



Mitchell E. Daniels, Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
(800) 451-6027
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TO: Interested Parties / Applicant
DATE: April 19, 2006
RE: Kingsbury Castings Division / 091-22593-00078
FROM: Nisha Sizemore
Chief, Permits Branch
Office of Air Quality

Notice of Decision: Approval - Effective Immediately

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to IC 13-15-5-3, this permit is effective immediately, unless a petition for stay of effectiveness is filed and granted according to IC 13-15-6-3, and may be revoked or modified in accordance with the provisions of IC 13-15-7-1.

If you wish to challenge this decision, IC 4-21.5-3 and IC 13-15-6-1 require that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Room 1049, Indianapolis, IN 46204, **within eighteen (18) calendar days of the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

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

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

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

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

Enclosures
FNPER.dot 03/23/06



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We make Indiana a cleaner, healthier place to live.

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Governor

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April 19, 2006

Mr. Earl Miller
Kingsbury Castings Division
P.O. Box 639
LaPorte, IN 46350

Re: **091-22593-00078**
First Significant Revision to
FESOP 091-15282-00078

Dear Mr. Miller:

Kingsbury Castings Division was issued a Federally Enforceable State Operating Permit (FESOP) F 091-15282-00078 on January 5, 2006 for a ductile iron foundry located at 3232 3rd Road Annex, Kingsbury, Indiana. A letter requesting changes to this permit was received on January 25, 2006. Pursuant to the provisions of 326 IAC 2-8-11.1 a Significant Permit Revision to this permit is hereby approved as described in the attached Technical Support Document.

This revision consists of the addition of one (1) automated shakeout machine to the existing source. As a result of this change, the metal and sand throughput limit for the source has been revised so that the source will continue to comply with 326 IAC 2-8, FESOP. This revision also consists of replacing parts of the sand handling operations and relocating the one (1) manual shakeout operation within the source.

The following construction conditions are applicable to the proposed project:

1. General Construction Conditions
The data and information supplied with the application shall be considered part of this source modification approval. Prior to any proposed change in construction which may affect the potential to emit (PTE) of the proposed project, the change must be approved by the Office of Air Quality (OAQ).
2. This approval to construct does not relieve the Permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.
3. Effective Date of the Permit
Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.
4. Pursuant to 326 IAC 2-1.1-9 (Revocation), the Commissioner may revoke this approval if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

5. All requirements and conditions of this construction approval shall remain in effect unless modified in a manner consistent with procedures established pursuant to 326 IAC 2.

Pursuant to 326 IAC 2-8-11.1, this permit shall be revised by incorporating the significant permit revision into the permit. All other conditions of the permit shall remain unchanged and in effect. For your convenience, the entire revised FESOP, with all revisions and amendments made to it, is being provided.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter, please contact CarrieAnn Paukowits, c/o OAQ, 100 North Senate Avenue, Indianapolis, Indiana, 46204-2251, at 631-691-3395 or in Indiana at 1-800-451-6027 (ext 631-691-3395).

Sincerely,
Original signed by Nisha Sizemore for

Paul Dubenetzky, Assistant Commissioner
Office of Air Quality

CAP/MES
Attachments

cc: File - LaPorte County
U.S. EPA, Region V
LaPorte County Health Department
Northwest Regional Office
Air Compliance Section Inspector - Letty Zepeda
Compliance Branch
Administrative and Development Section
Technical Support and Modeling - Michele Boner
Kingsbury Castings Division - John Hiler, President
August Mack Environmental, Inc - Charles J. Staehler



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NEW SOURCE CONSTRUCTION AND FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP) OFFICE OF AIR QUALITY

**Kingsbury Castings Division
3rd Road Annex
Kingsbury, Indiana 46345**

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

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

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-8 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17. This permit also addresses new source review requirements and is intended to fulfill the new source review procedures and permit revision requirements pursuant to 326 IAC 2-8-11.1, applicable to those conditions.

Operation Permit No.: F 091-15282-00078	
Issued by: Paul Dubenetzky, Assistant Commissioner Office of Air Quality	Issuance Date: January 5, 2006 Expiration Date: January 5, 2011
Significant Permit Modification: 091-22593-00078	Sections/Conditions Affected: A.2, B.17, Facility description box in D.1, D.1.4, D.1.5, D.1.6, D.1.7, D.1.8, D.1.9, D.1.10, D.1.11, D.1.12, D.1.13 and two (2) Quarterly Report Forms
Original signed by Nisha Sizemore for: Paul Dubenetzky, Assistant Commissioner Office of Air Quality	Issuance Date: April 19, 2006 Expiration Date: January 5, 2011

TABLE OF CONTENTS

SECTION A	SOURCE SUMMARY	4
A.1	General Information [326 IAC 2-8-3(b)]	
A.2	Emission Units and Pollution Control Equipment Summary [326 IAC 2-8-3(c)(3)]	
A.3	Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-8-3(c)(3)(I)]	
A.4	FESOP Applicability [326 IAC 2-8-2]	
A.5	Prior Permits Superseded [326 IAC 2-1.1-9.5]	
SECTION B	GENERAL CONDITIONS	8
B.1	Permit No Defense [IC 13]	
B.2	Definitions [326 IAC 2-8-1]	
B.3	Permit Term [326 IAC 2-8-4(2)] [326 IAC 2-1.1-9.5]	
B.4	Enforceability [326 IAC 2-8-6]	
B.5	Termination of Right to Operate [326 IAC 2-8-9] [326 IAC 2-8-3(h)]	
B.6	Severability [326 IAC 2-8-4(4)]	
B.7	Property Rights or Exclusive Privilege [326 IAC 2-8-4(5)(D)]	
B.8	Duty to Provide Information [326 IAC 2-8-4(5)(E)]	
B.9	Compliance Order Issuance [326 IAC 2-8-5(b)]	
B.10	Certification [326 IAC 2-8-3(d)] [326 IAC 2-8-4(3)(C)(i)] [326 IAC 2-8-5(1)]	
B.11	Annual Compliance Certification [326 IAC 2-8-5(a)(1)]	
B.12	Preventive Maintenance Plan [326 IAC 1-6-3] [326 IAC 2-8-4(9)] [326 IAC 2-8-5(a)(1)]	
B.13	Emergency Provisions [326 IAC 2-8-12]	
B.14	Deviations from Permit Requirements and Conditions [326 IAC 2-8-4(3)(C)(ii)]	
B.15	Permit Modification, Reopening, Revocation and Reissuance, or Termination [326 IAC 2-8-4(5)(C)] [326 IAC 2-8-7(a)] [326 IAC 2-8-8]	
B.16	Permit Renewal [326 IAC 2-8-3(h)]	
B.17	Permit Amendment or Revision [326 IAC 2-8-10] [326 IAC 2-8-11.1]	
B.18	Operational Flexibility [326 IAC 2-8-15][326 IAC 2-8-11.1]	
B.19	Permit Revision Requirement [326 IAC 2-8-11.1]	
B.20	Inspection and Entry [326 IAC 2-8-5(a)(2)] [IC13-14-2-2] [IC 13-17-3-2] [IC13-30-3-1]	
B.21	Transfer of Ownership or Operational Control [326 IAC 2-8-10] [IC 13-17-3-2]	
B.22	Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-8-4(6)] [326 IAC 2-8-16] [326 IAC 2-1.1-7]	
B.23	Advanced Source Modification Approval [326 IAC 2-8-4(11)] [326 IAC 2-1.1-9]	
B.24	Credible Evidence [326 IAC 2-8-4(3)] [326 IAC 2-8-5] [62 FR 8314] [326 IAC 1-1-6]	
SECTION C	SOURCE OPERATION CONDITIONS	17
	Emission Limitations and Standards [326 IAC 2-8-4(1)]	
C.1	Particulate Emission Limitations For Processes with Process Weight Rates Less Than One Hundred (100) Pounds per Hour [326 IAC 6-3-2]	
C.2	Overall Source Limit [326 IAC 2-8] [326 IAC 2-2] [326 IAC 2-3]	
C.3	Opacity [326 IAC 5-1]	
C.4	Open Burning [326 IAC 4-1] [IC 13-17-9]	
C.5	Incineration [326 IAC 4-2] [326 IAC 9-1-2(3)]	
C.6	Fugitive Dust Emissions [326 IAC 6-4]	
C.7	Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61 Subpart M]	
	Testing Requirements [326 IAC 2-8-4(3)]	
C.8	Performance Testing [326 IAC 3-6]	
	Compliance Requirements [326 IAC 2-1.1-11]	
C.9	Compliance Requirements [326 IAC 2-1.1-11]	

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

- C.10 Compliance Monitoring [326 IAC 2-8-4(3)] [326 IAC 2-8-5(a)(1)]
- C.11 Monitoring Methods [326 IAC 3] [40 CFR 60] [40 CFR 63]
- C.12 Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-8-4(3)][326 IAC 2-8-5(1)]

Corrective Actions and Response Steps [326 IAC 2-8-4] [326 IAC 2-8-5]

- C.13 Risk Management Plan [326 IAC 2-8-4] [40 CFR 68]
- C.14 Response to Excursions or Exceedances [326 IAC 2-8-4] [326 IAC 2-8-5]
- C.15 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-8-4] [326 IAC 2-8-5]

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

- C.16 General Record Keeping Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-5]
- C.17 General Reporting Requirements [326 IAC 2-8-4(3)(C)] [326 IAC 2-1.1-11]

Stratospheric Ozone Protection

- C.18 Compliance with 40 CFR 82 and 326 IAC 22-1

SECTION D.1 FACILITY OPERATION CONDITIONS: Foundry Operations..... 24

Construction Conditions

- D.1.1 Permit No Defense
- D.1.2 Effective Date of the Permit [IC13-15-5-3]
- D.1.3 Modification to Construction Conditions [326 IAC 2]

Operation Conditions

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

- D.1.4 Volatile Organic Compounds (VOC) [326 IAC 8-1-6]
- D.1.5 PM and PM₁₀ Minor Limits [326 IAC 2-2] [326 IAC 2-8]
- D.1.6 Particulate Matter (PM) [326 IAC 6-3-2]
- D.1.7 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

Compliance Determination Requirements

- D.1.8 Particulate Control
- D.1.9 Testing Requirements [326 IAC 2-8-5(a)(1), (4)] [326 IAC 2-1.1-11]

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

- D.1.10 Visible Emissions Notations
- D.1.11 Parametric Monitoring
- D.1.12 Broken or Failed Bag Detection

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

- D.1.13 Record Keeping Requirements
- D.1.14 Reporting Requirements

Certification Form	31
Emergency Occurrence Form	32
Quarterly Report Forms	34
Quarterly Deviation and Compliance Monitoring Report Form	36

SECTION A

SOURCE SUMMARY

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

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

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

Authorized individual:	President
Source Address:	3 rd Road Annex, Kingsbury, Indiana 46345
Mailing Address:	P.O. Box 639, LaPorte, Indiana 46350
General Source Phone:	(219)362-8531
SIC Code:	3321
Source Location Status:	LaPorte
	Nonattainment for ozone under the 8-hour standard
	Attainment for all other criteria pollutants
Source Status:	Federally Enforceable State Operating Permit (FESOP)
	Minor Source, under PSD and Emission Offset 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 2-8-3(c)(3)]

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

- (a) One (1) scrap and charge handling process, constructed in 1970, not exhausting through a stack, capacity: 4.95 tons of metal per hour.
- (b) One (1) natural gas-fired scrap charge preheater, identified as HEAT2, constructed in 1976, exhausting through stack 2, heat input capacity: 2.2 million British thermal units per hour.
- (c) Two (2) electric induction furnaces, identified as FRN03 and FRN04, constructed in 2000, equipped with an optional fabric filter (K4) and exhausting through stack K4 and general building exhausts A and B, maximum charge rate: 4.95 tons of metal per hour, total.
- (d) Four (4) natural gas-fired ladle heaters, exhausting through the general building ventilation, heat input capacity: 2.7 million British thermal units per hour, total.
- (e) Magnesium treatment operations, operating since 1974, exhausting through general building exhausts A and B, capacity: 4.95 tons of metal per hour.
- (f) Pouring, casting and cooling operations, with a total capacity of 4.95 tons of metal per hour and 4.95 tons of sand per hour, consisting of the following:
 - (1) One (1) pouring and cooling line, identified as Power & Free, constructed in 1990 and modified in 2004, exhausting through stacks 1 through 5 and 32.
 - (2) One (1) casting and cooling area, identified as TURN3, constructed in 1980, exhausting through stack 24.

- (g) One (1) manual shakeout and degating operation, constructed in 1980 and modified in 1994, capacity: 4.95 tons of metal and 4.95 tons of sand per hour.
- (h) One (1) shotblast machine, identified as WHE02, constructed in 1983, controlled by an integral dust collector (K1) and exhausting inside the building, capacity: 4.95 tons of castings per hour.
- (i) One (1) cutoff saw, identified as SAW03, constructed in 1970, equipped with an optional fabric filter (K3) and exhausting inside the building, capacity: 4.95 tons of metal per hour.
- (j) One (1) sand handling operation, constructed in 1970, including nine (9) sand silos, belt conveyors, pneumatic conveyors and fork lifts, controlled by one (1) dust collector (K2) and eight (8) bin vent filters (K5, K6, K7, K8, K9, K10, K11 and K12) exhausting inside the source, capacity: 4.95 tons of sand per hour.
- (k) Nineteen (19) shell molding machines, identified as MOL01 through MOL019, two (2) constructed in 1970, two (2) constructed in 1974, one (1) constructed in 1975, one (1) constructed in 1978, one (1) constructed in 1980, two (2) constructed in 1983, two (2) constructed in 1986, two (2) constructed in 1992, two (2) constructed in 1993 and four (4) constructed in 1995, each equipped with a natural gas-fired heater, exhausting through stacks 13, 14, 17, 15, 16, 26, 28, and 31, using a release agent with no VOC, capacity: 700 pounds of pre-coated sand per hour, each, 33.25 pounds of binder per hour, each, and 1.0 million British thermal unit per hour, each.
- (l) Eight (8) shell core machines, identified as COR01 through COR08, two (2) constructed in 1974, one (1) constructed in 1979, one (1) constructed in 1980, two (2) constructed in 1983, and two (2) constructed in 1999, each equipped with a natural gas-fired heater, exhausting through stacks 18 and 31, using a release agent with no VOC, capacity: 225 pounds of pre-coated sand per hour, each, 10.69 pounds of binder per hour, each, and 1.75 million British thermal units per hour, total.
- (m) Truck loading and unloading, maximum throughput: 4.95 tons of sand per hour.
- (n) One (1) shell molding machine, identified as MOL020, equipped with a natural gas-fired heater, exhausting to stacks 28 and 31, using a release agent with no VOC, capacity: 700 pounds of pre-coated sand per hour, 33.25 pounds of binder per hour and 1.0 million British thermal unit per hour.
- (o) Four (4) shell core machines, identified as COR09 through COR12, each equipped with a natural gas-fired heater, exhausting through stacks 18 and 31, capacity: 300 pounds of sand per hour, 14.25 pounds of binder per hour, and 0.21875 million British thermal units per hour, each.
- (p) One (1) automated shakeout machine, constructed in 2006, equipped with a cartridge dust collector for particulate control, with the ability to exhaust inside or through stack K13, capacity: 4.95 tons of metal and 4.95 tons of pre-coated sand per hour.

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

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

- (a) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) British thermal units per hour, including thirty-six (36) space heaters with a total capacity of 15.851 million British thermal units per hour.

- (b) Combustion source flame safety purging on startup.
- (c) The following VOC and HAP storage containers:
 - (1) Storage tanks with capacity less than or equal to 1,000 gallons and annual throughputs less than 12,000 gallons.
 - (2) Vessels storing lubricating oil, hydraulic oils, machining oils, and machining fluids.
- (d) Refractory storage not requiring air pollution control equipment.
- (e) Machining where an aqueous cutting coolant continuously floods the machining interface.
- (f) Degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6, including two (2) cold cleaner degreasers, constructed in 1970, using less than five percent (5%) halogenated solvents by weight.
- (g) Cleaners and solvents characterized as follows:
 - (1) having a vapor pressure equal to or less than 2 kiloPascals; 15 millimeters of mercury; or 0.3 pounds per square inch measured at 38°C (100°F); or
 - (2) having a vapor pressure equal to or less than 0.7 kiloPascals; 5 millimeters of mercury; or 0.1 pounds per square inch measured at 20°C (68°F); the use of which for all cleaners and solvents combined does not exceed 145 gallons per 12 months.
- (h) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment.
- (i) Closed loop heating and cooling systems.
- (j) Solvent recycling systems with batch capacity less than or equal to 100 gallons.
- (k) Any operation using aqueous solutions containing less than 1 percent by weight of VOCs excluding HAPs.
- (l) Noncontact cooling tower systems with either of the following:
 - Forced and induced draft cooling tower system not regulated under a NESHAP.
- (m) Heat exchanger cleaning and repair.
- (n) Paved and unpaved roads and parking lots with public access.
- (o) Underground conveyors.
- (p) Asbestos abatement projects regulated by 326 IAC 14-10.
- (q) Blowdown for any of the following: sight glass; boiler; compressors; pumps; and cooling tower.
- (r) Mold release agents using low volatile products (vapor pressure less than or equal to 2 kilopascals measured at 38°C).

- (s) A laboratory as defined in 326 IAC 2-7-1(21)(D).
- (t) Farm operations.
- (u) One (1) sand pile, maximum input: 15,242 tons of loose sand per year.

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

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

A.5 Prior Permits Superseded [326 IAC 2-1.1-9.5]

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

SECTION B GENERAL CONDITIONS

B.1 Permit No Defense [IC 13]

Indiana statutes from IC 13 and rules from 326 IAC, quoted in conditions in this permit, are those applicable at the time the permit was issued. The issuance or possession of this permit shall not alone constitute a defense against an alleged violation of any law, regulation or standard, except for the requirement to obtain a FESOP under 326 IAC 2-8.

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

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

B.3 Permit Term [326 IAC 2-8-4(2)] [326 IAC 2-1.1-9.5]

This permit 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.

B.4 Enforceability [326 IAC 2-8-6]

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

B.5 Termination of Right to Operate [326 IAC 2-8-9] [326 IAC 2-8-3(h)]

The Permittee's right to operate this source terminates with the expiration of this permit unless a timely and complete renewal application is submitted at least nine (9) months prior to the date of expiration of the source's existing permit, consistent with 326 IAC 2-8-3(h) and 326 IAC 2-8-9.

B.6 Severability [326 IAC 2-8-4(4)]

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

B.7 Property Rights or Exclusive Privilege [326 IAC 2-8-4(5)(D)]

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

B.8 Duty to Provide Information [326 IAC 2-8-4(5)(E)]

(a) The Permittee shall furnish to IDEM, OAQ, within a reasonable time, any information that IDEM, OAQ, may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The submittal by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1). Upon request, the Permittee shall also furnish to IDEM, OAQ, copies of records required to be kept by this permit.

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

B.9 Compliance Order Issuance [326 IAC 2-8-5(b)]

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

B.10 Certification [326 IAC 2-8-3(d)] [326 IAC 2-8-4(3)(C)(i)] [326 IAC 2-8-5(1)]

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

B.11 Annual Compliance Certification [326 IAC 2-8-5(a)(1)]

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

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

- (b) The annual compliance certification report required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.
- (c) The annual compliance certification report shall include the following:
 - (1) The appropriate identification of each term or condition of this permit that is the basis of the certification;
 - (2) The compliance status;
 - (3) Whether compliance was continuous or intermittent;
 - (4) The methods used for determining the compliance status of the source, currently and over the reporting period consistent with 326 IAC 2-8-4(3); and
 - (5) Such other facts as specified in Sections D of this permit, IDEM, OAQ, may require to determine the compliance status of the source.

The notification which shall be submitted by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

B.12 Preventive Maintenance Plan [326 IAC 1-6-3] [326 IAC 2-8-4(9)] [326 IAC 2-8-5(a)(1)]

- (a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) within ninety (90) days after issuance of this permit, including the following information on each facility:
- (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
 - (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and
 - (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

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

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

The PMP extension notification does not require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (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 PMP does not require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (c) To the extent the Permittee is required by 40 CFR Part 60/63 to have an Operation, Maintenance, and Monitoring (OMM) Plan for a unit, such Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

B.13 Emergency Provisions [326 IAC 2-8-12]

- (a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for noncompliance with a federal or state health-based emission limitation, except as provided in 326 IAC 2-8-12.
- (b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a health-based or technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that describes 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 the Northwest 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 No.: 1-800-451-6027 (ask for Office of Air Quality, Compliance Section) or,

Telephone No.: 317-233-5674 (ask for Compliance Section)

Facsimile No.: 317-233-5967

Northwest Regional Office: 219-757-0265, Facsimile Number: 219-757-0267

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

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

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

The notice fulfills the requirement of 326 IAC 2-8-4(3)(C)(ii) and must contain the following:

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

The notification which shall be submitted by the Permittee does not require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (6) The Permittee immediately took all reasonable steps to correct the emergency.
- (c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.
- (d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.
- (e) The Permittee seeking to establish the occurrence of an emergency shall make records available upon request to ensure that failure to implement a PMP did not cause or contribute to an exceedance of any limitations on emissions. However, IDEM, OAQ may require that the Preventive Maintenance Plans required under 326 IAC 2-8-3(c)(6) be revised in response to an emergency.
- (f) Failure to notify IDEM, OAQ by telephone or facsimile of an emergency lasting more than one (1) hour in accordance with (b)(4) and (5) of this condition shall constitute a violation of 326 IAC 2-8 and any other applicable rules.

- (g) Operations may continue during an emergency only if the following conditions are met:
- (1) If the emergency situation causes a deviation from a technology-based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.
 - (2) If an emergency situation causes a deviation from a health-based limit, the Permittee may not continue to operate the affected emissions facilities unless:
 - (A) The Permittee immediately takes all reasonable steps to correct the emergency situation and to minimize emissions; and
 - (B) Continued operation of the facilities is necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw material of substantial economic value.
- Any operations shall continue no longer than the minimum time required to prevent the situations identified in (g)(2)(B) of this condition.
- (h) The Permittee shall include all emergencies in the Quarterly Deviation and Compliance Monitoring Report.

B.14 Deviations from Permit Requirements and Conditions [326 IAC 2-8-4(3)(C)(ii)]

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

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

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

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

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

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

- (a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a FESOP modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any condition of this permit. [326 IAC 2-8-4(5)(C)] The notification by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (b) This permit shall be reopened and revised under any of the circumstances listed in IC 13-15-7-2 or if IDEM, OAQ determines any of the following:
 - (1) That this permit contains a material mistake.
 - (2) That inaccurate statements were made in establishing the emissions standards or other terms or conditions.
 - (3) That this permit must be revised or revoked to assure compliance with an applicable requirement. [326 IAC 2-8-8(a)]
- (c) Proceedings by IDEM, OAQ to reopen and revise this permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of this permit for which cause to reopen exists. Such reopening and revision shall be made as expeditiously as practicable. [326 IAC 2-8-8(b)]
- (d) The reopening and revision of this permit, under 326 IAC 2-8-8(a), shall not be initiated before notice of such intent is provided to the Permittee by IDEM, OAQ at least thirty (30) days in advance of the date this permit is to be reopened, except that IDEM, OAQ may provide a shorter time period in the case of an emergency. [326 IAC 2-8-8(c)]

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

- (a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ and shall include the information specified in 326 IAC 2-8-3. Such information shall be included in the application for each emission unit at this source, except those emission units included on the trivial or insignificant activities list contained in 326 IAC 2-7-1(21) and 326 IAC 2-7-1(40). The renewal application does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Request for renewal shall be submitted to:

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

- (b) Timely Submittal of Permit Renewal [326 IAC 2-8-3]
 - (1) A timely renewal application is one that is:
 - (A) Submitted at least nine (9) months prior to the date of the expiration of this permit; and
 - (B) 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.
 - (2) If IDEM, OAQ, upon receiving a timely and complete permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect until the renewal permit has been issued or denied.

- (c) Right to Operate After Application for Renewal [326 IAC 2-8-9]
If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-8 until IDEM, OAQ takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified in writing by IDEM, OAQ any additional information identified as needed to process the application.

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

- (a) Permit amendments and revisions are governed by the requirements of 326 IAC 2-8-10 or 326 IAC 2-8-11.1 whenever the Permittee seeks to amend or modify this permit.
- (b) Any application requesting an amendment or modification of this permit shall be submitted to:
- Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue
Indianapolis, Indiana 46204-2251
- Any such application shall be certified by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (c) The Permittee may implement the administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-10(b)(3)]

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

- (a) The Permittee may make any change or changes at this source that are described in 326 IAC 2-8-15(b) through (d), without prior permit revision, if each of the following conditions is met:
- (1) The changes are not modifications under any provision of Title I of the Clean Air Act;
 - (2) Any approval required by 326 IAC 2-8-11.1 has been obtained;
 - (3) The changes do not result in emissions which exceed the limitations provided in this permit (whether expressed herein as a rate of emissions or in terms of total emissions);
 - (4) The Permittee notifies the:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue
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 trades that are subject to 326 IAC 2-8-15(b) through (d). The Permittee shall make such records available, upon reasonable request, to public review.

Such records shall consist of all information required to be submitted to IDEM, OAQ in the notices specified in 326 IAC 2-8-15(b)(2), (c)(1), and (d).

- (b) **Emission Trades [326 IAC 2-8-15(c)]**
The Permittee may trade emissions increases and decreases at the source, where the applicable SIP provides for such emission trades without requiring a permit revision, subject to the constraints of Section (a) of this condition and those in 326 IAC 2-8-15(c).
- (c) **Alternative Operating Scenarios [326 IAC 2-8-15(d)]**
The Permittee may make changes at the source within the range of alternative operating scenarios that are described in the terms and conditions of this permit in accordance with 326 IAC 2-8-4(7). No prior notification of IDEM, OAQ or U.S. EPA is required.
- (d) Backup fuel switches specifically addressed in, and limited under, Section D of this permit shall not be considered alternative operating scenarios. Therefore, the notification requirements of part (a) of this condition do not apply.

B.19 Permit Revision Requirement [326 IAC 2-8-11.1]

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

B.20 Inspection and Entry [326 IAC 2-8-5(a)(2)] [IC 13-14-2-2] [IC 13-17-3-2] [IC13-30-3-1]

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

- (a) Enter upon the Permittee's premises where a FESOP source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
- (b) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- (c) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, inspect at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;
- (d) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and
- (e) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

B.21 Transfer of Ownership or Operational Control [326 IAC 2-8-10] [IC 13-17-3-2]

- (a) The Permittee must comply with the requirements of 326 IAC 2-8-10 whenever the Permittee seeks to change the ownership or operational control of the source and no other change in the permit is necessary.
- (b) Any application requesting a change in the ownership or operational control of the source shall contain a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new Permittee. The application shall be submitted to:
- Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue
Indianapolis, Indiana 46204-2251
- The application which shall be submitted by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-10(b)(3)]

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

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

B.23 Advanced Source Modification Approval [326 IAC 2-8-4(11)] [326 IAC 2-1.1-9]

- (a) The requirements to obtain a permit revision under 326 IAC 2-8-11.1 are satisfied by this permit for the proposed emission units, control equipment or insignificant activities in Sections A.2 and A.3.
- (b) Pursuant to 326 IAC 2-1.1-9 any permit authorizing construction may be revoked if construction of the emission unit has not commenced within eighteen (18) months from the date of issuance of the permit, or if during the construction work is suspended for a continuous period of one (1) year or more.

B.24 Credible Evidence [326 IAC 2-8-4(3)] [326 IAC 2-8-5] [62 FR 8314] [326 IAC 1-1-6]

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

SECTION C

SOURCE OPERATION CONDITIONS

Entire Source

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

C.1 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 0.551 pounds per hour.

C.2 Overall Source Limit [326 IAC 2-8] [326 IAC 2-2] [326 IAC 2-3]

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

(a) Pursuant to 326 IAC 2-8:

- (1) The potential to emit any regulated pollutant from the entire source shall be limited to less than one hundred (100) tons per twelve (12) consecutive month period. This limitation shall also make the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) and 326 IAC 2-3 (Emission Offset) not applicable;
- (2) The potential to emit any individual hazardous air pollutant (HAP) from the entire source shall be limited to less than ten (10) tons per twelve (12) consecutive month period; and
- (3) The potential to emit any combination of HAPs from the entire source shall be limited to less than twenty-five (25) tons per twelve (12) consecutive month period.

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

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

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

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

C.5 Incineration [326 IAC 4-2] [326 IAC 9-1-2(3)]

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

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

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

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

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

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

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

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

(A) Asbestos removal or demolition start date;

(B) Removal or demolition contractor; or

(C) Waste disposal site.

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

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

All required notifications shall be submitted to:

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

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

2-1.1-1(1).

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

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

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

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

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

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

no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ if the Permittee submits to IDEM, OAQ a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

Compliance Requirements [326 IAC 2-1.1-11]

C.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 2-8-4] [326 IAC 2-8-5(a)(1)]

C.10 Compliance Monitoring [326 IAC 2-8-4(3)] [326 IAC 2-8-5(a)(1)]

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

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue
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 inability to meet this date.

The notification which shall be submitted by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Unless otherwise specified in the approval for the new emissions unit, compliance monitoring for new emission units or emission units added through a permit revision 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 2-8-4(3)] [326 IAC 2-8-5(1)]

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

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

C.13 Risk Management Plan [326 IAC 2-8-4] [40 CFR 68]

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

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

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

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

The response action documents submitted pursuant to this condition do require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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

C.16 General Record Keeping Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-5]

- (a) Records of all required monitoring data, reports and support information required by this permit shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.
- (b) Unless otherwise specified in this permit, all record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance.

C.17 General Reporting Requirements [326 IAC 2-8-4(3)(C)] [326 IAC 2-1.1-11]

- (a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported. This report shall be submitted within thirty (30) days of the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include the certification by the "authorized individual" as defined by 326 IAC2-1.1-1(1).
- (b) The report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted to:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue
Indianapolis, Indiana 46204-2251
- (c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.
- (d) Unless otherwise specified in this permit, all reports required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. All reports do require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (e) The first report covered the period commencing on the date of issuance of the original FESOP and ended on the last day of the reporting period. All subsequent reporting periods shall be based on calendar years.

Stratospheric Ozone Protection

C.18 Compliance with 40 CFR 82 and 326 IAC 22-1

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

- (a) Persons opening appliances for maintenance, service, repair or disposal must comply with the required practices pursuant to 40 CFR 82.156

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

SECTION D.1

FACILITY OPERATION CONDITIONS

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

- (a) One (1) scrap and charge handling process, constructed in 1970, not exhausting through a stack, capacity: 4.95 tons of metal per hour.
- (b) One (1) natural gas-fired scrap charge preheater, identified as HEAT2, constructed in 1976, exhausting through stack 2, heat input capacity: 2.2 million British thermal units per hour.
- (c) Two (2) electric induction furnaces, identified as FRN03 and FRN04, constructed in 2000, equipped with an optional fabric filter (K4) and exhausting through stack K4 and general building exhausts A and B, maximum charge rate: 4.95 tons of metal per hour, total.
- (d) Four (4) natural gas-fired ladle heaters, exhausting through the general building ventilation, heat input capacity: 2.7 million British thermal units per hour, total.
- (e) Magnesium treatment operations, operating since 1974, exhausting through general building exhausts A and B, capacity: 4.95 tons of metal per hour.
- (f) Pouring, casting and cooling operations, with a total capacity of 4.95 tons of metal per hour and 4.95 tons of sand per hour, consisting of the following:
 - (1) One (1) pouring and cooling line, identified as Power & Free, constructed in 1990 and modified in 2004, exhausting through stacks 1 through 5 and 32.
 - (2) One (1) casting and cooling area, identified as TURN3, constructed in 1980, exhausting through stack 24.
- (g) One (1) manual shakeout and degating operation, constructed in 1980 and modified in 1994, capacity: 4.95 tons of metal and 4.95 tons of sand per hour.
- (h) One (1) shotblast machine, identified as WHE02, constructed in 1983, controlled by an integral dust collector (K1) and exhausting inside the building, capacity: 4.95 tons of castings per hour.
- (i) One (1) cutoff saw, identified as SAW03, constructed in 1970, equipped with an optional fabric filter (K3) and exhausting inside the building, capacity: 4.95 tons of metal per hour.
- (j) One (1) sand handling operation, constructed in 1970, including nine (9) sand silos, belt conveyors, pneumatic conveyors and fork lifts, controlled by one (1) dust collector (K2) and eight (8) bin vent filters (K5, K6, K7, K8, K9, K10, K11 and K12) exhausting inside the source, capacity: 4.95 tons of sand per hour.
- (k) Nineteen (19) shell molding machines, identified as MOL01 through MOL019, two (2) constructed in 1970, two (2) constructed in 1974, one (1) constructed in 1975, one (1) constructed in 1978, one (1) constructed in 1980, two (2) constructed in 1983, two (2) constructed in 1986, two (2) constructed in 1992, two (2) constructed in 1993 and four (4) constructed in 1995, each equipped with a natural gas-fired heater, exhausting through stacks 13, 14, 17, 15, 16, 26, 28, and 31, using a release agent with no VOC, capacity: 700 pounds of pre-coated sand per hour, each, 33.25 pounds of binder per hour, each, and 1.0 million British thermal unit per hour, each.
- (l) Eight (8) shell core machines, identified as COR01 through COR08, two (2) constructed in 1974, one (1) constructed in 1979, one (1) constructed in 1980, two (2) constructed in 1983, and two (2) constructed in 1999, each equipped with a natural gas-fired heater, exhausting through stacks 18 and 31, using a release agent with no VOC, capacity: 225 pounds of pre-coated sand per hour, each, 10.69 pounds of binder per hour, each, and 1.75 million British thermal units per hour, total.
- (m) Truck loading and unloading, maximum throughput: 4.95 tons of sand per hour.

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

- (n) One (1) shell molding machine, identified as MOL020, equipped with a natural gas-fired heater, exhausting to stacks 28 and 31, using a release agent with no VOC, capacity: 700 pounds of pre-coated sand per hour, 33.25 pounds of binder per hour and 1.0 million British thermal unit per hour.
- (o) Four (4) shell core machines, identified as COR09 through COR12, each equipped with a natural gas-fired heater, exhausting through stacks 18 and 31, capacity: 300 pounds of sand per hour, 14.25 pounds of binder per hour, and 0.21875 million British thermal units per hour, each.
- (p) One (1) automated shakeout machine, constructed in 2006, equipped with a cartridge dust collector for particulate control, with the ability to exhaust inside or through stack K13, capacity: 4.95 tons of metal and 4.95 tons of pre-coated sand per hour.

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

Construction Conditions

General Construction Conditions

D.1.1 Permit No Defense

This permit to construct does not relieve the Permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

Effective Date of the Permit

D.1.2 Effective Date of the Permit [IC13-15-5-3]

Pursuant to IC 13-15-5-3, this section of this permit becomes effective upon its issuance.

D.1.3 Modification to Construction Conditions [326 IAC 2]

All requirements of these construction conditions shall remain in effect unless modified in a manner consistent with procedures established for revisions pursuant to 326 IAC 2.

Operation Conditions

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

D.1.4 Volatile Organic Compounds (VOC) [326 IAC 8-1-6]

- (a) The metal throughput at the manual shakeout and degating process shall not exceed 32,255 tons per twelve (12) consecutive month period, with compliance determined at the end of each month, and the VOC emissions from the shakeout and degating shall not exceed 1.20 pounds per ton of metal produced. This will limit the potential VOC emissions to less than twenty-five (25) tons per year from the manual shakeout and degating operations. Therefore, the requirements of 326 IAC 8-1-6 are not applicable.
- (b) The metal throughput at the automated shakeout machine shall not exceed 32,255 tons per twelve (12) consecutive month period, with compliance determined at the end of each month, and the VOC emissions from the automated shakeout machine shall not exceed 1.20 pounds per ton of metal produced. This will limit the potential VOC emissions to less than twenty-five (25) tons per year from the automated shakeout machine. Therefore, the requirements of 326 IAC 8-1-6 are not applicable.

D.1.5 PM and PM₁₀ Minor Limits [326 IAC 2-2] [326 IAC 2-8]

The amount of metal processed by the source shall be limited to less than 32,255 tons per twelve (12) consecutive month period, with compliance determined at the end of each month, and the amount of sand processed by the source shall be limited to less than 32,255 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. These limitations, in conjunction with the emissions limitations listed in the table in this condition, shall limit the potential to emit PM and PM₁₀ to less than 100 tons per year from the entire source. Therefore, the requirements of 326 IAC 2-2, PSD, and 326 IAC 2-7, Part 70, are not applicable.

Facility/Process	PM Emission Limit (lbs/ton)	PM ₁₀ Emission Limit (lbs/ton)
Scrap and Charge Handling including Scrap Charge Preheater (HEAT2)	0.60	0.36
Melting (Two (2) electric induction furnaces (FRN03 and FRN04))	0.90	0.86
Magnesium treatment	1.80	1.80
Pouring and cooling (Power & Free and TURN3) (Total emission limit for both pouring and cooling)	1.60	1.90
Manual shakeout and degating	0.10	0.10
Shotblast Machine	0.0187	0.00187
Cutoff saw (SAW03)	0.01	0.0045
Sand handling process (total)	0.214	0.032
Truck loading and unloading	0.36	0.17
Automated shakeout machine	0.190	0.133

D.1.6 Particulate Matter (PM) [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from facilities at this source shall be limited as follows:

Facility/Process	Process weight rate (tons/hr)	Allowable Emissions (lbs/hr)
Scrap and Charge Handling including Scrap Charge Preheater (HEAT2)	4.95	11.97
Melting (Two (2) electric induction furnaces (FRN03 and FRN04))	4.95	11.97
Magnesium treatment	4.95	11.97
Pouring and cooling (Power & Free and TURN3) (Total emission limit for both pouring and cooling)	9.90 (metal and sand)	19.05
Manual shakeout and degating	9.90 (metal and sand)	19.05

Facility/Process	Process weight rate (tons/hr)	Allowable Emissions (lbs/hr)
Sand handling process	4.95	11.97
Truck loading and unloading	4.95	11.97
Automated shakeout machine	9.90 (metal and sand)	19.05

These limitations are based upon the following:

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

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

D.1.7 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for the scrap and charge handling including the scrap charge preheater, two (2) electric induction furnaces, magnesium treatment, pouring and cooling operations, manual shakeout and degating, shotblast machine, cutoff saw, sand handling, automated shakeout machine and truck loading and unloading, and the control devices for the sand handling, the shotblast machine, and the automated shakeout machine.

Compliance Determination Requirements

D.1.8 Particulate Control

- (a) In order to comply with Conditions D.1.5 and D.1.6, the one (1) dust collector (K2) and the eight (8) bin vent filters (K5, K6, K7, K8, K9, K10, K11 and K12) for particulate control at the one (1) sand handling operation shall be in operation and control emissions from the sand handling operation at all times that the sand handling operation is in operation.
- (b) In order to comply with Condition D.1.5, the one (1) cartridge dust collector for particulate control at the one (1) automated shakeout machine shall be in operation and control emissions from the automated shakeout machine at all times that the automated shakeout machine is in operation.
- (c) In the event that a bag or cartridge failure is observed in a multi-compartment bag or cartridge filter, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

D.1.9 Testing Requirements [326 IAC 2-8-5(a)(1), (4)] [326 IAC 2-1.1-11]

- (a) Within 36 months after issuance of this FESOP, in order to demonstrate compliance with Conditions D.1.5 and D.1.6, the Permittee shall perform PM and PM₁₀ testing for the sand handling emissions at the outlet of the dust collector (K2) utilizing methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. PM₁₀ includes filterable and condensable PM₁₀. Testing shall be conducted in accordance with Section C- Performance Testing.

- (b) Within 36 months after issuance of this FESOP, in order to demonstrate compliance with Condition D.1.5, the Permittee shall perform PM and PM₁₀ testing for the shotblaster emissions at the outlet of the dust collector (K1) utilizing methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. PM₁₀ includes filterable and condensable PM₁₀. Testing shall be conducted in accordance with Section C- Performance Testing.
- (c) Within 180 days after start-up, in order to demonstrate compliance with Condition D.1.5, the Permittee shall perform PM and PM₁₀ testing for the automated shakeout emissions at the outlet of the dust collector utilizing methods as approved by the Commissioner. PM₁₀ includes filterable and condensable PM₁₀. Testing shall be conducted in accordance with Section C- Performance Testing.

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

D.1.10 Visible Emissions Notations

- (a) Visible emission notations of the pouring and cooling operations (stacks 1 through 5, 24, and 32), shotblast machine, cut off saw, electric induction furnaces, automated shakeout machine, magnesium treatment and sand handling exhausts shall be performed once per day during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

D.1.11 Parametric Monitoring

- (a) The Permittee shall record the pressure drop across the dust collector (K1) used in conjunction with the shotblast machine, at least once per day when the process is in operation. When for any one reading, the pressure drop across the dust collector is outside the normal range of 1.0 and 7.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.
- (b) The Permittee shall record the pressure drop across the dust collector (K2) used in conjunction with the sand handling operations, at least once per day when the process is in operation. When for any one reading, the pressure drop across the dust collector is outside the normal range of 1.0 and 7.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. A pressure reading that is outside

the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

- (c) The Permittee shall record the pressure drop across the dust collector used in conjunction with the automated shakeout machine, at least once per day when the process is in operation. When for any one reading, the pressure drop across the dust collector is outside the normal range of 1.0 and 5.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

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

D.1.12 Broken or Failed Bag or Cartridge Detection

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

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

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

D.1.13 Record Keeping Requirements

- (a) To document compliance with Conditions D.1.4 and D.1.5, the Permittee shall maintain records of the amount of metal processed each month. Records necessary to demonstrate compliance shall be available within 30 days of the end of each compliance period.
- (b) To document compliance with Condition D.1.5, the Permittee shall maintain records of the amount of sand processed each month. Records necessary to demonstrate compliance shall be available within 30 days of the end of each compliance period.
- (c) To document compliance with Condition D.1.10, the Permittee shall maintain records of daily visible emission notations of the pouring and cooling operations (stacks 1 through 5, 24, and 32), shotblast machine, cut off saw, electric induction furnaces, magnesium treatment, sand handling, and automated shakeout machine exhausts when exhausting to the atmosphere.

- (d) To document compliance with Condition D.1.11, the Permittee shall maintain records of the pressure drop across the dust collectors used in conjunction with the shot blast machine, sand handling operations and automated shakeout machine.
- (e) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.1.14 Reporting Requirements

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

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

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

Source Name: Kingsbury Castings Division
Source Address: 3rd Road Annex, Kingsbury, Indiana 46345
Mailing Address: P.O. Box 639, LaPorte, Indiana 46350
FESOP No.: F 091-15282-00078

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

Please check what document is being certified:

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

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

Signature:

Printed Name:

Title/Position:

Date:

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE BRANCH
100 North Senate Avenue
Indianapolis, Indiana 46204-2251
Phone: 317-233-5674
Fax: 317-233-5967**

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

Source Name: Kingsbury Castings Division
Source Address: 3rd Road Annex, Kingsbury, Indiana 46345
Mailing Address: P.O. Box 639, LaPorte, Indiana 46350
FESOP No.: F 091-15282-00078

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 317-233-5674, ask for Compliance Section); and• The Permittee must submit notice in writing or by facsimile within two (2) working days (Facsimile Number: 317-233-5967), and follow the other requirements of 326 IAC 2-7-16 |
|---|

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

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

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

Page 2 of 2

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

Form Completed by: _____

Title / Position: _____

Date: _____

Phone: _____

A certification is not required for this report.

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

FESOP Quarterly Report

Source Name: Kingsbury Castings Division
Source Address: 3rd Road Annex, Kingsbury, Indiana 46345
Mailing Address: P.O. Box 639, LaPorte, Indiana 46350
FESOP No.: F 091-15282-00078
Facility: Entire Source
Parameter: Metal Processed
Limit: 32,255 tons per twelve (12) consecutive month period, with compliance determined at the end of each month

YEAR: _____

Month	Metal Processed (tons)	Metal Processed (tons)	Metal Processed (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**

FESOP Quarterly Report

Source Name: Kingsbury Castings Division
Source Address: 3rd Road Annex, Kingsbury, Indiana 46345
Mailing Address: P.O. Box 639, LaPorte, Indiana 46350
FESOP No.: F 091-15282-00078
Facility: Entire Source
Parameter: Sand Processed
Limit: 32,255 tons per twelve (12) consecutive month period, with compliance determined at the end of each month

YEAR: _____

Month	Sand Processed (tons)	Sand Processed (tons)	Sand Processed (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**

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

Source Name: Kingsbury Castings Division
Source Address: 3rd Road Annex, Kingsbury, Indiana 46345
Mailing Address: P.O. Box 639, LaPorte, Indiana 46350
FESOP No.: F 091-15282-00078

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 <input type="checkbox"/> 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: _____

A certification is not required for this report.

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

**Technical Support Document (TSD) for a Significant Permit Revision to a
Federally Enforceable State Operating Permit**

Source Background and Description

Source Name:	Kingsbury Castings Division
Source Location:	3232 3rd Road Annex, Kingsbury, Indiana 46345
County:	LaPorte
SIC Code:	3321
Operation Permit No.:	F 091-15282-00078
Operation Permit Issuance Date:	January 5, 2006
Significant Permit Revision No.:	SPR 091-22593-00078
Permit Reviewer:	CarrieAnn Paukowits

The Office of Air Quality (OAQ) has reviewed a Significant Permit Revision application from Kingsbury Castings Division relating to the construction and operation of the following emission unit and pollution control device:

One (1) automated shakeout machine, constructed in 2006, equipped with a cartridge dust collector for particulate control, with the ability to exhaust inside or through stack K13, capacity: 4.95 tons of metal and 4.95 tons of pre-coated sand per hour.

The capacity of the other units at this source will not increase as a result of this modification.

The applicant is also proposing to replace an elevator, screener, classifier and pneumatic conveyor used in the existing spent sand handling operations. The sand handling capacity of the source will not change as a result of these replacements. This change will not increase the potential to emit any regulated pollutant from the process and it does not include construction of a new emission unit. Therefore, this change is not a modification based on the definition in 326 IAC 1-2-42. There are no changes to the permit as a result of the replacement of some of the sand handling equipment.

In addition, Kingsbury Castings Division is proposing to relocate the manual shakeout operation within the same source. This change will not increase the potential to emit any regulated pollutant from the existing emission unit. Therefore, this additional change is not a modification based on the definition in 326 IAC 1-2-42. There are no changes to the permit resulting from the relocation of the manual shakeout operation.

History

On January 25, 2006, Kingsbury Casting Division submitted an application to the OAQ requesting to add an automated shakeout machine to their existing ductile iron foundry. Kingsbury Castings Division was issued a Federally Enforceable State Operating Permit (FESOP) on January 5, 2006.

Enforcement Issue

There are no enforcement actions pending.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (EF)
K13	Automated Shakeout	Not yet determined	Not yet determined	Not yet determined	Not yet determined

Recommendation

The staff recommends to the Commissioner that the FESOP Significant Permit Revision be approved. This recommendation is based on the following facts and conditions:

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

An application for the purposes of this review was received on January 25, 2006.

Emission Calculations

See pages 1 and 2 of Appendix A of this document for detailed emissions calculations.

Potential To Emit of Revision

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U.S. EPA.

This table reflects the PTE before controls for this revision. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Pollutant	Potential To Emit (tons/year)
PM	69.4
PM ₁₀	48.6
SO ₂	0.00
VOC	26.0
CO	0.00
NO _x	0.00

HAPs	Potential To Emit (tons/year)
Chromium	0.026
Nickel	0.046
Lead	0.267
Acrolein	0.102
Formaldehyde	0.076
Hydrogen Cyanide	1.91
Xylenes	1.52
Naphthalene	0.126
Phenol	0.777
Total Aromatic Amines	5.07
Total C2 to C5 Aldehydes	1.27
Benzene, Toluene, Selenium, Arsenic and Cobalt	< 0.01, each
TOTAL	11.2

Justification for Revision

The FESOP is being revised through a FESOP Significant Permit Revision. This revision is being performed pursuant to 326 IAC 2-8-11.1 (f)(1), because the modification has the potential to emit greater than or equal to twenty-five (25) tons per year of PM, PM₁₀ and VOC.

County Attainment Status

The source is located in LaPorte County.

Pollutant	Status
PM _{2.5}	Attainment
PM ₁₀	Attainment
SO ₂	Attainment
NO ₂	Attainment
1-Hour Ozone	Attainment
8-Hour Ozone	Marginal Nonattainment
CO	Attainment
Lead	Attainment

- (a) Volatile organic compounds (VOC) and nitrogen oxides (NO_x) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality

Standards (NAAQS) for ozone. Therefore, VOC and NO_x emissions are considered when evaluating the rule applicability relating to the ozone standards. LaPorte County has been designated as nonattainment for the 8-hour ozone standard. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements of 326 IAC 2-3, Emission Offset. Please see 326 IAC 2-3 under the State Rule Applicability section of this document.

- (b) LaPorte County has been classified as unclassifiable or attainment for PM_{2.5}. U.S. EPA has not yet established the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 for PM_{2.5} emissions. Therefore, until the U.S.EPA adopts specific provisions for PSD review for PM_{2.5} emissions, it has directed states to regulate PM₁₀ emissions as a surrogate for PM_{2.5} emissions.
- (c) LaPorte County has been classified as attainment or unclassifiable in Indiana for all remaining criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. Please see 326 IAC 2-2 under the State Rule Applicability section of this document.
- (d) Fugitive Emissions
Since this type of operation is one of the 28 listed source categories under 326 IAC 2-2 or 2-3, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are counted toward determination of PSD and Emission Offset applicability.

Source Status

Existing Source PSD or Emission Offset Definition (emissions after controls, based upon 8,760 hours of operation per year at rated capacity and/or as otherwise limited):

Pollutant	Emissions (tons/year)
PM	99.9
PM ₁₀	91.4
SO ₂	0.448
VOC	29.2
CO	16.0
NO _x	19.2

- (a) This existing source, which is one of the twenty-eight (28) listed source categories, is not a major stationary source because no regulated pollutant is emitted at a rate of one hundred (100) tons per year or more.
- (b) These emissions are based upon F 091-15282-00078, issued on January 5, 2006, as presented on page 2 of Appendix A of this document.

Potential to Emit of Revision After Issuance

The table below summarizes the potential to emit, reflecting all limits, of the significant emission units after controls. The control equipment is considered federally enforceable only after issuance of this FESOP revision.

Process/facility	Potential to Emit (tons/year)						
	PM	PM ₁₀	SO ₂	VOC	CO	NO _x	HAPs
Proposed Revision	3.07	2.15	0.00	19.4	0.00	0.00	1.42 individual (Hydrogen Cyanide); 8.34 total
Entire Source PTE after Revision	99.8	90.6	0.437	47.6	16.0	19.2	3.29 individual (Phenol); 13.8 total
PSD or Offset Threshold Level	100	100	100	100	100	100	-

- (a) This revision to an existing minor stationary source is not major because the emission increase is less than the Emission Offset threshold levels for VOC and NO_x and less than the PSD threshold levels for all remaining criteria pollutants. Therefore, pursuant to 326 IAC 2-2 and 326 IAC 2-3, the PSD and Emission Offset requirements do not apply to this source, which is in a nonattainment county for the 8-hour ozone standard and is one of the twenty-eight (28) listed source categories.
- (b) This revision to the existing FESOP will not change the status of the stationary source because the emissions from the entire source will still be limited to less than the Part 70 major source thresholds.
- (c) The entire source potential to emit is calculated on page 2 of Appendix A of this document.

Federal Rule Applicability

- (a) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included in the permit for this proposed modification.
- (b) The requirements of 40 CFR 63, Subpart EEEEE, National Emissions Standards for Iron and Steel Foundries, are not included in the permit for this proposed modification because this source is still not a major source of HAPs.

State Rule Applicability - Individual Facilities

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

- (a) The unrestricted potential to emit PM and PM₁₀ from this revision is less than 100 tons per year. Therefore, the requirements of 326 IAC 2-2, PSD, are not applicable to this proposed revision.
- (b) The potential to emit PM and PM₁₀ is still limited to less than 100 tons per year (see the *Potential to Emit of Revision After Issuance* section of this document) from the entire source. Therefore, this source is still not a major source pursuant to 326 IAC 2-2, PSD. The metal and sand throughput were each limited to less than 33,394 tons per twelve (12) consecutive month period in the permit. A revision to the throughput limitations in the permit was requested by the applicant so that the potential to emit after this revision will still be less than 100 tons per year.

The amount of metal processed by the source shall be limited to 32,255 tons per twelve (12) consecutive month period, with compliance determined at the end of each month, and the amount of sand processed by the source shall be limited to 32,255 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. These limitations, in conjunction with the emissions limitations listed in the table, shall limit the potential to emit PM and PM₁₀ to less than 100 tons per year from the entire source. The emission limitations (lbs/ton) in the table are the limitations currently existing in the permit for all processes other than the proposed automated shakeout machine. Therefore, this source will remain a minor source pursuant to 326 IAC 2-2, PSD.

Facility/Process	PM Emission Limit (lbs/ton)	PM ₁₀ Emission Limit (lbs/ton)	PM Emissions (tons/yr)	PM ₁₀ Emissions (tons/yr)
Scrap and Charge Handling, Including the Scrap Charge Preheater	0.60	0.36	9.68	5.81
Melting (Two (2) electric induction furnaces (FRN03 and FRN04))	0.90	0.86	14.5	13.9
Magnesium treatment	1.80	1.80	29.0	29.0
Pouring and cooling (Power & Free and TURN3) (Total emission limit for both pouring and cooling)	1.60	1.90	25.8	30.6
Manual shakeout and degating	0.10	0.10	1.61	1.61
Shotblast Machine	0.0187	0.00187	0.30	0.03
Cutoff saw (SAW03)	0.01	0.0045	0.16	0.07
Sand handling process (total)	0.214	0.032	3.45	0.52
Truck loading and unloading	0.36	0.17	5.81	2.74
<i>Proposed Automated Shakeout Machine</i>	<i>0.190</i>	<i>0.133</i>	<i>3.07</i>	<i>2.15</i>
Total			93.4	86.4

The unrestricted potential PM and PM₁₀ emissions from all other processes (combustion and insignificant activities) are 6.34 and 4.11 tons per year, respectively. Therefore, the total potential to emit of the source is still limited to less than 100 tons per year of PM and PM₁₀.

In order to comply with these limits, the one (1) dust collector for particulate control shall be in operation and control emissions from the automated shakeout machine at all times that the shakeout machine is in operation. The pound per ton emission limits in the table for the proposed automated shakeout machine are the AP-42 emission factors multiplied by the quantity, one minus the control efficiency. A lower control efficiency than that expected was used in this calculation for safety. An initial compliance test will be required to verify

compliance with the emission limitation.

326 IAC 2-3 (Emission Offset)

- (a) The unrestricted potential to emit NO_x and VOC from this revision is less than 100 tons per year. Therefore, the requirements of 326 IAC 2-3, Emission Offset, are not applicable to this proposed revision.
- (b) The potential to emit NO_x and VOC is still less than 100 tons per year (see the *Potential to Emit of Revision After Issuance* section of this document). Therefore, this source is not a major source pursuant to 326 IAC 2-3, Emission Offset.

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

The potential emissions of individual HAPs from this revision are less than ten (10) tons per year for each HAP and the potential emissions of any combination of HAPs from this revision are less than twenty-five (25) tons per year. Therefore, the requirements of 326 IAC 2-4.1 are not applicable.

326 IAC 2-8-4 (FESOP)

- (a) Pursuant to this rule, the amount of PM₁₀ shall be limited to less than one hundred (100) tons per year. Therefore, the requirements of 326 IAC 2-7, do not apply. The limitations required to make the source a minor source pursuant to 326 IAC 2-2, PSD, will also result in compliance with 326 IAC 2-8, FESOP.
- (b) The unrestricted potential CO, SO₂, VOC and NO_x emissions are still less than 100 tons per year. Therefore, this source will comply with the requirements of 326 IAC 2-8, FESOP.
- (c) The unrestricted potential emissions of each individual HAP are still less than ten (10) tons per year and the unrestricted potential emissions of total HAPs are less than twenty-five (25) tons per year. Therefore, this source will comply with the requirements of 326 IAC 2-8, FESOP.

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

- (a) Pursuant to 326 IAC 6-3-2, the particulate from the one (1) proposed automated shakeout machine shall not exceed 19.0 pounds per hour when operating at a process weight rate of 9.90 tons per hour (metal and sand). The unrestricted potential particulate emissions from the one (1) automated shakeout machine are 15.8 pounds per hour. Therefore, the one (1) proposed automated shakeout machine will comply with this rule.
- (b) Pursuant to 326 IAC 6-3-2, the particulate from the sand handling process shall not exceed 11.97 pounds per hour when operating at a process weight rate of 4.95 tons per hour. This limitation already exists in the permit. Since the sand handling capacity has not increased, the potential to emit after controls is still 1.06 pounds per hour. Therefore, the sand handling will still comply with this rule.

This limitation is based upon the following:

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

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

326 IAC 8-1-6 (New facilities; General reduction requirements)

The one (1) automated shakeout machine has potential VOC emissions greater than twenty-five (25) tons per year. In order to comply with 326 IAC 2-8, FESOP, the metal throughput at this source is limited to 32,255 pounds per twelve (12) consecutive month period. That in combination with a VOC limit of 1.20 pounds per ton of metal produced will limit VOC emissions to less than twenty-five (25) tons per year from the automated shakeout machine ($32,255 \text{ tons/yr} \times 1.20 \text{ lbs VOC/ton} \times 1 \text{ ton}/2,000 \text{ lbs} = 19.4 \text{ tons VOC/yr}$). This limitation is equivalent to the FIRE 6.23 emission factor for this process. Therefore, the requirements of 326 IAC 8-1-6 are not applicable.

Compliance Requirements

Permits issued under 326 IAC 2-8 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-8-4. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also in Section D of the permit.

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

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

The proposed automated shakeout machine has applicable compliance monitoring conditions as specified below:

- (a) Visible emission notations of the automated shakeout machine exhaust shall be performed once per day during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal. For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time. In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions. A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process. If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.
- (b) The Permittee shall record the pressure drop across the dust collector used in conjunction with the automated shakeout machine, at least once per day when the process is in operation. When for any one reading, the pressure drop across the dust collector is outside the normal range of 1.0 and 5.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in

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

- (c) For a single compartment bag filters or cartridge dust collectors controlling emissions from a process operated continuously, failed units 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). Bag or Cartridge failure can be indicated by a significant drop in the pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces or triboflows.
- (d) For single compartment bag filters or cartridge dust collectors controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the line. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions). Bag or Cartridge failure can be indicated by a significant drop in the pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces or triboflows.

These monitoring conditions are necessary the cartridge dust collector for the one (1) proposed automated shakeout machine must operate properly to ensure compliance with the limitations that make this source a minor source pursuant to 326 IAC 2-2, PSD, and to comply with 326 IAC 2-8 (FESOP).

Testing Requirements

The PM and PM₁₀ emissions from the proposed automated shakeout machine are limited so that the source is still not a major source pursuant to 326 IAC 2-2, PSD, and 326 IAC 2-7, Part 70. The limited emission rates are the AP-42 emission factors multiplied by the quantity, one minus the control efficiency. Therefore, the control device is required in order for the proposed facility to comply with these limitations. An initial compliance test will be required within one hundred and eighty (180) days of start-up to verify compliance with the limited PM and PM₁₀ emission rates at the outlet of the dust collector.

Proposed Changes

The permit language is changed to read as follows (deleted language appears as ~~strikeouts~~, new language appears in bold):

Change 1:

The following changes are proposed due to the proposed addition of the automated shakeout machine:

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

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

- (a) One (1) scrap and charge handling process, constructed in 1970, not exhausting through a stack, capacity: 4.95 tons of metal per hour.

- (b) One (1) natural gas-fired scrap charge preheater, identified as HEAT2, constructed in 1976, exhausting through stack 2, heat input capacity: 2.2 million British thermal units per hour.
- (c) Two (2) electric induction furnaces, identified as FRN03 and FRN04, constructed in 2000, equipped with an optional fabric filter (K4) and exhausting through stack K4 and general building exhausts A and B, maximum charge rate: 4.95 tons of metal per hour, total.
- (d) Four (4) natural gas-fired ladle heaters, exhausting through the general building ventilation, heat input capacity: 2.7 million British thermal units per hour, total.
- (e) Magnesium treatment operations, operating since 1974, exhausting through general building exhausts A and B, capacity: 4.95 tons of metal per hour.
- (f) Pouring, casting and cooling operations, with a total capacity of 4.95 tons of metal per hour and 4.95 tons of sand per hour, consisting of the following:
 - (1) One (1) pouring and cooling line, identified as Power & Free, constructed in 1990 and modified in 2004, exhausting through stacks 1 through 5 and 32.
 - (2) One (1) casting and cooling area, identified as TURN3, constructed in 1980, exhausting through stack 24.
- (g) One (1) **manual** shakeout and degating operation, constructed in 1980 and modified in 1994, capacity: 4.95 tons of metal and 4.95 tons of sand per hour.
- (h) One (1) shotblast machine, identified as WHE02, constructed in 1983, controlled by an integral dust collector (K1) and exhausting inside the building, capacity: 4.95 tons of castings per hour.
- (i) One (1) cutoff saw, identified as SAW03, constructed in 1970, equipped with an optional fabric filter (K3) and exhausting inside the building, capacity: 4.95 tons of metal per hour.
- (j) One (1) sand handling operation, constructed in 1970, including nine (9) sand silos, belt conveyors, pneumatic conveyors and fork lifts, controlled by one (1) dust collector (K2) and eight (8) bin vent filters (K5, K6, K7, K8, K9, K10, K11 and K12) exhausting inside the source, capacity: 4.95 tons of sand per hour.
- (k) Nineteen (19) shell molding machines, identified as MOL01 through MOL019, two (2) constructed in 1970, two (2) constructed in 1974, one (1) constructed in 1975, one (1) constructed in 1978, one (1) constructed in 1980, two (2) constructed in 1983, two (2) constructed in 1986, two (2) constructed in 1992, two (2) constructed in 1993 and four (4) constructed in 1995, each equipped with a natural gas-fired heater, exhausting through stacks 13, 14, 17, 15, 16, 26, 28, and 31, using a release agent with no VOC, capacity: 700 pounds of pre-coated sand per hour, each, 33.25 pounds of binder per hour, each, and 1.0 million British thermal unit per hour, each.
- (l) Eight (8) shell core machines, identified as COR01 through COR08, two (2) constructed in 1974, one (1) constructed in 1979, one (1) constructed in 1980, two (2) constructed in 1983, and two (2) constructed in 1999, each equipped with a natural gas-fired heater, exhausting through stacks 18 and 31, using a release agent with no VOC, capacity: 225 pounds of pre-coated sand per hour, each, 10.69 pounds of binder per hour, each, and 1.75 million British thermal units per hour, total.
- (m) Truck loading and unloading, maximum throughput: 4.95 tons of sand per hour.

- (n) One (1) shell molding machine, identified as MOL020, equipped with a natural gas-fired heater, exhausting to stacks 28 and 31, using a release agent with no VOC, capacity: 700 pounds of pre-coated sand per hour, 33.25 pounds of binder per hour and 1.0 million British thermal unit per hour.
- (o) Four (4) shell core machines, identified as COR09 through COR12, each equipped with a natural gas-fired heater, exhausting through stacks 18 and 31, capacity: 300 pounds of sand per hour, 14.25 pounds of binder per hour, and 0.21875 million British thermal units per hour, each.
- (p) **One (1) automated shakeout machine, constructed in 2006, equipped with a cartridge dust collector for particulate control, with the ability to exhaust inside or through stack K13, capacity: 4.95 tons of metal and 4.95 tons of pre-coated sand per hour.**

SECTION D.1

FACILITY OPERATION CONDITIONS

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

- (a) One (1) scrap and charge handling process, constructed in 1970, not exhausting through a stack, capacity: 4.95 tons of metal per hour.
- (b) One (1) natural gas-fired scrap charge preheater, identified as HEAT2, constructed in 1976, exhausting through stack 2, heat input capacity: 2.2 million British thermal units per hour.
- (c) Two (2) electric induction furnaces, identified as FRN03 and FRN04, constructed in 2000, equipped with an optional fabric filter (K4) and exhausting through stack K4 and general building exhausts A and B, maximum charge rate: 4.95 tons of metal per hour, total.
- (d) Four (4) natural gas-fired ladle heaters, exhausting through the general building ventilation, heat input capacity: 2.7 million British thermal units per hour, total.
- (e) Magnesium treatment operations, operating since 1974, exhausting through general building exhausts A and B, capacity: 4.95 tons of metal per hour.
- (f) Pouring, casting and cooling operations, with a total capacity of 4.95 tons of metal per hour and 4.95 tons of sand per hour, consisting of the following:
 - (1) One (1) pouring and cooling line, identified as Power & Free, constructed in 1990 and modified in 2004, exhausting through stacks 1 through 5 and 32.
 - (2) One (1) casting and cooling area, identified as TURN3, constructed in 1980, exhausting through stack 24.
- (g) One (1) **manual** shakeout and degating operation, constructed in 1980 and modified in 1994, capacity: 4.95 tons of metal and 4.95 tons of sand per hour.
- (h) One (1) shotblast machine, identified as WHE02, constructed in 1983, controlled by an integral dust collector (K1) and exhausting inside the building, capacity: 4.95 tons of castings per hour.
- (i) One (1) cutoff saw, identified as SAW03, constructed in 1970, equipped with an optional fabric filter (K3) and exhausting inside the building, capacity: 4.95 tons of metal per hour.
- (j) One (1) sand handling operation, constructed in 1970, including nine (9) sand silos, belt conveyors, pneumatic conveyors and fork lifts, controlled by one (1) dust collector (K2) and eight (8) bin vent filters (K5, K6, K7, K8, K9, K10, K11 and K12) exhausting inside the source, capacity: 4.95 tons of sand per hour.
- (k) Nineteen (19) shell molding machines, identified as MOL01 through MOL019, two (2) constructed in 1970, two (2) constructed in 1974, one (1) constructed in 1975, one (1) constructed in 1978, one (1)

- constructed in 1980, two (2) constructed in 1983, two (2) constructed in 1986, two (2) constructed in 1992, two (2) constructed in 1993 and four (4) constructed in 1995, each equipped with a natural gas-fired heater, exhausting through stacks 13, 14, 17, 15, 16, 26, 28, and 31, using a release agent with no VOC, capacity: 700 pounds of pre-coated sand per hour, each, 33.25 pounds of binder per hour, each, and 1.0 million British thermal unit per hour, each.
- (l) Eight (8) shell core machines, identified as COR01 through COR08, two (2) constructed in 1974, one (1) constructed in 1979, one (1) constructed in 1980, two (2) constructed in 1983, and two (2) constructed in 1999, each equipped with a natural gas-fired heater, exhausting through stacks 18 and 31, using a release agent with no VOC, capacity: 225 pounds of pre-coated sand per hour, each, 10.69 pounds of binder per hour, each, and 1.75 million British thermal units per hour, total.
 - (m) Truck loading and unloading, maximum throughput: 4.95 tons of sand per hour.
 - (n) One (1) shell molding machine, identified as MOL020, equipped with a natural gas-fired heater, exhausting to stacks 28 and 31, using a release agent with no VOC, capacity: 700 pounds of pre-coated sand per hour, 33.25 pounds of binder per hour and 1.0 million British thermal unit per hour.
 - (o) Four (4) shell core machines, identified as COR09 through COR12, each equipped with a natural gas-fired heater, exhausting through stacks 18 and 31, capacity: 300 pounds of sand per hour, 14.25 pounds of binder per hour, and 0.21875 million British thermal units per hour, each.
 - (p) One (1) automated shakeout machine, constructed in 2006, equipped with a cartridge dust collector for particulate control, with the ability to exhaust inside or through stack K13, capacity: 4.95 tons of metal and 4.95 tons of pre-coated sand per hour.**

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

D.1.4 Volatile Organic Compounds (VOC) [326 IAC 8-1-6]

- (a)** The metal throughput at the **manual** shakeout and degating process shall not exceed ~~33,394~~ **32,255** tons per twelve (12) consecutive month period, with compliance determined at the end of each month, and the VOC emissions from the shakeout and degating shall not exceed 1.20 pounds per ton of metal produced. This will limit the potential VOC emissions to less than twenty-five (25) tons per year from the **manual** shakeout and degating operations. Therefore, the requirements of 326 IAC 8-1-6 are not applicable.
- (b)** **The metal throughput at the automated shakeout machine shall not exceed 32,255 tons per twelve (12) consecutive month period, with compliance determined at the end of each month, and the VOC emissions from the automated shakeout machine shall not exceed 1.20 pounds per ton of metal produced. This will limit the potential VOC emissions to less than twenty-five (25) tons per year from the automated shakeout machine. Therefore, the requirements of 326 IAC 8-1-6 are not applicable.**

D.1.5 PM and PM₁₀ Minor Limits [326 IAC 2-2] [326 IAC 2-8]

The amount of metal processed by the source shall be limited to less than ~~33,394~~ **32,255** tons per twelve (12) consecutive month period, with compliance determined at the end of each month, and the amount of sand processed by the source shall be limited to less than ~~33,394~~ **32,255** tons per twelve (12) consecutive month period, with compliance determined at the end of each month. These limitations, in conjunction with the emissions limitations listed in the table in this condition, shall limit the potential to emit PM and PM₁₀ to less than 100 tons per year from the entire source. Therefore, the requirements of 326 IAC 2-2, PSD, and 326 IAC 2-7, Part 70, are not applicable.

Facility/Process	PM Emission Limit (lbs/ton)	PM ₁₀ Emission Limit (lbs/ton)
Scrap and Charge Handling including Scrap Charge Preheater (HEAT2)	0.60	0.36
Melting (Two (2) electric induction furnaces (FRN03 and FRN04))	0.90	0.86
Magnesium treatment	1.80	1.80
Pouring and cooling (Power & Free and TURN3) (Total emission limit for both pouring and cooling)	1.60	1.90
Manual s Shakeout and degating	0.10	0.10
Shotblast Machine	0.0187	0.00187
Cutoff saw (SAW03)	0.01	0.0045
Sand handling process (total)	0.214	0.032
Truck loading and unloading	0.36	0.17
Automated shakeout machine	0.190	0.133

D.1.6 Particulate Matter (PM) [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from facilities at this source shall be limited as follows:

Facility/Process	Process weight rate (tons/hr)	Allowable Emissions (lbs/hr)
Scrap and Charge Handling including Scrap Charge Preheater (HEAT2)	4.95	11.97
Melting (Two (2) electric induction furnaces (FRN03 and FRN04))	4.95	11.97
Magnesium treatment	4.95	11.97
Pouring and cooling (Power & Free and TURN3) (Total emission limit for both pouring and cooling)	9.90 (metal and sand)	19.05
Manual s Shakeout and degating	9.90 (metal and sand)	19.05
Sand handling process	4.95	11.97
Truck loading and unloading	4.95	11.97
Automated shakeout machine	9.90 (metal and sand)	19.05

These limitations are based upon the following:

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

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

D.1.7 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for the scrap and charge handling including the scrap charge preheater, two (2) electric induction furnaces, magnesium treatment, pouring and cooling operations, **manual** shakeout and degating, shotblast machine, cutoff saw, sand handling, **automated shakeout machine** and truck loading and unloading, and the control devices for the sand handling, ~~and~~ the shotblast machine, **and the automated shakeout machine**.

D.1.8 Particulate Control

- (a) In order to comply with Conditions D.1.5 and D.1.6, the one (1) dust collector (K2) and the eight (8) bin vent filters (K5, K6, K7, K8, K9, K10, K11 and K12) for particulate control at the one (1) sand handling operation shall be in operation and control emissions from the sand handling operation at all times that the sand handling operation is in operation.
- (b) In order to comply with Condition D.1.5, the one (1) cartridge dust collector for particulate control at the one (1) automated shakeout machine shall be in operation and control emissions from the automated shakeout machine at all times that the automated shakeout machine is in operation.**
- ~~(b)~~**(c)** In the event that a bag **or cartridge** failure is observed in a multi-compartment bag **or cartridge** filter, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

D.1.9 Testing Requirements [326 IAC 2-8-5(a)(1), (4)] [326 IAC 2-1.1-11]

- (a) Within 36 months after issuance of this FESOP, in order to demonstrate compliance with Conditions D.1.5 and D.1.6, the Permittee shall perform PM and PM₁₀ testing for the sand handling emissions at the outlet of the dust collector (K2) utilizing methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. PM₁₀ includes filterable and condensable PM₁₀. Testing shall be conducted in accordance with Section C- Performance Testing.
- (b) Within 36 months after issuance of this FESOP, in order to demonstrate compliance with Condition D.1.5, the Permittee shall perform PM and PM₁₀ testing for the shotblaster emissions at the outlet of the dust collector (K1) utilizing methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. PM₁₀ includes filterable and condensable PM₁₀. Testing shall be conducted in accordance with Section C- Performance Testing.
- (c) Within 180 days after start-up, in order to demonstrate compliance with Condition D.1.5, the Permittee shall perform PM and PM₁₀ testing for the automated shakeout emissions at the outlet of the dust collector utilizing methods as approved by the Commissioner. PM₁₀ includes filterable and condensable PM₁₀. Testing shall be conducted in accordance with Section C- Performance Testing.**

D.1.10 Visible Emissions Notations

- (a) Visible emission notations of the pouring and cooling operations (stacks 1 through 5, 24, and 32), shotblast machine, cut off saw, electric induction furnaces, **automated shakeout machine**, magnesium treatment and sand handling exhausts shall be performed once per day during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

D.1.11 Parametric Monitoring

- (a) The Permittee shall record the ~~total static~~ pressure drop across the dust collector (K1) used in conjunction with the shotblast machine, at least once per day when the process is in operation. When for any one reading, the pressure drop across the dust collector is outside the normal range of 1.0 and 7.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.
- (b) The Permittee shall record the ~~total static~~ pressure drop across the dust collector (K2) used in conjunction with the sand handling operations, at least once per day when the process is in operation. When for any one reading, the pressure drop across the dust collector is outside the normal range of 1.0 and 7.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.
- (c) **The Permittee shall record the pressure drop across the dust collector used in conjunction with the automated shakeout machine, at least once per day when the process is in operation. When for any one reading, the pressure drop across the dust collector is outside the normal range of 1.0 and 5.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.**

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

D.1.12 Broken or Failed Bag or Cartridge Detection

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

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

D.1.13 Record Keeping Requirements

- (a) To document compliance with Conditions D.1.4 and D.1.5, the Permittee shall maintain records of the amount of metal processed each month. Records necessary to demonstrate compliance shall be available within 30 days of the end of each compliance period.
- (b) To document compliance with Condition D.1.5, the Permittee shall maintain records of the amount of sand processed each month. Records necessary to demonstrate compliance shall be available within 30 days of the end of each compliance period.
- (c) To document compliance with Condition D.1.10, the Permittee shall maintain records of daily visible emission notations of the pouring and cooling operations (stacks 1 through 5, 24, and 32), shotblast machine, cut off saw, electric induction furnaces, magnesium treatment, and sand handling, **and automated shakeout machine** exhausts when exhausting to the atmosphere.
- (d) To document compliance with Condition D.1.11, the Permittee shall maintain records of the pressure drop across the dust collectors used in conjunction with the shot blast machine, and sand handling operations **and automated shakeout machine**.
- (e) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

The limit on the report forms has been revised as follows:

Limit: ~~33,394~~ **32,255** tons per twelve (12) consecutive month period, with compliance determined at the end of each month

Change 2:

Upon further review, IDEM has decided to remove (d) concerning nonroad engines from Condition B.17, Permit Amendment or Revision. 40 CFR 89, Appendix A specifically indicates that states are not precluded from regulating the use and operation of nonroad engines, such as regulations on hours

of usage, daily mass emission limits, or sulfur limits on fuel; nor are permits regulating such operations precluded, once the engine is no longer new. Condition B.17 is revised as follows:

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

- (a) Permit amendments and revisions are governed by the requirements of 326 IAC 2-8-10 or 326 IAC 2-8-11.1 whenever the Permittee seeks to amend or modify this permit.
- (b) Any application requesting an amendment or modification of this permit shall be submitted to:

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

Any such application shall be certified by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (c) The Permittee may implement the administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-10(b)(3)]
- ~~(d) No permit amendment or modification is required for the addition, operation or removal of a nonroad engine, as defined in 40 CFR 89.2.~~

Conclusion

The construction and operation of this proposed revision shall be subject to the conditions of the attached proposed FESOP Significant Permit Revision No. 091-22593-00078.

**Appendix A: Emission Calculations
Grey Iron Foundry Emissions**

Company Name: Kingsbury Castings Division
Address City IN Zip: 3232 3rd Road Annex, Kingsbury, IN 46345
Permit Number: 091-22593
PII ID: 091-00078
Reviewer: CarrieAnn Paukowitz
Application Date: January 26, 2005

Proposed Automated Shakeout

Unrestricted Potential Emissions - Proposed Automated Shakeout

Process:	Rate (tons iron/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Type of control	Control Efficiency (%)	Eac (ton/yr)	
Castings Shakeout Source of Criteria Pollutant Factors: FIRE 6.01 SCC# 3-04-003-31 AP-42 Ch. 12.10 Fifth edition 1995	4.95	PM	3.20	69.4	cartridge dust collector	94.05%	4.13	
		PM-10	2.24	48.6	cartridge dust collector	94.05%	2.89	
		SO2	0.00	0.00				0.00
		NOx	0.00	0.00				0.00
		VOC	1.20	26.0				26.0
		CO	---	0.00				0.00
		chromium	1.2E-03	2.6E-02				2.6E-02
		cobalt	1.0E-04	2.2E-03				2.2E-03
		nickel	2.1E-03	4.6E-02				4.6E-02
		arsenic	4.2E-04	9.1E-03				9.1E-03
		cadmium	1.9E-04	4.1E-03				4.1E-03
		selenium	3.0E-05	6.5E-04				6.5E-04
		Lead	1.2E-02	2.7E-01				2.67E-01
		Total HAPs						0.356

HAPs Emissions from Pouring, Cooling and Shakeout based on Binder System

Annual Usage of Index Material (lbs/yr)		Binder System	
4331250		Shell	
Emission Factors => Lbs. of Chemical Released to Air per Lbs. of Index			
Pollutant	Shell (Resin)	Pollutant Emissions (lbs/yr)	Pollutant Emissions (tons/yr)
Acrolein	0.000047	204	0.102
Benzene*	0.00000888	3.85	0.002
Formaldehyde	0.000035	152	0.076
Hydrogen Cyanide*	0.00088	3812	1.91
M-Xylene	0.000585	2534	1.27
Napthalene	0.000058	251	0.126
O-Xylene	0.000117	507	0.253
Phenol*	0.000359	1555	0.777
Toluene*	0.0000113	4.89	0.002
Total Aromatic Amines	0.002339	10131	5.07
Total C2 to C5 Aldehydes	0.000585	2534	1.27
Total HAPs		21687	10.8

METHODOLOGY

Emission rate (tons/yr) = Annual Usage (lbs/yr) * Emission Factor (lbs Chemical/lbs Index) * 1 ton/2000 lbs
 The index material is the resin
 *Emission factors for Hydrogen Cyanide, Phenol, Toluene and Benzene are alternate emission factors approved by IDEM, OAQ, based on tests conducted at the source on 10/14/04.
 Other emission factors from the American Foundrymen's Society and are approved by IDEM, OAQ.

Proposed Automated Shakeout after Proposed Limitation

Process:	Rate (tons iron/yr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Type of control	Control Efficiency (%)	Eac (ton/yr)	
Castings Shakeout Source of Criteria Pollutant Factors: FIRE 6.01 SCC# 3-04-003-31 AP-42 Ch. 12.10 Fifth edition 1995	32255	PM	3.20	51.6	cartridge dust collector	94.05%	3.07	
		PM-10	2.24	36.1	cartridge dust collector	94.05%	2.15	
		SO2	0.00	0.00				0.00
		NOx	0.00	0.00				0.00
		VOC	1.20	19.4				19.4
		CO	---	0.00				0.00
		chromium	1.2E-03	2.0E-02				2.0E-02
		cobalt	1.0E-04	1.6E-03				1.6E-03
		nickel	2.1E-03	3.5E-02				3.5E-02
		arsenic	4.2E-04	6.8E-03				6.8E-03
		cadmium	1.9E-04	3.1E-03				3.1E-03
		selenium	3.0E-05	4.8E-04				4.8E-04
		Lead	1.2E-02	2.0E-01				1.99E-01
		Total HAPs						0.265

Annual Usage of Index Material (lbs/yr)		Binder System	
3225500		Shell	
Emission Factors => Lbs. of Chemical Released to Air per Lbs. of Index			
Pollutant	Shell (Resin)	Pollutant Emissions (lbs/yr)	Pollutant Emissions (tons/yr)
Acrolein	0.000047	152	0.076
Benzene*	0.00000888	3	0.001
Formaldehyde	0.000035	113	0.056
Hydrogen Cyanide*	0.00088	2838	1.42
M-Xylene	0.000585	1887	0.94
Napthalene	0.000058	187	0.094
O-Xylene	0.000117	377	0.189
Phenol*	0.000359	1158	0.579
Toluene*	0.0000113	4	0.002
Total Aromatic Amines	0.002339	7544	3.77
Total C2 to C5 Aldehydes	0.000585	1887	0.94
Total HAPs		16150	8.08

**Appendix A: Emission Calculations
Grey Iron Foundry Emissions**

**Company Name: Kingsbury Castings Division
Address City IN Zip: 3232 3rd Road Annex, Kingsbury, IN 46345
Permit Number: 091-22593
Plt ID: 091-00078
Reviewer: CarrieAnn Paukowitz
Application Date: January 26, 2005**

Source-wide Emissions

Source-wide PTE after proposed limitation

Limit	32255
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Facility/Process	PM Emission Limit (lbs/ton)	PM10 Emission Limit (lbs/ton)	PTE PM (tons/yr)	PTE PM10 (tons/yr)
Scrap and Charge Handling including Scrap Charge Preheater (HEAT2)	0.60	0.36	9.68	5.81
Melting (Two (2) electric induction furnaces (FRN03 and FRN04))	0.90	0.86	14.5	13.9
Magnesium treatment	1.80	1.80	29.0	29.0
Pouring and cooling (Power & Free and TURN3) (Total emission limit for both pouring and cooling)	1.60	1.90	25.8	30.6
Manual shakeout and degating	0.10	0.10	1.61	1.61
Shotblast Machine	0.0187	0.00187	0.30	0.03
Cutoff saw (SAW03)	0.01	0.0045	0.16	0.07
Sand handling	0.214	0.032	3.45	0.52
Truck loading and unloading	0.36	0.17	5.81	2.74
Combustion and Insignificant Activities			6.34	4.11
Total			96.7	88.4
New Automated Shakeout	0.190	0.133	3.07	2.15
Total with proposed shakeout			99.8	90.6

	Limited PTE of existing units (except combustion and insignificant activities) after controls and initial FESOP limitations (tons/yr)	Initial/Existing FESOP Limited Throughput	Proposed Limited Throughput	New Proposed PTE of existing units (except combustion and insignificant activities) after controls and limitations (tons/yr)	Limited PTE of Proposed Shakeout* (tons/yr)	PTE from insignificant activities, excluding combustion (tons/yr)	PTE from combustion (tons/yr)	Total existing PTE after controls and limitations in the existing FESOP (tons/yr)	Total proposed PTE after controls and limitations (tons/yr)
PM	93.6	33394	32255	90.4	3.07	5.98	0.361	99.9	99.8
PM-10	87.3	33394	32255	84.3	2.15	2.67	1.44	91.4	90.6
SO2	0.334	33394	32255	0.323	0.00	negligible	0.114	0.448	0.437
NOx	0.167	33394	32255	0.161	0.00	negligible	19.0	19.2	19.2
VOC	27.2	33394	32255	26.3	19.4	0.973	1.04	29.2	47.6
CO	0.00	33394	32255	0.00	0.00	negligible	16.0	16.0	16.0
Total HAPs	13.6	33394	32255	13.2	0.265	0.135	0.228	14.0	13.8
Phenol	3.41	33394	32255	3.29	already included	0.000	0.000	3.41	3.29
Chromium	0.693	33394	32255	0.670	0.020	0.007	0.000	0.700	0.696
Manganese	0.828	33394	32255	0.799	n/a	0.116	0.000	0.944	0.915
Nickel	0.634	33394	32255	0.613	0.035	0.009	0.000	0.643	0.656
Lead	0.711	33394	32255	0.687	0.199	0.001	0.000	0.712	0.886
Acrolein	0.075	33394	32255	0.072	already included	0.000	0.000	0.075	0.072
Benzene	0.001	33394	32255	0.001	already included	0.000	0.000	0.002	0.002
Formaldehyde	0.056	33394	32255	0.054	already included	0.000	0.009	0.065	0.063
Hydrogen Cyanide	1.40	33394	32255	1.35	already included	0.000	0.000	1.40	1.35
Xylenes	1.11	33394	32255	1.08	already included	0.000	0.000	1.11	1.08
Napthalene	0.092	33394	32255	0.089	already included	0.000	0.000	0.092	0.089
Toluene	0.002	33394	32255	0.002	already included	0.000	0.000	0.002	0.002
Hexane	0.00	33394	32255	0.00	already included	0.000	0.217	0.217	0.217

All other HAPs negligible

*HAPs from shakeout attributed to the pre-coated sand are added for proposed unit because all potential HAPs from the sand at this source are already accounted for in the existing emissions units calculations. For the same reason, total potential to emit VOC is an overestimate because some of the VOC is attributed to the pre-coated sand and the sand capacity of the source is not increasing. The potential to emit VOC and HAPs from the pre-coated sand is only calculated on page 1 to show the potential to emit of the proposed shakeout operations for the purpose of determining the required permit level. The VOC and HAPs emissions calculations are the total for pouring, cooling and shakeout based on the resin throughput at the source. Since the sand capacity will not increase, the resin capacity will not increase. VOC and HAP emissions are not based on the number of processes at the source. PM and PM10 emissions are additional because there are particulate emissions as the castings can go through each shakeout operation. A single casting can go through both shakeout operations.

Methodology

Total existing PTE after controls and limitations in the existing FESOP (tons/yr) = Limited PTE of existing units after controls and initial FESOP limitations + PTE from insig. activities + PTE from combustion
Total proposed PTE after controls and limitations (tons/yr) = New Proposed PTE of existing units after controls and limitations + PTE from insig. activities + PTE from combustion + Limited PTE of Proposed Shakeout