Fire 6.25 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	0.039%
Nickel	0.067%
Arsenic	0.013%
Antimony	0.185%
Lead	0.385%

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
 Limited Emissions = Limited Metal Throughput (tons/yr) x EF (lbs/ton) x (1 - efficiency/100) / 2000 lbs/ton
 1 lb = 2000 tons

**HAP Emission Calculations
from Pouring-Cooling-Shakeout
Binder Systems
for Gray Iron Foundries**

**Company Name: Warsaw Foundry Company, Inc.
Address City IN Zip: 1212 North Detroit Street, Warsaw, Indiana 46580
Permit Number: F085-30084-00006
Reviewer: Brian Williams**

EU11 Annual Usage of Index Material (lbs/yr)	Binder System
291,051	Green Sand
394,200	Shell Core

Binder System Type Emission Factors => Lbs. of
Chemical Released to Air per Lbs. of Index

Pollutant	Green Sand (Seacoal)	Shell (Resin)	Pollutant Emissions (tons/yr)
Acrolein	0.000002	0.000047	0.010
Benzene	0.000611	0.006667	1.403
Formaldehyde	0.000004	0.000035	0.007
Hydrogen Cyanide	0.000118	0.010526	2.092
M-Xylene	0.000021	0.000585	0.118
Napthalene	0.000021	0.000058	0.014
O-Xylene	0.000021	0.000117	0.026
Phenol	0.000131	0.002456	0.503
Toluene	0.000063	0.002807	0.562
Total Aromatic Amines	0.000021	0.002339	0.464
Total C2 to C5 Aldehydes	0.000063	0.000585	0.124
Total HAPs	0.001076	0.026222	5.325

METHODOLOGY

Emission factors from "Calculating Emission Factors for Pouring, Cooling, and Shakeout," Gary Mosher, American Foundrymen's Society, Modern Casting, October 1994.
HAPS emission rate (tons/yr) = Annual Usage (lbs/yr) * Emission Factor (lbs Chemical/lbs Index) * 1 ton/2000 lbs

**HAP Emission Calculations
from Core Making
Shell Core Machines (EU11)**

Company Name: Warsaw Foundry Company, Inc.
Address City IN Zip: 1212 North Detroit Street, Warsaw, Indiana 46580
Permit Number: F085-30084-00006
Reviewer: Brian Williams

Binder System	Annual Usage of Index Material (lbs/yr)	Total Organic HAPs Emission Factor (lbs/lbs of Resin)*	Potential Organic HAPs Emissions (tons/yr)
Phenolic Novolac Flake Resin-Coated Sand	394200.0	0.001	0.20

METHODOLOGY

* Emission factor is taken from the paper, "Organic Hazardous Air Pollutant Emission Factors for Iron Foundries," American Foundry Society Air Quality Committee (10-E), Revised June 17, 2007. This core making emission factor is for a newer technology phenolic urethane binder system, which is overly conservative since this source uses a more environmentally friendly phenolic novolac resin-coated binder system.

Potential HAPs (tons/yr) = Annual Usage (lbs/yr) x Emission Factor (lbs/lbs resin) x 1/2000 (ton/lbs)

**Appendix A: Potential Emission Calculations
Core Wash/Mold Parting - EU12**

Company Name: Warsaw Foundry Company, Inc.
Address City IN Zip: 1212 North Detroit Street, Warsaw, Indiana 46580
Permit Number: F085-30084-00006
Reviewer: Brian Williams

Product	Maximum Usage (lbs/yr)	Weight % VOC	VOC Emissions (tons/yr)	Weight % Trichloroethylene	Trichloroethylene Emissions (tons/yr)
Core and Mold Coating					
Hill and Griffith Core Wash	1560	50.00%	0.39	0.00%	0.00
Trichloroethylene Thinner	1980	100.00%	0.99	99.00%	0.98
Liquid Parting					
Hill and Griffith Super Slik	24219.4	98.00%	11.87	0.00%	0.00
		Total	13.2		0.980

Appendix A: Emission Calculations
Natural Gas Combustion

Company Name: Warsaw Foundry Company, Inc.
Address City IN Zip: 1212 North Detroit Street, Warsaw, Indiana 46580
Permit Number: F085-30084-00006
Reviewer: Brian Williams

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr	Cupola Afterburner (EU2)	1.00
		Core Oven (EU10)	0.50
		Ladle Heaters (EU13)	0.60
		Total	2.10
2.10	18.4		

Pollutant							
Emission Factor in lb/MMCF	PM*	PM10*	Direct PM2.5*	SO2	NO _x	VOC	CO
	1.9	7.6	7.6	0.6	100.0	5.5	84.0
					**see below		
Potential Emission in tons/yr	0.02	0.07	0.07	0.01	0.92	0.05	0.77

*PM emission factor is filterable PM only. PM10 and PM2.5 emission factors are condensable and filterable PM10 and PM2.5 combined, respectively.

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

HAPs - Organics					
Emission Factor in lb/MMCF	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	1.932E-05	1.104E-05	6.899E-04	1.656E-02	3.127E-05

HAPs - Metals					
Emission Factor in lb/MMCF	Lead	Cadmium	Chromium	Manganese	Nickel
	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	4.599E-06	1.012E-05	1.288E-05	3.495E-06	1.932E-05

Greenhouse Gas			
Emission Factor in lb/MMcf	CO2	CH4	N2O
	120000	2.3	2.2
Potential Emission in tons/yr	1103.76	0.0211554	0.0202356
Summed Potential Emissions in tons/yr	1103.801391		
CO2e Total in tons/yr	1110.477299		

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 from AP-42, Chapter 1.4, Natural Gas Combustion, Tables 1.4-1, 1.4-2, and 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (AP-42 Supplement D 3/98)

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

The five highest organic and metal HAPs emission factors are provided above.

Additional HAPs emission factors are available in AP-42, Chapter 1.4.

The N2O Emission Factor for uncontrolled is 2.2. The N2O Emission Factor for low Nox burner is 0.64.

Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.

CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP

**Appendix A: Emission Calculations
Coke Combustion in Cupola
Greenhouse Gas Emissions**

Company Name: Warsaw Foundry Company, Inc.
Address City IN Zip: 1212 North Detroit Street, Warsaw, Indiana 46580
Permit Number: F085-30084-00006
Reviewer: Brian Williams

Potential
Throughput
tons/year
5,475.0

	Greenhouse Gas		
	CO2	CH4	N2O
Emission Factor in lb/ton	5,578.99	0.60	0.09
Potential Emission in tons/yr	15,272.50	1.65	0.24
Summed Potential Emissions in tons/yr	15,274.38		
CO2e Total in tons/yr	15,381.31		

Methodology

Pursuant to Table C-1 of 40 CFR Part 98 Subpart C, coke has a default high heat value of 24.8 MMBtu/ton

Emission Factors from Tables C-1 and 2 of 40 CFR Part 98 Subpart C and have been converted from kg/MMBtu to lb/ton.

Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.

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

CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

Appendix A: Emission Calculations
Fugitive Dust Emissions - Unpaved Roads

Company Name: **Warsaw Foundry Company, Inc.**
 Address City IN Zip: **1212 North Detroit Street, Warsaw, Indiana 46580**
 Permit Number: **F085-30084-00006**
 Reviewer: **Brian Williams**

Unpaved Roads at Industrial Site

The following calculations determine the amount of emissions created by unpaved roads, based on 8,760 hours of use and AP-42, Ch 13.2.2 (11/2006).

Vehicle Information (provided by source)

Type	Maximum number of vehicles	Number of one-way trips per day per vehicle	Maximum trips per day (trip/day)	Maximum Weight Loaded (tons/trip)	Total Weight driven per day (ton/day)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/day)	Maximum one-way miles (miles/yr)
Employee Vehicle (entering plant)	40.0	1.0	40.0	2.5	100.0	676	0.128	5.1	1869.2
Employee Vehicle (leaving plant)	40.0	1.0	40.0	2.5	100.0	676	0.128	5.1	1869.2
Raw Material Delivery (entering plant)	4.0	1.0	4.0	40.0	160.0	830	0.157	0.6	229.5
Raw Material Delivery (leaving plant)	4.0	1.0	4.0	25.0	100.0	830	0.157	0.6	229.5
Sand Removal (entering plant)	1.0	1.0	1.0	25.0	25.0	830	0.157	0.2	57.4
Sand Removal (leaving plant)	1.0	1.0	1.0	40.0	40.0	830	0.157	0.2	57.4
Finished Product (entering plant)	1.0	1.0	1.0	25.0	25.0	830	0.157	0.2	57.4
Finished Product (leaving plant)	1.0	1.0	1.0	40.0	40.0	830	0.157	0.2	57.4
Total			92.0		590.0			12.1	4427.0

Average Vehicle Weight Per Trip = $\frac{6.4}{0.13}$ tons/trip
 Average Miles Per Trip = $\frac{6.4}{0.13}$ miles/trip

Unmitigated Emission Factor, $E_f = k \left[\frac{s}{12} \right]^a \left[\frac{W}{3} \right]^b$ (Equation 1a from AP-42 13.2.2)

	PM	PM10	PM2.5	
where k =	4.9	1.5	0.15	lb/mi = particle size multiplier (AP-42 Table 13.2.2-2 for Industrial Roads)
s =	4.8	4.8	4.8	% = mean % silt content of unpaved roads (AP-42 Table 13.2.2-1 Sand/Gravel Processing Plant)
a =	0.7	0.9	0.9	= constant (AP-42 Table 13.2.2-2 for Industrial Roads)
W =	6.4	6.4	6.4	tons = average vehicle weight (provided by source)
b =	0.45	0.45	0.45	= constant (AP-42 Table 13.2.2-2 for Industrial Roads)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, $E_{ext} = E_f \left[\frac{365 - P}{365} \right]$ (Equation 2 from AP-42 13.2.2)

Mitigated Emission Factor, $E_{ext} = E_f \left[\frac{365 - P}{365} \right]$

where P = 125 days of rain greater than or equal to 0.01 inches (see Fig. 13.2.2-1)

	PM	PM10	PM2.5	
Unmitigated Emission Factor, E_f =	3.63	0.93	0.09	lb/mile
Mitigated Emission Factor, E_{ext} =	2.39	0.61	0.06	lb/mile

Process	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)
Employee Vehicle (entering plant)	3.39	0.87	0.09	2.23	0.57	0.06
Employee Vehicle (leaving plant)	3.39	0.87	0.09	2.23	0.57	0.06
Raw Material Delivery (entering plant)	0.42	0.11	0.01	0.27	0.07	0.01
Raw Material Delivery (leaving plant)	0.42	0.11	0.01	0.27	0.07	0.01
Sand Removal (entering plant)	0.10	0.03	0.00	0.07	0.02	0.00
Sand Removal (leaving plant)	0.10	0.03	0.00	0.07	0.02	0.00
Finished Product (entering plant)	0.10	0.03	0.00	0.07	0.02	0.00
Finished Product (leaving plant)	0.10	0.03	0.00	0.07	0.02	0.00
	8.04	2.05	0.20	5.29	1.35	0.13

Methodology

Total Weight driven per day (ton/day) = [Maximum Weight Loaded (tons/trip)] * [Maximum trips per day (trip/day)]
 Maximum one-way distance (mi/trip) = [Maximum one-way distance (feet/trip)] / [5280 ft/mile]
 Maximum one-way miles (miles/day) = [Maximum trips per year (trip/day)] * [Maximum one-way distance (mi/trip)]
 Average Vehicle Weight Per Trip (ton/trip) = SUM[Total Weight driven per day (ton/day)] / SUM[Maximum trips per day (trip/day)]
 Average Miles Per Trip (miles/trip) = SUM[Maximum one-way miles (miles/day)] / SUM[Maximum trips per year (trip/day)]
 Unmitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Unmitigated Emission Factor (lb/mile)) * (ton/2000 lbs)
 Mitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Mitigated Emission Factor (lb/mile)) * (ton/2000 lbs)

Abbreviations

PM = Particulate Matter
 PM10 = Particulate Matter (<10 um)
 PM2.5 = Particulate Matter (<2.5 um)
 PTE = Potential to Emit



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

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

SENT VIA U.S. MAIL: CONFIRMED DELIVERY AND SIGNATURE REQUESTED

TO: John W Petro
Warsaw Foundry Company, Inc.
1212 N Detroit St
Warsaw, IN 46581

DATE: October 12, 2011

FROM: Matt Stuckey, Branch Chief
Permits Branch
Office of Air Quality

SUBJECT: Final Decision
FESOP
085-30084-00006

Enclosed is the final decision and supporting materials for the air permit application referenced above. Please note that this packet contains the original, signed, permit documents.

The final decision is being sent to you because our records indicate that you are the contact person for this application. However, if you are not the appropriate person within your company to receive this document, please forward it to the correct person.

A copy of the final decision and supporting materials has also been sent via standard mail to:
Joseph VanCamp, Consultant
OAQ Permits Branch Interested Parties List

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178, or toll-free at 1-800-451-6027 (ext. 3-0178), and ask to speak to the permit reviewer who prepared the permit. If you think you have received this document in error, please contact Joanne Smiddie-Brush of my staff at 1-800-451-6027 (ext 3-0185), or via e-mail at jbrush@idem.IN.gov.

Final Applicant Cover letter.dot 11/30/07



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

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

TO: Warsaw Community Public Library

From: Matthew Stuckey, Branch Chief
Permits Branch
Office of Air Quality

Subject: **Important Information for Display Regarding a Final Determination**

Applicant Name: Warsaw Foundry Company
Permit Number: 085-30084-00006

You previously received information to make available to the public during the public comment period of a draft permit. Enclosed is a copy of the final decision and supporting materials for the same project. Please place the enclosed information along with the information you previously received. To ensure that your patrons have ample opportunity to review the enclosed permit, **we ask that you retain this document for at least 60 days.**

The applicant is responsible for placing a copy of the application in your library. If the permit application is not on file, or if you have any questions concerning this public review process, please contact Joanne Smiddie-Brush, OAQ Permits Administration Section at 1-800-451-6027, extension 3-0185.

Enclosures
Final Library.dot 11/30/07

Mail Code 61-53

IDEM Staff	DPABST 10/12/2011			Warsaw Foundry Company, Inc. 085-30084-00006 (Final)	AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING
Name and address of Sender	Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204		CERTIFICATE OF MAILING ONLY		

Line	Article Number	Name, Address, Street and Post Office Address	Postage	Handing Charges	Act. Value (If Registered)	Insured Value	Due Send if COD	R.R. Fee	S.D. Fee	S.H. Fee	Rest. Del. Fee	Remarks
1		John W Petro Warsaw Foundry Company, Inc. 1212 N Detroit St Warsaw IN 46581 (Source CAATS) (CONFIRM DELIVERY)										
2		Mr. Charles L. Berger Attorney Berger & Berger, Attorneys at Law 313 Main Street Evansville IN 47700 (Affected Party)										
3		Warsaw City Council and Mayors Office P.O. Box 817 Warsaw IN 46581 (Local Official)										
4		Warsaw Community Public Library 310 E Main St Warsaw IN 46580-2882 (Library)										
5		Kosciusko County Board of Commissioners 100 W. Center St, Room 220 Warsaw IN 46580 (Local Official)										
6		Mr. Joseph VanCamp Cornerstone Environmental, Health & Safety, Inc. 312 E Diamond St. Kendallville IN 46755 (Consultant)										
7		Mr. Tim Thomas c/o Boilermakers Local 374 6333 Kennedy Ave. Hammond IN 46333 (Affected Party)										
8		Kosciusko County Health Department 100 W. Center Street, 3rd Floor Warsaw IN 46580-2877 (Health Department)										
9		Rick & Jo Ellen Jackson 7163 W 200 N Warsaw IN 46580 (Affected Party)										
10		Mark Zeltwanger 26545 CR 52 Nappanee IN 46550 (Affected Party)										
11												
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