



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

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

TO: Interested Parties / Applicant

DATE: June 10, 2008

RE: Plymouth Foundry / 099-18064-00003

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

Notice of Decision: Approval – Effective Immediately

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

If you wish to challenge this decision, IC 4-21.5-3-7 and IC 13-15-6-1(b) or IC 13-15-6-1(a) require that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Suite N 501E, Indianapolis, IN 46204.

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

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

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

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

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

- (1) the name and address of the person making the request;

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

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

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

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

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



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Part 70 Operating Permit Renewal OFFICE OF AIR QUALITY

**Plymouth Foundry, Inc.
523 West Harrison Street
Plymouth, Indiana 46563**

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

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

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

Operation Permit No.: T 099-18064-00003	
Original signed by: Chrystal Wagner, Section Chief Permits Branch Office of Air Quality	Issuance Date: June 10, 2008 Expiration Date: June 10, 2013

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SECTION A

SOURCE SUMMARY

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

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

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

Source Address:	523 West Harrison Street, Plymouth, Indiana 46563
Mailing Address:	523 West Harrison Street, Plymouth, Indiana 46563
General Source Phone Number:	574-936-2106
SIC Code:	3321
County Location:	Marshall
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Operating Permit Program Major Source, under PSD rules Minor Source, Section 112 of the Clean Air Act 1 of 28 Source Categories

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

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

- (a) One (1) scrap and charge handling operation, identified as SCH, installed in 1986, capacity: 1.5 tons of iron per hour.
- (b) Two (2) electric induction furnaces (iron), identified as BB-B1 and BB-C2, installed in 1986, capacity: 1.5 tons of iron per hour, each. Only one (1) electric induction furnace shall operate at a time.
- (c) One (1) magnesium treatment system, identified as Mag, installed in 1986, capacity: 1.5 tons of iron per hour.
- (d) One (1) pouring and cooling operation, identified as Floor, installed prior to 1976, capacity: 1.5 tons of iron per hour and 10 tons of sand per hour.
- (e) One (1) manual shakeout operation, identified as Floor, installed prior to 1976, capacity: 1.5 tons of iron per hour and 4.4 tons of sand per hour.
- (f) One (1) shakeout machine, identified as RS Shake, installed in 1997, equipped with a baghouse, identified as BH-3, exhausting through Stack 1, capacity: 1.5 tons of iron per hour.
- (g) One (1) tumble unit, identified as Tumbleblast, equipped with a baghouse, identified as BH-2, exhausting through Stack 2, installed in 1987, capacity: 1.5 tons of iron per hour.
- (h) One (1) shot blast unit, identified as Tableblast, equipped with a baghouse, identified as BH-2, exhausting through Stack 2, installed in 1993, capacity: 1.5 tons of iron per hour.

- (i) One (1) cleaning room, installed in 1993, total capacity: 1.5 tons of iron per hour, consisting of:
 - (1) One (1) 30-inch snag grinder, identified as SG-1,
 - (2) One (1) 20-inch snag grinder, identified as SG-2, and
 - (3) Four (4) grinding stations, utilizing hand-held grinders.
- (j) One (1) sand handling operation, identified as Molding Sand Muller, consisting of one (1) molding sand muller, one (1) wet sand conveyor, one (1) sand and clay addition system, five (5) overhead wet sand transfer belt conveyors, four (4) mold machine feed hoppers, equipped with a baghouse, identified as BH-4, exhausting through Stack 4, installed in 1992, capacity: 10.0 tons of sand per hour, total.
- (k) One (1) mold making operation, identified as Mold Making, consisting of two (2) rota-lift machines, one (1) squeezer machine and one (1) automatic mold making machine, installed prior to 1976, 2007, prior to 1976, and 1997, respectively, capacity: 10.0 tons of sand per hour and 1.5 tons of iron per hour total.
- (l) One (1) core making operation, identified as Shell Core, consisting of two (2) core making machines, capacity 0.25 tons of cores per hour, each and four (4) mold making machines, capacity: one (1) at 20 tons of sand per hour and three (3) at 3 tons of sand per hour, each, installed prior to 1976, capacity: 4.61 pounds of resins per hour for 1.5 tons of metal.
- (m) Two (2) core sand mixers, identified as M-1 and M-2, approved for construction in 2007, using the existing baghouse, identified as BH-1, that was installed in 1997 which exhausts inside the building, capacity: 3.0 and 0.0375 tons of sand per hour, respectively.
- (n) One (1) electric sand heater, approved for construction in 2007, capacity: 3.0 tons of sand per hour.
- (o) Two (2) core sand handling operations, identified as SH-1 and SH-2, associated with the core sand mixers, identified as M-1 and M-2, approved for construction in 2007, consisting of conveyors and hoppers, using the existing baghouse, identified as BH-1, that was installed in 1997 which exhausts inside the building, capacity: 3.0 and 0.0375 tons of sand per hour, respectively.
- (p) One (1) core making operation, consisting of two (2) isocure core machines, identified as CM 1 and CM 2, approved for construction in 2007, capacity 3.0 tons of cores per hour combined, 0.015 pound of resin per pound of sand and 0.0007 pound of DMIPA catalyst per pound of sand. DMIPA catalyst emissions from both core machines are controlled by an acid scrubber exhausting to Stack 5.
- (q) One (1) No Bake core machine, identified as CM 3, approved for construction in 2007, capacity: 0.0375 tons of cores per hour, 0.015 pound of resin per pound of sand and 0.0007 pound of catalyst per pound of sand.

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

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

Paved and unpaved roads and parking lots with public access. [326 IAC 6-4]

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

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

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

SECTION B GENERAL CONDITIONS

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

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

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

(a) This permit, T 099-18064-00003, is issued for a fixed term of five (5) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date of this permit.

(b) If IDEM, OAQ, upon receiving a timely and complete renewal permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect, including any permit shield provided in 326 IAC 2-7-15, until the renewal permit has been issued or denied.

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

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

(a) the condition is modified in a subsequent permit action pursuant to Title I of the Clean Air Act; or

(b) the emission unit to which the condition pertains permanently ceases operation.

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

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

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

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

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

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

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

(a) The Permittee shall furnish to IDEM, OAQ, within a reasonable time, any information that IDEM, OAQ may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The submittal by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34). Upon request, the Permittee shall also furnish to IDEM, OAQ copies of records required to be kept by this permit.

(b) For information furnished by the Permittee to IDEM, OAQ, the Permittee may include a claim of confidentiality in accordance with 326 IAC 17.1. When furnishing copies of requested records directly to U.S. EPA, the Permittee may assert a claim of confidentiality in accordance with 40 CFR 2, Subpart B.

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

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

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

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

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

and

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

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

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

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

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

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

- (a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for noncompliance with a federal or state health-based emission limitation.
- (b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a 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 and Northern Regional Office within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

Telephone Number: 1-800-451-6027 (ask for Office of Air Quality, Compliance 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

Northern Regional Office
220 W. Colfax Avenue, Suite 200
South Bend, Indiana 46601-1634

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

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

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

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

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

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

- (a) Pursuant to 326 IAC 2-7-15, the Permittee has been granted a permit shield. The permit

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

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

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

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

- (a) All terms and conditions of permits established prior to T 099-18064-00003 and issued pursuant to permitting programs approved into the state implementation plan have been either:

- (1) incorporated as originally stated,
 - (2) revised under 326 IAC 2-7-10.5, or
 - (3) deleted under 326 IAC 2-7-10.5.
- (b) Provided that all terms and conditions are accurately reflected in this permit, all previous registrations and permits are superseded by this Part 70 operating permit.

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

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

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

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

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue
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 the "responsible official" as defined by 326 IAC 2-7-1(34).

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

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

- (a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a Part 70 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 2-7-5(6)(C)] The notification by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (b) This permit shall be reopened and revised under any of the circumstances listed in IC 13-15-7-2 or if IDEM, OAQ determines any of the following:

- (1) That this permit contains a material mistake.
- (2) That inaccurate statements were made in establishing the emissions standards or other terms or conditions.
- (3) That this permit must be revised or revoked to assure compliance with an applicable

requirement. [326 IAC 2-7-9(a)(3)]

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

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

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

Request for renewal shall be submitted to:

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

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

B.18 Permit Amendment or Modification [326 IAC 2-7-11] [326 IAC 2-7-12] [40 CFR 72]

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

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

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

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

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

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

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

- (a) The Permittee may make any change or changes at the source that are described in 326 IAC 2-7-20(b),(c), or (e) without a prior permit revision, if each of the following conditions is met:
 - (1) The changes are not modifications under any provision of Title I of the Clean Air Act;
 - (2) Any preconstruction approval required by 326 IAC 2-7-10.5 has been obtained;
 - (3) The changes do not result in emissions which exceed the limitations provided in this permit (whether expressed herein as a rate of emissions or in terms of total emissions);
 - (4) The Permittee notifies the:

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

and

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

in advance of the change by written notification at least ten (10) days in advance of the proposed change. The Permittee shall attach every such notice to the Permittee's copy of this permit; and
 - (5) The Permittee maintains records on-site, on a rolling five (5) year basis, which document all such changes and emission trades that are subject to 326 IAC 2-7-20(b),(c), or (e). The Permittee shall make such records available, upon reasonable request, for public review.

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

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

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

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

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

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

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

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

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

- (d) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, sample or monitor substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and
- (e) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

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

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

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

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

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

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

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

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

SECTION C

SOURCE OPERATION CONDITIONS

Entire Source

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

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

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

C.2 Opacity [326 IAC 5-1]

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

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

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

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

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

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

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

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

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

The Permittee shall comply with the applicable provisions of 326 IAC 1-7 (Stack Height Provisions), for all exhaust stacks through which a potential (before controls) of twenty-five (25) tons per year or more of particulate matter or sulfur dioxide is emitted.

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

- (a) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is at least two hundred sixty (260) linear feet on pipes or one hundred sixty (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 the "responsible official" as defined by 326 IAC 2-7-1(34).

- (e) **Procedures for Asbestos Emission Control**
The Permittee shall comply with the applicable emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-1, emission control requirements are applicable for any removal or disturbance of RACM greater than three (3) linear feet on pipes or three (3) square feet on any other facility components or a total of at least seventy-five hundredths (0.75) cubic feet on all facility components.
- (f) **Demolition and Renovation**
The Permittee shall thoroughly inspect the affected facility or part of the facility where the demolition or renovation will occur for the presence of asbestos pursuant to 40 CFR 61.145(a).
- (g) **Indiana Accredited Asbestos Inspector**
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Accredited Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos. The requirement to use an Indiana Accredited Asbestos inspector is not federally enforceable.

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

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

- (a) All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing any applicable procedures

and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

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

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue
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 the "responsible official" as defined by 326 IAC 2-7-1(34).

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

Compliance Requirements [326 IAC 2-1.1-11]

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

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

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

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

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

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue
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 the "responsible official" as defined by 326 IAC 2-7-1(34).

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

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

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

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

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

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

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

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

- (a) The Permittee prepared and submitted written emergency reduction plans (ERPs) consistent with safe operating procedures on January 19, 2000.
- (b) Upon direct notification by IDEM, OAQ that a specific air pollution episode level is in effect, the Permittee shall immediately put into effect the actions stipulated in the approved ERP for the appropriate episode level. [326 IAC 1-5-3]

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

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

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

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

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

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

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

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

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

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

- (a) In accordance with the compliance schedule specified in 326 IAC 2-6-3(b)(1), starting in 2004 and every three (3) years thereafter, the Permittee shall submit by July 1 an emission statement covering the previous calendar year. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4(c) and shall meet the following requirements:
 - (1) Indicate estimated actual emissions of all pollutants listed in 326 IAC 2-6-4(a);
 - (2) Indicate estimated actual emissions of regulated pollutants as defined by 326 IAC 2-7-1(32) ("Regulated pollutant, which is used only for purposes of Section 19 of this rule") from the source, for purpose of fee assessment.

The statement must be submitted to:

Indiana Department of Environmental Management
Technical Support and Modeling Section, Office of Air Quality
100 North Senate Avenue
MC 61-50 IGCN 1003
Indianapolis, Indiana 46204-2251

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

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

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

- (a) Records of all required monitoring data, reports and support information required by this permit shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.
- (b) Unless otherwise specified in this permit, all record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance.
- (c) If there is a "project" (as defined in 326 IAC 2-2-1(qq) and/or 326 IAC 2-3-1(II)) at an existing emissions unit other than a project at a source with a Plantwide Applicability Limitation (PAL), which is not part of a "major modification" (as defined in 326 IAC 2-2-1(ee) and/or 326 IAC 2-3-1(z)) and the Permittee elects to utilize the "projected actual emissions" (as defined in 326 IAC 2-2-1(rr) and/or 326 IAC 2-3-1(mm)), the Permittee shall comply with the following:
- (1) Before beginning actual construction of the "project" (as defined in 326 IAC 2-2-1(qq) and/or 326 IAC 2-3-1(II)) at an existing emissions unit, document and maintain the following records:
- (A) A description of the project.
- (B) Identification of any emissions unit whose emissions of a regulated new source review pollutant could be affected by the project.
- (C) A description of the applicability test used to determine that the project is not a major modification for any regulated NSR pollutant, including:
- (i) Baseline actual emissions;
- (ii) Projected actual emissions;
- (iii) Amount of emissions excluded under section 326 IAC 2-2-1(rr)(2)(A)(iii) and/or 326 IAC 2-3-1(mm)(2)(A)(iii); and
- (iv) An explanation for why the amount was excluded, and any netting calculations, if applicable.

- (2) Monitor the emissions of any regulated NSR pollutant that could increase as a result of the project and that is emitted by any existing emissions unit identified in (1)(B) above; and
- (3) Calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of five (5) years following resumption of regular operations after the change, or for a period of ten (10) years following resumption of regular operations after the change if the project increases the design capacity of or the potential to emit that regulated NSR pollutant at the emissions unit.

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

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

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue
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 the "responsible official" as defined by 326 IAC 2-7-1(34).
- (e) Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit "calendar year" means the twelve (12) month period from January 1 to December 31 inclusive.
- (f) If the Permittee is required to comply with the record keeping provisions of (c) in Section C - General Record Keeping Requirements for any "project" (as defined in 326 IAC 2-2-1(qq) and/or 326 IAC 2-3-1(II)) at an existing emissions unit, and the project meets the following criteria, then the Permittee shall submit a report to IDEM, OAQ:
 - (1) The annual emissions, in tons per year, from the project identified in (c)(1) in Section C - General Record Keeping Requirements exceed the baseline actual emissions, as documented and maintained under Section C - General Record Keeping Requirements (c)(1)(C)(i), by a significant amount, as defined in 326 IAC 2-2-1(xx) and/or 326 IAC 2-3-1(qq)), for that regulated NSR pollutant, and
 - (2) The emissions differ from the preconstruction projection as documented and maintained under Section C - General Record Keeping Requirements (c)(1)(C)(ii).

- (g) The report for project at an existing emissions unit shall be submitted within sixty (60) days after the end of the year and contain the following:
- (1) The name, address, and telephone number of the major stationary source.
 - (2) The annual emissions calculated in accordance with (c)(2) and (3) in Section C - General Record Keeping Requirements.
 - (3) The emissions calculated under the actual-to-projected actual test stated in 326 IAC 2-2-2(d)(3) and/or 326 IAC 2-3-2(c)(3).
 - (4) Any other information that the Permittee deems fit to include in this report.

Reports required in this part shall be submitted to:

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

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

Stratospheric Ozone Protection

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

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

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

SECTION D.1 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]: Scrap Handling, Melting, Magnesium Treatment & Pouring and Cooling Operation

- (a) One (1) scrap and charge handling operation, identified as SCH, installed in 1986, capacity: 1.5 tons of iron per hour.
- (b) Two (2) electric induction furnaces (iron), identified as BB-B1 and BB-C2, installed in 1986, capacity: 1.5 tons of iron per hour, each. Only one (1) electric induction furnace shall operate at a time.
- (c) One (1) magnesium treatment system, identified as Mag, installed in 1986, capacity: 1.5 tons of iron per hour.
- (d) One (1) pouring and cooling operation, identified as Floor, installed prior to 1976, capacity: 1.5 tons of iron per hour and 10 tons of sand per hour.

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

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

D.1.1 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the particulate emission rate from the:

- (a) scrap charge handling operation, identified as SCH, each of the two (2) electric induction furnaces, identified as BB-B1 and BB-C2, and the magnesium treatment system, identified as Mag, and the pouring and cooling operation, identified as Floor, shall not exceed 5.38 pounds per hour each when operating at a process weight rate of 1.5 tons per hour.
- (b) pouring and cooling operation, identified as Floor, shall not exceed 21.1 pounds per hour when operating at a process weight rate of 11.5 tons per hour.

The pound per hour limitations were calculated with the following equation:

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

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

SECTION D.2 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]: Shakeout, Blast and Cleaning Room Operations

- (e) One (1) manual shakeout operation, identified as Floor, installed prior to 1976, capacity: 1.5 tons of iron per hour and 4.4 tons of sand per hour.
- (f) One (1) shakeout machine, identified as RS Shake, installed in 1997, equipped with a baghouse, identified as BH-3, exhausting through Stack 1, capacity: 1.5 tons of iron per hour and 10 tons of sand per hour.
- (g) One (1) tumble unit, identified as Tumbleblast, equipped with a baghouse, identified as BH-2, exhausting through Stack 2, installed in 1987, capacity: 1.5 tons of iron per hour.
- (h) One (1) shot blast unit, identified as Tableblast, equipped with a baghouse, identified as BH-2, exhausting through Stack 2, installed in 1993, capacity: 1.5 tons of iron per hour.
- (i) One (1) cleaning room, installed in 1993, total capacity: 1.5 tons of iron per hour, consisting of:
 - (1) One (1) 30-inch snag grinder, identified as SG-1,
 - (2) One (1) 20-inch snag grinder, identified as SG-2, and
 - (3) Four (4) grinding stations, utilizing hand-held grinders.

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

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

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

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the particulate emission rate from the:

- (a) manual shakeout operation, identified as Floor, shall not exceed 13.5 pounds per hour when operating at a process weight rate of 5.90 tons per hour.
- (b) shakeout machine, identified as RS Shake shall not exceed 21.1 pounds per hour each when operating at a process weight rate of 11.5 tons per hour.
- (c) tumble unit, identified as Tumbleblast, the shot blast unit, identified as Tableblast, and the cleaning room shall not exceed 5.38 pounds per hour each when operating at a process weight rate of 1.5 tons per hour.

The pound per hour limitations were calculated with the following equation:

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

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

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

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for the tumble unit, identified as Tumbleblast, the shot blast unit, identified as Tableblast and their control devices.

Compliance Determination Requirements

D.2.3 Particulate Control [326 IAC 2-7-6(6)]

- (a) In order to comply with Condition D.2.2(c), the baghouse, identified as BH-2, for particulate control shall be in operation and control emissions from the tumble blast unit, identified as Tumbleblast, and the shot blast unit, identified as Tableblast, at all times that either facility is 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.

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

D.2.4 Visible Emissions Notations [40 CFR 64, Compliance Assurance Monitoring (CAM)]

- (a) Visible emission notations of the Tumbleblast and Tableblast Stack 2 exhaust shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) If abnormal emissions are observed, the Permittee shall take reasonable response 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.2.5 Baghouse Parametric Monitoring [40 CFR 64, Compliance Assurance Monitoring (CAM)]

- (a) The Permittee shall record the pressure drop across the baghouse, identified as BH-2 used in conjunction with the tumble unit, identified as Tumbleblast, and the shot blast unit, identified as Tableblast, at least once per day when the either blast unit is in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 0.5 and 9.5 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.
- (b) 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.2.6 Broken or Failed Bag Detection [40 CFR 64, Compliance Assurance Monitoring (CAM)]

- (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 emissions unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

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

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

D.2.7 Record Keeping Requirements

- (a) To document compliance with Condition D.2.4, the Permittee shall maintain a daily record of visible emission notations of the Tumbleblast and Tableblast Stack 2 exhausts. 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 Tumbleblast and Tableblast did not operate that day).
- (b) To document compliance with Condition D.2.5, the Permittee shall maintain a daily record of the pressure drop across the baghouse, identified as BH-2, controlling the Tumbleblast and Tableblast. 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 Tumbleblast and Tableblast did not operate that day).
- (c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

SECTION D.3 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]: Sand Handling, Mold and Core Making Operations

- (j) One (1) sand handling operation, identified as Molding Sand Muller, consisting of one (1) molding sand muller, one (1) wet sand conveyor, one (1) sand and clay addition system, five (5) overhead wet sand transfer belt conveyors, four (4) mold machine feed hoppers, equipped with a baghouse, identified as BH-4, exhausting through Stack 4, installed in 1992, capacity: 10.0 tons of sand per hour, total.
- (k) One (1) mold making operation, identified as Mold Making, consisting of two (2) rota-lift machines, one (1) squeezer machine and one (1) automatic mold making machine, installed prior to 1976, 2007, prior to 1976, and 1997, respectively, capacity: 10.0 tons of sand per hour and 1.5 tons of iron per hour total.
- (l) One (1) core making operation, identified as Shell Core, consisting of two (2) core making machines, capacity: 0.25 tons of cores per hour, each and four (4) mold making machines, capacity: one (1) at 20 tons of sand per hour and three (3) at 3 tons of sand per hour, each, installed prior to 1976, capacity: 4.61 pounds of resins per hour for 1.5 tons of metal.

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

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

D.3.1 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the particulate emission rate from the:

- (a) sand handling operation, identified as Molding Sand Muller, shall not exceed 19.2 pounds per hour when operating at a process weight rate of 10.0 tons per hour.
- (b) mold making operation, identified as Mold Making, shall not exceed 21.1 pounds per hour when operating at a process weight rate of 11.5 tons per hour.
- (c) core making operation, identified as Shell Core, consisting of:
 - (1) two (2) core making machines, shall not exceed 6.52 pounds per hour total when operating at a process weight rate of 2.00 tons per hour,
 - (2) four (4) mold making machine, shall not exceed 30.5 pounds per hour when operating at a process weight rate of 20.0 tons per hour, and
 - (3) three (3) mold making machines, shall not exceed 8.56 pounds per hour each when operating at a process weight rate of 3.0 tons per hour.

The pound per hour limitations were calculated with the following equation:

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

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

D.3.2 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for the sand handling operation, identified as Molding Sand Muller, and its control device.

Compliance Determination Requirements

D.3.3 Particulate Control [326 IAC 2-7-6(6)]

- (a) In order to comply with Condition D.3.1(a), the baghouse, identified as BH-4, for particulate control shall be in operation and control emissions from the sand handling operation, identified as Molding Sand Muller, at all times that the sand handling operation is 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.

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

D.3.4 Visible Emissions Notations [40 CFR 64, Compliance Assurance Monitoring (CAM)]

- (a) Visible emission notations of the Molding Sand Muller Stack 4 exhaust shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

D.3.5 Baghouse Parametric Monitoring [40 CFR 64, Compliance Assurance Monitoring (CAM)]

- (a) The Permittee shall record the pressure drop across the baghouse, identified as BH-4 used in conjunction with the sand handling operation, identified as Molding Sand Muller, at least once per day when the shakeout operation is in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 0.5 and 9.5 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.
- (b) 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 cali-

brated at least once every six (6) months.

D.3.6 Broken or Failed Bag Detection [40 CFR 64, Compliance Assurance Monitoring (CAM)]

- (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 emissions unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

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

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

D.3.7 Record Keeping Requirements

- (a) To document compliance with Condition D.3.4, the Permittee shall maintain a daily record of visible emission notations of the sand handling operation, identified as Molding Sand Muller, Stack 4 exhaust. 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 Molding Sand Muller did not operate that day).
- (b) To document compliance with Condition D.3.5, the Permittee shall maintain a daily record of the pressure drop across the baghouse, identified as BH-4, controlling the Molding Sand Muller. 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 Molding Sand Muller did not operate that day).
- (c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

SECTION D.4

FACILITY CONDITIONS

Facility Description [326 IAC 2-7-5(15)]: 2007 Modification

- (m) Two (2) core sand mixers, identified as M-1 and M-2, approved for construction in 2007, using the existing baghouse, identified as BH-1, that was installed in 1997 which exhausts inside the building, capacity: 3.0 and 0.0375 tons of sand per hour, respectively.
- (n) One (1) electric sand heater, approved for construction in 2007, capacity: 3.0 tons of sand per hour.
- (o) Two (2) core sand handling operations, identified as SH-1 and SH-2, associated with the core sand mixers, identified as M-1 and M-2, approved for construction in 2007, consisting of conveyors and hoppers, using the existing baghouse, identified as BH-1, that was installed in 1997 which exhausts inside the building, capacity: 3.0 and 0.0375 tons of sand per hour, respectively.
- (p) One (1) core making operation, consisting of two (2) isocure core machines, identified as CM 1 and CM 2, approved for construction in 2007, capacity 3.0 tons of cores per hour combined, 0.015 pound of resin per pound of sand and 0.0007 pound of DMIPA catalyst per pound of sand. DMIPA catalyst emissions from both core machines are controlled by an acid scrubber exhausting to Stack 5.
- (q) One (1) No Bake core machine, identified as CM 3, approved for construction in 2007, capacity: 0.0375 tons of cores per hour, 0.015 pound of resin per pound of sand and 0.0007 pound of catalyst per pound of sand.

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

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

D.4.1 Particulate Matter (PM) Minor Limits [326 IAC 2-2] [326 IAC 2-7-10.5(d)(4)(E)]

Pursuant to SPM 099-25002-00003, issued on October 30, 2007:

- (a) The throughput of sand to the core sand handling operation, identified as SH-1, shall not exceed 13,505 tons per twelve (12) consecutive month period with compliance determined at the end of each month.
- (b) PM emissions from the core sand handling operation, identified as SH-1, shall not exceed 3.6 pounds per ton of sand throughput.

Compliance with these throughput and emission limitations shall limit the potential to emit from the 2007 modification to less than twenty-five (25) tons of PM per year, renders the requirements of 326 IAC 2-2 not applicable and satisfies the requirements of a minor source modification pursuant to 326 IAC 2-7-10.5(d)(4)(E).

D.4.2 Volatile Organic Compounds (VOC) [326 IAC 8-1-6] [326 IAC 2-7-10.5(d)(6)]

Pursuant to SPM 099-25002-00003, issued on October 30, 2007:

- (a) The total resin input to the core making operation, consisting of two (2) isocure core machines, identified as CM 1 and CM 2, shall not exceed 505,317 pounds of resin per twelve (12) consecutive month period with compliance determined at the end of each month.
- (b) The VOC emissions from resin usage in core making operation, consisting of two (2) isocure core machines, identified as CM 1 and CM 2 shall not exceed 0.05 pound per pound of resin.
- (c) The total catalyst input to the core making operation, consisting of two (2) isocure core

machines, identified as CM 1 and CM 2, shall not exceed 23,581 pounds of VOC catalyst per twelve (12) consecutive month period with compliance determined at the end of each month.

Compliance with these input and emission limitations shall limit the potential to emit from the 2007 modification to less than twenty-five (25) tons of VOC per year, renders the requirements of 326 IAC 8-1-6 (New facilities, general reduction requirements) not applicable and satisfies the requirements of a minor source modification pursuant to 326 IAC 2-7-10.5(d)(6).

D.4.3 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the particulate emission rate from the core sand mixer, identified as M-1, and the core sand handling operations, identified as SH-1, shall not exceed 8.56 pounds per hour each when operating at a process weight rate of 3.0 tons per hour, each. The pound per hour limitation was calculated using the following equation:

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

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

D.4.4 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for the two (2) core sand mixers, identified as M-1 and M-2, and the two (2) core sand handling operations, identified as SH-1 and SH-2, and their control device.

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

D.4.5 Particulate Control [326 IAC 2-7-6(6)]

- (a) In order to comply with Condition D.4.3, the baghouse, identified as BH-1, for particulate control shall be in operation and control emissions from the core sand mixer, identified as M-1, and the core sand handling operations, identified as SH-1, at all times that either facility is 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.

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

D.4.6 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 emissions unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this

permit (Section B - Emergency Provisions).

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

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

D.4.7 Record Keeping Requirements

- (a) To document compliance with Condition D.4.1 (a), the Permittee shall maintain monthly records of the throughput of sand to the core sand handling operation, identified as SH-1.
- (b) To document compliance with Conditions D.4.2 (a) and D.4.2(c), the Permittee shall maintain monthly records of the input of resin and VOC catalyst to the core making operation, consisting of two (2) isocore core machines, identified as CM 1 and CM 2.
- (c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.4.8 Reporting Requirements

A quarterly summary of the information to document compliance with Conditions D.4.1 (a), D.4.2 (a) and D.4.2(c) 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 the "responsible official" as defined by 326 IAC 2-7-1(34).

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

**PART 70 OPERATING PERMIT
CERTIFICATION**

Source Name: Plymouth Foundry, Inc.
Source Address: 523 West Harrison Street, Plymouth, Indiana 46563
Mailing Address: 523 West Harrison Street, Plymouth, Indiana 46563
Part 70 Permit No.: T 099-18064-00003

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

Please check what document is being certified:

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

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

Signature:

Printed Name:

Title/Position:

Phone:

Date:

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

**PART 70 OPERATING PERMIT
EMERGENCY OCCURRENCE REPORT**

Source Name: Plymouth Foundry, Inc.
Source Address: 523 West Harrison Street, Plymouth, Indiana 46563
Mailing Address: 523 West Harrison Street, Plymouth, Indiana 46563
Part 70 Permit No.: T 099-18064-00003

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**

Part 70 Quarterly Report

Source Name: Plymouth Foundry, Inc.
Source Address: 523 West Harrison Street, Plymouth, Indiana 46563
Mailing Address: 523 West Harrison Street, Plymouth, Indiana 46563
Part 70 Permit No.: T 099-18064-00003
Facility: Core sand handling operation, identified as SH-1
Parameter: Sand throughput
Limit: 13,505 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

QUARTER: _____ YEAR: _____

Month	Sand Throughput (tons)	Sand Throughput (tons)	Sand Throughput (tons)
	This Month	Previous 11 Months	12 Month Total

- 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.

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

Part 70 Quarterly Report

Source Name: Plymouth Foundry, Inc.
 Source Address: 523 West Harrison Street, Plymouth, Indiana 46563
 Mailing Address: 523 West Harrison Street, Plymouth, Indiana 46563
 Part 70 Permit No.: T 099-18064-00003
 Facilities: Two (2) isocure core machines, identified as CM-1 and CM-2
 Parameter: Resin and VOC catalyst inputs
 Limits: 505,317 pounds of resin total per twelve (12) consecutive month period with compliance determined at the end of each month.
 23,581 pounds of VOC catalyst total per twelve (12) consecutive month period with compliance determined at the end of each month.

QUARTER: _____ YEAR: _____

Month	This Month		Previous 11 Months		12 Month Total	
	Resin Input (pounds)	VOC Catalyst (pounds)	Resin Input (pounds)	VOC Catalyst (pounds)	Resin Input (pounds)	VOC Catalyst (pounds)

- 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.

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

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

Source Name: Plymouth Foundry, Inc.
Source Address: 523 West Harrison Street, Plymouth, Indiana 46563
Mailing Address: 523 West Harrison Street, Plymouth, Indiana 46563
Part 70 Permit No.: T 099-18064-00003

Months: _____ to _____ Year: _____

Page 1 of 2

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

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

Form Completed By: _____

Title/Position: _____

Date: _____

Phone: _____

Attach a signed certification to complete this report.

Indiana Department of Environmental Management Office of Air Quality

Addendum to the Technical Support Document for a Part 70 Operating Permit

Source Name: Plymouth Foundry, Inc.
Source Location: 523 West Harrison Street, Plymouth, Indiana 46563
County: Marshall
SIC Code: 3321
Permit Renewal No.: T 099-18064-00003
Permit Reviewer: Teresa Freeman

On March 5, 2008, the Office of Air Quality (OAQ) had a notice published in the Plymouth Pilot News, Plymouth, Indiana, stating that Plymouth Foundry, Inc. had applied for a Part 70 Operating Permit renewal to continue to operate a gray and ductile iron foundry. The notice also stated that OAQ proposed to issue a permit for this operation and provided information on how the public could review the proposed permit 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 permit should be issued as proposed.

On March 14, 2008, Plymouth Foundry, Inc. submitted comments on the proposed Part 70 permit. The summary of the comments (bolded language has been added, the language with a line through it has been deleted) is as follows:

Comment 1: Please revise Condition D.2.7 to remove the requirements for records or VE Notations from Stack 1 and Pressure Drops from baghouse BH-3. Also, please revise Condition D.2.2 to remove the reference to the Shakeout operation. Based on AP-42 Emission Factor and as shown in the Appendix A to the TSD, the baghouse BH-3 is not required to comply with 326 IAC 6-3-2. As such, please remove the requirements for recordkeeping of compliance monitoring of the voluntary control device in Condition D.2.7 (a) and (b). Finally, please remove the requirement for the preventative maintenance plan for Shakeout operations because there is no NSPS/NESHAP applicable to the shakeout operations, uncontrolled emissions of PM are less than 10 lbs/hr and 25 tons/yr, and there is not a condition limiting PTE where that condition is the only thing keeping the unit out of an applicable requirement.

Response 1: IDEM agrees that baghouse BH-3 is not required to comply with 326 IAC 6-3-2. Conditions D.2.2 and D.2.7 has been revised as follows:

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

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for the tumble unit, identified as Tumbleblast, the shot blast unit, identified as Tableblast, ~~and the shakeout operation, identified as Shakeout,~~ and their control devices.

D.2.7 Record Keeping Requirements

- (a) To document compliance with Condition D.2.4, the Permittee shall maintain a daily record of visible emission notations of the ~~Shakeout Stack 1~~ and Tumbleblast and Tableblast Stack 2 exhausts. 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 ~~Shakeout,~~ Tumbleblast and Tableblast did not operate that day).
- (b) To document compliance with Condition D.2.5, the Permittee shall maintain a daily record of the pressure drop across the baghouses, identified as ~~BH-3~~ and BH-2, controlling the ~~Shakeout,~~ Tumbleblast and Tableblast. 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 ~~Shakeout~~, Tumbleblast and Tableblast did not operate that day).

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

Comment 2: Please remove the signature line from all of the Quarterly Report Forms because it is not a necessary component of the reports. As indicated on the forms, a signed certification form must be attached to these reports. As such, it is unnecessary to sign each of the quarterly report forms when the certification form is used to certify that all information is true, accurate and complete. The signature block on individual quarterly forms does not certify information and is not a necessary component of the reports.

Response 2: The signature line on the quarterly reports is to identify the person completing the report. This is usually the contact person or environmental contact and not the responsible official required by the certification. The responsible official typically does not complete the quarterly reports, but is required to certify the submittals. The certification is required by 326 IAC 2-7-6(1) for any report and must be signed by the responsible official. No change has been made as a result of this comment.

Indiana Department of Environmental Management
Office of Air Quality

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

Source Background and Description

Source Name:	Plymouth Foundry, Inc.
Source Location:	523 West Harrison Street, Plymouth, Indiana 46563
County:	Marshall
SIC Code:	3321
Permit Renewal No.:	T 099-18064-00003
Permit Reviewer:	Teresa Freeman

The Office of Air Quality (OAQ) has reviewed the operating permit renewal application from Plymouth Foundry, Inc. relating to the operation of a gray and ductile iron foundry.

History

On September 18, 2003, Plymouth Foundry, Inc. submitted an application to the OAQ requesting to renew its operating permit. Plymouth Foundry, Inc. was issued a Part 70 Operating Permit on July 21, 1999.

Permitted Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units and pollution control devices:

- (a) One (1) scrap and charge handling operation, identified as SCH, installed in 1986, capacity: 1.5 tons of iron per hour.
- (b) Two (2) electric induction furnaces (iron), identified as BB-B1 and BB-C2, installed in 1986, capacity: 1.5 tons of iron per hour, each. Only one (1) electric induction furnace shall operate at a time.
- (c) One (1) magnesium treatment system, identified as Mag, installed in 1986, capacity: 1.5 tons of iron per hour.
- (d) One (1) pouring and cooling operation, identified as Floor, installed prior to 1976, capacity: 1.5 tons of iron per hour and 10 tons of sand per hour.
- (e) One (1) manual shakeout operation, identified as Floor, installed prior to 1976, capacity: 1.5 tons of iron per hour and 4.4 tons of sand per hour.
- (f) One (1) shakeout machine, identified as RS Shake, installed in 1997, equipped with a baghouse, identified as BH-3, exhausting through Stack 1, capacity: 1.5 tons of iron per hour.
- (g) One (1) tumble unit, identified as Tumbleblast, equipped with a baghouse, identified as BH-2, exhausting through Stack 2, installed in 1987, capacity: 1.5 tons of iron per hour.
- (h) One (1) shot blast unit, identified as Tableblast, equipped with a baghouse, identified as BH-2, exhausting through Stack 2, installed in 1993, capacity: 1.5 tons of iron per hour.

- (i) One (1) cleaning room, installed in 1993, total capacity: 1.5 tons of iron per hour, consisting of:
 - (1) One (1) 30-inch snag grinder, identified as SG-1,
 - (2) One (1) 20-inch snag grinder, identified as SG-2, and
 - (3) Four (4) grinding stations, utilizing hand-held grinders.
- (j) One (1) sand handling operation, identified as Molding Sand Muller, consisting of one (1) molding sand muller, one (1) wet sand conveyor, one (1) sand and clay addition system, five (5) overhead wet sand transfer belt conveyors, four (4) mold machine feed hoppers, equipped with a baghouse, identified as BH-4, exhausting through Stack 4, installed in 1992, capacity: 10.0 tons of sand per hour, total.
- (k) One (1) mold making operation, identified as Mold Making, consisting of two (2) rota-lift machines, one (1) squeezer machine and one (1) automatic mold making machine, installed prior to 1976, 2007, prior to 1976, and 1997, respectively, capacity: 10.0 tons of sand per hour and 1.5 tons of iron per hour total.
- (l) One (1) core making operation, identified as Shell Core, consisting of two (2) core making machines, capacity 0.25 tons of cores per hour, each and four (4) mold making machines, capacity: one (1) at 20 tons of sand per hour and three (3) at 3 tons of sand per hour, each, installed prior to 1976, capacity: 4.61 pounds of resins per hour for 1.5 tons of metal.
- (m) Two (2) core sand mixers, identified as M-1 and M-2, approved for construction in 2007, using the existing baghouse, identified as BH-1, that was installed in 1997 which exhausts inside the building, capacity: 3.0 and 0.0375 tons of sand per hour, respectively.
- (n) One (1) electric sand heater, approved for construction in 2007, capacity: 3.0 tons of sand per hour.
- (o) Two (2) core sand handling operations, identified as SH-1 and SH-2, associated with the core sand mixers, identified as M-1 and M-2, approved for construction in 2007, consisting of conveyors and hoppers, using the existing baghouse, identified as BH-1, that was installed in 1997 which exhausts inside the building, capacity: 3.0 and 0.0375 tons of sand per hour, respectively.
- (p) One (1) core making operation, consisting of two (2) isocore core machines, identified as CM 1 and CM 2, approved for construction in 2007, capacity 3.0 tons of cores per hour combined, 0.015 pound of resin per pound of sand and 0.0007 pound of DMIPA catalyst per pound of sand. DMIPA catalyst emissions from both core machines are controlled by an acid scrubber exhausting to Stack 5.
- (q) One (1) No Bake core machine, identified as CM 3, approved for construction in 2007, capacity: 0.0375 tons of cores per hour, 0.015 pound of resin per pound of sand and 0.0007 pound of catalyst per pound of sand.

Emission Units and Pollution Control Equipment Constructed and/or Operated without a Permit

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

Emission Units and Pollution Control Equipment Removed From the Source

The source has removed the following emission units:

- (a) One (1) power screen, one (1) skip bucket, and two (2) overhead wet sand transfer belt conveyors, which were part of the sand handling operation, identified as Green Mueller Sand.
- (b) One (1) surface coating operation, consisting of an airless spray applicator and dip tank system, equipped with an 11,000 actual cubic feet per minute exhaust fan, installed in 1976, capacity: 120 iron parts per hour.
- (c) Degreasing operations that do not exceed 145 gallons per twelve (12) months, except if subject to 326 IAC 20-6.

Insignificant Activities

The source also consists of the following insignificant activities, as defined in 326 IAC 2-7-1(21):

- (a) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) British thermal units per hour with a total heat input capacity of 3.08 million British thermal units per hour, consisting of:
 - (1) Fifteen (15) space heaters, heat input capacity: 2.88 million British thermal units per hour total, and
 - (2) Three (3) air makeup units, heat input capacity: 0.200 million British thermal units per hour total.
- (b) Paved and unpaved roads and parking lots with public access. [326 IAC 6-4]
- (c) One (1) 250 gallon diesel storage tank.

Existing Approvals

Since the issuance of the Part 70 Operating Permit T 099-7366-00003 on July 21, 1999, the source has constructed or has been operating under the following approvals:

- (a) SPM 099-11440-00003, issued on April 20, 2000;
- (b) Reopening 099-13417-00003, issued on January 7, 2002;
- (c) AA 099-20415-00003, issued on May 31, 2005;
- (d) MSM 099-24954-00003, issued on September 5, 2007; and
- (e) SPM 099-25002-00003, issued on October 30, 2007.

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.

The following terms and conditions from previous approvals have been determined no longer applicable; therefore, were not incorporated into this Part 70 Operating Permit Renewal:

- (a) All construction conditions from all previously issued permits.

Reason not incorporated: All facilities previously permitted have already been constructed; therefore, the construction conditions are no longer necessary as part of the operating

permit. Any facilities that were previously permitted but have not yet been constructed would need new pre-construction approval before beginning construction.

- (b) SPM 099-25002-00003, issued on October 30, 2007. Conditions D.10.6 and D.10.7 required visible emission notations and parametric monitoring of the pressure drop once per day for the core sand mixer, identified as M-1, and the sand handling operation, identified as SH-1.

Reason Not Incorporated

Since the baghouse, identified as BH-1, controlling particulate emissions from the core sand mixer, identified as M-1, and the sand handling operation, identified as SH-1, always exhausts inside the building, these compliance monitoring conditions have not been incorporated into the proposed renewal.

Enforcement Issue

There are no enforcement actions pending.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (°F)
2	Tumbleblast & Tableblast	24.0	1.13	2,500	Ambient - 110
4	Muller Sand	6.0	1.79	12,000	Ambient - 110
5	Acid Scrubber	10.0	1.65	2,900	70

Emission Calculations

See Appendix A (pages 1 - 14 of this document for detailed emission calculations)

County Attainment Status

The source is located in Marshall County.

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

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

- (b) Volatile organic compounds (VOC) and nitrogen oxides (NO_x) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC emissions and NO_x emissions are considered when evaluating the rule applicability relating to ozone. Marshall County has been designated as attainment or unclassifiable for ozone. Therefore, VOC emissions and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability – Entire Source section.
- (c) Marshall County has been classified as attainment or unclassifiable in Indiana for remaining 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	568
PM ₁₀	158
SO ₂	0.139
VOC	63.3
CO	40.6
NO _x	7.98

HAPs	tons/year
Lead	0.482
Glycol Ethers	4.99
Formaldehyde	0.0009
Naphthalene	0.009
Hexane	0.024
Chromium	0.123
Cobalt	0.010
Nickel	0.216
Arsenic	0.042
Cadmium	0.019
Manganese	0.148
Selenium	0.003
Other Combustion HAPs	0.001
Total	6.07

- (a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of PM₁₀ is equal to or greater than one hundred (100) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7.

- (b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of all other criteria pollutants are less than one hundred (<100) tons per year.
- (c) **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

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

Pollutant	Actual Emissions (tons/year)
PM _{2.5}	-
PM ₁₀	9.49
SO ₂	-
VOC	0.08
CO	-
NO _x	-
HAPs	Not Reported

Part 70 Permit Conditions

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

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

Potential to Emit After Issuance

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

Process/Emission Unit (Identification)	Potential to Emit (tons/year)						
	PM	PM ₁₀	SO ₂	VOC	CO	NO _x	Pb
Scrap/Charge Handling (SCH) (1986)	3.94	2.37	0.00	0.00	0.00	0.00	0.015
Electric Induction Furnace (BB-B1) (1986)	5.91	5.65	0.00	0.00	0.00	0.00	0.059
Electric Induction Furnace (BB-C2) (1986)							
Magnesium Treatment System (1986)	11.8	11.8	0.00	0.033	0.000	0.000	0.000
Pouring/Casting Operation (Floor) (Prior to 1976)	27.6	13.5	0.131	0.920	39.4	0.066	0.106
Casting/Cooling Operation (Floor) (Prior to 1976)	9.20	9.20	0.00	0.00	0.00	0.00	0.00
Manual Shakeout Operation (Floor) (Prior 1976)	21.0	14.7	0.00	7.88	0.00	0.00	0.081
Shakeout Machine (RS Shake) (1997)	21.0	21.0	0.00	7.88	0.00	0.00	0.081
Shakeout Operation (Shakeout)	0.21	0.15	0.00	7.88	0.00	0.00	0.081
Cleaning and Finishing (Tumbleblast) (1987) (Tableblast) (1993)	2.23	0.22	0.00	0.00	0.00	0.00	0.059
Cleaning Room (1993)	0.030	0.030	0.00	0.00	0.00	0.00	0.000
Core Making Operation (Shell Core) (Prior to 1976)	5.91	5.91	0.00	0.00	0.00	3.29	0.000
Sand Handling Operation (Molding Sand Muller) (1992)	Less than 25	Less than 15	0.00	0.00	0.00	0.00	0.000
Mold Making 4 Machines (1976,2007, prior 1976, 1997)	5.91	5.91	0.00	0.00	0.00	3.29	0.000
Sand Handling (SH-1) (2007)	24.3	7.10	0.00	0.00	0.00	0.00	0.000
Core Sand Handling (SH-2) (2007)	0.591	0.089	0.000	0.00	0.00	0.00	0.000
2 Isocure & 1 No Bake Core Machine (2007)	0.00	0.00	0.00	24.9	0.00	0.00	0.00
Insignificant Activities Paved and Unpaved and Natural Gas Combustion	6.03	6.10	0.008	0.074	1.13	1.35	0.025
Total	Less than 165	Less than 113	0.139	63.3	40.6	7.98	0.482

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

Federal Rule Applicability

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

The following table is used to identify the applicability of each of the criteria, under 40 CFR 64.1, to each existing emission unit and specified pollutant subject to CAM. Only the emission units that with a potential to emit of greater than the major source levels are listed plus each of the emission units involved in the 2007 modification.

Emission Unit / Pollutant	Control Device Used	Emission Limitation (Y/N)	Uncontrolled PTE (tons/year)	Controlled PTE (tons/year)	Major Source Threshold (tons/year)	CAM Applicable (Y/N)	Large Unit (Y/N)
Tumbleblast & Tableblast / PM	Baghouse	Y	223	2.23	100	Y	N
Molding Sand Muller / PM	Baghouse	Y	158	1.58	100	Y	N
Core Sand Handling SH-1 / PM ₁₀	Baghouse	N	7.10	0.77	100	N	N
Core Sand Handling SH-2 / PM ₁₀	Baghouse	N	0.089	0.033	100	N	N
Isocure Core Machines CM 1 & CM 2 / VOC	Scrubber	Y	38.1	12.9	100	N	N
No Bake Core Machine CM 3 /VOC	None	N	0.48	0.48	100	N	N

Based on this evaluation, the requirements of 40 CFR Part 64, CAM are applicable to the Molding Sand Muller, the Tableblast and the Tumbleblast for PM. A CAM plan has been submitted and the Compliance Determination and Monitoring Requirements section of this TSD includes a detailed description of the CAM requirements.

- (b) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included in the permit for this source.
- (c) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Iron and Steel Foundries (40 CFR 63, Subpart EEEEE), which is incorporated by reference as 326 IAC 20-92 is not included in this permit because this source is not a major source of HAPs.
- (d) The requirements of the New Source Performance Standard, 40 CFR Part 60.110b, Subpart Kb, Standards of Performance for Volatile Organic Liquid Storage Vessels, apply to tanks constructed after July 23, 1984, with a storage capacity between 75 cubic meters (19,812.9 gallons) and 151 cubic meters (39,890 gallons) and that store a liquid with a maximum true vapor pressure greater than 15.0 kilopascals. Therefore, the requirements of the NSPS, 40 CFR 60, Subpart Kb, are not included in the permit for the 250 gallon diesel tank.
- (e) There are no other National Emission Standards for Hazardous Air Pollutants (NESHAP) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) included in this permit renewal.

State Rule Applicability - Entire Source

326 IAC 1-5-2 (Emergency Reduction Plans)

The source has submitted an Emergency Reduction Plan (ERP) on January 19, 2000. The ERP has been verified to fulfill the requirements of 326 IAC 1-5-2 (Emergency Reduction Plans).

326 IAC 2-2 (PSD)

The source did not undergo PSD review because the source was constructed and began operations prior to 1977 and as such did not require a PSD review. This source which is one of the twenty-eight (28) listed source categories under 326 IAC 2-2, was a major source when the Part 70 Operating Permit was issued on July 21, 1999.

Since the issuance of the Part 70 Operating Permit T 099-7366-00003, the only source modification, MSM 099-24954-00003, issued was on September 5, 2007. The source shall limit the raw material usage to the sand mixers and sand handling such that the PM emissions are less than twenty-five (25) tons per year. Pursuant to SPM 099-25002-00003, issued on October 30, 2007:

- (1) The throughput of sand to the core sand handling operation, identified as SH-1, shall not exceed 13,505 tons per twelve (12) consecutive month period with compliance determined at the end of each month.
- (2) PM emissions from the core sand handling operation, identified as SH-1, shall not exceed 3.6 pounds per ton of sand throughput.

326 IAC 2-6 (Emission Reporting)

This source is subject to 326 IAC 2-6 (Emission Reporting) because it is required to have an operating permit under 326 IAC 2-7, Part 70 program. Pursuant to this rule, the Permittee shall submit an emission statement certified pursuant to the requirements of 326 IAC 2-6. In accordance with the compliance schedule specified in 326 IAC 2-6-3, an emission statement must be submitted triennially by July 1 beginning in 2004 and every three (3) years thereafter. Therefore, the next emission statement for this source must be submitted by July 1, 2010. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4.

326 IAC 5-1 (Opacity Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary 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.

326 IAC 6-4 (Fugitive Dust Emissions)

This source is subject to 326 IAC 6-4 for fugitive dust emissions. Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions), fugitive dust shall not be visible crossing the boundary or property line of a source. Observances of visible emissions crossing property lines may be refuted by factual data expressed in 326 IAC 6-4-2(1), (2) or (3).

State Rule Applicability – Individual Facilities

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

The operation of the three (3) core machines, two (2) sand mixers, and sand handling operations approved for construction in 2007 will emit less than ten (10) tons per year for a single HAP and less than twenty-five (25) tons per year for a combination of HAPs. Therefore, the requirements of 326 IAC 2-4.1 do not apply.

The operation of the shakeout machine, identified as RS Shake, installed in 1997, will emit less than ten (10) tons per year of a single HAP and less than twenty-five (25) tons per year of a combination of HAPs. Therefore, the requirements of 326 IAC 2-4.1 do not apply.

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

- (a) Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from the:
 - (1) scrap charge handling operation, identified as SCH, each of the two (2) electric induction furnaces, identified as BB-B1 and BB-C2, and the magnesium treatment system, identified as Mag, and the pouring and cooling operation, identified as Floor, shall not exceed 5.38 pounds per hour each when operating at a process weight rate of 1.5 tons per hour.
 - (2) pouring and cooling operation, identified as Floor, shall not exceed 21.1 pounds per hour when operating at a process weight rate of 11.5 tons per hour.
 - (3) manual shakeout operation, identified as Floor, shall not exceed 13.5 pounds per hour when operating at a process weight rate of 5.90 tons per hour.
 - (4) shakeout machine, identified as RS Shake and the shakeout operation, identified as Shakeout, shall not exceed 21.1 pounds per hour each when operating at a process weight rate of 11.5 tons per hour.
 - (5) tumble unit, identified as Tumbleblast, the shot blast unit, identified as Tableblast, and the cleaning room shall not exceed 5.38 pounds per hour each when operating at a process weight rate of 1.5 tons per hour.

The baghouse controlling the tumble unit, identified as Tumbleblast and the shot blast unit, identified as Tableblast, shall be in operation at all times either the Tumbleblast or the Tableblast is in operation, in order to comply with this limit.

- (6) sand handling operation, identified as Molding Sand Muller, shall not exceed 19.2 pounds per hour when operating at a process weight rate of 10.0 tons per hour.

The baghouse controlling the sand handling operation, identified as Molding Sand Muller, shall be in operation at all times the Molding Sand Muller is in operation, in order to comply with this limit.

- (7) mold making operation, identified as Mold Making, shall not exceed 21.1 pounds per hour when operating at a process weight rate of 11.5 tons per hour.
- (8) core making operation, identified as Shell Core, consisting of:
- (A) two (2) core making machines, shall not exceed 6.52 pounds per hour total when operating at a process weight rate of 2.00 tons per hour,
 - (B) one (1) mold making machine, shall not exceed 30.5 pounds per hour when operating at a process weight rate of 20.0 tons per hour, and
 - (C) three (3) mold making machines, shall not exceed 8.56 pounds per hour each when operating at a process weight rate of 3.0 tons per hour.
- (9) core sand mixer, identified as M-1 and core sand handling, identified as SH-1, shall not exceed 8.56 pounds per hour when operating at a process weight rate of 3.0 tons per hour.

The baghouse controlling the core sand mixer, identified as M-1 and core sand handling, identified as SH-1, shall be in operation at all times the core sand mixer and core sand handling are in operation, in order to comply with this limit.

The pound per hour limitations were calculated with the following equation:

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

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

- (b) Pursuant to 326 IAC 6-3-1(b)(14), manufacturing processes with potential emissions less than five hundred fifty-one thousandths (0.551) pound per hour are exempt from this rule. Therefore, since the core sand mixer, identified as M-2, and the core sand handling, identified as SH-2, each have potential PM emissions of less than 0.551 pound per hour, they are not subject to the requirements of this rule.

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

This rule applies to facilities located anywhere in the state that were constructed on or after January 1, 1980, which have potential volatile organic compounds (VOC) emissions of twenty-five (25) tons per year or more, and which are not otherwise regulated by other provisions of 326 IAC 8, and requires the reduction of VOC emissions using Best Available Control Technology (BACT).

- (a) The unlimited VOC emissions from the two (2) isocure core machines approved for construction in 2007 are greater than twenty-five (25) tons per year. The source will limit the

uncontrolled VOC emissions from the two (2) isocure core machines to less than twenty-five (25) tons per year. Pursuant to SPM 099-25002-00003, issued on October 30, 2007:

- (1) The total resin input to the core making operation, consisting of two (2) isocure core machines, identified as CM 1 and CM 2, shall not exceed 505,317 pounds of resin per twelve (12) consecutive month period with compliance determined at the end of each month.
- (2) The VOC emissions from resin usage in core making operation, consisting of two (2) isocure core machines, identified as CM 1 and CM 2, shall not exceed 0.05 pound per pound of resin.
- (3) The total catalyst input to the core making operation, consisting of two (2) isocure core machines, identified as CM 1 and CM 2, shall not exceed 23,581 pounds of VOC catalyst per twelve (12) consecutive month period with compliance determined at the end of each month.

The acid scrubber is not required to comply with the above VOC emission limit.

Compliance with these input and emission limitations shall limit the potential to emit from the 2007 modification to less than twenty-five (25) tons of VOC per year, renders the requirements of 326 IAC 8-1-6 (New facilities, general reduction requirements) not applicable and satisfies the requirements of a minor source modification pursuant to 326 IAC 2-7-10.5(d)(6).

- (b) The potential to emit of VOC from the No Bake core machine approved for construction in 2007 is less than twenty-five (25) tons per year; therefore, the requirements of this rule do not apply to the No Bake core machine.
- (c) None of the other emission units constructed after 1980 have the potential to emit of twenty-five (25) tons per year or more. Therefore the other emission units constructed after 1980 are not subject to the requirements of this rule.

326 IAC 9-1-2 (Carbon monoxide emission limits)

This foundry constructed after the 1972 applicability date of this rule is not subject to the requirements of this rule because the source does not operate a cupola, blast furnace, basic oxygen steel furnace, or other ferrous metal smelting equipment.

326 IAC 11-1 (Existing Foundries)

This foundry is not subject to the requirements of 326 IAC 11-1-2 because this foundry was constructed after the December 6, 1968 applicability date of this rule.

Compliance Determination and Monitoring Requirements

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

If the Compliance Determination Requirements are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also in Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance

Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

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

- (a) The baghouses, identified as BH-1, BH-2 and BH-4 have applicable compliance determination conditions as specified below:
 - (1) The baghouse, identified as BH-1, for particulate control shall be in operation and control emissions from the core sand mixer, identified as M-1, and the core sand handling operations, identified as SH-1, at all times that either facility is in operation.
 - (2) The baghouse, identified as BH-2, for particulate control shall be in operation and control emissions from the tumble unit, identified as Tumbleblast, and the shot blast unit, identified as Tableblast, at all times that either facility is in operation.
 - (3) The baghouse, identified as BH-4, for particulate control shall be in operation and control emissions from the sand handling operation, identified as Molding Sand Muller, at all times that the sand handling operation is in operation.

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.

- (b) The Compliance Assurance Monitoring and compliance monitoring requirements applicable to this source are as follows:

Control	Parameter	Frequency	Range	Excursions and Exceedances
Baghouse (BH-2)	Water Pressure Drop	Daily	0.5 to 9.5 inches	Response Steps
	Visible Emissions		Normal-Abnormal	
	Visible Emissions		Normal-Abnormal	
Baghouse (BH-4)	Water Pressure Drop	Daily	0.5 to 9.5 inches	Response Steps
	Visible Emissions		Normal-Abnormal	

These monitoring conditions are necessary because the baghouses for the molding sand muller, the Tumbleblast and Tableblast must operate properly to ensure compliance with 40 CFR 64, 326 IAC 6-3-2, 326 IAC 2-2 and 326 IAC 2-7.

Note the baghouse, identified as BH-1, always exhausts inside the building, and as such IDEM, OAQ no longer will require compliance monitoring for this baghouse.

Recommendation

The staff recommends to the Commissioner that the Part 70 Operating Permit 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 September 18, 2003. Additional information was received on April 30, July 24 and October 15, 2007.

Conclusion

The operation of this gray and ductile iron foundry shall be subject to the conditions of the attached Part 70 Operating Permit Renewal No. T 099-18064-00003.

Appendix A: Emission Calculations
Grey Iron Foundry Emissions
Company Name: Plymouth Foundry, Inc.
Address City IN Zip: 523 West Harrison Street, Plymouth, Indiana 46563
Permit Number: T 099-18064-00003
Reviewer: Teresa Freeman
Date: October 26, 2007

Throughput
13,140 tons per year

** Process Emissions **

Process:	Rate (tons iron/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Type of control	Control Efficiency (%)	Eac (ton/yr)	Eac and limit (ton/yr)
Scrap and charge handling (SCH) SCC# 3-04-003-15 FIRE 6.25 AP-42 Ch. 12.10 Fifth edition 1995	1.50	PM	0.60	3.94	None		3.94	3.94
		PM-10	0.36	2.37	None		2.37	2.37
		SO2	0.00	0.00	None		0.00	0.00
		NOx	0.00	0.00	None		0.00	0.00
		VOC	0.00	0.00	None		0.00	0.00
		CO	0.00	0.00	None		0.00	0.00
		chromium	0.0002	0.0015	None		0.0015	0.0015
		cobalt	0.00002	0.0001	None		0.0001	0.0001
		nickel	0.0004	0.0026	None		0.0026	0.0026
		arsenic	0.0001	0.0005	None		0.0005	0.0005
		cadmium	0.00004	0.0003	None		0.0003	0.0003
		selenium	0.00001	0.0001	None		0.0001	0.0001
		Lead	0.0023	0.0151	None		0.0151	0.0151

Allowable Emissions:

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

$$P = 1.5 \text{ tons/hr}$$

$$\text{limit} = 4.1 \times (1.5^{0.67}) = 5.4 \text{ lb/hr (allowable)}$$

with potential:

$$3.94 \text{ tons/yr} \times 2000 \text{ lb/ton} / 8760 \text{ hr/yr} = 0.9 \text{ lb/hr (will be able to comply)}$$

Process:	Rate (tons iron/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Type of control	Control Efficiency (%)	Eac (ton/yr)	Eac and limit (ton/yr)
Melting - 2 Electric Induction Furnaces Operating in Duplex Mode, 1 at a time BB-B1 or BB-C2 Source of Criteria Pollutant Factors: EPA SCC# 3-04-003-03 FIRE 6.25 AP-42 Ch. 12.10 Fifth edition 1995	1.50	PM	0.90	5.91	None		5.91	5.91
		PM-10	0.86	5.65	None		5.65	5.65
		SO2	0.00	0.00	None		0.00	0.00
		NOx	0.00	0.00	None		0.00	0.00
		VOC	0.00	0.00	None		0.00	0.00
		CO	0.00	0.00	None		0.00	0.00
		chromium	0.0002	0.0015	None		0.0015	0.0015
		cobalt	0.0000	0.0001	None		0.0001	0.0001
		nickel	0.0004	0.0026	None		0.0026	0.0026
		arsenic	0.0001	0.0005	None		0.0005	0.0005
		cadmium	0.00004	0.0003	None		0.0003	0.0003
		FIRE 6.01 manganese	0.0225	0.1478	None		0.1478	0.1478
		FIRE 6.01 selenium	0.00001	0.0001	None		0.0001	0.0001
FIRE 6.01 Lead	0.0090	0.0591	None		0.0591	0.0591		

Allowable Emissions:

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

$$P = 1.5 \text{ tons/hr each}$$

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

For each furnace

with potential:

$$5.91 \text{ tons/yr} \times 2000 \text{ lb/ton} / 8760 \text{ hr/yr} = 1.35 \text{ lb/hr (will be able to comply)}$$

Process:	Rate (tons iron/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Type of control	Control Efficiency (%)	Eac (ton/yr)	Eac and limit (ton/yr)
Pouring/Casting (Floor) Source of Criteria Pollutant Factors: FIRE 6.25 SCC# 3-04-003-18 (except as noted)	1.50	PM	4.20	27.6	None		27.6	27.6
	FIRE 5.0	PM-10	2.06	13.5	None		13.5	13.5
		SO2	0.02	0.131	None		0.131	0.131
		NOx	0.01	0.066	None		0.066	0.066
		VOC	0.14	0.920	None		0.920	0.920
		CO	6.00	39.4	None		39.4	39.4
		chromium	0.0016	0.0105	None		0.0105	0.0105
		cobalt	0.0001	0.0009	None		0.0009	0.0009
		nickel	0.0028	0.0185	None		0.0185	0.0185
		arsenic	0.0006	0.0036	None		0.0036	0.0036
		cadmium	0.0003	0.0016	None		0.0016	0.0016
		selenium	0.00004	0.0003	None		0.0003	0.0003
		Lead	0.0162	0.1062	None		0.1062	0.1062

Allowable Emissions:

The following calculations determine PM compliance with 326 IAC 6-3-2 for process weight rates less than 30 tons per hour:
Metal plus 10 tons of sand per hour

$$P = 11.50 \text{ tons/hr } \textit{Metal + Sand}$$

$$\text{limit} = 4.1 \times (11.5 \wedge 0.67) = 21.1 \text{ lb/hr (allowable)}$$

with potential:

$$27.6 \text{ tons/yr} \times 2000 \text{ lb/ton} / 8760 \text{ hr/yr} = 6.30 \text{ lb/hr (will be able to comply)}$$

Process:	Rate (tons iron/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Type of control	Control Efficiency (%)	Eac (ton/yr)	Eac and limit (ton/yr)
Casting Cooling (Floor) Source of Criteria Pollutant Factors: FIRE 6.25 SCC# 3-04-003-25	1.50	PM	1.40	9.20	none		9.20	9.20
		PM-10	1.40	9.20	none		9.20	9.20
		SO2	0.00	0.00	none		0.00	0.00
		NOx	0.00	0.00	none		0.00	0.00
		VOC	0.00	0.00	none		0.00	0.00
		CO	---	0.00	none		0.00	0.00
		Lead	---	0.00	none		0.00	0.00

Allowable Emissions:

The following calculations determine PM compliance with 326 IAC 6-3-2 for process weight rates less than 30 tons per hour:
Metal plus 10 tons of sand per hour

$$P = 11.50 \text{ tons/hr } \textit{Metal + Sand}$$

$$\text{limit} = 4.1 \times (11.5 \wedge 0.67) = 21.1 \text{ lb/hr (allowable)}$$

with potential:

$$9.20 \text{ tons/yr} \times 2000 \text{ lb/ton} / 8760 \text{ hr/yr} = 2.10 \text{ lb/hr (will be able to comply)}$$

Process:	Rate (tons iron/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Type of control	Control Efficiency (%)	Eac (ton/yr)	Eac and limit (ton/yr)
Castings Shakeout (Manual Shakeout (Floor)) Source of Criteria Pollutant Factors: FIRE 6.25 SCC# 3-04-003-31 AP-42 Ch. 12.10 Fifth edition 1995	1.50	PM	3.20	21.0	none		21.0	21.0
		PM-10	2.24	14.7	none		14.7	14.7
		SO2	0.00	0.00	none		0.00	0.00
		NOx	0.00	0.00	none		0.00	0.00
		VOC	1.20	7.88	none		7.88	7.88
		CO	---	0.00	none		0.00	0.00
		chromium	0.0012	0.0080	none		0.0080	0.0080
		cobalt	0.0001	0.0007	none		0.0007	0.0007
		nickel	0.0021	0.0141	none		0.0141	0.0141
		arsenic	0.0004	0.0028	none		0.0028	0.0028
		cadmium	0.0002	0.0012	none		0.0012	0.0012
		selenium	0.0000	0.0002	none		0.0002	0.0002
		Lead	0.0123	0.0809	none		0.0809	0.0809

Allowable Emissions:

The following calculations determine PM compliance with 326 IAC 6-3-2 for process weight rates less than 30 tons per hour:
Metal plus 4.4 tons of sand per hour

$$P = 5.90 \text{ tons/hr } \text{Metal + Sand}$$

$$\text{limit} = 4.1 \times (5.90^{0.67}) = 13.5 \text{ lb/hr (allowable)}$$

with potential:

$$21.0 \text{ tons/yr} \times 2000 \text{ lb/ton} / 8760 \text{ hr/yr} = 4.80 \text{ lb/hr (will be able to comply)}$$

Process:	Rate (tons iron/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Type of control	Control Efficiency (%)	Eac (ton/yr)	Eac and limit (ton/yr)
Shakeout Machine (RS Shake) Source of Criteria Pollutant Factors: FIRE 6.25 SCC# 3-04-003-31 AP-42 Ch. 12.10 Fifth edition 1995	1.50	PM	3.20	21.0	none		21.0	21.0
		PM-10	2.24	14.7	none		14.7	14.7
		SO2	0.00	0.00	none		0.00	0.00
		NOx	0.00	0.00	none		0.00	0.00
		VOC	1.20	7.88	none		7.88	7.88
		CO	---	0.000	none		0.00	0.00
		chromium	0.0012	0.008	none		0.0080	0.0080
		cobalt	0.0001	0.001	none		0.0007	0.0007
		nickel	0.0021	0.014	none		0.0141	0.0141
		arsenic	0.0004	0.003	none		0.0028	0.0028
		cadmium	0.0002	0.001	none		0.0012	0.0012
		selenium	0.0000	0.000	none		0.0002	0.0002
		Lead	0.0123	0.0809	none		0.0809	0.0809

Allowable Emissions:

The following calculations determine PM compliance with 326 IAC 6-3-2 for process weight rates less than 30 tons per hour:
Metal plus 10 tons of sand per hour

$$P = 11.50 \text{ tons/hr } \text{Metal + Sand}$$

$$\text{limit} = 4.1 (11.5^{0.67}) = 21.1 \text{ lb/hr (allowable)}$$

with potential:

$$21.0 \text{ tons/yr} \times 2000 \text{ lb/ton} / 8760 \text{ hr/yr} = 4.80 \text{ lb/hr (will be able to comply)}$$

Process:	Rate (tons iron/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Type of control	Control Efficiency (%)	Eac (ton/yr)	Eac and limit (ton/yr)
Shakeout Operation (Shakeout) Source of Criteria Pollutant Factors: FIRE 6.25 SCC# 3-04-003-31 AP-42 Ch. 12.10 Fifth edition 1995	1.50	PM	3.20	21.0	Baghouse	99.0%	0.210	0.210
		PM-10	2.24	14.7	Baghouse	99.0%	0.147	0.147
		SO2	0.00	0.000			0.000	0.000
		NOx	0.00	0.000			0.000	0.000
		VOC	1.20	7.88			7.88	7.88
		CO	---	0.000			0.00	0.00
		chromium	0.0012	0.008	Baghouse	99.0%	0.0001	0.0001
		cobalt	0.0001	0.001	Baghouse	99.0%	0.0000	0.0000
		nickel	0.0021	0.014	Baghouse	99.0%	0.0001	0.0001
		arsenic	0.0004	0.003	Baghouse	99.0%	0.0000	0.0000
		cadmium	0.0002	0.001	Baghouse	99.0%	0.0000	0.0000
		selenium	0.0000	0.000	Baghouse	99.0%	0.0000	0.0000
		Lead	0.0123	0.0809	Baghouse	99.0%	0.0008	0.0008

Allowable Emissions:

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

Metal plus 10 tons of sand per hour

$$P = 11.50 \text{ tons/hr Metal + Sand}$$

$$\text{limit} = 4.1 (11.5^{0.67}) = 21.1 \text{ lb/hr (allowable)}$$

with potential:

$$0.210 \text{ tons/yr} \times 2000 \text{ lb/ton} / 8760 \text{ hr/yr} = 0.05 \text{ lb/hr (will be able to comply)}$$

Process:	Rate (tons iron/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Type of control	Control Efficiency (%)	Eac (ton/yr)	Eac and limit (ton/yr)
Castings Cleaning and Finishing (Tumbleblast & Tableblast) Source of Criteria Pollutant Factors: FIRE 6.25 SCC# 3-04-003-40 AP-42 Ch. 12.10 Fifth edition 1995	3.00	PM	17.00	223.38	Baghouse	99.0%	2.23	2.23
		PM-10	1.70	22.34	Baghouse	99.0%	0.223	0.223
		SO2	0.00	0.00			0.00	0.000
		NOx	0.00	0.00			0.00	0.000
		VOC	0.00	0.00			0.00	0.000
		CO	0.00	0.00			0.00	0.000
		chromium	0.0065	0.0849	Baghouse	99.0%	0.001	0.001
		cobalt	0.0005	0.0067	Baghouse	99.0%	0.0001	0.000
		nickel	0.0114	0.1497	Baghouse	99.0%	0.001	0.001
		arsenic	0.0022	0.0290	Baghouse	99.0%	0.0003	0.0003
		cadmium	0.0010	0.0134	Baghouse	99.0%	0.0001	0.000
		selenium	0.0002	0.0022	Baghouse	99.0%	0.00002	0.00002
		Lead	0.0045	0.0591	Baghouse	99.0%	0.001	0.001

Allowable Emissions:

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

$$P = 1.5 \text{ tons/hr each}$$

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

with potential:

$$1.12 \text{ tons/yr each} \times 2000 \text{ lb/ton} / 8760 \text{ hr/yr} = 0.255 \text{ lb/hr (will be able to comply)}$$

Process:	Rate (tons iron/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Type of control	Control Efficiency (%)	Eac (ton/yr)	Eac and limit (ton/yr)
Cleaning Room Consisting of: 6 grinders <i>Source of Criteria</i> <i>Pollutant Factors:</i> FIRE 6.25 SCC# 3-04-003-60	1.50	PM	0.0045	0.030	none	0.0%	0.030	0.030
		PM-10	0.0045	0.030	none	0.0%	0.030	0.030
		SO2	0.00	0.000	none	0.0%	0.000	0.000
		NOx	0.00	0.000	none	0.0%	0.000	0.000
		VOC	0.00	0.000	none	0.0%	0.000	0.000
		CO	0.00	0.000	none	0.0%	0.000	0.000
		chromium	0.00000086	0.0000056	none	0.0%	0.00001	0.00001
		cobalt	0.00000007	0.0000004	none	0.0%	0.00000	0.00000
		nickel	0.00000151	0.0000099	none	0.0%	0.00001	0.00001
		arsenic	0.00000029	0.0000019	none	0.0%	0.00000	0.00000
		cadmium	0.00000014	0.0000009	none	0.0%	0.00000	0.00000
		selenium	0.00000002	0.0000001	none	0.0%	0.00000	0.00000
Lead	0.00000060	0.0000039	none	0.0%	0.00000	0.00000		

Allowable Emissions:

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

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

with potential:
0.01 tons/yr each x 2000 lb/ton / 8760 hr/yr = 0.003 lb/hr (will be able to comply)

Process:	Rate (tons iron/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Type of control	Control Efficiency (%)	Eac (ton/yr)	Eac and limit (ton/yr)
Core Making (Shell Core) <i>Source of Criteria</i> <i>Pollutant Factors:</i> FIRE 6.25 SCC# 3-04-003-53	1.50	PM	0.90	5.91	none	0.00%	5.91	5.91
		PM-10	0.90	5.91	none	0.00%	5.91	5.91
		SO2	0.00	0.00	none	0.00%	0.00	0.00
		NOx	0.50	3.29	none	0.00%	3.29	3.29
		VOC	---	0.00	none	0.00%	0.00	0.00
		CO	---	0.00	none	0.00%	0.00	0.00
		Lead	---	0.00	none	0.00%	0.00	0.00

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

$$P = \text{limit} = 2.00 \text{ tons/hr} \times 4.1 \times (2^{0.67}) = 6.52 \text{ lb/hr (allowable)}$$

Metal plus 2 * 0.25 tons of cores per hour
two (2) core making machines

with potential:
5.91 tons/yr x 2000 lb/ton / 8760 hr/yr = 1.35 lb/hr (will be able to comply)

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

$$P = \text{limit} = 20.00 \text{ tons/hr} \times 4.1 \times (20^{0.67}) = 30.51 \text{ lb/hr (allowable)}$$

one mold making machine at 20 tons of sand per hour

with potential:
5.91 tons/yr x 2000 lb/ton / 8760 hr/yr = 1.35 lb/hr (will be able to comply)

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

$$P = \text{limit} = 3.00 \text{ tons/hr} \times 4.1 \times (3^{0.67}) = 8.56 \text{ lb/hr (allowable)}$$

three mold making machine at 3 tons of sand per hour each

with potential:
5.91 tons/yr x 2000 lb/ton / 8760 hr/yr = 1.35 lb/hr (will be able to comply)

Process:	Rate (tons sand/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Type of control	Control Efficiency (%)	Eac (ton/yr)	Eac and limit (ton/yr)	
Sand Handling (Molding Sand Muller) <i>Source of Criteria</i> <i>Pollutant Factors:</i> FIRE 6.25 EPA SCC# 3-04-003-50	10.00	PM	3.6	157.7	Baghouse	99.0%	1.58	25.00	
		PM-10	0.54	23.7	Baghouse	99.0%	0.237	15.00	

Allowable Emissions:

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

$$P = 10 \text{ tons/hr}$$

$$\text{limit} = 4.1 \times (10^{0.67}) = 19.2 \text{ lb/hr (allowable)}$$

with potential:
1.58 tons/yr x 2000 lb/ton / 8760 hr/yr = 0.36 lb/hr (will be able to comply)

Process:	Rate (tons iron/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Type of control	Control Efficiency (%)	Eac (ton/yr)	Eac and limit (ton/yr)
One (1) Mold Making Operation (Mold Making) 2 Rotolift, 1 Squeezer & Automatic Machines <i>Source of Criteria</i> <i>Pollutant Factors:</i> FIRE 6.25 SCC# 3-04-003-53	1.50	PM	0.90	5.91	none	0.00%	5.91	5.91
		PM-10	0.90	5.91	none	0.00%	5.91	5.91
		SO2	0.00	0.00	none	0.00%	0.00	0.00
		NOx	0.50	3.29	none	0.00%	3.29	3.29
		VOC	---	0.00	none	0.00%	0.00	0.00
		CO	---	0.00	none	0.00%	0.00	0.00
		Lead	---	0.00	none	0.00%	0.00	0.00

Allowable Emissions:

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

$$P = 11.5 \text{ tons/hr Metal plus 10 tons of sand per hour}$$

$$\text{limit} = 4.1 \times (11.5^{0.67}) = 21.1 \text{ lb/hr (allowable)}$$

with potential:
5.9 tons/yr x 2000 lb/ton / 8760 hr/yr = 1.35 lb/hr (will be able to comply)

Process:	Rate (tons iron/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Type of control	Control Efficiency (%)	Eac (ton/yr)	Eac and limit (ton/yr)
Magnesium Treatment (Mag) <i>Source of Criteria</i> <i>Pollutant Factors:</i> FIRE 6.25 SCC# 3-04-003-21 AP-42 Ch 12.10 Fifth edition 1995	1.5	PM	1.80	11.83			11.83	11.83
		PM-10	1.80	11.83			11.83	11.83
		SO2	0.00	0.00			0.00	0.00
		NOx	0.00	0.00			0.00	0.00
		VOC	0.01	0.033			0.033	0.033
		CO	0.00	0.00			0.00	0.00
		Lead	0.00	0.00			0.00	0.00

Allowable Emissions:

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

$$P = 1.5 \text{ tons/hr}$$

$$\text{limit} = 4.1 \times (1.5^{0.67}) = 5.4 \text{ lb/hr (allowable)}$$

with potential:
11.8 tons/yr x 2000 lb/ton / 8760 hr/yr = 2.7 lb/hr (will be able to 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
 1 ton = 2000 lbs
 Plymouth Foundry, Inc.
 523 West Harrison Street, Plymouth, Indiana 46563

Permit #:

T 099-18064-00003

Insignificant Activities: Natural Gas Combustion Units totalling
 Heat Input Capacity
 MMBtu/hr

Potential Throughput
 MMCF/yr

3.08

27

Emission Factor in lb/MMCF	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
	1.90	7.60	0.600	100 **see below	5.50	84.0
Potential Emission in tons/yr	0.026	0.103	0.008	1.349	0.074	1.133

*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

Emission Factor in lb/MMcf	HAPs - Organics				
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
	0.00210	0.00120	0.07500	1.80000	0.00340
Potential Emission in tons/yr	0.000028	0.000016	0.001012	0.024283	0.000046

Emission Factor in lb/MMcf	HAPs - Metals					Total
	Lead	Cadmium	Chromium	Manganese	Nickel	
	0.0005	0.0011	0.0014	0.0004	0.0021	
Potential Emission in tons/yr	0.00001	0.00001	0.00002	0.00001	0.00003	0.025

Summary of Emissions

Uncontrolled Potential Emissions

Significant Emission Units	PM	PM-10	SO2	NOx	VOC	CO	Lead	Total HAPs
	(tons/yr)							
Scrap and Charge Handling	3.94	2.37	0.00	0.00	0.00	0.00	0.015	0.020
Melting - 2 Electric Induction Furnaces	5.91	5.65	0.00	0.00	0.00	0.00	0.059	0.212
Pouring/Casting (Floor)	27.6	13.5	0.131	0.066	0.920	39.4	0.106	0.142
Casting Cooling (Floor)	9.20	9.20	0.00	0.00	0.00	0.00	0.000	0.000
Castings Shakeout (Manual Shakeout (Floor))	21.0	14.7	0.00	0.00	7.88	0.00	0.081	0.108
Shakeout Machine (RS Shake)	21.0	14.7	0.00	0.00	7.88	0.00	0.081	0.108
Shakeout Operation (Shakeout)	21.0	14.7	0.00	0.00	7.88	0.00	0.081	0.108
Tumbleblast and Tableblast	223.4	22.3	0.00	0.00	0.00	0.00	0.059	0.345
Cleaning Room consisting of 6 grinders	0.030	0.030	0.00	0.00	0.00	0.00	0.00000	0.00002
Core Making (Shell Core)	5.91	5.91	0.00	3.29	0.00	0.00	0.000	0.00
Sand Handling (Molding Sand Muller)	157.7	23.7	0.00	0.00	0.00	0.00	0.000	0.00
One (1) Mold Making Operation	5.91	5.91	0.00	3.29	0.00	0.00	0.000	0.00
Magnesium Treatment (Mag)	11.8	11.8	0.00	0.00	0.033	0.00	0.000	0.00
Sand Handling (SH-1)	47.3	7.10	0.00	0.00	0.000	0.00	0.000	0.00
Core Sand Handling (SH-2)	0.591	0.089	0.00	0.00	0.000	0.00	0.000	0.00
2 Isocure & 1 No Bake Core Machines	0.00	0.00	0.00	0.00	38.6	0.00	0.000	5.00
Subtotal	562.4	151.8	0.131	6.6	63.2	39.4	0.482	6.04
Insignificant Activities								
Natural Gas Combustion Units	0.026	0.103	0.008	1.35	0.074	1.13	0.000	0.025
Paved and Unpaved Roads	6.00	6.00	0.00	0.00	0.000	0.00	0.000	0.000
Subtotal Insignificant Activities	6.026	6.103	0.008	1.349	0.074	1.133	0.000	0.025
Total	568.4	157.9	0.139	8.0	63.3	40.6	0.482	6.07

Controlled and Limited Potential Emissions

Significant Emission Units	PM	PM-10	SO2	NOx	VOC	CO	Lead	Total HAPs
	(tons/yr)	(tons/yr)	(tons/yr)	(tons/yr)	(tons/yr)	(tons/yr)	(tons/yr)	(tons/yr)
Scrap and Charge Handling	3.94	2.37	0.000	0.00	0.00	0.00	0.015	0.020
Melting - 2 Electric Induction Furnaces	5.91	5.65	0.000	0.00	0.00	0.00	0.059	0.212
Pouring/Casting (Floor)	27.60	13.50	0.131	0.07	0.92	39.42	0.106	0.142
Casting Cooling (Floor)	9.20	9.20	0.000	0.00	0.00	0.00	0.000	0.000
Castings Shakeout (Manual Shakeout (Floor))	21.0	14.7	0.000	0.00	7.88	0.00	0.081	0.108
Shakeout Machine (RS Shake)	21.0	21.0	0.000	0.00	7.88	0.00	0.081	0.108
Shakeout Operation (Shakeout)	0.2	0.2	0.000	0.00	7.88	0.00	0.081	0.108
Tumbleblast and Tableblast	2.2	0.22	0.000	0.00	0.00	0.00	0.059	0.345
Cleaning Room consisting of 6 grinders	0.030	0.030	0.000	0.00	0.00	0.00	0.000	0.00
Core Making (Shell Core)	5.91	5.91	0.000	3.29	0.00	0.00	0.000	0.00
Sand Handling (Molding Sand Muller)	25.00	15.00	0.000	0.00	0.00	0.00	0.000	0.00
One (1) Mold Making Operation	5.91	5.91	0.000	3.29	0.00	0.00	0.000	0.00
Magnesium Treatment (Mag)	11.83	11.83	0.000	0.00	0.03	0.00	0.000	0.00
Sand Handling (SH-1)	24.30	7.10	0.000	0.00	0.00	0.00	0.000	0.00
Core Sand Handling (SH-2)	0.591	0.089	0.000	0.00	0.00	0.00	0.000	0.00
2 Isocure & 1 No Bake Core Machines	0.00	0.00	0.000	0.00	24.90	0.00	0.000	5.00
Subtotal	164.7	112.7	0.131	6.64	63.18	39.42	0.482	6.04
Insignificant Activities	0.00	0.00	0.000	0.00	0.00	0.00	0.000	0.00
Natural Gas Combustion Units	0.03	0.10	0.008	1.35	0.07	1.13	0.000	0.03
Paved and Unpaved Roads	6.00	6.00	0.000	0.00	0.00	0.00	0.000	0.00
Subtotal Insignificant Activities	6.03	6.10	0.008	1.35	0.074	1.13	0.000	0.025
Total	170.7	118.8	0.139	7.98	63.3	40.6	0.482	6.07

Unrestricted PTE
Total (tons/year)

Other HAPs	Total (tons/year)
Chromium	0.123
Cobalt	0.010
Nickel	0.216
Arsenic	0.042
Cadmium	0.019
Managese	0.148
Selenium	0.003

Plymouth Foundry, Inc.
 523 West Harrison Street, Plymouth, Indiana 46563

Permit #: T 099-18064-00003
 Date: October 26, 2007
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HAP Emission Calculations
Pouring-Cooling-Shakeout Binder Systems
for Grey Iron Foundries

Company Name: Plymouth Foundry, Inc.
Plant Location: 523 West Harrison Street, Plymouth, Indiana 46563
Permit: T 099-18064-00003
Permit Reviewer: Teresa Freeman
Date: October 26, 2007

Annual Usage of Index Material
 (lbs/yr)
 40,384

Binder System
 Green Sand

Pollutant	Binder System Type Emission Factors => Lbs. of Chemical Released to Air per Lbs. of Index										***		
	Phenolic Nobake (Resin)	Phenolic Urethane (Resin)	Phenolic Hotbox (Resin)	Green Sand (Seacoal)	Core Oil (Core Oil)	Shell (Resin)	Low Nitrogen Furan (Resin)	Med Nitrogen Furan TSA Catalyst (Resin)	Furan Hotbox (Resin)	Alkyd Isocyanate (Resin & Isocyanate)	Sodium Silicate & Ester (Sugar & Ester)	Pollutant Emissions (lbs/yr)	Pollutant Emissions (tons/yr)
Ammonia	0.000039	0.000083	0.010931	0.000065	0.000038	0.003860	0.000040	0.000202	0.019579	0.000037	0.000038	2.625	0.001
Hydrogen Sulfide	0.001462	0.000057	0.000009	0.000832	0.000057	0.000094	0.000405	0.000486	0.000060	0.000007	0.000197	33.599	0.017
Nitrogen Oxides	0.000029	0.000044	0.000638	0.000562	0.000081	0.000994	0.000012	0.000312	0.000411	0.000355	0.000028	22.696	0.011
Sulfur Dioxide	0.015107	0.000061	0.000036	0.000253	0.000115	0.003509	0.000607	0.004858	0.000088	0.000040	0.000244	10.217	0.005
Total Hydrocarbons	0.012159	0.023377	0.005165	0.011941	0.028737	0.022421	0.007814	0.017178	0.006259	0.035567	0.022782	482.225	0.241
Acrolein	0.000005	0.000031	0.000009	0.000002	0.000077	0.000047	0.000028	0.000016	0.000013	0.000088	0.000028	0.081	0.000
Benzene	0.011209	0.005351	0.001002	0.000611	0.002344	0.006667	0.000648	0.004534	0.000537	0.005336	0.001410	24.675	0.012
Formaldehyde	0.000010	0.000022	0.000006	0.000004	0.000096	0.000035	0.000267	0.000065	0.000009	0.000106	0.000169	0.162	0.000
Hydrogen Cyanide	0.000029	0.001053	0.001184	0.000118	0.000086	0.010526	0.000368	0.000607	0.003474	0.000175	0.000179	4.765	0.002
M-Xylene	0.000097	0.000439	0.000121	0.000021	0.000239	0.000585	0.002227	0.000243	0.000032	0.002522	0.000094	0.848	0.000
Naphthalene	0.000049	0.000022	0.000030	0.000021	0.000048	0.000058	0.000040	0.000040	0.000032	0.000037	0.000005	0.848	0.000
O-Xylene	0.000049	0.000132	0.000030	0.000021	0.000287	0.000117	0.000729	0.000040	0.000032	0.003838	0.000094	0.848	0.000
Phenol	0.000975	0.003904	0.000203	0.000131	0.000057	0.002456	0.000024	0.000101	0.000016	0.000110	0.000273	5.290	0.003
Toluene	0.000634	0.000833	0.000182	0.000063	0.000478	0.002807	0.000210	0.008826	0.000032	0.001535	0.000282	2.544	0.001
Total Aromatic Amines	0.000049	0.000351	0.001275	0.000021	0.000096	0.002339	0.000081	0.000364	0.003032	0.000037	0.000094	0.848	0.000
Total C2 to C5 Aldehydes	0.003070	0.000219	0.000273	0.000063	0.000766	0.000585	0.000243	0.017004	0.000158	0.002156	0.001316	2.544	0.001
Total HAPs	0.016174	0.012355	0.004318	0.001076	0.004574	0.026222	0.004777	0.031842	0.007364	0.015939	0.003943	43.453	0.022

METHODOLOGY
 HAPs emission rate (tons/yr) = Annual Usage (lbs/yr) * Emission Factor (lbs Chemical/lbs Index) * 1 ton/2000 lbs

Appendix A: Emission Calculations Summary

Company Name: Plymouth Foundry, Inc.
 Plant Location: 523 West Harrison Street, Plymouth, Indiana 46563
 Permit Number: T 099-18064-00003
 Reviewer: Teresa Freeman
 Date: October 26, 2007

Total Unlimited Potential To Emit (tons/year)			
Emissions Generating Activity			
Pollutant	Sand Mixers and Sand Handling	Core Making	TOTAL
PM	47.9	0.0	47.9
PM10	7.19	0.0	7.2
SO2	0.0	0.0	0.0
NOx	0.0	0.0	0.0
VOC	0.0	38.6	38.6
CO	0.0	0.0	0.0
total HAPs	0.0	5.0	5.0
worst case single HAP	0.0	(Glycol ethers) 4.99	(Glycol ethers) 4.99
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			
Any VOC emissions from the sand mixers are accounted for in the core making emissions.			
Total Limited Potential To Emit (tons/year)			
Emissions Generating Activity			
Pollutant	Sand Mixers and Sand Handling	Core Making	TOTAL
PM	24.9	0.0	24.9
PM10	3.7	0.0	3.7
SO2	0.0	0.0	0.0
NOx	0.0	0.0	0.0
VOC	0.0	24.9	24.9
CO	0.0	0.0	0.0
total HAPs	0.0	2.6	2.6
worst case single HAP	0.0	(Glycol ethers) 2.56	(Glycol ethers) 2.56
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			
Any VOC emissions from the sand mixers are accounted for in the core making emissions.			
Total Limited Potential To Emit After Control (tons/year)			
Emissions Generating Activity			
Pollutant	Sand Mixers and Sand Handling	Core Making	TOTAL
PM	1.4	0.0	1.4
PM10	1.4	0.0	1.4
SO2	0.0	0.0	0.0
NOx	0.0	0.0	0.0
VOC	0.0	13.4	13.4
CO	0.0	0.0	0.0
total HAPs	0.0	2.6	2.6
worst case single HAP	0.0	(Glycol ethers) 2.56	(Glycol ethers) 2.56
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: Grey Iron Foundry Operations

Company Name: Plymouth Foundry, Inc.
 Plant Location: 523 West Harrison Street, Plymouth, Indiana 46563
 Permit Number: T 099-18064-00003
 Reviewer: Teresa Freeman
 Date: October 26, 2007

SCC# 3-04-003-50 Core Sand Handling (SH-1) - Uncontrolled Emissions							
TYPE OF MATERIAL		Maximum Throughput		Control Device: Baghouse			
		LBS/HR	TON/HR				
Sand		6000	3				
		Limited Throughput*					
		LBS/HR	TON/HR				
		3083	1.54				
Pollutant	PM	PM10	SOx	NOx	VOC	CO	Lead
Units	lbs/ton sand handled	lbs/ton sand handled	lbs/ton sand handled	lbs/ton sand handled	lbs/ton sand handled	lbs/ton sand handled	lbs/ton sand handled
Emission Factor	3.6	0.54	0.0	0.0	0.0	0.0	0.0
Potential Uncontrolled Emissions lbs/hr	10.80	1.62	0.00	0.00	0.00	0.00	0.00
Potential Uncontrolled Emissions tons/year	47.30	7.10	0.00	0.00	0.00	0.00	0.00
Limited Uncontrolled Emissions lbs/hr	5.55	0.83	0.00	0.00	0.00	0.00	0.00
Limited Uncontrolled Emissions tons/year	24.31	3.65	0.00	0.00	0.00	0.00	0.00

Note: Emission factors from USEPA's Factor Information Retrieval (FIRE) Data System, version 6.24.
 * The source will accept a sand throughput limit of 1.54 tons per hour as a raw material usage limit to limit PM emissions to less than 25 tons per year so that this is a minor source modification pursuant to 326 IAC 2-7-10.5(d)(4)(E).

SCC# 3-04-003-50 Core Sand Handling (SH-1) - Controlled Limited Emissions							
TYPE OF MATERIAL		Limited Throughput		Control Device: Baghouse			
		LBS/HR	TON/HR				
Sand		3083	1.54				
Pollutant	PM	PM10	SOx	NOx	VOC	CO	Lead
Units	lbs/ton sand handled	lbs/ton sand handled	lbs/ton sand handled	lbs/ton sand handled	lbs/ton sand handled	lbs/ton sand handled	lbs/ton sand handled
Emission Factor	0.2	0.2	0.0	0.0	0.0	0.0	0.0
Limited Controlled Emissions lbs/hr	0.31	0.31	0.00	0.00	0.00	0.00	0.00
Limited Controlled Emissions tons/year	1.35	1.35	0.00	0.00	0.00	0.00	0.00

Note: Emission factors from USEPA's Factor Information Retrieval (FIRE) Data System, version 6.24, using a baghouse for control.

SCC# 3-04-003-50 Core Sand Handling (SH-2) - Uncontrolled Emissions							
TYPE OF MATERIAL		Maximum Throughput		Control Device: Baghouse			
		LBS/HR	TON/HR				
Sand		75	0.0375				
Pollutant	PM	PM10	SOx	NOx	VOC	CO	Lead
Units	lbs/ton sand handled	lbs/ton sand handled	lbs/ton sand handled	lbs/ton sand handled	lbs/ton sand handled	lbs/ton sand handled	lbs/ton sand handled
Emission Factor	3.6	0.54	0.0	0.0	0.0	0.0	0.0
Potential Uncontrolled Emissions lbs/hr	0.135	0.020	0.00	0.00	0.00	0.00	0.00
Potential Uncontrolled Emissions tons/year	0.591	0.089	0.00	0.00	0.00	0.00	0.00

Note: Emission factors from USEPA's Factor Information Retrieval (FIRE) Data System, version 6.24.

SCC# 3-04-003-50 Core Sand Handling (SH-2) - Controlled Limited Emissions							
TYPE OF MATERIAL		Limited Throughput		Control Device: Baghouse			
		LBS/HR	TON/HR				
Sand		75	0.0375				
Pollutant	PM	PM10	SOx	NOx	VOC	CO	Lead
Units	lbs/ton sand handled	lbs/ton sand handled	lbs/ton sand handled	lbs/ton sand handled	lbs/ton sand handled	lbs/ton sand handled	lbs/ton sand handled
Emission Factor	0.2	0.2	0.000	0.000	0.000	0.000	0.000
Potential Controlled Emissions lbs/hr	0.008	0.008	0.00	0.00	0.00	0.00	0.00
Potential Controlled Emissions tons/year	0.033	0.033	0.00	0.00	0.00	0.00	0.00

Note: Emission factors from USEPA's Factor Information Retrieval (FIRE) Data System, version 6.24, using a baghouse for control.

Appendix A: Emission Calculation:

Company Name: Plymouth Foundry, Inc
Plant Location: 523 West Harrison Street, Plymouth, Indiana 46561
Permit Number: T 099-18064-00003
Reviewer: Frank P. Castelli
Date: October 26, 2007

Core Making Process

Machine	Date of Construction	Capacity (tons cores/hr)	Maximum Resin Content (%)	VOC Emission Factor from Resin Evaporation (lb VOC/ton cores)	Max. Catalyst Usage (lb/ton cores)	Potential VOC Emissions from resin evap (tons/yr)	Potential VOC Emissions from Catalyst Usage (tons/yr)	Total Potential VOC Emissions (tons/yr)
Isocure Core Machines	2007	3	1.5%	1.5	1.4	19.71	18.40	38.11
Pepset No Bake Core Machine	2007	0.0375	1.5%	1.5	1.4	0.25	0.23	0.48
Total						19.96	18.63	38.58

The Isocure catalyst is 100% DMIPA by weight which is not a HAP.

Limits Necessary to comply with 326 IAC 2-7-10.5(d)(4) and to render 326 IAC 2-2 (PSD) not applicable

Core Machines	VOC limit (tons/yr)	VOC EF for resin evaporation (lb/ton cores)	VOC EF for resin evaporation (lb VOC/lb resin)	Catalyst EF (lb VOC/ton cores)	Core production* (tons cores/yr)	Catalyst usage limit (lbs/yr)	Resin usage limit (lbs/yr)
Isocure Core Machines	24.42	1.5	0.05	1.4	16,844	23,581	505,317
Pepset No Bake Core Machine	NA	1.5	0.05	1.4	329	NA	NA

Core Machines	Catalyst Limited VOC Emissions (tons/yr)	Resin Limited VOC Emissions (tons/yr)	Total Limited VOC Emissions (tons/yr)
Isocure Core Machines	11.79	12.63	24.42
Pepset No Bake Core Machine	0.23	0.25	0.48
TOTAL	12.02	12.88	24.90

Core Machines	DMIPA Control Efficiency	Catalyst Limited VOC Emissions After Control (tons/yr)	Resin Limited VOC Emissions (tons/yr)	Total Controlled/Limited VOC Emissions (tons/yr)
Core	97.86%	0.25	12.63	12.89
Pepset No Bake Core Machine	NA	0.23	0.25	0.48
TOTAL		0.48	12.88	13.36

Note: The acid scrubber for DMIPA control is not required to comply with the VOC emission limit of less than 25 tons per year.

**Appendix A: Emission Calculations
HAP Emission Calculations - Core Making**

**Company Name: Plymouth Foundry, Inc.
Plant Location: 523 West Harrison Street, Plymouth, Indiana 46563
Permit Number: T 099-18064-00003
Reviewer: Teresa Freeman
Date: October 26, 2007**

Limited Uncontrolled Emissions

Isocure Core Making Emissions

Unlimited Process Rate (tons/year) = 26280
Limited Process Rate (tons/year)* = 13505

	Emission Factor (lb/ton core sand)				
	Formaldehyde ¹	Phenol ¹	Naphthalene ¹	Glycol Ethers ²	MDI ³
Core Mixing	0.0001	0.003	0		
Core Making	0.0028	0.0108	0.0131		
Core Storage	0.0005	0	0.009		
Total	0.0034	0.0138	0.0221	0.38	0.88

	Emissions (tons/yr)					
	Formaldehyde ¹	Phenol ¹	Naphthalene ¹	Glycol Ethers ²	MDI ³	Combined HAPs
Total Unlimited Emissions	0.00089	0.000000	0.009	4.987	0.000	4.998
Total Limited Emissions	0.00046	0.000000	0.005	2.563	0.000	2.568

Methodology

- ¹ Emission factors from Technikon, LLC report, "Core Room Baseline" prepared for Casting Emission Reduction
 - ² Emission factor based on 25% VOC EF because Glycol Ethers make up 25% of VOC content in Resin
 - ³ Emission factor based on 40% VOC EF because MDI makes up 40% of VOC content in Resin
- PTE (tons/yr) = Process Rate (tons / year) * EF (lb/ton) * 1 ton/2000lbs * Form R Reduction Factor
* Limited Process Rate (tons/yr) = 1.54 tons/hr * 8760 hrs/year

No Bake Core Making Emissions

Maximum Process Rate (tons / year) = 328.5

Emission Factor (lb/ton core sand)						
Formaldehyde ¹	Phenol ¹	Naphthalene ¹	MDI ¹	Methanol ²	Xylene ²	Cumene ²
0.024	0.194	0.138	0.894	0.14	0.028	0.014

Emissions (tons/yr)							
Formaldehyde ¹	Phenol ¹	Naphthalene ¹	MDI ¹	Methanol ²	Xylene ²	Cumene ²	Combined HAPs
0.000080	0.000	0.001	0.000	0.023	0.005	0.002	0.031

Methodology

- ¹ Emission factors based on VOC emission factor and percentage of resin made up by specific HAP as indicated by MSDSs for resin
 - ² Emission factor based on MSDSs for catalyst and 100% emissions of each HAP at 0.0007 lbs catalyst/lb sand
- PTE (tons/yr) = Maximum Process Rate (tons / year) * EF (lb/ton) * 1 ton/2000lbs * Form R Reduction Factor

Reduction Factors for Core Making

Pollutant	Phenolic Urethane Coldbox Part I Binder Reduction Factors	Phenolic Urethane Coldbox Part II Binder Reduction Factors	Phenolic Urethane No Bake Part I Binder Reduction Factors	Phenolic Urethane No Bake Part II Binder Reduction Factors
Phenol	0.00%	N/A	0.00%	N/A
MDI	N/A	0.00%	N/A	0.00%
Formaldehyde	2.00%	N/A	2.00%	N/A
Naphthalene	3.25%	3.25%	5.85%	5.85%
Glycol Ethers	N/A	N/A	N/A	N/A
Methanol	N/A	N/A	N/A	N/A
Xylene	3.25%	3.25%	5.85%	5.85%
Cumene	3.25%	N/A	5.85%	5.85%

Reduction factors obtained from the American Foundrymen's Society Publication entitled "Form R Reporting of Binder Chemicals used in Foundries",