



Mitchell E. Daniels, Jr.
Governor

Thomas W. Easterly
Commissioner

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

TO: Interested Parties / Applicant
DATE: December 21, 2007
RE: Richmond Casting Company / 177-23251-00024
FROM: Matthew Stuckey, Deputy 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 (FESOP) RENEWAL OFFICE OF AIR QUALITY

**Richmond Casting Company
1775 Rich Road
Richmond, IN 47374**

(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 provision of this permit is grounds for enforcement action; permit termination, revocation and reissuance, or modification; and 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.

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.

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.

Operation Permit No.: F177-23251-00024	
Issued by: <i>Original signed by</i> Matthew Stuckey, Deputy Branch Chief Permits Branch Office of Air Quality	Issuance Date: December 21, 2007 Expiration Date: December 21, 2017

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SECTION A SOURCE SUMMARY

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

A.1 General Information [326 IAC 2-8-3(b)]

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

Source Address:	1775 Rich Road, Richmond, Indiana 47374
Mailing Address:	P.O. Box 1247, Richmond, Indiana 47374
General Source Phone Number:	(765) 935-4090
SIC Code:	3321
County Location:	Wayne
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Federally Enforceable State Operating Permit (FESOP) Minor Source, under PSD Rules Minor Source, Section 112 of the Clean Air Act

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) Facilities with particulate matter emissions controlled by baghouse CE-03, exhausting at stack S-5, consisting of:
 - (1) melting operations at two (2) IT-4 electric induction furnaces with total a maximum melting capacity of 5.0 tons of iron per hour, consisting of two (2) electric induction furnaces installed in 2000;
 - (2) inoculation process for two (2) electric induction furnaces, with a maximum capacity of 5.0 tons of iron per hour;
 - (3) sand handling system, including the mold making process, with a maximum capacity of 50.0 tons of sand per hour, installed in 2000;
 - (4) pouring / casting operations, with a maximum capacity of 55.0 tons of casting and sand per hour, installed in 2000;
 - (5) castings cooling operations, with a maximum capacity of 55.0 tons of casting and sand per hour, installed in 2000;
 - (6) castings shakeout operations, with a maximum capacity of 55.0 tons of casting and sand per hour, installed in 2000;
- (b) shot blasting and grinding operations, installed in 2000, with a maximum capacity of 7.15 tons of casting per hour, with a Torit baghouse for particulate control, identified as CE-02, exhausting through stack S-2;
- (c) the scrap and charge handling operation, installed in 1999, with a maximum capacity of 7.15 tons of iron per hour, uncontrolled and exhausting within the production building;

- (d) the shell core making process, installed in 1975, with a maximum capacity of 0.6 tons of cores per hour, uncontrolled and exhausting within the production building.

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, as defined in 326 IAC 2-7-1(21):

- (a) lift truck propane combustion;
- (b) natural gas-fired space heaters and ladle heaters; and
- (c) welding operations in maintenance area. [326 IAC 6.5-1-2]

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, F177-23251-00024, 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]

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. The submittal by the Permittee does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1). 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 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.9 Certification [326 IAC 2-8-3(d)][326 IAC 2-8-4(3)(C)(i)][326 IAC 2-8-5(1)]

- (a) Where specifically designated by this permit or required by an applicable requirement, any application form, report, or compliance certification submitted shall contain certification by an "authorized individual" of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
- (b) One (1) certification shall be included, using the attached Certification Form 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.10 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 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 the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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

- (a) If required by specific condition(s) in Section D of this permit, the Permittee shall maintain and implement Preventive Maintenance Plans (PMPs) including the following information on each facility:
- (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
 - (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and
 - (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.
- (b) A copy of the PMPs shall be submitted to IDEM, OAQ upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions or potential to emit. The PMPs do not require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (c) To the extent the Permittee is required by 40 CFR Part 60/63 to have an Operation Maintenance, and Monitoring (OMM) Plan for a unit, such Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

B.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 within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

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

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

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue
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 the certification 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.

- (h) The Permittee shall include all emergencies in the Quarterly Deviation and Compliance Monitoring Report.

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

- (a) All terms and conditions of permits established prior to F037-19265-00073 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 Deviations from Permit Requirements and Conditions [326 IAC 2-8-4(3)(C)(ii)]

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

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

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

The Quarterly Deviation and Compliance Monitoring Report does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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

B.16 Permit Modification, Reopening, Revocation and Reissuance, or Termination

[326 IAC 2-8-4(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 the certification 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.17 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 the certification 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
Permits Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
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- (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 in writing by IDEM, OAQ any additional information identified as being needed to process the application.

B.18 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
Permits Branch, Office of Air Quality
100 North Senate Avenue
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Any such application shall be certified 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.19 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
Permits Branch, Office of Air Quality
100 North Senate Avenue
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Indianapolis, Indiana 46204-2251

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.20 Source Modification Requirement [326 IAC 2-8-11.1]

A modification, construction, or reconstruction is governed by the requirements of 326 IAC 2 and 326 IAC 2-8-11.1.

B.21 Inspection and Entry [326 IAC 2-8-5(a)(2)][IC 13-14-2-2][IC 13-17-3-2][IC13-30-3-1]

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.22 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
Permits Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

The application which shall be submitted by the Permittee does require the certification 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.23 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, within thirty (30) calendar days of receipt of a billing. Pursuant to 326 IAC 2-7-19(b), if the Permittee does not receive a bill from IDEM, OAQ, the applicable fee is due April 1 of each year.
- (b) 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.24 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

Emissions Limitations and Standards [326 IAC 2-8-4(1)]

C.1 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, from the entire source shall be limited to less than one-hundred (100) tons per twelve (12) consecutive month period. This limitation shall also make the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable;
- (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.

(b) 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.

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

C.2 Opacity [326 IAC 5-1]

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

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

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

The Permittee shall not open burn any material except as provided in 326 IAC 4-1-3, 326 IAC 4-1-4 or 326 IAC 4-1-6. The previous sentence notwithstanding, the Permittee may open burn in accordance with an open burning approval issued by the Commissioner under 326 IAC 4-1-4.1.

C.4 Incineration [326 IAC 4-2] [326 IAC 9-1-2(3)]

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

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

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

C.6 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]

(a) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is at least 260 linear feet on pipes or 160 square feet on other facility components, or at least thirty-five (35) cubic feet on all facility components, then the notification requirements of 326 IAC 14-10-3 are mandatory. All demolition projects require notification whether or not asbestos is present.

(b) The Permittee shall ensure that a written notification is sent on a form provided by the Commissioner at least ten (10) working days before asbestos stripping or removal work or before demolition begins, per 326 IAC 14-10-3, and shall update such notice as necessary, including, but not limited to the following:

(1) When the amount of affected asbestos containing material increases or decreases by at least twenty percent (20%); or

(2) If there is a change in the following:

(A) Asbestos removal or demolition start date;

(B) Removal or demolition contractor; or

(C) Waste disposal site.

(c) The Permittee shall ensure that the notice is postmarked or delivered according to the guidelines set forth in 326 IAC 14-10-3(2).

(d) The notice to be submitted shall include the information enumerated in 326 IAC 14-10-3(3).

All required notifications shall be submitted to:

Indiana Department of Environmental Management
Asbestos Section, Office of Air Quality
100 North Senate Avenue
MC 61-52 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 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 Accredited Asbestos Inspector
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Accredited Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos.

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

C.7 Performance Testing [326 IAC 3-6]

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

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

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue
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 certification 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 certification 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.8 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.9 Compliance Monitoring [326 IAC 2-8-4(3)] [326 IAC 2-8-5(a)(1)]

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

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue
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 the certification 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.10 Monitoring Methods [326 IAC 3] [40 CFR 60] [40 CFR 63]

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

Corrective Actions and Response Steps [326 IAC 2-8-4] [326 IAC 2-8-5(a)(1)]

C.11 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.12 Response to Excursions or Exceedances [326 IAC 2-8-4] [326 IAC 2-8-5]

- (a) Upon detecting an excursion or exceedance, the Permittee shall restore operation of the emissions unit (including any control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions.
- (b) The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Corrective actions may include, but are not limited to, the following:
 - (1) initial inspection and evaluation;
 - (2) recording that operations returned to normal without operator action (such as through response by a computerized distribution control system); or

- (3) any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.
- (c) A determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, the following:
 - (1) monitoring results;
 - (2) review of operation and maintenance procedures and records;
 - (3) inspection of the control device, associated capture system, and the process.
- (d) Failure to take reasonable response steps shall be considered a deviation from the permit.
- (e) The Permittee shall maintain the following records:
 - (1) monitoring data;
 - (2) monitor performance data, if applicable; and
 - (3) corrective actions taken.

C.13 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 take appropriate response actions. The Permittee shall submit a description of these response actions to IDEM, OAQ, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize excess emissions from the affected facility while the response actions are being implemented.
- (b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAQ that retesting in one hundred twenty (120) days is not practicable, IDEM, OAQ may extend the retesting deadline.
- (c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

The response action documents submitted pursuant to this condition do require the certification by 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.14 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, all record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance.

C.15 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. This report shall be submitted within thirty (30) days of the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (b) The report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue
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) Unless otherwise specified in this permit, all reports required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. All reports do require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (e) Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit "calendar year" means the twelve (12) month period from January 1 to December 31 inclusive.

Stratospheric Ozone Protection

C.16 Compliance with 40 CFR 82 and 326 IAC 22-1

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

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

SECTION D.1 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]:

- (a) Facilities with particulate matter emissions controlled by baghouse CE-03, exhausting at stack S-5, consisting of:
 - (1) melting operations at two (2) IT-4 electric induction furnaces with a total maximum melting capacity of 5.0 tons of iron per hour, consisting of two (2) electric induction furnaces installed in 2000;
 - (2) inoculation process for two (2) electric induction furnaces, with a maximum capacity of 5.0 tons of iron per hour;
 - (3) sand handling system, including the mold making process, with a maximum capacity of 50.0 tons of sand per hour, installed in 2000;
 - (4) pouring / casting operations, with a maximum capacity of 55.0 tons of casting and sand per hour, installed in 2000;
 - (5) castings cooling operations, with a maximum capacity of 55.0 tons of casting and sand per hour, installed in 2000;
 - (6) castings shakeout operations, with a maximum capacity of 55.0 tons of casting and sand per hour, installed in 2000;
- (b) shot blasting and grinding operations, installed in 2000, with a maximum capacity of 7.15 tons of casting per hour, with a Torit baghouse for particulate control, identified as CE-02, exhausting through stack S-2;

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

Emission Limitations and Standards [326 IAC 2-8-4(1)]

D.1.1 PSD Minor Limit [326 IAC 2-2]

- (a) The combined PM emissions from all processes (induction melting, inoculation, sand handling, pouring / castings, castings cooling and castings shakeout), all controlled by baghouse CE-03 shall not exceed 12.4 pounds per hour.
- (b) The PM emissions from the shot blasting process, controlled by baghouse CE-02 shall not exceed 3.1 pound per hour.

Compliance with the above limits and Condition D.2.2 combined with potential PM emissions from other emission units shall limit source wide PM emissions to less than 100 tons per year and render 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable to this source.

D.1.2 Particulate Matter (PM) [326 IAC 6.5-1-2]

- (a) Pursuant to 326 IAC 6.5-1-2(a) (Particulate Matter Emissions Limitations), particulate matter emissions from all of the following processes controlled by baghouse CE-03 (inoculation, sand handling, pouring / castings, castings cooling and castings shakeout processes) and the process controlled by baghouse CE-02 (shotblast) shall not exceed 0.03 gr/ dscf.

- (b) Pursuant to 326 IAC 6.5-1-2(e)(2) (Particulate Matter Emissions Limitations), particulate matter emissions from the melting operations controlled by baghouse CE-03 shall not exceed 0.07 gr/ dscf.

D.1.3 FESOP and PSD Minor Limits [326 IAC 2-8-4] [326 IAC 2-2]

- (a) The PM-10 emissions from baghouse CE-03 controlling the electric induction furnaces, inoculation process, sand handling operation, pouring / casting process, castings cooling process, and the castings shakeout process shall not exceed 14 pounds per hour.
- (b) Pursuant to 326 IAC 2-8 (FESOP), the PM-10 emissions from baghouse CE-02 controlling the shot blast and grinding process, shall not exceed 3.1 pounds per hour.
- (c) The throughput of metal to the pouring, cooling and shakeout operations shall be limited to less than 31,500 tons per 12 consecutive month period with compliance determined at the end of each month and CO emissions from pouring, cooling, and shakeout operations combined shall not exceed 6.0 pounds per ton of metal.

Compliance with the above requirements in conjunction with the limits in Condition D.2.3 shall limit source wide PM10 emissions to less than 100 tons per twelve (12) consecutive month period and make the requirements of 326 IAC 2-7 and 326 IAC 2-2 (PSD) not applicable.

D.1.4 Metallic Hazardous Air Pollutant (HAP) Emissions [326 IAC 2-8] [326 IAC 2-4.1]

Pursuant to F177-14142-00024, issued on March 19, 2002 and revised by F177-23251-00024:

- (a) Total emissions of manganese from the scrap and charge handling, melting, pouring / casting, cooling, shakeout, shotblasting and grinding operations shall be limited to less than 10 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (b) Total emissions of any combination of metal HAPs (chromium compounds, cobalt compounds, nickel compounds, arsenic compounds, cadmium compounds, selenium compounds, manganese compounds, and antimony compounds) from the scrap and charge handling, melting, pouring / casting, cooling, shakeout, shotblasting and grinding operations shall be limited to less than 15 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with the manganese emission limits above, in conjunction with the potential manganese emissions from the charge handling and core making processes, shall limit source-wide manganese emissions to less than 10 tons per year. Compliance with the combined metal HAP limits above, in conjunction with the total HAP emissions from the charge handling and core making processes, shall limit source-wide emissions of any combination of HAPs to less than 25 tons per year. Therefore, the requirements of 326 IAC 2-7 are not applicable.

D.1.5 New Facilities, General Reduction Requirements [326 IAC 8-1-6]

- (a) The maximum metal throughput through pouring / castings, castings cooling and castings shakeout operations shall not exceed 31,500 tons of metal per twelve (12) consecutive month period.
- (b) The VOC emissions from the shakeout process for sand molds shall not exceed twenty-five (25) tons per twelve (12) consecutive month period and 1.2 pounds per ton of metal.

Compliance with the above emission limit shall limit the VOC emissions to less than twenty-five (25) tons per twelve (12) consecutive month period from the castings shakeout process for sand molds and shall render 326 IAC 8-1-6 (BACT) not applicable to the castings shakeout process.

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

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

Compliance Determination Requirements

D.1.7 Particulate Control

- (a) The baghouses for particulate and metallic HAP control shall be in operation and control emissions from the induction melting, inoculation, sand handling, pouring / castings, castings cooling, castings shakeout processes and the shotblast unit at all times that these facilities are in operation.
- (b) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

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

- (a) On or before July 26, 2011, in order to demonstrate compliance with Conditions D.1.1, D.1.2 and D.1.3 the Permittee shall perform PM and PM-10 testing at baghouse CE-03 during operation of the following equipment under a worst-case concurrent facilities operating scenario, as developed by the Permittee and approved by IDEM, OAQ, Compliance Data Section: the melting process, inoculation process, sand handling operation, pouring / casting process, castings cooling process and castings shakeout process. Testing shall be conducted utilizing methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. PM-10 includes filterable and condensable PM-10. Testing shall be conducted in accordance with Section C- Performance Testing.
- (b) Within 180 days after issuance of this FESOP, in order to demonstrate compliance with Condition D.1.4, the Permittee shall perform manganese and total metallic HAP testing on the each of the pouring, cooling, casting shakeout, shot blast and grinding operations utilizing methods as approved by the Commissioner. These tests shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C- Performance Testing.

D.1.9 Metal HAP Emissions

Compliance with the HAP limits in condition D.1.4 shall be demonstrated using the following equations:

- (a)
$$\text{Manganese Emissions from the pouring / casting operation (tons/yr)} = EF_{\text{PCMn}} \text{ (lb/ton)} \times M_{\text{PC}} \text{ (tons per twelve (12) consecutive month period)} \times (1 \text{ ton} / 2000 \text{ pounds})$$

Where:

$EF_{\text{PCMn}} =$ 0.114 pound manganese per ton of metal throughput (or an emission factor determined from the most recent compliance stack test approved by IDEM)

$M_{\text{PC}} =$ total metal throughput to the pouring / casting operation (tons per twelve (12) consecutive month period)

- (b)
$$\text{Manganese Emissions from the cooling operation (tons/yr)} = EF_{\text{CMn}} \text{ (lb/ton)} \times M_{\text{C}} \text{ (tons per twelve (12) consecutive month period)} \times (1 \text{ ton} / 2000 \text{ pounds})$$

Where:

$EF_{CMn} =$ 0.054 pound manganese per ton of metal throughput (or an emission factor determined from the most recent compliance stack test approved by IDEM)

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

- (c) Manganese Emissions from the shakeout operation (tons/yr) = EF_{SMn} (lb/ton) x M_S (tons per twelve (12) consecutive month period)] x (1 ton / 2000 pounds)

Where:

$EF_{SMn} =$ 0.103 pound manganese per ton of metal throughput (or an emission factor determined from the most recent compliance stack test approved by IDEM)

$M_S =$ total metal throughput to the shakeout operation (tons per twelve (12) consecutive month period)

- (d) Manganese Emissions from the shot blasting operation (tons/yr) = EF_{SBMn} (lb/ton) x M_{SB} (tons per twelve (12) consecutive month period)] x (1 ton / 2000 pounds)

Where:

$EF_{SBMn} =$ 0.095 pound manganese per ton of metal throughput (or an emission factor determined from the most recent compliance stack test approved by IDEM)

$M_{SB} =$ total metal throughput to the shot blasting operation (tons per twelve (12) consecutive month period)

- (e) Total Metal HAP Emissions from the pouring / casting operation (tons/yr) = EF_{PCTM} (lb/ton) x M_{PC} (tons per twelve (12) consecutive month period) x (1 ton / 2000 pounds)

Where:

$EF_{PCTM} =$ 0.178 pound combined metal HAP per ton of metal throughput (or an emission factor determined from the most recent compliance stack test approved by IDEM)

$M_{PC} =$ total metal throughput to the pouring / casting operation (tons per twelve (12) consecutive month period)

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

Where:

$EF_{CTM} =$ 0.100 pound combined metal HAP per ton of metal throughput (or an emission factor determined from the most recent compliance stack test approved by IDEM)

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

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

Where:

$EF_{STM} =$ 0.173 pound combined metal HAP per ton of metal throughput (or an emission factor determined from the most recent compliance stack test approved by IDEM)

$M_S =$ total metal throughput to the shakeout operation (tons per twelve (12) consecutive month period)

(h) Total Metal HAP Emissions from the shot blasting operation (tons/yr) = EF_{SBTM} (lb/ton) x M_{SB} (tons per twelve (12) consecutive month period) x (1 ton / 2000 pounds)

Where:

$EF_{SBTM} =$ 0.127 pound combined metal HAP per ton of metal throughput (or an emission factor determined from the most recent compliance stack test approved by IDEM)

$M_{SB} =$ total metal throughput to the shot blasting operation (tons per twelve (12) consecutive month period)

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 processes controlled by baghouse CE-03 (induction melting, inoculation, sand handling, pouring / castings, castings cooling and castings shakeout processes) and the processes controlled by baghouse CE-02 (shotblast and grinding) stack exhausts shall be performed daily 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 steps in accordance with Section C- Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

D.1.11 Parametric Monitoring

The Permittee shall record the pressure drop across baghouse CE-03 used in conjunction with the induction melting, inoculation, sand handling, pouring / castings, castings cooling and castings shakeout processes and baghouse CE-02 used in conjunction with the shotblast and grinding process, at least daily when the processes are in operation. When for any one reading, the pressure drop across the CE-03 and CE-02 baghouses is outside the normal range of 2.0 and 8.0 inches of water and 1.0 to 4.0 inches of water, respectively, or ranges established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

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

D.1.12 Broken or Failed Bag Detection

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

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

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

D.1.13 Record Keeping Requirements

- (a) To document compliance with Condition D.1.10, the Permittee shall maintain daily records of visible emission notations of the stack exhausts from CE-03 and CE-02. 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).
- (b) To document compliance with Condition D.1.11, the Permittee shall maintain daily records of the pressure drop during normal operation. 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).
- (c) To document compliance with Conditions D.1.3, D.1.4 and D.1.5, the Permittee shall maintain records of the following:
 - (1) tons of metal throughput to each of the scrap and charge handling, melting, pouring / casting, cooling, shakeout, shotblasting and grinding operations for each month;
 - (2) Metallic HAP stack test results for the scrap and charge handling, melting, pouring / casting, cooling, shakeout, shotblasting and grinding operations 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.
- (d) To document compliance with Condition D.1.5, the Permittee shall maintain monthly records of the amount of material processed through the castings shakeout operation.
- (e) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.1.14 Reporting Requirements

A quarterly summary of the information to document compliance with Conditions D.1.3(c), D.1.4 and D.1.5(a) shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

SECTION D.2 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]:

- (c) the scrap and charge handling operation with a maximum capacity of 7.15 tons of iron per hour, uncontrolled and exhausting within the production building;
- (d) the shell core making process with a maximum capacity of 0.6 tons of cores per hour, uncontrolled and exhausting within the production building.

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

D.2.1 PSD Minor Limit [326 IAC 2-2]

- (a) The PM emissions from the scrap and charge handling operation shall not exceed 4.29 pounds per hour.
- (b) The PM emissions from the core making sand handling process shall not exceed 2.91 pounds per hour.

Compliance with these limits, in conjunction with the limits in Condition D.1.1 shall limit source wide PM emissions to less than 100 tons per twelve (12) consecutive month period and make the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable.

D.2.2 Particulate Matter (PM) [326 IAC 6.5-1-2]

Pursuant to 326 IAC 6.5-1-2, the allowable PM emissions for the scrap and charge handling operation and the core making sand handling process are each limited to 0.03 gr/dscf.

D.2.3 FESOP [326 IAC 2-8] [326 IAC 2-2]

- (a) The PM-10 emissions from the scrap and charge handling operation shall not exceed 2.57 pounds per hour.
- (b) The PM-10 emissions from the core making process shall not exceed 2.91 pounds per hour.

Compliance with these limits in conjunction with Condition D.1.3 shall limit the source wide potential to emit PM-10 to less than 100 tons per twelve (12) consecutive month period. Therefore, the requirements of 326 IAC 2-7 and 326 IAC 2-2 (PSD) do not apply.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF AIR QUALITY

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP) CERTIFICATION

Source Name: Richmond Casting Company
Source Address: 1775 Rich Road, Richmond, Indiana 47374
Mailing Address: P.O. Box 1247, Richmond, Indiana 47374
FESOP No.: F177-23251-00024

**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 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: Richmond Casting Company
Source Address: 1775 Rich Road, Richmond, Indiana 47374
Mailing Address: P.O. Box 1247, Richmond, Indiana 47374
FESOP No.: F177-23251-00024

This form consists of 2 pages

Page 1 of 2

- | |
|---|
| <input type="checkbox"/> This is an emergency as defined in 326 IAC 2-7-1(12) <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: _____

A certification is not required for this report.

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

FESOP Quarterly Report

Source Name: Richmond Casting Company
Source Address: 1775 Rich Road, Richmond, Indiana 47374
Mailing Address: P.O. Box 1247, Richmond, Indiana 47374
FESOP No.: F177-23251-00024
Facility: Pouring, Cooling and Shakeout Operations
Parameter: Metal Throughput
Limit: Less than 31,500 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	Metal Throughput This Month	Metal Throughput Previous 11 Months	Metal Throughput 12 Month Total
Month 1			
Month 2			
Month 3			

No deviation occurred in this quarter.

Deviation/s occurred in this quarter.

Deviation has been reported on: _____

Submitted by: _____

Title / Position: _____

Signature: _____

Date: _____

Phone: _____

Attach a signed certification to complete this report.

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

FESOP Quarterly Report

Source Name: Richmond Casting Company
Source Address: 1775 Rich Road, Richmond, Indiana 47374
Mailing Address: P.O. Box 1247, Richmond, Indiana 47374
FESOP No.: F177-23251-00024
Facility: Pouring, Cooling and Shakeout Operations
Parameter: Metal Throughput Rate for Sand Molds
Limit: The maximum metal throughput to the pouring/casting, castings cooling, and castings shakeout operations for sand molds shall not exceed 31,500 tons of metal per twelve (12) consecutive month period, each.

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	Metal Throughput This Month	Metal Throughput Previous 11 Months	Metal Throughput 12 Month Total
Month 1			
Month 2			
Month 3			

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

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

Attach a signed certification to complete this report.

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

FESOP Quarterly Report

Source Name: Richmond Casting Company
 Source Address: 1775 Rich Road, Richmond, Indiana 47374
 Mailing Address: P.O. Box 1247, Richmond, Indiana 47374
 FESOP No.: F177-23251-00024
 Facility: Scrap and Charge Handling, Melting, Pouring / Casting, Cooling, Shakeout, Shotblasting and Grinding Operations
 Parameter: Manganese and Total Metal HAP emissions
 Limit: (a) Emissions of manganese from the scrap and charge handling, melting, pouring / casting, cooling, shakeout, shotblasting and grinding operations shall be limited to less than 10 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
 (b) Emissions of any combination of metal HAPs from the scrap and charge handling, melting, pouring / casting, cooling, shakeout, shotblasting and grinding operations shall be limited to less than 15 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with the above limits shall be determined using the equations in condition D.1.9(a) through (l). Please attach supporting calculations and data used for determining HAP emissions reported.

YEAR: _____

Month	Column 1		Column 2		Column 1 + Column 2	
	This Month		Previous 11 Months		12 Month Total	
	Manganese Emissions HAP	Total HAP Emissions	Manganese Emissions HAP	Total HAP Emissions	Manganese Emissions HAP	Total HAP Emissions
Month 1						
Month 2						
Month 3						

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

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

Attach a signed certification to complete this report.

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

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP) QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT

Source Name: Richmond Casting Company
 Source Address: 1775 Rich Road, Richmond, Indiana 47374
 Mailing Address: P.O. Box 1247, Richmond, Indiana 47374
 FESOP No.: F177-23251-00024

Months: _____ to _____ Year: _____

Page 1 of 2

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

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

Form Completed By: _____

Title/Position: _____

Date: _____

Phone: _____

Attach a signed certification to complete this report.

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

**Addendum to the
Technical Support Document (TSD) for a Federally Enforceable State Operating
Permit (FESOP) Renewal**

Source Background and Description

Source Name:	Richmond Casting Company
Source Location:	1775 Rich Road, Richmond, Indiana 47374
County:	Wayne
SIC Code:	3321
Operation Permit No.:	F177-23251-00024
Permit Reviewer:	Alic Bent/EVP

On November 9, 2007, the Office of Air Quality (OAQ) had a notice published in the Palladium Item newspaper, Richmond, Indiana, stating that Richmond Casting Company had applied for a Federally Enforceable State Operating Permit (FESOP) renewal for the gray and ductile iron foundry. The notice also stated that OAQ proposed to issue a FESOP renewal for this operation and provided information on how the public could review the proposed FESOP renewal and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this FESOP renewal should be issued as proposed.

On December 10, 2007, Kathy Moore of KERAMIDA Environmental, Inc. submitted comments on behalf of Richmond Casting Company on the proposed FESOP renewal. The summary of the comment and corresponding responses is as follows (bolded language has been added and the language with a line through it has been deleted):

Comment 1

The source requests the following changes to the descriptive information in Sections A.2, A.3 and D.1.

- (a) Facilities with particulate matter emissions controlled by baghouse CE-03, exhausting at stack S-5, consisting of:
 - (1) melting operations at two (2) IT-4 electric induction furnaces with a **total** maximum melting capacity of 5.0 tons of iron per hour, consisting of two (2) electric induction furnaces installed in 2000;
 - (2) inoculation process for two (2) electric induction furnaces, with a maximum capacity of 5.0 tons of iron per hour;
 - (3) sand handling system, including the mold making process, with a maximum capacity of 50.0 tons of sand per hour, installed in 2000;
 - (4) pouring / casting operations, with a maximum capacity of 55.0 tons of casting **and sand** per hour, installed in 2000;
 - (5) castings cooling operations, with a maximum capacity of 55.0 tons of casting **and sand** per hour, installed in 2000;

- (6) castings shakeout operations, with a maximum capacity of 55.0 tons of casting **and sand** per hour, installed in 2000;

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, as defined in 326 IAC 2-7-1(21):

- (a) lift truck propane combustion;
- (b) natural gas-fired space heaters and ladle **heaters**; and
- (c) welding operations in maintenance area. [326 IAC 6.5-1-2]

Response 1

The facility description in Sections A.2, A.3 and D.1 of the permit has been revised as shown below:

- (a) Facilities with particulate matter emissions controlled by baghouse CE-03, exhausting at stack S-5, consisting of:
 - (1) melting operations at two (2) IT-4 electric induction furnaces with a **total** maximum melting capacity of 5.0 tons of iron per hour, consisting of two (2) electric induction furnaces installed in 2000;
 - (2) inoculation process for two (2) electric induction furnaces, with a maximum capacity of 5.0 tons of iron per hour;
 - (3) sand handling system, including the mold making process, with a maximum capacity of 50.0 tons of sand per hour, installed in 2000;
 - (4) pouring / casting operations, with a maximum capacity of 55.0 tons of casting **and sand** per hour, installed in 2000;
 - (5) castings cooling operations, with a maximum capacity of 55.0 tons of casting **and sand** per hour, installed in 2000;
 - (6) castings shakeout operations, with a maximum capacity of 55.0 tons of casting **and sand** per hour, installed in 2000;

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, as defined in 326 IAC 2-7-1(21):

- (a) lift truck propane combustion;
- (b) natural gas-fired space heaters and ladle **heaters**; and
- (c) welding operations in maintenance area. [326 IAC 6.5-1-2]

Comment 2

In anticipation of the rule change for the FESOP renewal term, Richmond Casting Company requests a change to Condition B.2.

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, F177-23251-00024, is issued for a fixed term of ~~five (5)~~ **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.

Response 2

On December 16, 2007, revisions to 326 IAC 2-1.1-9 and 326 IAC 2-8-4 were finalized allowing for ten (10) year permit terms on FESOP renewals. Condition B.2 has been revised to reflect the ten (10) year permit term.

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, F177-23251-00024, is issued for a fixed term of ~~five (5)~~ **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.

Comment 3

Please add the following language to Condition B.9(b) (Certification) to allow Richmond Casting Company to include either the Certification Form that is included in the permit or an equivalent form.

- (b) One (1) certification shall be included, using the attached Certification Form **or its equivalent**, with each submittal requiring certification. One (1) certification may cover multiple forms in one (1) submittal.

Response 3

Condition B.9 (Certification) has been revised as requested:

B.9 Certification [326 IAC 2-8-3(d)][326 IAC 2-8-4(3)(C)(i)][326 IAC 2-8-5(1)]

- (b) One (1) certification shall be included, using the attached Certification Form **or its equivalent**, with each submittal requiring certification. One (1) certification may cover multiple forms in one (1) submittal.

Comment 4

Pursuant to 326 IAC 6.5-1-2(e)(2), particulate matter emissions from the melting operations shall be limited to 0.07 gr/dscf. Please revise as shown below:

D.1.2 Particulate Matter (PM) [326 IAC 6.5-1-2]

- (a) Pursuant to 326 IAC 6.5-1-2(a) (Particulate Matter Emissions Limitations), particulate matter emissions from all **of the following** processes controlled by baghouse CE-03 (~~induction melting~~, inoculation, sand handling, pouring / castings, castings cooling and castings shakeout processes) and the process controlled by baghouse CE-02 (shotblast) shall not exceed 0.03 gr/ dscf.

- (b) Pursuant to 326 IAC 6.5-1-2(e)(2) (Particulate Matter Emissions Limitations), particulate matter emissions from the melting operations controlled by baghouse CE-03 shall not exceed 0.07 gr/ dscf.

Response 4

Condition D.1.2 has been revised as requested:

D.1.2 Particulate Matter (PM) [326 IAC 6.5-1-2]

- (a) Pursuant to 326 IAC 6.5-1-2(a) (Particulate Matter Emissions Limitations), particulate matter emissions from all of the **following** processes controlled by baghouse CE-03 (~~induction melting, inoculation, sand handling, pouring / castings, castings cooling and castings shakeout processes~~) and the process controlled by baghouse CE-02 (shotblast) shall not exceed 0.03 gr/ dscf.
- (b) Pursuant to 326 IAC 6.5-1-2(e)(2) (Particulate Matter Emissions Limitations), particulate matter emissions from the melting operations controlled by baghouse CE-03 shall not exceed 0.07 gr/ dscf.

Comment 5

Condition D.1.4 – Richmond Casting Company requests that the limits in this condition be re-adjusted. The following wording is suggested:

D.1.4 Metallic Hazardous Air Pollutant (HAP) Emissions [326 IAC 2-8] [326 IAC 2-4.1]

Pursuant to F177-14142-00024, issued on March 19, 2002 and revised by F177-23251-00024:

- (a) **Total emissions of manganese from the scrap and charge handling, melting, pouring / casting, cooling, shakeout, shotblasting and grinding operations shall be limited to less than 10 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;**
- (b) **Total emissions of any combination of metal HAPs (chromium compounds, cobalt compounds, nickel compounds, arsenic compounds, cadmium compounds, selenium compounds, manganese compounds, and antimony compounds) from the scrap and charge handling, melting, pouring / casting, cooling, shakeout, shotblasting and grinding operations shall be limited to less than 15 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.**
- ~~(a) Total emissions of manganese from the pouring / casting operations shall be limited to less than 2.50 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;~~
- ~~(b) Total emissions of any combination of metal HAPs (chromium compounds, cobalt compounds, nickel compounds, arsenic compounds, cadmium compounds, selenium compounds, manganese compounds, and antimony compounds) from the pouring / casting operations shall be limited to less than 3.90 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.~~
- ~~(c) Total emissions of manganese from the cooling operations shall be limited to less than 1.20 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;~~

- (d) ~~Total emissions of any combination of metal HAPs (chromium compounds, cobalt compounds, nickel compounds, arsenic compounds, cadmium compounds, selenium compounds, manganese compounds, and antimony compounds) from the cooling operations shall be limited to less than 2.20 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.~~
- (e) ~~Total emissions of manganese from the shakeout operation shall be limited to less than 2.27 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;~~
- (f) ~~Total emissions of any combination of metal HAPs (chromium compounds, cobalt compounds, nickel compounds, arsenic compounds, cadmium compounds, selenium compounds, manganese compounds, and antimony compounds) from the shakeout operation shall be limited to less than 3.80 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.~~
- (g) ~~Total emissions of manganese from the shot blasting operation shall be limited to less than 3.00 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;~~
- (h) ~~Total emissions of any combination of metal HAPs (chromium compounds, cobalt compounds, nickel compounds, arsenic compounds, cadmium compounds, selenium compounds, manganese compounds, and antimony compounds) from the shot blasting operation shall be limited to less than 4.00 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.~~

Compliance with the manganese emission limits above **and in Section D.2** shall limit source-wide manganese emissions to less than 10 tons per year. Compliance with the combined metal HAP limits above **and in Section D.2** shall limit source-wide emissions of any combination of HAPs to less than 25 tons per year. Therefore, the requirements of 326 IAC 2-7 are not applicable.

Response 5

Condition D.1.4 and the reporting forms have been revised to re-adjust the metallic HAP emission limits.

D.1.4 Metallic Hazardous Air Pollutant (HAP) Emissions [326 IAC 2-8] [326 IAC 2-4.1]

Pursuant to F177-14142-00024, issued on March 19, 2002 and revised by F177-23251-00024:

- (a) **Total emissions of manganese from the scrap and charge handling, melting, pouring / casting, cooling, shakeout, shotblasting and grinding operations shall be limited to less than 10 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;**
- (b) **Total emissions of any combination of metal HAPs (chromium compounds, cobalt compounds, nickel compounds, arsenic compounds, cadmium compounds, selenium compounds, manganese compounds, and antimony compounds) from the scrap and charge handling, melting, pouring / casting, cooling, shakeout, shotblasting and grinding operations shall be limited to less than 15 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.**
- (a) ~~Total emissions of manganese from the pouring / casting operations shall be limited to less than 2.50 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;~~

- (b) ~~Total emissions of any combination of metal HAPs (chromium compounds, cobalt compounds, nickel compounds, arsenic compounds, cadmium compounds, selenium compounds, manganese compounds, and antimony compounds) from the pouring / casting operations shall be limited to less than 3.90 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.~~
- (c) ~~Total emissions of manganese from the cooling operations shall be limited to less than 1.20 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;~~
- (d) ~~Total emissions of any combination of metal HAPs (chromium compounds, cobalt compounds, nickel compounds, arsenic compounds, cadmium compounds, selenium compounds, manganese compounds, and antimony compounds) from the cooling operations shall be limited to less than 2.20 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.~~
- (e) ~~Total emissions of manganese from the shakeout operation shall be limited to less than 2.27 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;~~
- (f) ~~Total emissions of any combination of metal HAPs (chromium compounds, cobalt compounds, nickel compounds, arsenic compounds, cadmium compounds, selenium compounds, manganese compounds, and antimony compounds) from the shakeout operation shall be limited to less than 3.80 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.~~
- (g) ~~Total emissions of manganese from the shot blasting operation shall be limited to less than 3.00 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;~~
- (h) ~~Total emissions of any combination of metal HAPs (chromium compounds, cobalt compounds, nickel compounds, arsenic compounds, cadmium compounds, selenium compounds, manganese compounds, and antimony compounds) from the shot blasting operation shall be limited to less than 4.00 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.~~

Compliance with the manganese emission limits above, **in conjunction with the potential manganese emissions from the charge handling and core making processes**, shall limit source-wide manganese emissions to less than 10 tons per year. Compliance with the combined metal HAP limits above, **in conjunction with the total HAP emissions from the charge handling and core making processes**, shall limit source-wide emissions of any combination of HAPs to less than 25 tons per year. Therefore, the requirements of 326 IAC 2-7 are not applicable.

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

FESOP Quarterly Report

Source Name: Richmond Casting Company
 Source Address: 1775 Rich Road, Richmond, Indiana 47374
 Mailing Address: P.O. Box 1247, Richmond, Indiana 47374
 FESOP No.: F177-23251-00024
 Facility: ~~Pouring / Casting Operation~~ **Scrap and Charge Handling, Melting, Pouring / Casting, Cooling, Shakeout, Shotblasting and Grinding Operations**
 Parameter: Manganese and Total Metal HAP emissions
 Limit: (a) Emissions of manganese from the ~~pouring / casting operation~~ **scrap and charge handling, melting, pouring / casting, cooling, shakeout, shotblasting and grinding operations** shall ~~not exceed 2.50~~ **be limited to less than 10** tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
 (b) Emissions of any combination of metal HAPs from the ~~pouring / casting operation~~ **scrap and charge handling, melting, pouring / casting, cooling, shakeout, shotblasting and grinding operations** shall ~~not exceed 3.90~~ **be limited to less than 15** tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with the above limits shall be determined using the equations in condition D.1.9(a) **through (l)**, ~~(e) and (i)~~. Please attach supporting calculations and data used for determining HAP emissions reported.

YEAR: _____

Month	Column 1		Column 2		Column 1 + Column 2	
	This Month		Previous 11 Months		12 Month Total	
	Manganese Emissions HAP	Total HAP Emissions	Manganese Emissions HAP	Total HAP Emissions	Manganese Emissions HAP	Total HAP Emissions
Month 1						
Month 2						
Month 3						

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

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

Attach a signed certification to complete this report.

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

FESOP Quarterly Report

Source Name: _____ Richmond Casting Company
 Source Address: _____ 1775 Rich Road, Richmond, Indiana 47374
 Mailing Address: _____ P.O. Box 1247, Richmond, Indiana 47374
 FESOP No.: _____ F177-23251-00024
 Facility: _____ Shakeout Operation
 Parameter: _____ Manganese and Total Metal HAP emissions

Limit: _____ (a) Emissions of manganese from the shakeout operation shall not exceed 2.27 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
 _____ (b) Emissions of any combination of metal HAPs from the shakeout operation shall not exceed 3.80 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with the above limits shall be determined using the equations in condition D.1.9(c), (g) and (k). Please attach supporting calculations and data used for determining HAP emissions reported.

YEAR: _____

Month	Column 1		Column 2		Column 1 + Column 2	
	This Month		Previous 11 Months		12 Month Total	
	Manganese Emissions HAP	Total HAP Emissions	Manganese Emissions HAP	Total HAP Emissions	Manganese Emissions HAP	Total HAP Emissions
Month 1						
Month 2						
Month 3						

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

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

Attach a signed certification to complete this report.

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

FESOP Quarterly Report

Source Name: _____ Richmond Casting Company
 Source Address: _____ 1775 Rich Road, Richmond, Indiana 47374
 Mailing Address: _____ P.O. Box 1247, Richmond, Indiana 47374
 FESOP No.: _____ F177-23251-00024
 Facility: _____ Shot Blasting Operation
 Parameter: _____ Manganese and Total Metal HAP emissions
 Limit: _____ (a) Emissions of manganese from the shot blasting operation shall not exceed 3.00 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
 _____ (b) Emissions of any combination of metal HAPs from the shot blasting operation shall not exceed 4.00 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with the above limits shall be determined using the equations in condition D.1.9(d), (h) and (l). Please attach supporting calculations and data used for determining HAP emissions reported.

YEAR: _____

Month	Column 1		Column 2		Column 1 + Column 2	
	This Month		Previous 11 Months		12 Month Total	
	Manganese Emissions HAP	Total HAP Emissions	Manganese Emissions HAP	Total HAP Emissions	Manganese Emissions HAP	Total HAP Emissions
Month 1						
Month 2						
Month 3						

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

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

Attach a signed certification to complete this report.

Comment 6

Condition D.1.5 – This condition proposes a maximum metal throughput limit of 12.50 tons of metal per day for the pouring / castings, castings cooling and castings shakeout operations and VOC emissions limit of fifteen (15) pounds per day. Richmond Casting Company requests that this be revised to include a maximum metal throughput limit of 31,500 tons of metal per twelve (12) consecutive month period and VOC emissions limit of twenty-five (25) tons per twelve (12) consecutive month period, and the record keeping requirements be on a monthly basis.

D.1.5 New Facilities, General Reduction Requirements [326 IAC 8-1-6]

- (a) The maximum metal throughput through pouring / castings, castings cooling and castings shakeout operations shall not exceed ~~12.50~~ **31,500** tons of metal per ~~day~~ **twelve (12) consecutive month period**.
- (b) The VOC emissions from the shakeout process for sand molds shall not exceed ~~fifteen (15) pounds per day~~ **twenty-five (25) tons per twelve (12) consecutive month period** and 1.2 pounds per ton of metal.

Compliance with the above emission limit shall limit the VOC emissions to less than ~~fifteen (15) pounds per day~~ **twenty-five (25) tons per twelve (12) consecutive month period** from the castings shakeout process for sand molds and shall render 326 IAC 8-1-6 (BACT) not applicable to the castings shakeout process.

D.1.13 Record Keeping Requirements

- (d) To document compliance with Condition D.1.5, the Permittee shall maintain ~~daily~~ **monthly** records of the amount of material processed through the castings shakeout operation.

Response 6

Conditions D.1.5 and D.13 have been revised as requested. Additionally, FESOP Quarterly Report Form (Metal Throughput Rate for Sand Molds) has been revised to reflect the changes made in Conditions D.1.5 and D.13.

D.1.5 New Facilities, General Reduction Requirements [326 IAC 8-1-6]

- (a) The maximum metal throughput through pouring / castings, castings cooling and castings shakeout operations shall not exceed ~~12.50~~ **31,500** tons of metal per ~~day~~ **twelve (12) consecutive month period**.
- (b) The VOC emissions from the shakeout process for sand molds shall not exceed ~~fifteen (15) pounds per day~~ **twenty-five (25) tons per twelve (12) consecutive month period** and 1.2 pounds per ton of metal.

Compliance with the above emission limit shall limit the VOC emissions to less than ~~fifteen (15) pounds per day~~ **twenty-five (25) tons per twelve (12) consecutive month period** from the castings shakeout process for sand molds and shall render 326 IAC 8-1-6 (BACT) not applicable to the castings shakeout process.

D.1.13 Record Keeping Requirements

...

- (d) To document compliance with Condition D.1.5, the Permittee shall maintain ~~daily~~ **monthly** records of the amount of material processed through the castings shakeout operation.

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

FESOP Quarterly Report

Source Name: Richmond Casting Company
 Source Address: 1775 Rich Road, Richmond, Indiana 47374
 Mailing Address: P.O. Box 1247, Richmond, Indiana 47374
 FESOP No.: F177-23251-00024
 Facility: Pouring, Cooling and Shakeout Operations
 Parameter: Metal Throughput Rate for Sand Molds
 Limit: The maximum metal throughput to the pouring/casting, castings cooling, and castings shakeout operations for sand molds shall not exceed ~~12,500~~ **31,500** tons of metal per ~~day~~ **twelve (12) consecutive month period**, each.

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Month: _____ Year: _____

Day	Day
1	17
2	18
3	19
4	20
5	21
6	22
7	23
8	24
9	25
10	26
11	27
12	28
13	29
14	30
15	31
16	

No deviation occurred in this month.

Deviation/s occurred in this month.
 Deviation has been reported on _____

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

Phone: _____

Attach a signed certification to complete this report.

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	Metal Throughput This Month	Metal Throughput Previous 11 Months	Metal Throughput 12 Month Total
Month 1			
Month 2			
Month 3			

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

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

Attach a signed certification to complete this report.

Comment 7

Richmond Casting Company requests the following revisions to Condition D.1.9 (Metal HAP Emissions) for clarification.

D.1.9 Metal HAP Emissions

- (a) Manganese Emissions from the pouring / casting operation (tons/yr) = EF_{PCMn} (lb/ton) x M_{PC} (tons per twelve (12) consecutive month period) x (1 ton / 2000 pounds)

Where:

EF_{PCMn} = 0.114 pound manganese per ton of metal throughput (or an emission factor determined from the most recent compliance stack test **approved by IDEM**)

M_{PC} = total metal throughput to the pouring / casting operation (tons per twelve (12) consecutive month period)

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

Where:

EF_{CMn} = 0.054 pound manganese per ton of metal throughput (or an emission factor determined from the most recent compliance stack test **approved by IDEM**)

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

- (c) Manganese Emissions from the shakeout operation (tons/yr) = EF_{SMn} (lb/ton) x M_S (tons per twelve (12) consecutive month period) x (1 ton / 2000 pounds)

Where:

EF_{SMn} = 0.103 pound manganese per ton of metal throughput (or an emission factor determined from the most recent compliance stack test **approved by IDEM**)

M_S = total metal throughput to the shakeout operation (tons per twelve (12) consecutive month period)

- (d) Manganese Emissions from the shot blasting operation (tons/yr) = EF_{SBMn} (lb/ton) x M_{SB} (tons per twelve (12) consecutive month period) x (1 ton / 2000 pounds)

Where:

EF_{SBMn} = 0.095 pound manganese per ton of metal throughput (or an emission factor determined from the most recent compliance stack test **approved by IDEM**)

M_{SB} = total metal throughput to the shot blasting operation (tons per twelve (12) consecutive month period)

- (e) Total Metal HAP Emissions from the pouring / casting operation (tons/yr) = EF_{PCTM} (lb/ton) x M_{PC} (tons per twelve (12) consecutive month period) x (1 ton / 2000 pounds)

Where:

EF_{PCTM} = 0.178 pound combined metal HAP per ton of metal throughput (or an emission factor determined from the most recent compliance stack test **approved by IDEM**)

M_{PC} = total metal throughput to the pouring / casting operation (tons per twelve (12) consecutive month period)

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

Where:

EF_{CTM} = 0.100 pound combined metal HAP per ton of metal throughput (or an emission factor determined from the most recent compliance stack test **approved by IDEM**)

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

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

Where:

EF_{STM} = 0.173 pound combined metal HAP per ton of metal throughput (or an emission factor determined from the most recent compliance stack test **approved by IDEM**)

M_S = total metal throughput to the shakeout operation (tons per twelve (12) consecutive month period)

- (h) Total Metal HAP Emissions from the shot blasting operation (tons/yr) = EF_{SBTM} (lb/ton) x M_{SB} (tons per twelve (12) consecutive month period) x (1 ton / 2000 pounds)

Where:

EF_{SBTM} = 0.127 pound combined metal HAP per ton of metal throughput (or an emission factor determined from the most recent compliance stack test **approved by IDEM**)

M_{SB} = total metal throughput to the shot blasting operation (tons per twelve (12) consecutive month period)

- ~~(i) Upon IDEM approval of manganese and total metal HAP compliance stack test results on the pouring / castings, the following shall apply:~~

~~(1) The manganese emission factor in pound per ton obtained from the IDEM approved stack test results shall be used for the variable identified above as EF_{PCMn} .~~

~~(2) The total metal HAP emission factor in pound per ton that shall be used for the variable EF_{PCTM} shall be the sum of the manganese emission factor obtained from the stack test and the remaining non-manganese metal HAP emission factors used to calculate emissions.~~

- ~~(j) Upon IDEM approval of manganese and total metal HAP compliance stack test results on the castings cooling operation, the following shall apply:~~

~~(1) The manganese emission factor in pound per ton obtained from the IDEM approved stack test results shall be used for the variable identified above as EF_{CMn} .~~

~~(2) The total metal HAP emission factor in pound per ton that shall be used for the variable EF_{CTM} shall be the sum of the manganese emission factor obtained from the stack test and the remaining non-manganese metal HAP emission factors used to calculate emissions.~~

- ~~(k) Upon IDEM approval of manganese and total metal HAP compliance stack test results on the shakeout process, the following shall apply:~~
- ~~(1) The manganese emission factor in pound per ton obtained from the IDEM approved stack test results shall be used for the variables identified above as EF_{SMn} .~~
 - ~~(2) The total metal HAP emission factor in pound per ton that shall be used for the variable EF_{STM} shall be the sum of the manganese emission factor obtained from the stack test and the remaining non-manganese metal HAP emission factors used to calculate emissions.~~
- ~~(l) Upon IDEM approval of manganese and total metal HAP compliance stack test results on the shot blasting operation, the following shall apply:~~
- ~~(1) The manganese emission factor in pound per ton obtained from the IDEM approved stack test results shall be used for the variables identified above as EF_{SBMn} .~~
 - ~~(2) The total metal HAP emission factor in pound per ton that shall be used for the variable EF_{SBTM} shall be the sum of the manganese emission factor obtained from the stack test and the remaining non-manganese metal HAP emission factors used to calculate emissions.~~

Response 7

Condition D.1.9 (Metal HAP Emissions) has been revised for clarification.

D.1.9 Metal HAP Emissions

- (a) Manganese Emissions from the pouring / casting operation (tons/yr) = EF_{PCMn} (lb/ton) x M_{PC} (tons per twelve (12) consecutive month period) x (1 ton / 2000 pounds)
- Where:
- EF_{PCMn} = 0.114 pound manganese per ton of metal throughput (or an emission factor determined from the most recent compliance stack test **approved by IDEM**)
- M_{PC} = total metal throughput to the pouring / casting operation (tons per twelve (12) consecutive month period)
- (b) Manganese Emissions from the cooling operation (tons/yr) = EF_{CMn} (lb/ton) x M_C (tons per twelve (12) consecutive month period) x (1 ton / 2000 pounds)
- Where:
- EF_{CMn} = 0.054 pound manganese per ton of metal throughput (or an emission factor determined from the most recent compliance stack test **approved by IDEM**)
- M_C = total metal throughput to the cooling operation (tons per twelve (12) consecutive month period)
- (c) Manganese Emissions from the shakeout operation (tons/yr) = EF_{SMn} (lb/ton) x M_S (tons per twelve (12) consecutive month period) x (1 ton / 2000 pounds)
- Where:
- EF_{SMn} = 0.103 pound manganese per ton of metal throughput (or an emission factor determined from the most recent compliance stack test **approved by IDEM**)

$M_S =$ total metal throughput to the shakeout operation (tons per twelve (12) consecutive month period)

- (d) Manganese Emissions from the shot blasting operation (tons/yr) = EF_{SBMn} (lb/ton) x M_{SB} (tons per twelve (12) consecutive month period)] x (1 ton / 2000 pounds)

Where:

$EF_{SBMn} =$ 0.095 pound manganese per ton of metal throughput (or an emission factor determined from the most recent compliance stack test **approved by IDEM**)

$M_{SB} =$ total metal throughput to the shot blasting operation (tons per twelve (12) consecutive month period)

- (e) Total Metal HAP Emissions from the pouring / casting operation (tons/yr) = EF_{PCTM} (lb/ton) x M_{PC} (tons per twelve (12) consecutive month period) x (1 ton / 2000 pounds)

Where:

$EF_{PCTM} =$ 0.178 pound combined metal HAP per ton of metal throughput (or an emission factor determined from the most recent compliance stack test **approved by IDEM**)

$M_{PC} =$ total metal throughput to the pouring / casting operation (tons per twelve (12) consecutive month period)

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

Where:

$EF_{CTM} =$ 0.100 pound combined metal HAP per ton of metal throughput (or an emission factor determined from the most recent compliance stack test **approved by IDEM**)

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

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

Where:

$EF_{STM} =$ 0.173 pound combined metal HAP per ton of metal throughput (or an emission factor determined from the most recent compliance stack test **approved by IDEM**)

$M_S =$ total metal throughput to the shakeout operation (tons per twelve (12) consecutive month period)

- (h) Total Metal HAP Emissions from the shot blasting operation (tons/yr) = EF_{SBTM} (lb/ton) x M_{SB} (tons per twelve (12) consecutive month period) x (1 ton / 2000 pounds)

Where:

$EF_{SBTM} =$ 0.127 pound combined metal HAP per ton of metal throughput (or an emission factor determined from the most recent compliance stack test **approved by IDEM**)

$M_{SB} =$ total metal throughput to the shot blasting operation (tons per twelve (12) consecutive month period)

- ~~(i) Upon IDEM approval of manganese and total metal HAP compliance stack test results on the pouring / castings, the following shall apply:~~

- (1) ~~The manganese emission factor in pound per ton obtained from the IDEM approved stack test results shall be used for the variable identified above as EF_{PCMn} .~~
- (2) ~~The total metal HAP emission factor in pound per ton that shall be used for the variable EF_{PCTM} shall be the sum of the manganese emission factor obtained from the stack test and the remaining non-manganese metal HAP emission factors used to calculate emissions.~~
- (j) ~~Upon IDEM approval of manganese and total metal HAP compliance stack test results on the castings cooling operation, the following shall apply:~~
- (1) ~~The manganese emission factor in pound per ton obtained from the IDEM approved stack test results shall be used for the variable identified above as EF_{CMn} .~~
- (2) ~~The total metal HAP emission factor in pound per ton that shall be used for the variable EF_{CTM} shall be the sum of the manganese emission factor obtained from the stack test and the remaining non-manganese metal HAP emission factors used to calculate emissions.~~
- (k) ~~Upon IDEM approval of manganese and total metal HAP compliance stack test results on the shakeout process, the following shall apply:~~
- (1) ~~The manganese emission factor in pound per ton obtained from the IDEM approved stack test results shall be used for the variables identified above as EF_{SMn} .~~
- (2) ~~The total metal HAP emission factor in pound per ton that shall be used for the variable EF_{STM} shall be the sum of the manganese emission factor obtained from the stack test and the remaining non-manganese metal HAP emission factors used to calculate emissions.~~
- (l) ~~Upon IDEM approval of manganese and total metal HAP compliance stack test results on the shot blasting operation, the following shall apply:~~
- (1) ~~The manganese emission factor in pound per ton obtained from the IDEM approved stack test results shall be used for the variables identified above as EF_{SBMn} .~~
- (2) ~~The total metal HAP emission factor in pound per ton that shall be used for the variable EF_{SBTM} shall be the sum of the manganese emission factor obtained from the stack test and the remaining non-manganese metal HAP emission factors used to calculate emissions.~~

Comment 8

Conditions D.1.3, D.1.8, D.1.10(a) and D.1.11 – Richmond Casting Company requests that the requirements be revised to read "...shotblast and **grinding** ...".

D.1.3 FESOP and PSD Minor Limits [326 IAC 2-8-4] [326 IAC 2-2]

- (a) The PM-10 emissions from baghouse CE-03 controlling the electric induction furnaces, inoculation process, sand handling operation, pouring / casting process, castings cooling process, and the castings shakeout process shall not exceed 14 pounds per hour.

- (b) Pursuant to 326 IAC 2-8 (FESOP), the PM-10 emissions from baghouse CE-02 controlling the shot blast **and grinding** process, shall not exceed 3.1 pounds per hour.
- (c) The throughput of metal to the pouring, cooling and shakeout operations shall be limited to less than 31,500 tons per 12 consecutive month period with compliance determined at the end of each month and ~~the~~ CO emissions ~~limit~~ from pouring, cooling, and shakeout operations combined shall not exceed 6.0 pounds per ton of metal ~~melted~~.

Compliance with the above requirements in conjunction with the limits in Condition D.2.3 shall limit source wide PM10 emissions to less than 100 tons per twelve (12) consecutive month period and make the requirements of 326 IAC 2-7 and 326 IAC 2-2 (PSD) not applicable.

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

- (b) Within 180 days after issuance of this FESOP, in order to demonstrate compliance with Condition D.1.4, the Permittee shall perform manganese and total metallic HAP testing on the each of the pouring, cooling, casting shakeout, ~~and~~ shot blasting **and grinding** operations utilizing methods as approved by the Commissioner. These tests shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C- Performance Testing.

D.1.10 Visible Emissions Notations

- (a) Visible emission notations of the processes controlled by baghouse CE-03 (induction melting, inoculation, sand handling, pouring / castings, castings cooling and castings shakeout processes) and the processes controlled by baghouse CE-02 (shotblast **and grinding**) stack exhausts shall be performed daily during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

D.1.11 Parametric Monitoring

The Permittee shall record the pressure drop across baghouse CE-03 used in conjunction with the induction melting, inoculation, sand handling, pouring / castings, castings cooling and castings shakeout processes and baghouse CE-02 used in conjunction with the shotblast **and grinding** process, at least daily when the processes are in operation. When for any one reading, the pressure drop across the CE-03 and CE-02 baghouses is outside the normal range of 2.0 and 8.0 inches of water and 1.0 to 4.0 inches of water, respectively, or ranges established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

Response 8

Conditions D.13, D.1.8, D.1.10(a) and D.1.11 have been revised as requested.

D.1.3 FESOP and PSD Minor Limits [326 IAC 2-8-4] [326 IAC 2-2]

- (a) The PM-10 emissions from baghouse CE-03 controlling the electric induction furnaces, inoculation process, sand handling operation, pouring / casting process, castings cooling process, and the castings shakeout process shall not exceed 14 pounds per hour.
- (b) Pursuant to 326 IAC 2-8 (FESOP), the PM-10 emissions from baghouse CE-02 controlling the shot blast **and grinding** process, shall not exceed 3.1 pounds per hour.
- (c) The throughput of metal to the pouring, cooling and shakeout operations shall be limited to less than 31,500 tons per 12 consecutive month period with compliance determined at the end of each month and the CO emissions limit from pouring, cooling, and shakeout operations combined shall not exceed 6.0 pounds per ton of metal ~~melted~~.

Compliance with the above requirements in conjunction with the limits in Condition D.2.3 shall limit source wide PM10 emissions to less than 100 tons per twelve (12) consecutive month period and make the requirements of 326 IAC 2-7 and 326 IAC 2-2 (PSD) not applicable.

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

- (b) Within 180 days after issuance of this FESOP, in order to demonstrate compliance with Condition D.1.4, the Permittee shall perform manganese and total metallic HAP testing on the each of the pouring, cooling, casting shakeout, ~~and~~ shot blasting **and grinding** operations utilizing methods as approved by the Commissioner. These tests shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C- Performance Testing.

D.1.10 Visible Emissions Notations

- (a) Visible emission notations of the processes controlled by baghouse CE-03 (induction melting, inoculation, sand handling, pouring / castings, castings cooling and castings shakeout processes) and the processes controlled by baghouse CE-02 (shotblast **and grinding**) stack exhausts shall be performed daily during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

D.1.11 Parametric Monitoring

The Permittee shall record the pressure drop across baghouse CE-03 used in conjunction with the induction melting, inoculation, sand handling, pouring / castings, castings cooling and castings shakeout processes and baghouse CE-02 used in conjunction with the shotblast **and grinding** process, at least daily when the processes are in operation. When for any one reading, the pressure drop across the CE-03 and CE-02 baghouses is outside the normal range of 2.0 and 8.0 inches of water and 1.0 to 4.0 inches of water, respectively, or ranges established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

Comment 9

Technical Support Document - To the extent that certain conditions discussed above are referenced in the Technical Support Document, suggested wording should be revised consistent with changes made to the permit.

Response 9

The OAQ prefers that the Technical Support Document reflect the permit that was on public notice. Changes to the permit or technical support material that occur after the public notice are documented in this Addendum to the Technical Support Document. This accomplishes the desired result of ensuring that these types of concerns are documented and part of the record regarding this permit decision.

Upon further review IDEM, OAQ has made the following changes to the FESOP renewal (additions in **bold**, deletions in ~~strikeout~~):

1. IDEM, OAQ has revised the cover page as shown below.

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.

Operation Permit No.: F177-23251-00024	
Issued by: Nisha Sizemore, Chief Matthew Stuckey, Deputy Branch Chief Permits Branch Office of Air Quality	Issuance Date: Expiration Date:

2. Rule citation has been added to Condition D.2.3.

D.2.3 FESOP [326 IAC 2-8] **[326 IAC 2-2]**

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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

Source Name:	Richmond Casting Company
Source Location:	1775 Rich Road, Richmond, Indiana 47374
County:	Wayne
SIC Code:	3321
Permit Renewal No.:	F177-23251-00024
Permit Reviewer:	AB/EVP

The Office of Air Quality (OAQ) has reviewed the operating permit renewal application from Richmond Casting Company relating to the operation of a gray and ductile iron foundry. On July 31, 2007, Richmond Casting Company submitted an application (Permit No: 177-25080-00024) to the OAQ requesting the addition of a production melt limit of 31,500 tons per year to their FESOP, which will limit CO emissions to less than 100 tons per year, and make the requirements of 326 IAC 2-7 (Part 70) not applicable. This production limit request has been combined with the FESOP Renewal (Permit No: 177-23251-00024).

Permitted Emission Units and Pollution Control Equipment

- (a) Facilities with particulate matter emissions controlled by baghouse CE-03, exhausting at stack S-5, consisting of:
 - (1) melting operations at two (2) IT-4 electric induction furnaces with a maximum melting capacity of 5.0 tons of iron per hour, consisting of two (2) electric induction furnaces installed in 2000;
 - (2) inoculation process for two (2) electric induction furnaces, with a maximum capacity of 5.0 tons of iron per hour;
 - (3) sand handling system, including the mold making process, with a maximum capacity of 50.0 tons of sand per hour, installed in 2000;
 - (4) pouring / casting operations, with a maximum capacity of 55.0 tons of casting per hour, installed in 2000;
 - (5) castings cooling operations, with a maximum capacity of 55.0 tons of casting per hour, installed in 2000;
 - (6) castings shakeout operations, with a maximum capacity of 55.0 tons of casting per hour, installed in 2000;
- (b) shot blasting and grinding operations, installed in 2000, with a maximum capacity of 7.15 tons of casting per hour, with a Torit baghouse for particulate control, identified as CE-02, exhausting through stack S-2;
- (c) the scrap and charge handling operation, installed in 1999, with a maximum capacity of 7.15 tons of iron per hour, uncontrolled and exhausting within the production building;

- (d) the shell core making process, installed in 1975, with a maximum capacity of 0.6 tons of cores per hour, uncontrolled and exhausting within the production building.

Unpermitted Emission Units and Pollution Control Equipment

There are no unpermitted emission units operating at this source during this review process.

Insignificant Activities

- (a) lift truck propane combustion;
- (b) natural gas-fired space heaters and ladle, with a total maximum capacity of 7.15 MMBtu per hour; and
- (c) welding operations in maintenance area. [326 IAC 6.5-1-2]

Existing Approvals

The source has been operating under the following previous approval:

FESOP No. 177-14142-00024 issued on March 19, 2002.

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: pages 1 through 11 of this document for detailed emission calculations.

County Attainment Status

The source is located in Wayne County.

Pollutant	Status
PM10	Attainment
PM2.5	Attainment
SO ₂	Attainment
NO _x	Attainment
8-hour Ozone	Attainment
CO	Attainment
Lead	Attainment

- (a) Wayne County has been classified as unclassifiable or attainment for PM2.5. U.S. EPA has not yet established the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 for PM 2.5 emissions. Therefore, until the U.S.EPA adopts specific provisions for PSD review for PM2.5 emissions, it has directed states to regulate PM10 emissions as a surrogate for PM2.5 emissions. See the State Rule Applicability – Entire Source section.

- (b) Volatile organic compounds (VOC) and Nitrogen Oxides (NOx) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC emissions and NOx emissions are considered when evaluating the rule applicability relating to ozone. Wayne County has been designated as attainment or unclassifiable for ozone. Therefore, VOC emissions and NOx 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) Wayne County has been classified as attainment or unclassifiable in Indiana for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability – Entire Source section.
- (d) On October 25, 2006, the Indiana Air Pollution Control Board finalized a rule revision to 326 IAC 1-4-1 revoking the one-hour ozone standard in Indiana.
- (e) Fugitive Emissions
 Since this type of operation is in one of the twenty-eight (28) listed source categories under 326 IAC 2-2, fugitive emissions are counted toward the determination of PSD applicability.

Unrestricted Potential Emissions

This table reflects the unrestricted potential emissions of the source.

Pollutant	tons/year
PM	1,643.48
PM10	412.34
SO ₂	0.44
VOC	29.08
CO	134.03
NO _x	3.46

HAPs	tons/year
Manganese	23.50
Lead	2.92
Phenol	1.57
Benzene	3.60
Toluene	1.42
Other HAPs	5.50
Total	38.51

- (a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of PM10 and CO are equal to or greater than 100 tons per year. The source is subject to the provisions of 326 IAC 2-7. However, the source has agreed to limit their PM10 and CO emissions to less than Title V levels, therefore the source will be issued a FESOP.
- (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 a single HAP (manganese) is equal to or greater than ten (10) tons per year and the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination of HAPs is equal to or greater than twenty-five (25) tons per year. However, the source has agreed to limit their single HAP emissions and total HAP emissions below Title V limits. Therefore, the source will be issued a FESOP.

Fugitive Emissions

Since this type of operation is one of the twenty-eight (28) listed source categories under 326 IAC 2-7, fugitive emissions are counted toward the determination of Part 70 applicability.

Actual Emissions

No previous emission data has been received from the source.

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 (tons/year)						HAPs
	PM	PM-10	SO ₂	VOC	CO	NO _x	
Units controlled by baghouse CE-03*	54.31	61.32	0.44	< 2.74	94.50	0.33	Single HAP < 10 Total HAPs < 25
Shot Blast	13.58	13.58	0.00	0.00	0.00	0.00	Single HAP < 10 Total HAPs < 25
Scrap & Charge Handling	18.79	11.27	0.00	0.00	0.00	0.00	Single HAP < 10 Total HAPs < 25
Core Making	12.75	12.75	0.00	2.63	0.00	0.00	0.00
Natural Gas Combustion (Insignificant Activity)	0.06	0.24	Neg.	0.17	2.63	3.13	Neg.
Total Emissions	99.49	99.16	0.44	5.54	97.13	3.46	Single HAP < 10 Total HAPs < 25

* CE-03 controls the induction melt, inoculation, sand handling, pouring/casting, casting/cooling, and casting shakeout systems.

- (a) This existing stationary source is not major for PSD because the emissions of each criteria pollutant are less than one hundred (<100) tons per year, and it is one of the twenty-eight (28) listed source categories.

Federal Rule Applicability

The following federal rules are applicable to the source:

- (a) The requirements of 40 CFR Part 64, Compliance Assurance Monitoring, are not applicable to this source. Such requirements apply to a pollutant-specific emissions unit (PSEU), as defined in 40 CFR 64.1, at a major source that is required to obtain a Part 70 or 71 permit if the PSEU meets the following criteria:
- (1) The unit is subject to an emission limitation or standard for an applicable regulated air pollutant,

- (2) The unit uses a control device as defined in 40 CFR 64.1 to comply with that emission limitation or standard, and
- (3) The unit has a potential to emit (PTE) before controls equal to or greater than 100 percent of the amount (tons per year) of the pollutant required for a source to be classified as a Part 70 major source.

This source is a FESOP source and is not a major Part 70 source. Therefore, the requirements of 40 CFR 64, Compliance Assurance Monitoring, are not included in this permit.

- (b) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included in the permit for this source.
- (b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAP) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) included in this permit renewal.
- (c) On April 22, 2004, U.S. EPA promulgated a NESHAP for iron and steel foundries. The NESHAP, 40 CFR 63.7680 - 63.7762, Subpart EEEEE, applies to each new or existing iron and steel foundry that is a major source of HAPs. A major source of HAPs is a source that emits or has the potential to emit any single HAP at a rate of 10 tons or more per year or any combination of HAPs at a rate of 25 tons or more per year. The affected source covered by this rule is each new or existing iron and steel foundry and the rule covers emissions from metal melting furnaces, scrap preheaters, pouring areas, pouring stations, automated conveyor and pallet cooling lines, automated shakeout lines, and mold and core making lines. This rule also covers fugitive emissions from foundry operations. Pursuant to this rule, the Permittee must comply with 40 CFR 63, Subpart EEEEE on and after April 23, 2007, except as provided in paragraph (b) of 40 CFR 63.7682, or accept and meet an enforceable HAP emissions limit below the major source threshold prior to the compliance date of April 23, 2007.

The source has the potential to emit of manganese greater than ten (10) tons per year and the potential to emit of a combination of HAPs greater than twenty-five (25) tons per year. However, all the units at the source are part of a previous federally enforceable permit in which single HAP emissions and total HAP emissions are controlled below Title V limits. The source has requested that enforceable HAP emission limits be included in the FESOP to limit the potential to emit any single HAP to less than 10 tons per year and the potential to emit of any combination of HAPs to less than 25 tons per year.

- (1) Total emissions of manganese from the pouring / casting operations shall be limited to less than 2.50 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (2) Total emissions of any combination of metal HAPs (chromium compounds, cobalt compounds, nickel compounds, arsenic compounds, cadmium compounds, selenium compounds, manganese compounds, and antimony compounds) from the pouring / casting operations shall be limited to less than 3.90 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (3) Total emissions of manganese from the cooling operations shall be limited to less than 1.20 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;

- (4) Total emissions of any combination of metal HAPs (chromium compounds, cobalt compounds, nickel compounds, arsenic compounds, cadmium compounds, selenium compounds, manganese compounds, and antimony compounds) from the cooling operations shall be limited to less than 2.20 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (5) Total emissions of manganese from the shakeout operation shall be limited to less than 2.27 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (6) Total emissions of any combination of metal HAPs (chromium compounds, cobalt compounds, nickel compounds, arsenic compounds, cadmium compounds, selenium compounds, manganese compounds, and antimony compounds) from the shakeout operation shall be limited to less than 3.80 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (7) Total emissions of manganese from the shot blasting operation shall be limited to less than 3.00 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (8) Total emissions of any combination of metal HAPs (chromium compounds, cobalt compounds, nickel compounds, arsenic compounds, cadmium compounds, selenium compounds, manganese compounds, and antimony compounds) from the shot blasting operation shall be limited to less than 4.00 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with the manganese emission limits above shall limit source-wide manganese emissions to less than 10 tons per year. Compliance with the combined metal HAP limits above shall limit source-wide emissions of any combination of HAPs to less than 25 tons per year. Therefore, the requirements of 40 CFR 63, Subpart EEEEE are not included in this permit.

State Rule Applicability - Entire Source

326 IAC 2-2 (Prevention of Significant Deterioration (PSD))

This source is not a major source because, even though it is one of the twenty-eight (28) listed source categories under 326 IAC 2-2, potential to emit of PM, PM10 and CO is limited to less than 100 tons per year. The allowable emissions of all regulated pollutants, except PM, are less than 100 tons per year after application of all federally enforceable emission limits as discussed below under 326 IAC 2-8. The allowable emissions of PM are less than 100 tons per year after application of the following federally enforceable emission limits:

- (a) The combined PM emissions from all processes (induction melting, inoculation, sand handling, pouring / castings, castings cooling and castings shakeout), all controlled by baghouse CE-03 shall not exceed 12.4 pounds per hour.
- (b) The PM emissions from the shotblasting process, controlled by baghouse CE-02 shall not exceed 3.1 pound per hour.
- (c) The PM emissions from the scrap and charge handling shall not exceed 4.29 pounds per hour.
- (d) The PM emissions from the core making sand handling shall not exceed 2.91 pounds per hour.

Compliance with these limits, in conjunction with the limits in Condition D.1.2 shall limit source wide PM emissions to less than 100 tons per twelve (12) consecutive month period and make the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable.

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

The emission of single HAP and combination of HAP source-wide will be limited to less than 10 tons per year and 25 tons per year, respectively. Therefore, 326 IAC 2-4.1 does not apply to this source.

326 IAC 2-6 (Emission Reporting)

Pursuant to 326 IAC 2-6-1, this source is not subject to this rule because it is not required to have an operating permit under 326 IAC 2-7 (Part 70), it is not located in Lake or Porter counties, and it does not emit lead into the ambient air at levels equal to or greater than 5 tons per year. Therefore, 326 IAC 2-6 does not apply.

326 IAC 2-8-4 (FESOP)

The uncontrolled emissions of PM10 and CO are more than 100 tons per year. Therefore, federally enforceable limits have been established to limit PM10 and CO emissions to less than 100 tons per year.

- (a) The PM-10 emissions from the baghouse identified as CE-03 controlling the electric induction furnaces, inoculation process, sand handling operation, pouring / casting process, castings cooling process, and the castings shakeout process shall not exceed 14 pounds per hour, which is equivalent to 61.32 tons per year.
- (b) The PM-10 emissions from the baghouse identified as CE-02 controlling the shot blast operation, shall not exceed 3.1 pounds per hour, which is equivalent to 13.58 tons per year.
- (c) The PM-10 emissions from the scrap and charge handling process, shall not exceed 2.57 pounds per hour, which is equivalent to 11.26 tons per year.
- (d) The PM-10 emissions from the core making process, shall not exceed 2.91 pounds per hour, which is equivalent to 12.75 tons per year.
- (e) The throughput of metal to the pouring, cooling and shakeout operations shall be limited to less than 31,500 tons per 12 consecutive month period with compliance determined at the end of each month.
- (f) The combined CO emissions from the pouring, cooling and shakeout operations shall not exceed 6.0 pounds CO per ton metal.
- (g) See Part (c) of the Federal Rule Applicability Section for HAP limits.

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 the permit:

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

State Rule Applicability – Individual Facilities

326 IAC 6.5-1-2 (Particulate Matter Emissions Limitations)

Pursuant to 326 IAC 6.5-1-1 (Applicability) specifically listed sources or facilities, or sources or facilities not specifically listed but located in a listed county and having either a potential to emit (PTE) 100 tons per year (tpy) or more or actual emissions of 10 tpy or more of PM, are subject to the rule requirements.

The source is located in Wayne County, a specifically listed county and the source has actual PM emissions greater than 10 tpy. The source and its facilities are not specifically listed at 326 IAC 6.5-1-14 and, therefore, the requirements of 326 IAC 6.5-1-2(e) (Gray Iron Foundries) and 326 IAC 6.5-1-2(a) (General Sources) are applicable to this source. Pursuant to this rule, particulate matter emissions shall be limited to 0.03 grains per dry standard cubic foot of exhaust gas (gr/dscf) for the shotblast, inoculation, sand handling, pouring / castings, castings cooling and castings shakeout processes and 0.07 gr/dscf for the melting process. The melting process shall also be limited to the more stringent limit of 0.03 gr/dscf, since all the processes listed above are controlled by the baghouse CE-03 and are exhausting to the same stack S-5, except for the shotblast operation which is controlled by baghouse CE-02 and exhausting to stack S-2.

Pursuant to 326 IAC 6.5-1-2(a), the PM emissions from the insignificant welding operations shall not exceed 0.03 gr/dscf.

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

Pursuant to 326 IAC 6-3-1(b) (1), the melting process, inoculation process, sand handling process, pouring / casting process, castings cooling process, castings shakeout process, shotblast process, scrap and charge handling process and core making process are not subject to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), because the allowable emissions for 326 IAC 6-3-2 are less stringent than the allowable emissions for 326 IAC 6.5-1-2.

Emission Unit	326 IAC 6-3-2 Limit (lbs/hr)	326 IAC 6.5-1-2 Limit (lbs/hr)
Induction Melting	12.1	12.4 combined for baghouse CE-03
Inoculation	12.1	
Pouring/Casting	12.1	
Casting/Cooling	12.1	
Casting Shakeout	45.5	
Sand Handling	44.6	
Shot Blast	15.3	3.1
Scrap & Charge Handling	12.1	4.29
Core Making	2.91	2.91

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

This rule applies to facilities constructed after January 1, 1980 which have the potential to emit 25 tons per year or more of VOC. The core making process is not subject to the requirements of 326 IAC 8-1-6 (New Facilities, General Reduction Requirements), because it commenced operation before January 1, 1980. The inoculation process and pouring / casting process were constructed after 1980 but are not subject to this rule because they each have the potential to emit less than 25 tons of VOC per year. The shakeout process was constructed after 1980 and has the potential to emit greater than 25 tons of VOC per year. The shakeout process shall be limited as follows:

- (a) The maximum metal throughput through pouring / castings, castings cooling and castings shakeout operations shall not exceed 12.50 tons of metal per day.
- (b) The VOC emissions from the shakeout process for sand molds shall not exceed fifteen (15) pounds per day and 1.2 pounds per ton of metal.

Compliance with the above emission limits shall limit the VOC emissions to less than fifteen (15) pounds per day from the castings shakeout process for sand molds and shall render 326 IAC 8-1-6 (BACT) not applicable to the castings shakeout process.

326 IAC 11-1-2 (Emission Limitations For Existing Foundries)

This source is not subject to 326 IAC 11-1-2 (Emission Limitations For Existing Foundries). This rule establishes limitations for particulate matter from all foundries in operation on or before December 6, 1968. This facility began operation after December 6, 1968, therefore, pursuant to 326 IAC 11-1-1 is not subject to 326 IAC 11-1-2.

Compliance Determination and Monitoring Requirements

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

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

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

- (a) The melting process, inoculation process, sand handling operation, pouring / casting process, castings cooling process and castings shakeout process have applicable compliance determination conditions as specified below:

Emission Unit	Control Device	Timeframe for Testing	Pollutant	Frequency of Testing	Limit or Requirement
melting process, inoculation process, sand handling operation, pouring / casting process, castings cooling process and castings shakeout process	CE-03	On or Before July 26, 2011	PM/PM10	Once every 5 years	12.4 lbs/hr PM 14.0 lbs/hr PM10 (combined)
pouring / casting	CE-03	180 days After Issuance	Manganese	Once every 5 years	2.5 tons/yr Manganese
			Total Metallic HAPs		3.9 tons/yr Total Metallic HAPs
cooling		180 days After Issuance	Manganese	Once every 5 years	1.2 tons/yr Manganese
	Total Metallic HAPs		2.2 tons/yr Total Metallic HAPs		
shakeout operation	CE-02	180 days After Issuance	Manganese	Once every 5 years	2.27 tons/yr Manganese
			Total Metallic HAPs		3.8 tons/yr Total Metallic HAPs
shot blasting operation	CE-02	180 days After Issuance	Manganese	Once every 5 years	3.0 tons/yr Manganese
			Total Metallic HAPs		4.0 tons/yr Total Metallic HAPs

The melting process, inoculation process, sand handling operation, pouring / casting process, castings cooling process and castings shakeout process, are all controlled by one baghouse, designated as CE-03. To demonstrate compliance with these combined limits, all units must be operated simultaneously during the testing period.

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

Control	Parameter	Frequency	Range	Excursions and Exceedances
Baghouse CE-03 for the melting process, inoculation process, sand handling operation, pouring / casting process, castings cooling process and castings shakeout process	Water Pressure Drop	Daily	2.0 to 8.0 inches	Response Steps
	Visible Emissions		Normal-Abnormal	
Baghouse CE-02 for the shot blast unit	Water Pressure Drop	Daily	1.0 to 4.0 inches	Response Steps
	Visible Emissions		Normal-Abnormal	

These monitoring conditions are necessary because baghouse CE-03 for the melting process, inoculation process, sand handling operation, pouring / casting process, castings cooling process and castings shakeout process and baghouse CE-02 for the shot blast unit must operate properly to ensure compliance with 326 IAC 6.5-1-2 (Particulate Matter Emissions Limitations) and 326 IAC 2-8 (FESOP).

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 June 6, 2006. Additional information was received on July 31, 2007.

Conclusion

The operation of this gray and ductile iron foundry shall be subject to the conditions of the attached FESOP Renewal No. 177-23251-00024.

Appendix A: Emission Calculations

Company Name: Richmond Casting Company
Address City IN Zip: 1775 Rich Road, Richmond, IN 47374
Permit Number: F177-23251-00024
Reviewer: AB/EVP

Total Potential To Emit (tons/year)

Emissions Generating Activity

Pollutant	Charge Handling	Induction Furnaces	Pouring/Casting	Castings Cooling	Shakeout	Sand Handling	Inoculation	Shot Blasting	Coremaking	Natural Gas Combustion	SUBTOTAL
PM	13.14	19.71	91.98	30.66	70.08	788.40	87.60	532.39	9.46	0.06	1643.48
PM10	7.88	18.83	45.11	30.66	49.06	118.30	87.60	53.24	1.42	0.24	412.34
SO2	0.00	0.00	0.44	0.00	0.00	0.00	0.00	0.00	0.00	Neg.	0.44
NOx	0.00	0.00	0.22	0.00	0.00	0.00	0.11	0.00	0.00	3.13	3.46
VOC	0.00	0.00		26.28		0.00	0.00	0.00	2.63	0.17	29.08
CO	0.00	0.00		131.40		0.00	0.00	0.00	0.00	2.63	134.03
total HAPs	0.50	0.75		17.09		0.00	0.00	20.17	0.00	Neg.	38.51
worst case single HAP	(Manganese) 0.407	(Manganese) 0.61		(Manganese) 5.97		0.00	0.00	(Manganese) 16.50	0.00	Neg.	(Manganese) 23.5

Total emissions based on rated capacities at 8,760 hours/year.

**For the purposes of determining Title V applicability, PM10 (not PM) is the regulated pollutant in consideration

Potential To Emit After Issuance (tons/year)

Emissions Generating Activity

Pollutant	Charge Handling	Induction Furnaces	Pouring/Casting	Castings Cooling	Shakeout	Sand Handling	Inoculation	Shot Blasting	Coremaking		SUBTOTAL
PM	18.79			54.31				13.58	12.75	0.06	99.49
PM10	11.27			61.32				13.58	12.75	0.24	99.16
SO2	0.00	0.00	0.44	0.00	0.00	0.00	0.00	0.00	0.00	Neg.	0.44
NOx	0.00	0.00	0.22	0.00	0.00	0.00	0.11	0.00	0.00	3.13	3.46
VOC	0.00	0.00		2.74		0.00	0.00	0.00	2.63	0.17	5.54
CO	0.00	0.00		94.50		0.00	0.00	0.00	0.00	2.63	97.13
total HAPs	0.50	0.75		19.70		0.00	0.00	4.00	0.00	Neg.	24.95
worst case single HAP	(Manganese) 0.407	(Manganese) 0.61	(Manganese) 2.50	(Manganese) 1.20	(Manganese) 2.27	0.00	0.00	(Manganese) 3.0	0.00	Neg.	(Manganese) 9.99

Total emissions based on rated capacities at 8,760 hours/year.

**For the purposes of determining Title V applicability, PM10 (not PM) is the regulated pollutant in consideration

Appendix A: Emission Calculations

Gray Iron Foundry Emissions

Company Name: Richmond Casting Company
Address City IN Zip: 1775 Rich Road, Richmond, IN 47374
Permit Number: F177-23251-00024
Reviewer: AB/EVP

**** Process Emissions ****

Process:	Rate (tons Iron/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Type of control	Control Efficiency (%)	Eac (ton/yr)
Scrap & Charge Handling SCC# 3-04-003-15	5.00	PM	0.60	13.14	None		13.14
		PM-10	0.36	7.88			7.88
		SO2	0.00	0.00			0.00
		NOx	0.00	0.00			0.00
		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:

P= 5 tons/hr

limit = $4.1 \times (5^{0.67}) = 12.1 \text{ lb/hr}$ (allowable)

with potential:

$13.1 \text{ tons/yr} \times 2000 \text{ lb/ton} / 8760 \text{ hr/yr} = 3.0 \text{ lb/hr}$ (will comply)

Process:	Rate (tons Iron/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Type of control	Control Efficiency (%)	Eac (ton/yr)
Melting Two (2) Induction Furnaces SCC# 3-04-003-03	5.00	PM	0.90	19.71	Baghouse	93.00%	1.38
		PM-10	0.86	18.83	Baghouse	93.00%	1.32
		SO2	0.00	0.00			0.00
		NOx	0.00	0.00			0.00
		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:

P= 5 tons/hr

limit = $4.1 \times (5^{0.67}) = 12.1 \text{ lb/hr}$ (allowable)

with potential:

$1.4 \text{ tons/yr} \times 2000 \text{ lb/ton} / 8760 \text{ hr/yr} = 0.3 \text{ lb/hr}$ (will comply)

Richmond Casting Company
1775 Rich Road, Richmond, IN 47374

Reviewer: AB/EVP
Permit Number: F177-23251-00024

Process:	Rate (tons Iron/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Type of control	Control Efficiency (%)	Eac (ton/yr)
Pouring/Casting SCC# 3-04-003-18	5.00	PM	4.20	91.98	Baghouse	93.00%	6.44
		PM-10	2.06	45.11	Baghouse	93.00%	3.16
		SO2	0.02	0.44			0.44
		NOx	0.01	0.22			0.22
		VOC	*	0.00			0.00
		CO	6.00	131.40			131.40

Note: Emissions factors from USEPA's Factor Information Retrieval Data System, version 6.25
CO emission factor based on the best information for CO emissions from pouring, cooling, and shakeout operations.

Allowable Emissions:

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

$$P = 55 \text{ tons/hr} \quad \text{Note: } P \text{ includes the weight of the metal poured and the weight of the castings.}$$

$$\text{limit} = 55 \times (55^{-0.11}) - 40 = 45.5 \text{ lb/hr} \quad (\text{allowable})$$

with potential:

$$6.4 \text{ tons/yr} \times 2000 \text{ lb/ton} / 8760 \text{ hr/yr} = 1.5 \text{ lb/hr} \quad (\text{will comply})$$

Process:	Rate (tons Iron/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Type of control	Control Efficiency (%)	Eac (ton/yr)
Castings Cooling SCC# 3-04-003-25	5.00	PM	1.40	30.66	baghouse	93.00%	2.15
		PM-10	1.40	30.66	baghouse	93.00%	2.15
		SO2	0.00	0.00			0.00
		NOx	0.00	0.00			0.00
		VOC	*	0.00			0.00
		CO	**	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 greater than 30 tons per hour:

$$P = 55 \text{ tons/hr} \quad \text{Note: } P \text{ includes the weight of the metal poured and the weight of the castings.}$$

$$\text{limit} = 55 \times (55^{-0.11}) - 40 = 45.5 \text{ lb/hr} \quad (\text{allowable})$$

with potential:

$$2.1 \text{ tons/yr} \times 2000 \text{ lb/ton} / 8760 \text{ hr/yr} = 0.5 \text{ lb/hr} \quad (\text{will comply})$$

Richmond Casting Company
1775 Rich Road, Richmond, IN 47374

Reviewer: AB/EVP
Permit Number: F177-23251-00024

Process:	Rate (tons Iron/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Type of control	Control Efficiency (%)	Eac (ton/yr)
Castings Shakeout SCC# 3-04-003-31	5.00	PM	3.20	70.08	baghouse	93.00%	4.91
		PM-10	2.24	49.06	baghouse	93.00%	3.43
		SO2	0.00	0.00			0.00
		NOx	0.00	0.00			0.00
		VOC	1.20	26.28			26.28
		CO	**	0.00			0.00

Note: Emissions factors from USEPA's Factor Information Retrieval Data System, version 6.25
* VOC emission factor are for VOC emissions from pouring, cooling, and shakeout operations.

Allowable Emissions:

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

$$P = 55 \text{ tons/hr} \quad \text{Note: } P \text{ includes the weight of the metal poured and the weight of the castings.}$$

$$\text{limit} = 55 \times (55^{-0.11}) - 40 = 45.5 \text{ lb/hr} \quad (\text{allowable})$$

with potential:

$$4.9 \text{ tons/yr} \times 2000 \text{ lb/ton} / 8760 \text{ hr/yr} = 1.1 \text{ lb/hr} \quad (\text{will comply})$$

Process:	Rate (tons Iron/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Type of control	Control Efficiency (%)	Eac (ton/yr)
Inoculation Process EPA SCC# 3-04-003-10	5.00	PM	4.00	87.60	None		87.60
		PM-10	4.00	87.60			87.60
		SO2	0.00	0.00			0.00
		NOx	0.00	0.00			0.00
		VOC	0.005	0.11			0.11
		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:

$$P = 5 \text{ tons/hr}$$

$$\text{limit} = 4.1 \times (5^{-0.67}) = 12.1 \text{ lb/hr} \quad (\text{allowable})$$

with potential:

$$87.6 \text{ tons/yr} \times 2000 \text{ lb/ton} / 8760 \text{ hr/yr} = 20.0 \text{ lb/hr} \quad (\text{will not comply})$$

Richmond Casting Company
1775 Rich Road, Richmond, IN 47374

Reviewer: AB/EVP
Permit Number: F177-23251-00024

Process:	Rate (tons Iron/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Type of control	Control Efficiency (%)	Eac (ton/yr)
Shotblasting SCC# 3-04-003-40	7.15	PM	17.00	532.39	baghouse	98.00%	10.65
		PM-10	1.70	53.24	baghouse	98.00%	1.06
		SO2	0.00	0.00			0.00
		NOx	0.00	0.00			0.00
		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:

P= 7.15 tons/hr

limit = $4.1 \times (7.15^{0.67}) = 15.3 \text{ lb/hr}$ (allowable)

with potential:

$10.6 \text{ tons/yr} \times 2000 \text{ lb/ton} / 8760 \text{ hr/yr} = 2.4 \text{ lb/hr}$ (will comply)

Process:	Rate (tons Iron/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Type of control	Control Efficiency (%)	Eac (ton/yr)
Core Making Sand Handling SCC# 3-04-003-50	0.6	PM	3.60	9.46	None		9.46
		PM-10	0.54	1.42			1.42
		SO2	0.00	0.00			0.00
		NOx	0.00	0.00			0.00
		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:

P= 0.6 tons/hr *Note: P includes the weight of the metal poured and the weight of the castings.*

limit = $4.1 \times (0.6^{0.67}) = 2.9 \text{ lb/hr}$ (allowable)

with potential:

$9.5 \text{ tons/yr} \times 2000 \text{ lb/ton} / 8760 \text{ hr/yr} = 2.2 \text{ lb/hr}$ (will comply)

Richmond Casting Company
 1775 Rich Road, Richmond, IN 47374

Reviewer: AB/EVP
 Permit Number: F177-23251-00024

Process:	Rate (tons sand/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Type of control	Control Efficiency (%)	Eac (ton/yr)
Sand Handling	50	PM	3.6	788.4	baghouse	93.00%	55.2
EPA SCC# 3-04-003-50		PM-10	0.54	118.3	baghouse	93.00%	8.3

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 greater than 30 tons per hour:

$$P = 50 \text{ tons/hr}$$

$$\text{limit} = 55 \times (50^{0.11}) - 40 = 44.6 \text{ lb/hr (allowable)}$$

with potential:

$$55.2 \text{ tons/yr} \times 2000 \text{ lb/ton} / 8760 \text{ hr/yr} = 12.6 \text{ lb/hr (will comply)}$$

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
 1ton = 2000 lbs

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

Company Name: Richmond Casting Company
Address City IN Zip: 1775 Rich Road, Richmond, IN 47374
Permit No.: F177-23251-00024
Reviewer: AB/EVP

Organic Hazardous Air Pollution Emission Estimates

Maximum Rate for Pouring/Cooling/Shakeout		
	5	tons/hr
Analyte	Combined PCS Emissions Factor (lbs/ton)	Emission Before Controls (tons/yr)
Phenol	0.0718	1.5724
Benzene	0.1643	3.5982
Aniline	0.0366	0.8015
o-Cresol	0.0185	0.4052
Naphthalene	0.0048	0.1051
N,N-Dimethylaniline	0.0085	0.1862
Toluene	0.0647	1.4169
m, p-Cresol	0.0059	0.1292
m, p-Xylene	0.0044	0.0964
Xylene (Total)	0.0383	0.8388
Acetaldehyde	0.0100	0.2190
Ethylbenzene	0.0070	0.1533
Formaldehyde	0.0011	0.0241
Hexane	0.0046	0.1007
Other HAPs	0.0070	0.1533
Total HAPs	0.4475	9.8003

METHODOLOGY

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

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

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

Company Name: Richmond Casting Company
Address City IN Zip: 1775 Rich Road, Richmond, IN 47374
Permit No.: F177-23251-00024
Reviewer: AB/EVP

** Process Emissions **

Process	Maximum Rate (tons Iron/hr)	PM emission factor lb/ton	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Eac (ton/yr)	Control Device	Control Efficiency (%)
Charge Handling SCC# 3-04-003-15 Fire 6.25	5	0.60	chromium	0.00023	0.005	0.005	N/A	
			nickel	0.00040	0.009	0.009		
			arsenic	0.00008	0.002	0.002		
			Lead	0.00231	0.051	0.051		
			Manganese	0.01860	0.407	0.407		
			Antimony	0.00111	0.024	0.024		
			TOTAL	0.02273	0.50	0.50		
Melting Electric Induction Furnaces EPA SCC# 3-04-003-03 Fire 6.25	5	0.90	chromium	0.00034	0.007	0.001	baghouse	93.0%
			nickel	0.00060	0.013	0.001	baghouse	93.0%
			arsenic	0.00012	0.003	0.000	baghouse	93.0%
			Lead	0.00347	0.076	0.005	baghouse	93.0%
			Manganese	0.02790	0.611	0.043	baghouse	93.0%
			Antimony	0.00167	0.036	0.003	baghouse	93.0%
			TOTAL	0.03409	0.75	0.05		
Pouring/Casting SCC# 3-04-003-18 Fire 6.25	5	4.20	chromium	0.00160	0.035	0.002	baghouse	93.0%
			nickel	0.00281	0.062	0.004	baghouse	93.0%
			arsenic	0.00055	0.012	0.001	baghouse	93.0%
			Lead	0.01617	0.354	0.025	baghouse	93.0%
			Manganese	0.13020	2.851	0.200	baghouse	93.0%
			Antimony	0.00777	0.170	0.012	baghouse	93.0%
			TOTAL	0.15910	3.48	0.24		
Cooling SCC# 3-04-003-25 Fire 6.25	5	1.40	chromium	0.00053	0.012	0.001	baghouse	93.0%
			nickel	0.00094	0.021	0.001	baghouse	93.0%
			arsenic	0.00018	0.004	0.000	baghouse	93.0%
			Lead	0.00539	0.118	0.008	baghouse	93.0%
			Manganese	0.04340	0.950	0.067	baghouse	93.0%
			Antimony	0.00259	0.057	0.004	baghouse	93.0%
			TOTAL	0.05303	1.16	0.08		
Shakeout SCC# 3-04-003-31 Fire 6.25	5	3.20	chromium	0.00122	0.027	0.002	baghouse	93.0%
			nickel	0.00214	0.047	0.003	baghouse	93.0%
			arsenic	0.00042	0.009	0.001	baghouse	93.0%
			Lead	0.01232	0.270	0.019	baghouse	93.0%
			Manganese	0.09920	2.172	0.152	baghouse	93.0%
			Antimony	0.00592	0.130	0.009	baghouse	93.0%
			TOTAL	0.12122	2.65	0.19		
Shotblasting SCC# 3-04-003-40 Fire 6.25	7.15	17.00	chromium	0.00646	0.202	0.004	baghouse	98.0%
			nickel	0.01139	0.357	0.007	baghouse	98.0%
			arsenic	0.00221	0.069	0.001	baghouse	98.0%
			Lead	0.06545	2.050	0.041	baghouse	98.0%
			Manganese	0.52700	16.504	0.330	baghouse	98.0%
			Antimony	0.03145	0.985	0.020	baghouse	98.0%
			TOTAL	0.64396	20.17	0.40		

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	0.038%
Nickel	0.067%
Arsenic	0.013%
Antimony	0.185%
Lead	0.385%

Total Potential Emissions Before Controls

chromium	0.29 tons/year
nickel	0.51 tons/year
arsenic	0.10 tons/year
Lead	2.92 tons/year
Manganese	23.50 tons/year
Antimony	1.40 tons/year
Total	28.71 tons/year

Total Emissions After Controls

chromium	0.01 tons/year
nickel	0.03 tons/year
arsenic	0.01 tons/year
Lead	0.15 tons/year
Manganese	1.20 tons/year
Antimony	0.07 tons/year
Total	1.46 tons/year

Methodology:

Ef = Emission factor
Ebc = Potential Emissions before controls = Rate (units/hr) x Ef(lbs/unit) x 8760 hrs/yr / 2000 lbs/hr
Eac = Potential Emissions after controls = (1-efficiency/100) x Ebc
1 lb = 2000 tons

Limited HAP Emissions (tons/yr)

Unit	Manganese	Total Metal HAPs	*Total Organic HAPs
Charge Handling	0.407	0.500	0.00
Melting - Induction Furnaces	0.611	0.750	0.00
Pouring/Casting	2.50	3.90	9.80
Cooling	1.20	2.20	
Shakeout	2.27	3.80	
Shotblasting	3.00	4.00	0.00

9.99	15.15	9.80
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Total HAPs	24.95
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*Total Organic HAPs are from page 7 of 11.

Company Name: Richmond Casting Company
Address City IN Zip: 1775 Rich Road, Richmond, IN 47374
Permit No.: F177-23251-00024
Reviewer: AB/EVP

Core Making Process

Machine	Date of Construction	Capacity (tons cores/hr)	Maximum Resin Content (%)	VOC Emission Factor from Resin Evaporation (lb/ton cores)	Potential VOC Emissions from resin evap (tons/yr)	Total Potential VOC Emissions (tons/yr)
1	1977	0.6	1.0%	1	2.63	2.63
Total						2.63

Instructions:

Emission factors based on study by Ohio Cast Metals Association (OCMA) study.

Uncontrolled VOC emissions (tons/yr) = capacity (tons/hr) * emission factor (lbs VOC/ton core * 8760 hr/yr * ton/2000 lb).

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

Company Name: Richmond Casting Company
Address City IN Zip: 1775 Rich Road, Richmond, IN 47374
Permit No.: F177-23251-00024
Reviewer: AB/EVP

Heat Input Capacity
MMBtu/hr

7.15

Potential Throughput
MMCF/yr

62.634

Emission Factor in lb/MMCF	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Potential Emission in tons/yr	1.9	7.6	0.6	100.0	5.5	84.0
	0.06	0.24	0.02	3.13	0.17	2.63

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

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

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

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

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

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

Note to Reviewer: Check the applicable rules and test methods for PM and PM10 when using the above emission factors to confirm that the correct factor is used (i.e., condensable included/not included).

See next page for HAPs emissions calculations.

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

Company Name: Richmond Casting Company
Address City IN Zip: 1775 Rich Road, Richmond, IN 47374
Permit No.: F177-23251-00024
Reviewer: AB/EVP

HAPs - Organics					
Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	6.577E-05	3.758E-05	2.349E-03	5.637E-02	1.065E-04

HAPs - Metals					
Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	1.566E-05	3.445E-05	4.384E-05	1.190E-05	6.577E-05

Methodology is the same as previous page.

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