



Mitchell E. Daniels, Jr.
Governor

Thomas W. Easterly
Commissioner

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

TO: Interested Parties / Applicant

DATE: January 20, 2006

RE: Muncie Casting Corporation / 035-20291-00061

FROM: Paul Dubenetzky
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 1/10/05



Mitchell E. Daniels, Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204-2251
(317) 232-8603
(800) 451-6027
www.IN.gov/idem

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP) RENEWAL OFFICE OF AIR QUALITY

**Muncie Casting Corporation
1406 East 18th Street
Muncie, Indiana 47302**

(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.

Operation Permit No.: F035-20291-00061	
Issued by: Paul Dubenetzky, Acting Assistant Commissioner Office of Air Quality	Issuance Date: Expiration Date:

SECTION A SOURCE SUMMARY5

- 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]

SECTION B GENERAL CONDITIONS 10

- 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]
- 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 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..... 19

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]
- 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 Operation of Equipment [326 IAC 2-8-5(a)(4)]
- C.8 Stack Height [326 IAC 1-7]
- C.9 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61 Subpart M]

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

- C.10 Performance Testing [326 IAC 3-6]

Compliance Requirements [326 IAC 2-1.1-11]

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

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

- C.12 Compliance Monitoring [326 IAC 2-8-4(3)] [326 IAC 2-8-5(a)(1)]
- C.13 Monitoring Methods [326 IAC 3] [40 CFR 60] [40 CFR 63]
- C.14 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.15 Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]
- C.16 Risk Management Plan [326 IAC 2-8-4] [40 CFR 68]
- C.17 Response to Excursions or Exceedances [326 IAC 2-8-4] [326 IAC 2-8-5]
- C.18 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.19 General Record Keeping Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-5]
- C.20 General Reporting Requirements [326 IAC 2-8-4(3)(C)] [326 IAC 2-1.1-11]

Stratospheric Ozone Protection

- C.21 Compliance with 40 CFR 82 and 326 IAC 22-1

SECTION D.1 FACILITY OPERATION CONDITIONS

Iron foundry 26

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

- D.1.1 PM and PM10 [326 IAC 2-8-4] [326 IAC 2-2]
- D.1.2 Particulate Matter (PM) [326 IAC 6-3-2]

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

- D.1.3 Record Keeping Requirements
- D.1.4 Reporting Requirements

SECTION D.2 FACILITY OPERATION CONDITIONS

Aluminum foundry 29

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

- D.2.1 PM and PM10 [326 IAC 2-8-4] [326 IAC 2-2]
- D.2.2 Particulate Matter (PM) [326 IAC 6-3-2]
- D.2.3 Material Usage [40 CFR 63, Subpart RRR]

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

- D.2.4 Record Keeping Requirements
- D.2.5 Reporting Requirements

SECTION D.3 FACILITY OPERATION CONDITIONS

Sand Handling Operations 32

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

- D.3.1 PM and PM10 [326 IAC 2-8-4] [326 IAC 2-2]
- D.3.2 Particulate Matter (PM) [326 IAC 6-3-2]
- D.3.3 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

Compliance Determination Requirements

- D.3.4 Particulate Control

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

- D.3.5 Visible Emissions Notations
- D.3.6 Parametric Monitoring
- D.3.7 Broken or Failed Bag Detection

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

- D.3.8 Record Keeping Requirements
- D.3.9 Reporting Requirements

SECTION D.4 FACILITY OPERATION CONDITIONS

Cleaning/Finishing Operations, Core and Mold Making 36

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

- D.4.1 PM and PM10 [326 IAC 2-8-4] [326 IAC 2-2]
- D.4.2 Particulate Matter (PM) [326 IAC 6-3-2]
- D.4.3 Volatile Organic Compounds [326 IAC 8-1-6]
- D.4.4 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

Compliance Determination Requirements

- D.4.5 Particulate Control

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

- D.4.6 Visible Emissions Notations
- D.4.7 Parametric Monitoring
- D.4.8 Broken or Failed Bag Detection

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

- D.4.9 Record Keeping Requirements
- D.4.10 Reporting Requirements

SECTION D.5 FACILITY OPERATION CONDITIONS: Insignificant Activities 40

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

- D.5.1 Volatile Organic Compounds (VOC)
- D.5.2 Volatile Organic Compounds (VOC)
- D.5.3 Particulate Matter (PM) [325 IAC 6-3-2]

Certification Form 43

Emergency Occurrence Form 44

Quarterly Report Form 46

Quarterly Deviation and Compliance Monitoring Report Form 51

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 aluminum and gray and ductile iron foundry.

Authorized individual:	President
Source Address:	1406 East 18 th Street, Muncie, Indiana 47302
Mailing Address:	P.O. Box 2328, Muncie, Indiana 47302
General Source Phone:	765-288-2611
SIC Code:	3365, 3321
County Location:	Delaware
Source Location Status:	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:

Iron Foundry

- (a) One (1) charge handling operation, known as EU1, installed in 1992, capacity: 0.45 tons of iron per hour.
- (b) Two (2) electric melting furnaces, known as the 1,000 pound and the 500 pound furnaces, known as EU2, installed in 1992, throughput capacity: 0.45 tons of iron per hour total limited by single power supply.
- (c) One (1) magnesium treatment of ductile iron operation, known as EU3, installed in 1992, capacity: 0.09 tons of iron per hour.
- (d) One (1) pouring/casting operation, known as EU4, installed in 1992, capacity: 0.45 tons of iron per hour.
- (e) One (1) casting cooling operation, known as EU5, installed in 1992, capacity: 0.45 tons of iron castings per hour.
- (f) One (1) shakeout operation (physically located in the aluminum foundry), known as EU6, installed in 1992, capacity: 0.45 tons of iron castings per hour.

Note exhaust fans #1, #2 and #3 are located above the pouring lines and furnaces in the Iron Foundry.

Aluminum Foundry

- (g) Six (6) electric melting furnaces, consisting of five (5) (2,300-pound furnaces) and one (1) (700 pound furnaces), collectively known as EU7, with three (3) of the 2,300-pound furnaces and the one (1) 700 pound furnace installed in 1992, and two (2) of the 2,300-pound furnaces installed in June, 2003, throughput capacity: 1.39 tons of aluminum per hour for the five (5) (2,300-pound furnaces) and 0.23 tons of aluminum per hour for the one (1) (700 pound furnace), total throughput capacity: 1.62 tons of aluminum per hour.
- (h) One (1) natural gas-fired melting furnace, (300 pound furnace) known as EU8, rated at 1.0 million British thermal units per hour, installed in 1980, capacity: 0.09 tons of aluminum per hour.
- (i) One (1) magnesium treatment in the aluminum foundry, known as EU9, installed in 1992, capacity: 1.45 tons of magnesium per hour, 1.17 tons of aluminum per hour.
- (j) One (1) pouring/casting operation, known as EU10, installed in 1980, capacity: 1.71 tons of aluminum per hour.
- (k) One (1) casting cooling operation, known as EU11, installed in 1980, capacity: 1.71 tons of aluminum per hour.
- (l) One (1) shakeout operation, known as EU12, installed in 1980, capacity: 1.71 tons of aluminum per hour.

Note exhaust fans #5 through #8 are located above or near the cooling lines and the 700 pound and two (2) 2,300 pound furnaces in the Aluminum Foundry.

Sand Handling Operations

- (m) One (1) mechanical sand reclamation unit (located in the aluminum foundry and used for both foundries), known as EU13, installed in 1991, capacity: 1.5 tons of sand per hour.
- (n) One (1) thermal sand reclamation unit (located in the aluminum foundry and used for both foundries), known as EU17, equipped with two (2) natural gas-fired burners, rated at 1.0 million British thermal units per hour each, equipped with a baghouse, installed in 1998, exhausted through Stack 12, capacity: 1 ton of sand per hour.
- (o) One (1) Strong Scott sand mixer (located in the iron foundry and used for both foundries), known as EU18, utilizing a phenolic urethane nobake binder system, installed in 1980, capacity: 6.0 tons of sand per hour.
- (p) One (1) Kloster sand mixer (located in the aluminum foundry and used for both foundries), known as EU19, utilizing a phenolic urethane nobake binder system, installed in 1994, capacity: 9.0 tons of sand per hour.
- (q) One (1) Palmer core mixer #1 (located in the aluminum foundry and used for both foundries), known as EU20, utilizing a phenolic urethane nobake binder system, installed in 1994, capacity: 6.0 tons of sand per hour.
- (r) One (1) Palmer core mixer #2 (located in the aluminum foundry and used for both foundries), known as EU21, utilizing an acrylic-epoxy cold box binder system, installed in 1998, capacity: 6.0 tons of sand per hour.

- (s) Three (3) sand storage silos, equipped with bin-top filler banks exhausted through Stacks #9, #10 and #11, capacity: 10, 40 and 40 tons, respectively, throughput 1,462.25 tons of sand per year total; [326 IAC 6-3-2]

Cleaning/Finishing Operations

- (t) One (1) GOFF steel shot blast machine (located in the aluminum foundry and used for both foundries), known as EU14, equipped with a baghouse, installed in 1993, exhausted through Stack 4, capacity: 1.096 tons of aluminum or iron casting per hour.
- (u) One (1) small aluminum shot blast machine (located in the aluminum foundry and used for both foundries), known as EU15, equipped with a Viking baghouse, installed in 1993, exhausted inside the building, capacity: 0.16 tons of aluminum or iron castings per hour.
- (v) One (1) sand blaster machine (located in the aluminum foundry and used for both foundries), known as EU16, equipped with a Blast-It-All baghouse, installed in 1980, exhausted inside the building, capacity: 0.16 tons of aluminum or iron castings per hour.

Core and Mold Making Operations

- (w) U-180 core making operations used for both foundries, identified as EU24, including the following:
 - (1) One (1) U-180 core machine, utilizing a shell binder system, installed in 1998, capacity: 0.045 tons of cores per hour.
 - (2) One (1) U-180 core machine, utilizing a shell binder system, installed in January 2004, capacity: 0.045 tons of cores per hour.
 - (3) Two (2) U-180 core machines, each utilizing a shell binder system, installed in 2005, and each with maximum capacity of 0.045 tons of cores per hour.
- (x) One (1) CB-22 core machine (located in the aluminum foundry and used for both foundries), known as EU22, equipped with a caustic soda scrubber (does not have to be operated at all times), installed in 1998, capacity: 0.5 tons of cores per hour.
- (y) One (1) Dependable 420 core machine (located in the aluminum foundry and used for both foundries), known as EU23, equipped with a caustic soda scrubber (does not have to be operated at all times), installed in 1998, capacity: 0.5 tons of cores per hour.

Additional Operations

- (z) One (1) surface coating spray application process (in the mold and core making areas), known as EU26, installed in 1980, capacity: 8,637 pounds of coating materials per year.
- (aa) Fugitive outdoor waste sand storage and handling, known as EUF1, capacity 20 tons of waste foundry sand.

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) A petroleum fuel, other than gasoline, dispensing facility, having a storage capacity of less than or equal to 10,500 gallons, and dispensing less than or equal to 230,000 gallons per month.
- (b) The following VOC and HAP storage containers: storage tanks with capacity less than or equal to 1,000 gallons and annual throughputs less than 12,000 gallons; vessels storing lubricating oil, hydraulic oils, machining oils, and machining fluids.
- (c) Refractory storage not requiring air pollution control equipment.
- (d) Equipment used exclusively for the following: Packaging lubricants and greases, filling drums, pails or other packaging containers with lubricating oils, waxes, and greases.
- (e) Application of oils, greases lubricants or other nonvolatile materials applied as temporary protective coatings.
- (f) Machining where an aqueous cutting coolant continuously floods the machining interface.
- (g) Degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6. Parts washer (covered cold cleaner), capacity: 40 gallon [326 IAC 8-3]
- (h) Cleaners and solvents characterized as follows: having a vapor pressure equal to or less than 2 kiloPascals; 15 millimeters of mercury; or 0.3 pounds per square inch measured at 38EC (100EF) or; 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 20EC (68EF); the use of which for all cleaners and solvents combined does not exceed 145 gallons per 12 months.
- (i) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, and welding equipment. [326 IAC 6-3-2]
- (j) Closed loop heating and cooling systems.
- (k) Any operation using aqueous solutions containing less than 1 percent by weight of VOCs excluding HAPs.
- (l) Water based adhesives that are less than or equal to 5 percent by volume of VOCs excluding HAPs.
- (m) Replacement or repair of electrostatic precipitators, bags in baghouses and filters in other air filtration equipment.
- (n) Paved and unpaved roads and parking lots with public access.
- (o) Grinding and machining operations controller with fabric filters, scrubbers, mist collectors, wet collectors and electrostatic precipitators with a design grain loading of less than or equal to 0.03 grains per actual cubic foot and a gas flow rate less than or equal to 4,000 actual cubic feet per minute, including the following: deburring; buffing; polishing; abrasive blasting; pneumatic conveying; and woodworking operations. [326 IAC 6-3-2]
- (p) Filter or coalescer media changeout.
- (q) Mold release agents using low volatile products (vapor pressure less than or equal to 2 kiloPascals measured at 38EC).
- (r) A laboratory as defined in 326 IAC 2-7-1(21)(D).

- (s) Other activities with insignificant thresholds:
 - (1) Two (2) electric heat treating machines;
 - (2) Woodworking activities in the pattern shop (sawing, cutting, routing and planing).
[326 IAC 6-3-2]
- (t) Experimental sand and shot blasters for research and development.
- (u) One (1) electric heat treat furnace with no emissions.

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

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

SECTION B GENERAL CONDITIONS

B.1 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. All 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 2-7-5(1),(3) and (13)] [326 IAC 2-7-6(1) and (6)] [326 IAC 1-6-3]

- (a) If required by specific condition(s) in Section D of this permit, the Permittee shall maintain and implement Preventive Maintenance Plans (PMPs) including the following information on each facility:
 - (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;

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

B.13 Emergency Provisions [326 IAC 2-7-16]

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

Telephone Number: 1-800-451-6027 (ask for
Office of Air Quality, Compliance Section), or
Telephone Number: 317-233-5674 (ask for Compliance Section)
Facsimile Number: 317-233-5967

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

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

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

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

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

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

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

B.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, IN 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)]
- (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.

B.18 Operational Flexibility [326 IAC 2-7-20] [326 IAC 2-7-10.5]

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

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

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

and

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

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

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

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

- (b) The Permittee may make Section 502(b)(10) of the Clean Air Act changes (this term is defined at 326 IAC 2-7-1(36)) without a permit revision, subject to the constraint of 326 IAC 2-7-20(a). For each such Section 502(b)(10) of the Clean Air Act change, the required written notification shall include the following:

- (1) A brief description of the change within the source;
- (2) The date on which the change will occur;
- (3) Any change in emissions; and
- (4) Any permit term or condition that is no longer applicable as a result of the change.

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

- (c) Emission Trades [326 IAC 2-7-20(c)]
The Permittee may trade emissions increases and decreases at the source, where the applicable SIP provides for such emission trades without requiring a permit revision, subject to the constraints of Section (a) of this condition and those in 326 IAC 2-7-20(c).
- (d) Alternative Operating Scenarios [326 IAC 2-7-20(d)]
The Permittee may make changes at the source within the range of alternative operating scenarios that are described in the terms and conditions of this permit in accordance with 326 IAC 2-7-5(9). No prior notification of IDEM, OAQ, or U.S. EPA is required.

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][IC 13-30-3-1]

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

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

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

- (a) The Permittee must comply with the requirements of 326 IAC 2-8-10 whenever the Permittee seeks to change the ownership or operational control of the source and no other change in the permit is necessary.
- (b) Any application requesting a change in the ownership or operational control of the source shall contain a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new Permittee. The application shall be submitted to:

Indiana Department of Environmental Management
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 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 100 pounds per hour and the methods in 326 IAC 6-3-2(b) through (d) do not apply shall not exceed 0.551 pounds per hour.

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

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

(a) Pursuant to 326 IAC 2-8:

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

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

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

C.3 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (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 Stack Height [326 IAC 1-7]

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

C.8 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]

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

All required notifications shall be submitted to:

Indiana Department of Environmental Management
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.9 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.10 Compliance Requirements [326 IAC 2-1.1-11]

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

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

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

Unless otherwise specified in this permit, all monitoring and record keeping requirements not already legally required shall be implemented upon issuance of this permit. If required by Section D, the Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment.

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.12 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.13 Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

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

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

C.14 Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]

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

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

C.15 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.16 Response to Excursions or Exceedances [326 IAC 2-7-5] [326 IAC 2-7-6]

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

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

C.17 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.18 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.19 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 IAC 2-1.1-1(1).
- (b) The report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue
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) Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit "calendar year" means the twelve (12) month period from January 1 to December 31 inclusive.

Stratospheric Ozone Protection

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

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

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

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

SECTION D.1 FACILITY OPERATION CONDITIONS

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

Iron Foundry

- (a) One (1) charge handling operation, known as EU1, installed in 1992, capacity: 0.45 tons of iron per hour.
- (b) Two (2) electric melting furnaces, known as the 1,000 pound and the 500 pound furnaces, known as EU2, installed in 1992, throughput capacity: 0.45 tons of iron per hour total limited by single power supply.
- (c) One (1) magnesium treatment of ductile iron operation, known as EU3, installed in 1992, capacity: 0.09 tons of iron per hour.
- (d) One (1) pouring/casting operation, known as EU4, installed in 1992, capacity: 0.45 tons of iron per hour.
- (e) One (1) casting cooling operation, known as EU5, installed in 1992, capacity: 0.45 tons of iron castings per hour.
- (f) One (1) shakeout operation (physically located in the aluminum foundry), known as EU6, installed in 1992, capacity: 0.45 tons of iron castings per hour.

Note

Exhaust fans #1, #2 and #3 are located above the pouring lines and furnaces in the Iron Foundry.

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

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

D.1.1 PM, PM₁₀ and CO [326 IAC 2-8-4][326 IAC 2-2]

- (a) Pursuant to 326 IAC 2-8-4, and to render the requirements of 326 IAC 2-2 not applicable, the throughput for the iron foundry shall be limited as follows:
 - (1) The total throughput of iron to the iron foundry, including the iron charge handling operation (EU1), the two (2) electric melting furnaces (EU2), the iron pouring/casting operation (EU4), the iron casting cooling operation (EU5), and the iron shakeout operation (EU6) shall not exceed 1,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
 - (2) The throughput of iron to the iron magnesium treatment operation (EU3) shall not exceed 200 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (b) The PM emissions for the iron foundry shall be limited as follows:
 - (1) PM emissions from the iron charge handling operation (EU1) shall not exceed 0.60 pound per ton of iron throughput;
 - (2) Total PM emissions from the two (2) electric melting furnaces (EU2) shall not exceed 0.90 pound per ton of combined iron throughput;

- (3) Total PM emissions from the iron pouring/casting operation (EU4) and the iron casting cooling operation (EU5) shall not exceed 4.2 pounds per ton of iron throughput;
- (4) PM emissions from the iron shakeout operation (EU6) shall not exceed 3.2 pounds per ton of iron throughput;
- (5) PM emissions from the iron magnesium treatment operation (EU3) shall not exceed 1.80 pounds per ton of iron throughput.

Compliance with these emission limits is necessary to render the requirements of 326 IAC 2-2 not applicable.

- (c) Pursuant to 326 IAC 2-8-4, the PM10 emissions for the iron foundry shall be limited as follows:

- (1) PM10 emissions from the iron charge handling operation (EU1) shall not exceed 0.36 pound per ton of iron throughput;
- (2) Total PM10 emissions from the two (2) electric melting furnaces (EU2) shall not exceed 0.86 pound per ton of combined iron throughput;
- (3) Total PM10 emissions from the iron pouring/casting operation (EU4) and the iron casting cooling operation (EU5) shall not exceed 2.06 pound per ton of iron throughput;
- (4) PM10 emissions from the iron shakeout operation (EU6) shall not exceed 2.24 pounds per ton of iron throughput;
- (5) PM10 emissions from the iron magnesium treatment operation (EU3) shall not exceed 1.80 pounds per ton of iron throughput;

Compliance with these PM10 emission limits is necessary to satisfy 326 IAC 2-8-4. Therefore, the Part 70 rules (326 IAC 2-7) and 326 IAC 2-2 do not apply.

- (d) Pursuant to 326 IAC 2-8-4, the CO emissions from the pouring, cooling and shakeout operations in the iron foundry shall be limited to 15.2 pound per ton of iron throughput.

D.1.2 Particulate Matter (PM) [326 IAC 6-3-2]

- (a) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rates from the facilities listed in this section shall not exceed the stated particulate emission rates listed in the following table:

Emission Unit	Process Weight Rate (tons per hour)	Allowable Particulate Emission Rate (pounds per hour)
Iron Foundry		
Charge Handling EU1	0.45	2.40
Two (2) Electric Melting Furnaces (EU2)	0.45 total	2.40 total
Magnesium Treatment (EU3)	0.09	0.817
Pouring/Casting (EU4) & Casting Cooling (EU5)	1.038	4.20

Emission Unit	Process Weight Rate (tons per hour)	Allowable Particulate Emission Rate (pounds per hour)
Shakeout (EU6)	0.519	2.64

- (b) The pounds per hour limitations were calculated using the following equation:

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

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

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

D.1.3 Record Keeping Requirements

- (a) To document compliance with Condition D.1.1, the Permittee shall maintain records of iron throughput as applicable for each of the facilities included in Condition D.1.1.
- (b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.1.4 Reporting Requirements

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

SECTION D.2 FACILITY OPERATION CONDITIONS

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

Aluminum Foundry

- (g) Six (6) electric melting furnaces, consisting of five (5) (2,300-pound furnaces) and one (1) (700 pound furnace), collectively known as EU7, with three (3) of the 2,300-pound furnaces and the one (1) 700 pound furnace installed in 1992, and two (2) of the 2,300-pound furnaces installed in June 2003, throughput capacity: 1.39 tons of aluminum per hour for the five (5) (2,300 pound furnaces) and 0.23 tons of aluminum per hour for the one (1) (700 pound furnace), total throughput capacity: 1.62 tons of aluminum per hour.
- (h) One (1) natural gas-fired melting furnace, (300 pound furnace) known as EU8, rated at 1.0 million British thermal units per hour, installed in 1980, capacity: 0.09 tons of aluminum per hour.
- (i) One (1) magnesium treatment in the aluminum foundry, known as EU9, installed in 1992, capacity: 1.45 tons of magnesium per hour, 1.17 tons of aluminum per hour.
- (j) One (1) pouring/casting operation, known as EU10, installed in 1980, capacity: 1.71 tons of aluminum per hour.
- (k) One (1) casting cooling operation, known as EU11, installed in 1980, capacity: 1.71 tons of aluminum per hour.
- (l) One (1) shakeout operation, known as EU12, installed in 1980, capacity: 1.71 tons of aluminum per hour.

Note exhaust fans #5 through #8 are located above or near the cooling lines and the 700 Lb and two (2) 2,300 Lb furnaces in the Aluminum Foundry.

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

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

D.2.1 PM, PM₁₀ and CO [326 IAC 2-8-4][326 IAC 2-2]

- (a) Pursuant to 326 IAC 2-8-4, and to render the requirements of 326 IAC 2-2 not applicable, the throughput for the aluminum foundry shall be limited as follows:
 - (1) The total throughput of aluminum to the aluminum foundry, including the five (5) 2,300 lb melting furnaces and one (1) 700 lb melting furnace (EU7), the one (1) 300 lb melting furnace (EU8), the aluminum pouring/casting operation (EU10), the aluminum casting cooling operation (EU11), and the aluminum shakeout operation (EU12), shall not exceed 12,042 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
 - (2) The throughput of aluminum to the aluminum magnesium treatment operation (EU9) shall not exceed 10,236 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (b) The PM emissions for the aluminum foundry shall be limited as follows:
 - (1) Total PM emissions from the five (5) 2,300 lb melting furnaces and one (1) 700 lb melting furnace (EU7), and the one (1) 300 lb melting furnace (EU8) shall not exceed 1.90 pounds per ton of aluminum throughput;

- (2) Total PM emissions from the aluminum pouring/casting operation (EU10) and the aluminum casting cooling operation (EU11) shall not exceed 4.2 pounds per ton of aluminum throughput;
- (3) PM emissions from the aluminum shakeout operation (EU12) shall not exceed 3.2 pounds per ton of iron throughput;
- (4) PM emissions from the aluminum magnesium treatment operation (EU9) shall not exceed 1.80 pounds per ton of aluminum throughput;

Compliance with these emission limits is necessary to render the requirements of 326 IAC 2-2 not applicable.

- (c) Pursuant to 326 IAC 2-8-4, the PM10 emissions for the aluminum foundry shall be limited as follows:

- (1) Total PM10 emissions from the five (5) 2,300 lb melting furnaces and one (1) 700 lb melting furnace (EU7), and the one (1) 300 lb melting furnace (EU8) shall not exceed 1.70 pounds per ton of aluminum throughput;
- (2) Total PM10 emissions from the aluminum pouring/casting operation (EU10) and the aluminum casting cooling operation (EU11) shall not exceed 2.06 pound per ton of aluminum throughput;
- (3) PM10 emissions from the aluminum shakeout operation (EU12) shall not exceed 2.24 pounds per ton of iron throughput;
- (4) PM10 emissions from the aluminum magnesium treatment operation (EU9) shall not exceed 1.80 pounds per ton of aluminum throughput.

Compliance with these PM10 emission limits is necessary to satisfy 326 IAC 2-8-4. Therefore, the Part 70 rules (326 IAC 2-7) and 326 IAC 2-2 do not apply.

- (d) Pursuant to 326 IAC 2-8-4, the CO emissions from the pouring, cooling and shakeout operations in the iron foundry shall be limited to 15.2 pound per ton of aluminum throughput.

D.2.2 Particulate Matter (PM) [326 IAC 6-3-2]

- (a) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rates from the facilities listed in this section shall not exceed the stated particulate emission rates listed in the following table:

Emission Unit	Process Weight Rate (tons per hour)	Allowable Particulate Emission Rate (pounds per hour)
Aluminum Foundry		
Five (5) 2,300lb Melting Furnace (EU7)	1.39 (0.278 each)	5.11 (1.02 each)
700 lb Melting Furnace (EU7)	0.23	1.53
300 lb Melting Furnace (EU8)	0.09	0.82
Magnesium Treatment (EU9)	1.45	5.26

Emission Unit	Process Weight Rate (tons per hour)	Allowable Particulate Emission Rate (pounds per hour)
Pouring/Casting (EU10) & Casting Cooling (EU11)	3.972	10.33
Shakeout (EU12)	1.986	6.49

D.2.3 Material Usage [40 CFR 63, Subpart RRR]

The Permittee shall only melt clean charge, customer returns, or internal scrap in the aluminum foundry as defined under 40 CFR 63.1503. Therefore, the requirements of 40 CFR 63, Subpart RRR do not apply.

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

D.2.4 Record Keeping Requirements

- (a) To document compliance with Condition D.2.1, the Permittee shall maintain records of aluminum throughput as applicable for each of the facilities included in Condition D.2.1.
- (b) To document compliance with Condition D.2.3, the Permittee shall maintain records of determinations of the type, quality and origin of all materials melted at this source required under Condition D.2.3.
- (c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.2.5 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.2.1 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

SECTION D.3 FACILITY OPERATION CONDITIONS

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

Sand Handling Operations

- (m) One (1) mechanical sand reclamation unit (located in the aluminum foundry and used for both foundries), known as EU13, installed in 1991, capacity: 1.5 tons of sand per hour.
- (n) One (1) thermal sand reclamation unit (located in the aluminum foundry and used for both foundries), known as EU17, equipped with two (2) natural gas-fired burners, rated at 1.0 million British thermal units per hour each, equipped with a baghouse, installed in 1998, exhausted through Stack 12, capacity: 1 ton of sand per hour.
- (o) One (1) Strong Scott sand mixer (located in the iron foundry and used for both foundries), known as EU18, utilizing a phenolic urethane nobake binder system, installed in 1980, capacity: 6.0 tons of sand per hour.
- (p) One (1) Kloster sand mixer (located in the aluminum foundry and used for both foundries), known as EU19, utilizing a phenolic urethane nobake binder system, installed in 1994, capacity: 9.0 tons of sand per hour.
- (q) One (1) Palmer core mixer #1 (located in the aluminum foundry and used for both foundries), known as EU20, utilizing a phenolic urethane nobake binder system, installed in 1994, capacity: 6.0 tons of sand per hour.
- (r) One (1) Palmer core mixer #2 (located in the aluminum foundry and used for both foundries), known as EU21, utilizing an acrylic-epoxy cold box binder system, installed in 1998, capacity: 6.0 tons of sand per hour.
- (s) Three (3) sand storage silos, equipped with bin-top filler banks exhausted through Stacks #9, #10 and #11, capacity: 10, 40 and 40 tons, respectively, throughput 1,462.25 tons of sand per year total; [326 IAC 6-3-2]

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

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

D.3.1 PM and PM₁₀ [326 IAC 2-8-4][326 IAC 2-2]

- (a) Pursuant to 326 IAC 2-8-4, and to render the requirements of 326 IAC 2-2 not applicable, the throughput for the sand handling operations shall be limited as follows:
 - (1) The combined throughput of sand to the Kloster Sand Mixer (EU19), the Palmer Core Mixer #1 (EU20), the Palmer Core Mixer #2 (EU21), and the Strong Scott Sand Mixer (EU18) shall not exceed 9,675 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
 - (2) The throughput of sand to the mechanical sand reclamation unit (EU13) shall not exceed 9,675 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
 - (3) The throughput of sand to the thermal sand reclamation unit (EU17) shall not exceed 9,675 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (b) The PM emissions for the sand handling operations shall be limited as follows:

- (1) Total PM emissions from the Kloster Sand Mixer (EU19), the Palmer Core Mixer #1 (EU20), the Palmer Core Mixer #2 (EU21), and the Strong Scott Sand Mixer (EU18) shall not exceed 0.36 pounds per ton of sand throughput;
- (2) PM emissions from the mechanical sand reclamation unit (EU13) shall not exceed 3.6 pounds per ton of sand throughput;
- (3) PM emissions from the baghouse controlling the thermal sand reclamation unit (EU17) shall not exceed 0.10 pound per ton of sand throughput;

Compliance with these emission limits is necessary to render the requirements of 326 IAC 2-2 not applicable.

- (c) Pursuant to 326 IAC 2-8-4, the PM10 emissions for the sand handling operations shall be limited as follows:

- (1) Total PM10 emissions from the Kloster Sand Mixer (EU19), the Palmer Core Mixer #1 (EU20), the Palmer Core Mixer #2 (EU21), and the Strong Scott Sand Mixer (EU18) shall not exceed 0.54 pounds per ton of sand throughput;
- (2) PM10 emissions from the mechanical sand reclamation unit (EU13) shall not exceed 0.54 pounds per ton of sand throughput;
- (3) PM10 emissions from the baghouse controlling the thermal sand reclamation unit (EU17) shall not exceed 4.926 pounds per ton of sand throughput;

Compliance with these PM10 emission limits is necessary to satisfy 326 IAC 2-8-4. Therefore, the Part 70 rules (326 IAC 2-7) and 326 IAC 2-2 do not apply.

D.3.2 Particulate Matter (PM) [326 IAC 6-3-2]

- (a) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rates from the facilities listed in this section shall not exceed the stated particulate emission rates listed in the following table:

Emission Unit	Process Weight Rate (tons per hour)	Allowable Particulate Emission Rate (pounds per hour)
Mechanical Sand Reclamation Unit (EU13)	1.5	5.38
Thermal Sand Reclamation Unit (EU17)	1.0	4.10
Strong Scott Mixer (EU18)	6.0	13.6
Closter Mixer (EU19)	9.0	17.9
Palmer Core Mixer #1 (EU20)	6.0	13.6
Palmer Core Mixer #2 (EU21)	6.0	13.6

D.3.3 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 thermal sand reclamation unit (EU17), the two (2) sand mixers and the two core (2) mixers, known as EU18 through EU21, and their control devices.

Compliance Determination Requirements

D.3.4 Particulate Control

- (a) In order to comply with conditions D.3.1 and D.3.2, the baghouse for particulate control shall be in operation and control emissions from the thermal sand reclamation unit (EU17) at all times that the thermal sand reclamation unit (EU17) is in operation.
- (b) In order to comply with condition D.3.1, the inherent moisture and binder resins shall be used with the Strong Scott and Kloster sand mixers and the two (2) Palmer core mixers at all times that the mixers are in operation.

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

D.3.5 Visible Emissions Notations

- (a) Visible emission notations of the four (4) mixers (EU18 - EU21) and the thermal sand reclamation unit (EU17), respectively, 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 at any baghouse exhaust, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. Observation of abnormal emissions that do not violate 326 IAC 6-4 (Fugitive Dust Emissions) or an applicable opacity limit is not a deviation from this permit.

D.3.6 Parametric Monitoring

The Permittee shall record the total static pressure drop across the baghouse used in conjunction with the thermal sand reclamation unit (EU17) at least daily when the process is in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 2.0 to 8.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

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

D.3.7 Broken or Failed Bag Detection

- (a) For a single compartment baghouses controlling emissions from a process operated continuously, failed units and the associated process shall be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

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

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

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

D.3.8 Record Keeping Requirements

- (a) To document compliance with Condition D.3.5, the Permittee shall maintain records of daily visible emission notations of the four (4) mixers (EU18 - EU21) and the thermal sand reclamation unit (EU17), respectively.
- (b) To document compliance with Condition D.3.6, the Permittee shall maintain the following:
- (1) Daily records of the total static pressure drop during normal operation.
 - (2) Documentation of the dates vents are redirected.
- (c) To document compliance with Condition D.3.1(a)(1), the Permittee shall maintain records of combined sand throughput to the Kloster Sand Mixer (EU19), the Palmer Core Mixer #1 (EU20), the Palmer Core Mixer #2 (EU21), and the Strong Scott Sand Mixer (EU18) on a monthly basis.
- (d) To document compliance with Condition D.3.1(a)(2), the Permittee shall maintain records of the total sand throughput to the mechanical sand reclamation unit (EU13) on a monthly basis.
- (e) To document compliance with Condition D.3.1(a)(3), the Permittee shall maintain records of the total sand throughput to the thermal sand reclamation unit (EU17) on a monthly basis.
- (f) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.3.9 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.3.1 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

SECTION D.4 FACILITY OPERATION CONDITIONS

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

Cleaning/Finishing Operations

- (t) One (1) GOFF steel shot blast machine (located in the aluminum foundry and used for both foundries), known as EU14, equipped with a baghouse, installed in 1993, exhausted through Stack 4, capacity: 1.096 tons of aluminum or iron castings per hour.
- (u) One (1) small aluminum shot blast machine (located in the aluminum foundry and used for both foundries), known as EU15, equipped with a Viking baghouse, installed in 1993, exhausted inside the building, capacity: 0.16 tons of aluminum or iron castings per hour.
- (v) One (1) sand blaster machine (located in the aluminum foundry and used for both foundries), known as EU16, equipped with a Blast-It-All baghouse, installed in 1980, exhausted inside the building, capacity: 0.16 tons of aluminum or iron castings per hour.

Core and Mold Making Operations

- (w) U-180 core making operations used for both foundries, identified as EU24, including the following:
 - (1) One (1) U-180 core machine, utilizing a shell binder system, installed in 1998, capacity: 0.045 tons of cores per hour.
 - (2) One (1) U-180 core machine, utilizing a shell binder system, installed in January 2004, capacity: 0.045 tons of cores per hour.
 - (3) Two (2) U-180 core machines, each utilizing a shell binder system, installed in 2005, and each with maximum capacity of 0.045 tons of cores per hour.
- (x) One (1) CB-22 core machine (located in the aluminum foundry and used for both foundries), known as EU22, equipped with a caustic soda scrubber (does not have to be operated at all times), installed in 1998, capacity: 0.5 tons of cores per hour.
- (y) One (1) Dependable 420 core machine (located in the aluminum foundry and used for both foundries), known as EU23, equipped with a caustic soda scrubber (does not have to be operated at all times), installed in 1998, capacity: 0.5 tons of cores per hour.

Additional Operations

- (z) One (1) surface coating spray application process (in the mold and core making areas), known as EU26, installed in 1980, capacity: 8,637 pounds of coating materials per year.
- (aa) Fugitive outdoor waste sand storage and handling, known as EUF1, capacity 20 tons of waste foundry sand.

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

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

D.4.1 PM and PM₁₀ [326 IAC 2-8-4][326 IAC 2-2]

- (a) Pursuant to 326 IAC 2-8-4, and to render the requirements of 326 IAC 2-2 not applicable, the throughput for the cleaning/finishing operations shall be limited as follows:

- (1) The throughput of metal castings to the GOFF shot blast machine (EU14) shall not exceed 7,825 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
 - (2) The throughput of metal castings to the small shot blast machine (EU15) shall not exceed 1,174 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
 - (3) The throughput of metal castings to the sand blaster machine (EU16) shall not exceed 1,174 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (b) The PM emissions for the cleaning/finishing operations shall be limited as follows:
- (1) The PM emissions from the baghouse controlling the GOFF shot blast machine (EU14) shall not exceed 0.85 pound per ton of metal castings throughput;
 - (2) The PM emissions from the baghouse controlling the small shot blast machine (EU15) shall not exceed 0.85 pound per ton of metal castings throughput;
 - (3) The PM emissions from the baghouse controlling the sand blaster machine (EU16) shall not exceed 0.85 pound per ton of metal castings throughput.

Compliance with these emission limits is necessary to render the requirements of 326 IAC 2-2 not applicable.

- (c) Pursuant to 326 IAC 2-8-4, the PM10 emissions for the sand handling operations shall be limited as follows:
- (1) The PM10 emissions from the baghouse controlling the GOFF shot blast machine (EU14) shall not exceed 1.7 pounds per ton of metal castings throughput;
 - (2) The PM10 emissions from the baghouse controlling the small shot blast machine (EU15) shall not exceed 1.7 pounds per ton of metal castings throughput;
 - (3) The PM10 emissions from the baghouse controlling the sand blaster machine (EU16) shall not exceed 1.7 pounds per ton of metal castings throughput.

Compliance with these PM10 emission limits is necessary to satisfy 326 IAC 2-8-4. Therefore, the Part 70 rules (326 IAC 2-7) and 326 IAC 2-2 do not apply.

D.4.2 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 rates from the facilities listed in this section shall not exceed the stated particulate emission rates listed in the following table:

Emission Unit	Process Weight Rate (tons per hour)	Allowable Particulate Emission Rate (pounds per hour)
GOFF Shot Blaster (EU14)	1.096	4.36
Small Aluminum Shot Blaster (EU15)	0.16	1.2
Sand Blaster (EU16)	0.16	1.2

D.4.3 Volatile Organic Compounds [326 IAC 8-1-6]

Any change or modification which may increase the potential emissions of VOC to twenty-five (25) tons per year from the core machines (EU22 - EU24), the four (4) U-180 core machines, and/or pattern parting booth and the core release application area (EU26) must be approved by the Office of Air Quality before such change may occur.

D.4.4 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 two (2) shot blaster machines (EU14 and EU15) and the one (1) sand blaster machine (EU16) and their control devices.

Compliance Determination Requirements

D.4.5 Particulate Control

In order to comply with conditions D.4.1 and D.4.2, the baghouses for particulate control shall be in operation and control emissions from the two (2) shot blaster machines (EU14 and EU15) and the one (1) sand blaster machine (EU16) at all times that the two (2) shot blaster machines (EU14 and EU15) and the one (1) sand blaster machine (EU16) are in operation.

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

D.4.6 Visible Emissions Notations

- (a) Visible emission notations of the stack exhausts 4 and 12 for the GOFF shot blaster (EU14) 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 at any baghouse exhaust, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. Observation of abnormal emissions that do not violate 326 IAC 6-4 (Fugitive Dust Emissions) or an applicable opacity limit is not a deviation from this permit.

D.4.7 Parametric Monitoring

The Permittee shall record the total static pressure drop across the baghouse used in conjunction with the GOFF blaster (EU14) at least daily when the process is in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 2.0 to 8.0 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 - Other 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.4.8 Broken or Failed Bag Detection

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

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

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

D.4.9 Record Keeping Requirements

- (a) To document compliance with Condition D.4.8, the Permittee shall maintain records of daily visible emission notations of the stack exhausts 4 and 12 for the GOFF shot blaster (EU14).
- (b) To document compliance with Condition D.4.9, the Permittee shall maintain the following:
 - (1) Daily records of the pressure drop during normal operation.
 - (2) Documentation of the dates vents are redirected.
- (c) To document compliance with Condition D.4.1(a), the Permittee shall maintain records of the throughput of metal castings to each of the GOFF shot blast machine (EU14), the small shot blast machine (EU15) and the sand blaster machine on a monthly basis.
- (d) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.4.10 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.4.1 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

SECTION D.5

FACILITY OPERATION CONDITIONS

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

- (g) Degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6. Parts washer (covered cold cleaner), capacity: 40 gallon [326 IAC 8-3]
- (i) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, and welding equipment. [326 IAC 6-3-2]
- (o) Grinding and machining operations controller with fabric filters, scrubbers, mist collectors, wet collectors and electrostatic precipitators with a design grain loading of less than or equal to 0.03 grains per actual cubic foot and a gas flow rate less than or equal to 4,000 actual cubic feet per minute, including the following: deburring; buffing; polishing; abrasive blasting; pneumatic conveying; and woodworking operations. [326 IAC 6-3-2]
- (s) Other activities with insignificant thresholds:
 - (1) Two (2) electric heat treating machines;
 - (2) Woodworking activities in the pattern shop (sawing, cutting, routing and planing). [326 IAC 6-3-2]

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

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

D.5.1 Volatile Organic Compounds (VOC)

Pursuant to 326 IAC 8-3-2 (Cold Cleaner Operations), the owner or operator shall:

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

D.5.2 Volatile Organic Compounds (VOC)

(a) Pursuant to 326 IAC 8-3-5(a) (Cold Cleaner Degreaser Operation and Control), the owner or operator of a cold cleaner degreaser facility shall ensure that the following control equipment requirements are met:

- (1) Equip the degreaser with a cover. The cover must be designed so that it can be easily operated with one (1) hand if:

- (A) The solvent volatility is greater than two (2) kiloPascals (fifteen (15) millimeters of mercury or three-tenths (0.3) pounds per square inch) measured at thirty-eight degrees Celsius (38EC) (one hundred degrees Fahrenheit (100EF));
 - (B) The solvent is agitated; or
 - (C) The solvent is heated.
- (2) Equip the degreaser with a facility for draining cleaned articles. If the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38EC) (one hundred degrees Fahrenheit (100EF)), then the drainage facility must be internal such that articles are enclosed under the cover while draining. The drainage facility may be external for applications where an internal type cannot fit into the cleaning system.
- (3) Provide a permanent, conspicuous label which lists the operating requirements outlined in subsection (b).
- (4) The solvent spray, if used, must be a solid, fluid stream and shall be applied at a pressure which does not cause excessive splashing.
- (5) Equip the degreaser with one (1) of the following control devices if the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38EC) (one hundred degrees Fahrenheit (100EF)), or if the solvent is heated to a temperature greater than forty-eight and nine-tenths degrees Celsius (48.9EC) (one hundred twenty degrees Fahrenheit (120EF)):
- (A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.
 - (B) A water cover when solvent is used is insoluble in, and heavier than, water.
 - (C) Other systems of demonstrated equivalent control such as a refrigerated chiller or carbon adsorption. Such systems shall be submitted to the U.S. EPA as a SIP revision.
- (b) Pursuant to 326 IAC 8-3-5(b) (Cold Cleaner Degreaser Operation and Control), the owner or operator of a cold cleaning facility shall ensure that the following operating requirements are met:
- (1) Close the cover whenever articles are not being handled in the degreaser.
 - (2) Drain cleaned articles for at least fifteen (15) seconds or until dripping ceases.
 - (3) Store waste solvent only in covered containers and prohibit the disposal or transfer of waste solvent in any manner in which greater than twenty percent (20%) of the waste solvent by weight could evaporate.

D.5.3 Particulate Matter (PM) [326 IAC 6-3-2]

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

- (a) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, and welding equipment. [326 IAC 6-3-2]
- (b) Grinding and machining operations controller with fabric filters, scrubbers, mist collectors, wet collectors and electrostatic precipitators with a design grain loading of less than or equal to 0.03 grains per actual cubic foot and a gas flow rate less than or equal to 4,000 actual cubic feet per minute, including the following: deburring; buffing; polishing; abrasive blasting; pneumatic conveying; and woodworking operations. [326 IAC 6-3-2]
- (c) Other activities with insignificant thresholds:
 - (1) Woodworking activities in the pattern shop (sawing, cutting, routing and planing). [326 IAC 6-3-2]

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF AIR QUALITY

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP) CERTIFICATION

Source Name: Muncie Casting Corporation
Source Address: 1406 East 18th Street, Muncie, Indiana 47302
Mailing Address: P.O. Box 2328, Muncie, Indiana 47302
FESOP No.: F035-20291-00061

**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:

{ FORMCHECKBOX } Annual Compliance Certification Letter

{ FORMCHECKBOX } Test Result
(specify) _____

{ FORMCHECKBOX } Report
(specify) _____

{ FORMCHECKBOX } Notification
(specify) _____

{ FORMCHECKBOX } Affidavit
(specify) _____

{ FORMCHECKBOX } 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: Muncie Casting Corporation
Source Address: 1406 East 18th Street, Muncie, Indiana 47302
Mailing Address: P.O. Box 2328, Muncie, Indiana 47302
FESOP No.: F035-20291-00061

This form consists of 2 pages

Page 1 of 2

- { FORMCHECKBOX } This is an emergency as defined in 326 IAC 2-7-1(12)
- 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: Muncie Casting Corporation
Source Address: 1406 East 18th Street, Muncie, Indiana 47302
Mailing Address: P.O. Box 2328, Muncie, Indiana 47302
FESOP No.: F035-20291-00061
Facility: Iron charge handling (EU1), two (2) iron melt furnaces (EU2), iron magnesium treatment (EU3), iron pouring/casting (EU4), iron casting cooling (EU5), iron shakeout (EU6)
Parameter: Iron throughput to limit PM and PM10 emissions
Limit: The total throughput of iron to the iron foundry, including EU1, EU2, EU4, EU5, and EU6 shall not exceed 1,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;

The throughput of iron to the iron magnesium treatment operation (EU3) shall not exceed 200 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;

YEAR: _____

Month	Unit ID	Column 1	Column 2	Column 1 + Column 2
		Iron Throughput This Month (tons)	Iron Throughput Previous 11 Months (tons)	12 Month Total Iron Throughput (tons)
Month 1	EU1, EU2, EU4, EU5, EU6			
	EU3			
Month 2	EU1, EU2, EU4, EU5, EU6			
	EU3			
Month 3	EU1, EU2, EU4, EU5, EU6			
	EU3			

{ FORMCHECKBOX } No deviation occurred in this quarter.

{ FORMCHECKBOX } Deviation/s occurred in this quarter.

Deviation has been reported on: _____

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

Attach a signed certification to complete this report.

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

FESOP Quarterly Report

Source Name: Muncie Casting Corporation
Source Address: 1406 East 18th Street, Muncie, Indiana 47302
Mailing Address: P.O. Box 2328, Muncie, Indiana 47302
FESOP No.: F035-20291-00061
Facility: Five (5) 2300 lb and one (1) 700 lb melt furnaces (EU7), one (1) 300 lb melt furnace (EU8), aluminum magnesium treatment (EU9), aluminum pouring/casting (EU10), aluminum casting cooling (EU11), aluminum shakeout (EU12)
Parameter: Aluminum throughput to limit PM and PM10 emissions
Limit: The total throughput of aluminum to the aluminum foundry, including the five (5) 2,300 lb melting furnaces and one (1) 700 lb melting furnace (EU7), the one (1) 300 lb melting furnace (EU8), the aluminum pouring/casting operation (EU10), the aluminum casting cooling operation (EU11), and the aluminum shakeout operation (EU12), shall not exceed 12,042 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;

The throughput of aluminum to the aluminum magnesium treatment operation (EU9) shall not exceed 10,236 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;

YEAR: _____

Month	Unit ID	Column 1	Column 2	Column 1 + Column 2
		Aluminum Throughput This Month (tons)	Aluminum Throughput Previous 11 Months (tons)	12 Month Total Aluminum Throughput (tons)
Month 1	EU7, EU8, EU10, EU11, EU12			
	EU9			
Month 2	EU7, EU8, EU10, EU11, EU12			
	EU9			
Month 3	EU7, EU8, EU10, EU11, EU12			
	EU9			

{ FORMCHECKBOX } No deviation occurred in this quarter.

{ FORMCHECKBOX } Deviation/s occurred in this quarter.

Deviation has been reported on: _____

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

Attach a signed certification to complete this report.

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

FESOP Quarterly Report

Source Name: Muncie Casting Corporation
Source Address: 1406 East 18th Street, Muncie, Indiana 47302
Mailing Address: P.O. Box 2328, Muncie, Indiana 47302
FESOP No.: F035-20291-00061
Facility: Kloster Sand Mixer (EU19), Palmer Core Mixer #1 (EU20), Palmer Core Mixer #2 (EU21), Strong Scott Sand Mixer (EU18)
Parameter: Sand throughput to limit PM and PM10 emissions
Limit: The combined throughput of sand to EU18, EU19, EU20, and EU21 shall not exceed 9,675 tons per twelve (12) consecutive month period.

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	Sand Throughput This Month (tons)	Sand Throughput Previous 11 Months (tons)	12 Month Total Sand Throughput (tons)
Month 1			
Month 2			
Month 3			

{ FORMCHECKBOX } No deviation occurred in this quarter.

{ FORMCHECKBOX } Deviation/s occurred in this quarter.

Deviation has been reported on: _____

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

Attach a signed certification to complete this report.

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

FESOP Quarterly Report

Source Name: Muncie Casting Corporation
Source Address: 1406 East 18th Street, Muncie, Indiana 47302
Mailing Address: P.O. Box 2328, Muncie, Indiana 47302
FESOP No.: F035-20291-00061
Facility: mechanical sand reclamation unit (EU13), thermal sand reclamation unit (EU17)
Parameter: Sand throughput to limit PM and PM10 emissions
Limit: The throughput of sand to the mechanical sand reclamation unit (EU13) shall not exceed 9,675 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;

The throughput of sand to the thermal sand reclamation unit (EU17) shall not exceed 9,675 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

YEAR: _____

Month	Unit ID	Column 1	Column 2	Column 1 + Column 2
		Sand Throughput This Month (tons)	Sand Throughput Previous 11 Months (tons)	12 Month Total Sand Throughput (tons)
Month 1	EU13			
	EU17			
Month 2	EU13			
	EU17			
Month 3	EU13			
	EU17			

{ FORMCHECKBOX } No deviation occurred in this quarter.

{ FORMCHECKBOX } Deviation/s occurred in this quarter.

Deviation has been reported on: _____

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

Attach a signed certification to complete this report.

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

FESOP Quarterly Report

Source Name: Muncie Casting Corporation
Source Address: 1406 East 18th Street, Muncie, Indiana 47302
Mailing Address: P.O. Box 2328, Muncie, Indiana 47302
FESOP No.: F035-20291-00061
Facility: GOFF shot blast machine (EU14), small shot blast machine (EU15), sand blaster machine (EU16)

Parameter: Metal casting throughput to limit PM and PM10 emissions
Limit: The throughput of metal castings to the GOFF shot blast machine (EU14) shall not exceed 7,825 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;

The throughput of metal castings to the small shot blast machine (EU15) shall not exceed 1,174 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;

The throughput of metal castings to the sand blaster machine (EU16) shall not exceed 1,174 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

YEAR: _____

Month	Unit ID	Column 1	Column 2	Column 1 + Column 2
		Metal Casting Throughput This Month (tons)	Metal Casting Throughput Previous 11 Months (tons)	12 Month Total Metal Casting Throughput (tons)
Month 1	EU14			
	EU15			
	EU16			
Month 2	EU14			
	EU15			
	EU16			
Month 3	EU14			
	EU15			
	EU16			

{ FORMCHECKBOX } No deviation occurred in this quarter.

{ FORMCHECKBOX } Deviation/s occurred in this quarter.
Deviation has been reported on: _____

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

Attach a signed certification to complete this report.

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

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

Source Name: Muncie Casting Corporation
Source Address: 1406 East 18th Street, Muncie, Indiana 47302
Mailing Address: P.O. Box 2328, Muncie, Indiana 47302
FESOP No.: F035-20291-00061

Months: _____ to _____ Year: _____

<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>	
<p><input type="checkbox"/> NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.</p>	
<p><input type="checkbox"/> THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD</p>	
<p>Permit Requirement (specify permit condition #)</p>	
<p>Date of Deviation:</p>	<p>Duration of Deviation:</p>
<p>Number of Deviations:</p>	
<p>Probable Cause of Deviation:</p>	
<p>Response Steps Taken:</p>	
<p>Permit Requirement (specify permit condition #)</p>	
<p>Date of Deviation:</p>	<p>Duration of Deviation:</p>
<p>Number of Deviations:</p>	
<p>Probable Cause of Deviation:</p>	
<p>Response Steps Taken:</p>	

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

Form Completed By: _____

Title/Position: _____

Date: _____

Phone: _____

Attach a signed certification to complete this report.

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

Addendum to the Technical Support Document (TSD) for a
Renewal to a FESOP Operating Permit

Source Background and Description

Source Name:	Muncie Casting Corporation
Source Location:	1406 East 18th Street, Muncie, IN 47302
County:	Delaware
SIC Code:	3365, 3321
Operation Permit No.:	F035-9977-00061
Operation Permit Issuance Date:	October 6, 2000
Permit Renewal No.:	F035-20291-00061
Permit Reviewer:	GSN/EVP

On December 16, 2005, the Office of Air Quality (OAQ) had a notice published in the Muncie Star Press, Muncie, Indiana, stating that Muncie Casting Corporation had applied for a Renewal to their FESOP Permit F035-9977-00061. The notice also stated that OAQ proposed to issue a permit for this operation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

Upon further review, the permit reviewer found a typographical error in the permit after it went on Public Notice. This addendum corrects the error. Changes made to the permit as a result of the comments are shown in bold and deleted permit language is shown with a line through it. Any permit changes affecting the permit's Table of Contents are also revised without replication herein.

D.2.1 PM, PM₁₀ and CO [326 IAC 2-8-4][326 IAC 2-2]

- (d) Pursuant to 326 IAC 2-8-4, the CO emissions from the pouring, cooling and shakeout operations in the ~~iron~~ **aluminum** foundry shall be limited to 15.2 pound per ton of aluminum throughput.

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

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

Source Background and Description

Source Name:	Muncie Casting Corporation
Source Location:	1406 East 18th Street, Muncie, IN 47302
County:	Delaware
SIC Code:	3365, 3321
Operation Permit No.:	035-9977-00061
Operation Permit Issuance Date:	October 6, 2000
Permit Renewal No.:	035-20291-00061
Permit Reviewer:	Ganesh Srinivasan/EVP

The Office of Air Quality (OAQ) has reviewed a FESOP renewal application from Muncie Casting Corporation relating to the operation of a stationary iron and aluminum castings production plant.

Permitted Emission Units and Pollution Control Equipment

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

Iron Foundry

- (a) One (1) charge handling operation, known as EU1, installed in 1992, capacity: 0.45 tons of iron per hour.
- (b) Two (2) electric melting furnaces, known as the 1,000 pound and the 500 pound furnaces, known as EU2, installed in 1992, throughput capacity: 0.45 tons of iron per hour total limited by single power supply.
- (c) One (1) magnesium treatment of ductile iron operation, known as EU3, installed in 1992, capacity: 0.09 tons of iron per hour.
- (d) One (1) pouring/casting operation, known as EU4, installed in 1992, capacity: 0.45 tons of iron per hour.
- (e) One (1) casting cooling operation, known as EU5, installed in 1992, capacity: 0.45 tons of iron castings per hour.
- (f) One (1) shakeout operation (physically located in the aluminum foundry), known as EU6, installed in 1992, capacity: 0.45 tons of iron castings per hour.

Note exhaust fans #1, #2 and #3 are located above the pouring lines and furnaces in the Iron Foundry.

Aluminum Foundry

- (g) Six (6) electric melting furnaces, consisting of five (5) (2,300-pound furnaces) and one (1) (700 pound furnace), collectively known as EU7, with three (3) of the 2,300-pound furnaces and the one (1) 700 pound furnace installed in 1992, and two (2) of the 2,300- pound furnaces installed in June 2003, throughput capacity: 1.39 tons of aluminum per hour for the five (5) (2,300 pound furnaces) and 0.23 tons of aluminum per hour for the one (1) (700 pound furnace), total throughput capacity: 1.62 tons of aluminum per hour.

- (h) One (1) natural gas-fired melting furnace, (300 pound furnace) known as EU8, rated at 1.0 million British thermal units per hour, installed in 1980, capacity: 0.09 tons of aluminum per hour.
- (i) One (1) magnesium treatment in the aluminum foundry, known as EU9, installed in 1992, capacity: 1.45 tons of magnesium per hour, 1.17 tons of aluminum per hour.
- (j) One (1) pouring/casting operation, known as EU10, installed in 1980, capacity: 1.71 tons of aluminum per hour.
- (k) One (1) casting cooling operation, known as EU11, installed in 1980, capacity: 1.71 tons of aluminum per hour.
- (l) One (1) shakeout operation, known as EU12, installed in 1980, capacity: 1.71 tons of aluminum per hour.

Note exhaust fans #5 through #8 are located above or near the cooling lines and the 700 pound and two (2) 2,300 pound furnaces in the Aluminum Foundry.

Sand Handling Operations

- (m) One (1) mechanical sand reclamation unit (located in the aluminum foundry and used for both foundries), known as EU13, installed in 1991, capacity: 1.5 tons of sand per hour.
- (n) One (1) thermal sand reclamation unit (located in the aluminum foundry and used for both foundries), known as EU17, equipped with two (2) natural gas-fired burners, rated at 1.0 million British thermal units per hour each, equipped with a baghouse, installed in 1998, exhausted through Stack 12, capacity: 1 ton of sand per hour.
- (o) One (1) Strong Scott sand mixer (located in the iron foundry and used for both foundries), known as EU18, utilizing a phenolic urethane nobake binder system, installed in 1980, capacity: 6.0 tons of sand per hour.
- (p) One (1) Kloster sand mixer (located in the aluminum foundry and used for both foundries), known as EU19, utilizing a phenolic urethane nobake binder system, installed in 1994, capacity: 9.0 tons of sand per hour.
- (q) One (1) Palmer core mixer #1 (located in the aluminum foundry and used for both foundries), known as EU20, utilizing a phenolic urethane nobake binder system, installed in 1994, capacity: 6.0 tons of sand per hour.
- (r) One (1) Palmer core mixer #2 (located in the aluminum foundry and used for both foundries), known as EU21, utilizing an acrylic-epoxy cold box binder system, installed in 1998, capacity: 6.0 tons of sand per hour.
- (s) Three (3) sand storage silos, equipped with bin-top filler banks exhausted through Stacks #9, #10 and #11, capacity: 10, 40 and 40 tons, respectively, throughput 1,462.25 tons of sand per year total; [326 IAC 6-3-2]

Cleaning/Finishing Operations

- (t) One (1) GOFF steel shot blast machine (located in the aluminum foundry and used for both foundries), known as EU14, equipped with a baghouse, installed in 1993, exhausted through Stack 4, capacity: 1.096 tons of aluminum or iron castings per hour.

- (u) One (1) small aluminum shot blast machine (located in the aluminum foundry and used for both foundries), known as EU15, equipped with a Viking baghouse, installed in 1993, exhausted inside the building, capacity: 0.16 tons of aluminum or iron castings per hour.
- (v) One (1) sand blaster machine (located in the aluminum foundry and used for both foundries), known as EU16, equipped with a Blast-It-All baghouse, installed in 1980, exhausted inside the building, capacity: 0.16 tons of aluminum or iron castings per hour.

Core and Mold Making Operations

- (w) U-180 core making operations used for both foundries, identified as EU24, including the following:
 - (1) One (1) U-180 core machine, utilizing a shell binder system, installed in 1998, capacity: 0.045 tons of cores per hour.
 - (2) One (1) U-180 core machine, utilizing a shell binder system, installed in January 2004, capacity: 0.045 tons of cores per hour.
 - (3) Two (2) U-180 core machines, each utilizing a shell binder system, installed in 2005, and each with maximum capacity of 0.045 tons of cores per hour.
- (x) One (1) CB-22 core machine (located in the aluminum foundry and used for both foundries), known as EU22, equipped with a caustic soda scrubber (does not have to be operated at all times), installed in 1998, capacity: 0.5 tons of cores per hour.
- (y) One (1) Dependable 420 core machine (located in the aluminum foundry and used for both foundries), known as EU23, equipped with a caustic soda scrubber (does not have to be operated at all times), installed in 1998, capacity: 0.5 tons of cores per hour.

Additional Operations

- (z) One (1) surface coating spray application process (in the mold and core making areas), known as EU26, installed in 1980, capacity: 8,637 pounds of coating materials per year.
- (aa) Fugitive outdoor waste sand storage and handling, known as EUF1, capacity 20 tons of waste foundry sand.

Unpermitted Emission Units and Pollution Control Equipment

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

New Emission Units and Pollution Control Equipment Receiving Advanced Source Modification Approval

There are no new facilities proposed at this source during this review process.

Insignificant Activities

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

- (a) A petroleum fuel, other than gasoline, dispensing facility, having a storage capacity of less than or equal to 10,500 gallons, and dispensing less than or equal to 230,000 gallons per month.

- (b) The following VOC and HAP storage containers: storage tanks with capacity less than or equal to 1,000 gallons and annual throughputs less than 12,000 gallons; vessels storing lubricating oil, hydraulic oils, machining oils, and machining fluids.
- (c) Refractory storage not requiring air pollution control equipment.
- (d) Equipment used exclusively for the following: Packaging lubricants and greases, filling drums, pails or other packaging containers with lubricating oils, waxes, and greases.
- (e) Application of oils, greases lubricants or other nonvolatile materials applied as temporary protective coatings.
- (f) Machining where an aqueous cutting coolant continuously floods the machining interface.
- (g) Degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6. Parts washer (covered cold cleaner), capacity: 40 gallon [326 IAC 8-3]
- (h) Cleaners and solvents characterized as follows: having a vapor pressure equal to or less than 2 kiloPascals; 15 millimeters of mercury; or 0.3 pounds per square inch measured at 38EC (100EF) or; 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 20EC (68EF); the use of which for all cleaners and solvents combined does not exceed 145 gallons per 12 months.
- (i) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, and welding equipment. [326 IAC 6-3-2]
- (j) Closed loop heating and cooling systems.
- (k) Any operation using aqueous solutions containing less than 1 percent by weight of VOCs excluding HAPs.
- (l) Water based adhesives that are less than or equal to 5 percent by volume of VOCs excluding HAPs.
- (m) Replacement or repair of electrostatic precipitators, bags in baghouses and filters in other air filtration equipment.
- (n) Paved and unpaved roads and parking lots with public access.
- (o) Grinding and machining operations controller with fabric filters, scrubbers, mist collectors, wet collectors and electrostatic precipitators with a design grain loading of less than or equal to 0.03 grains per actual cubic foot and a gas flow rate less than or equal to 4,000 actual cubic feet per minute, including the following: deburring; buffing; polishing; abrasive blasting; pneumatic conveying; and woodworking operations. [326 IAC 6-3-2]
- (p) Filter or coalescer media changeout.
- (q) Mold release agents using low volatile products (vapor pressure less than or equal to 2 kiloPascals measured at 38EC).
- (r) A laboratory as defined in 326 IAC 2-7-1(21)(D).
- (s) Other activities with insignificant thresholds:
 - (1) Two (2) electric heat treating machines;

- (2) Woodworking activities in the pattern shop (sawing, cutting, routing and planing). [326 IAC 6-3-2]
- (t) Experimental sand and shot blasters for research and development.
- (u) One (1) electric heat treat furnace with no emissions.

Existing Approvals

The source has been operating under the previous FESOP 035-9977-00061 issued on October 6, 2000, and the following amendments and revisions:

- (a) FESOP SPR 035-19855-00061 issued on July 26, 2005

All conditions from previous approvals were incorporated into this FESOP.

Power Supply Limits Melt Capacity

The company has justified in the original FESOP that the two (2) iron melting furnaces cannot be operated simultaneously due to power supply limitations. The source has claimed that a major modification with a significant capital investment would be required in order to allow both furnaces to operate simultaneously. The iron melting capacity has been stated as 0.45 tons of iron per hour total. A condition in the proposed permit will limit the iron melt throughput to 0.45 tons per hour. The PTE for the iron side of the source was based on the power limit for the furnaces for all iron production processes.

Enforcement Issue

There are no enforcement actions pending.

Recommendation

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

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

An administratively complete FESOP renewal application for the purposes of this review was received on January 7, 2005.

Emission Calculations

See Appendix A of this document for detailed emissions calculations (Pages 1 through 9).

Unrestricted Potential Emissions

This table reflects the unrestricted potential emissions of the source, including the emission limits that were contained in the previous FESOP.

Pollutant	Unrestricted Potential Emissions (tons/yr)
PM	> 250
PM-10	> 100, < 250
SO ₂	< 25
VOC	< 100
CO	< 100
NO _x	< 25

HAPs	Unrestricted Potential Emissions (tons/yr)
Formaldehyde	Less than 10
Benzene	Less than 10
Toluene	Less than 10
Xylenes	Less than 10
Phenol	Less than 10
Naphthalene	Less than 10
MEK	Less than 10
Acrolein	Less than 10
Total	Less than 25

The unrestricted potential emissions of pollutants are equal to or greater than 100 tons per year. Therefore, the source is subject to the provisions of 326 2-7. The source will be issued a FESOP because the source will limit its emissions below the Title V levels.

Potential to Emit After Issuance

The source has opted to remain a FESOP source. The table below summarizes the potential to emit, reflecting all limits of the emission units. Any control equipment is considered enforceable only after issuance of this FESOP and only to the extent that the effect of the control equipment is made practically enforceable in the permit. Since the source has not constructed any new emission units, the source’s potential to emit is based on the emission units included in the original FESOP.

Process/facility	Potential to Emit (tons/year)						
	PM	PM-10	SO ₂	VOC	CO	NO _x	HAPs
Iron Charge Handling (EU1) ⁽¹⁾	0.30	0.18	0.00	0.00	0.00	0.00	0.00
Two (2) iron melt furnaces (EU2) ⁽¹⁾	0.45	0.43	0.00	0.00	0.00	0.00	0.00
Magnesium treatment for iron (EU3) ⁽¹⁾	0.18	0.18	0.00	0.00	0.00	0.00	0.00
Iron Pouring/casting (EU4) & Iron Casting cooling (EU5) ⁽¹⁾⁽²⁾	2.10	1.03	0.01	0.07	3.50	0.01	See EU10, EU11, and EU12 for emissions
Iron Foundry Shakeout (EU6) ⁽¹⁾⁽²⁾	1.60	1.12	0.00	0.60	3.50	0.00	
Four (4) U-180 core machines (EU24) ⁽³⁾	0.00	0.00	0.00	22.00	0.00	0.00	0.00
Six (6) aluminum melt furnaces (EU7) ⁽⁴⁾ and One (1) 300 pound aluminum melt furnace (EU8) ⁽⁴⁾⁽⁵⁾	11.44	10.24	0.00	1.20	0.00	0.00	0.00
Magnesium treatment for aluminum (EU9) ⁽⁴⁾	9.21	9.21	0.00	0.00	0.00	0.00	0.00
Aluminum Pouring/casting & Casting cooling (EU10 & EU11) ⁽²⁾⁽⁴⁾	25.29	12.40	0.12	0.84	42.15	0.06	6.59 (includes EU4, EU5, and EU6)
Aluminum Foundry Shakeout (EU12) ⁽²⁾⁽⁴⁾	19.27	13.49	0.00	7.23	42.15	0.00	
Mechanical Sand Reclamation (EU13) ⁽⁶⁾	17.42	2.61	0.00	0.00	0.00	0.00	0.00

Process/facility	PM	PM-10	SO ₂	VOC	CO	NO _x	HAPs
GOFF steel shot blast machine (EU14) ⁽⁷⁾	3.33	0.33	0.00	0.00	0.00	0.00	0.00
Small Aluminum shot blast machine (EU15) ⁽⁸⁾	0.50	0.05	0.00	0.00	0.00	0.00	0.00
Sand blaster machine (EU16) ⁽⁹⁾	0.50	0.05	0.00	0.00	0.00	0.00	0.00
Thermal sand reclamation (EU17) ⁽⁵⁾⁽⁶⁾	0.48	0.48	0.01	0.05	0.74	0.88	0.02
Strong Scott sand mixer (EU18) ⁽¹⁰⁾ + Kloster sand mixer (EU19) ⁽¹⁰⁾ + Palmer core mixer #1 (EU20) ⁽¹⁰⁾ + Palmer core mixer #2 (EU21) ⁽¹⁰⁾	1.74	0.26	0.00	0.00	0.00	0.00	0.00
CB-22 core machine (EU22) and Dependable 420 core machine (EU23) ⁽¹¹⁾	0.00	0.00	3.75	10.49	0.00	0.00	1.03
Surface coating (EU26)	0.51	0.51	0.00	2.64	0.00	0.00	0.07
Fugitive outdoor waste sand storage and handling (EUF1)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Emissions	94.30	52.57	3.89	45.12	92.03	0.95	7.69

Notes:

- (1) Emissions from the iron melting and casting process are based on a limited iron throughput of 1,000 tons per twelve (12) consecutive month period.
- (2) HAP emissions from pouring, cooling, and shakeout are based on the total source-wide binder usage and therefore represent combined emissions from pouring, cooling, and shakeout at both the iron and aluminum foundries.
- (3) Emissions from the four U-180 core machines are based on a maximum resin bonded sand throughput of 800,000 pounds per twelve (12) consecutive month period.
- (4) Emissions from the aluminum melting and casting process are based on a limited aluminum throughput of 12,042 tons per twelve (12) consecutive month period.
- (5) Emissions from the one (1) 300 pound melt furnace and the thermal sand reclamation include emissions from natural gas combustion.
- (6) Emissions from mechanical sand reclamation and thermal sand reclamation are each based on a maximum sand throughput of 9,675 tons per twelve (12) consecutive month period.
- (7) Emissions from the GOFF shotblast machine are based on a maximum metal (aluminum and iron) throughput of 7,825 tons per twelve (12) consecutive month period.
- (8) Emissions from the Small aluminum shotblast machine are based on a maximum metal (aluminum and iron) throughput of 1,174 tons per twelve (12) consecutive month period.
- (9) Emissions from the Sand blaster machine are based on a maximum metal (aluminum and iron) throughput of 1,174 tons per twelve (12) consecutive month period.
- (10) Emissions from sand and core mixers are based on a maximum sand throughput of 9,675 tons per twelve (12) consecutive month period.
- (11) As stated in the original FESOP, SO₂ gas emissions from these core machines are from the Isoset activator component.

The sand mixers and the core making machines do not have PM control devices. Even though there is not a PM control device physically attached to each of the four sand mixers, a 90% control efficiency is included for each mixer in the emission calculations. The source's rationale for using this control efficiency as included in the original FESOP is as follows:

- (a) The thermal reclamation unit is used to remove the fines from 100% of the new virgin sand coming into the facility, and so there are very little fines left by the time this new sand reaches the sand mixers.
- (b) The spent sand that is recycled from shakeout back into the sand mixing / handling process must first pass through a sand storage silo that contains a dry filter bank. Therefore, any fines generated from this spent sand is removed prior to being fed into the mixers. In addition, this spent sand would still contain some of the resin material that was not completely burned off during pouring, cooling and shakeout. Although the spent sand is dry, it is contained within completely enclosed systems all the way from the mechanical sand reclamation unit to the point at the mixer heads where the binders and catalyst are added.
- (c) The sand mixers themselves are completely enclosed, thereby eliminating the opportunity for PM to escape into the plant.
- (d) The sand being processed through the mixers is already moist because it has been treated with liquid resin or binder materials. Since this sand is already wet, there is little opportunity for fines to be generated within this process operation.
- (e) If there was as much PM being generated at these sand mixers as indicated by AP-42, the facility would quickly become overcome by airborne dust and the visibility in the plant would be too poor to continue operations. This is not the case based upon actual conditions within this facility.
- (f) The AP-42 emission factor for sand handling assumes a dry, fine grained material is being handled and processed, which is not the case in these mixers.

Because of these factors, the applicant believes that it is appropriate to use a 90% control efficiency. IDEM concurs with the applicant's rationale, and therefore the 90% control efficiency has been used for these mixers, EU18 through EU21.

The existing source is a minor stationary source because the potential to emit of all pollutants is less than 100 tons per year, and it is one of the 28 listed source categories. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply. Also, this existing source is a minor stationary source under 326 IAC 2-3, Emission Offset, because the potential to emit of VOC and NOx is less than 100 tons per year. Therefore, pursuant to 326 IAC 2-3, the Emission Offset requirements do not apply.

County Attainment Status

The source is located in Delaware County.

Pollutant	Status
PM2.5	Attainment or Unclassifiable
PM10	Attainment
SO ₂	Attainment
NO ₂	Attainment
1-hour Ozone	Attainment
8-hour Ozone	Basic Nonattainment
CO	Attainment
Lead	Attainment

- (a) Volatile organic compounds (VOC) and Nitrogen Oxides (NOx) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NOx emissions are considered when evaluating the rule applicability relating to the ozone standards. Delaware County has been designated as nonattainment for the 8-hour ozone standard. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Emission Offset, 326 IAC 2-3.
- (b) Delaware County has been classified as unclassifiable or attainment for PM2.5. U.S. EPA has not yet established the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 for PM 2.5 emissions. Therefore, until the U.S.EPA adopts specific provisions for PSD review for PM2.5 emissions, it has directed states to regulate PM10 emissions as surrogate for PM2.5 emissions. See the State Rule Applicability for the source section.
- (c) Delaware County has been classified as attainment or unclassifiable in Indiana for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability for the source section.

Source Status

Existing Source FESOP Definition (emissions after controls, based on 8760 hours of operation per year at rated capacity and/or as otherwise limited):

Pollutant	Emissions (tons/yr)
PM	94.30
PM-10	52.57
SO ₂	3.89
VOC	45.12
CO	92.03
NO _x	0.95
Single HAP	3.95
Combination HAPs	7.69

- (a) This existing source is not a major stationary source because even though it is one of the 28 listed source categories, it does not emit 100 tons per year or greater of any regulated pollutant.

Federal Rule Applicability

- (a) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included in this permit for this source.
- (b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAP)(326 IAC 14, 20 and 40 CFR Part 61, 63) included in this permit for this source.
- (c) This source is not subject to the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP), 40 CFR 63.1500 through 63.1519, Subpart RRR, because pursuant to 40 CFR 63.1500 (d), the requirements of this subpart do not apply to manufacturers of aluminum die castings, aluminum foundries, or aluminum extruders that melt no materials other than clean charge and materials generated within the facility; and that also do not operate a thermal chip dryer, sweat furnace or scrap dryer/delacquering kiln/decoating kiln. This source only melts clean charge and does not operate a thermal chip dryer, sweat furnace or scrap dryer/delacquering kiln/decoating kiln, therefore, the requirements of this rule do not apply.

- (d) On April 22, 2004, U.S. EPA promulgated a NESHAP for iron and steel foundries. The NESHAP, 40 CFR 63.7680 - 63.7762, Subpart EEEEE, applies to each new or existing iron and steel foundry that is a major source of HAPs. A major source of HAPs is a source that emits or has the potential to emit any single HAP at a rate of 10 tons or more per year or any combination of HAPs at a rate of 25 tons or more per year. This source is not a major source of HAPs and is therefore not subject to this rule.

State Rule Applicability – Entire Source

326 IAC 1-6-3 (Preventive Maintenance Plan)

The source has submitted a Preventive Maintenance Plan (PMP) on October 6, 2000. This PMP has been verified to fulfill the requirements of 326 IAC 1-6-3 (Preventive Maintenance Plan).

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

Since the source is melting and casting iron, it is considered a secondary metal production plant, and therefore one of the 28 listed source categories. The source has accepted throughput limits for aluminum, iron and sand for the emission units at this source, so that source-wide PM emissions, including potential PM emissions from insignificant activities, are limited to less than 100 tons per year making this a minor PSD source. The limits pursuant to 326 IAC 2-8-4 (FESOP) will limit source-wide PM10 emissions to less than 100 tons per year. Therefore, this source is a minor source under PSD because it is one of the twenty eight (28) listed source categories under this rule and the potential emissions of all regulated criteria pollutants are limited to less than 100 tons per year. The PSD minor limits for PM are as follows:

- (a) The total throughput of iron to the iron foundry, including the iron charge handling operation (EU1), the two (2) electric melting furnaces (EU2), the iron pouring/casting operation (EU4), the iron casting cooling operation (EU5), and the iron shakeout operation (EU6) shall not exceed 1,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (b) PM emissions from the iron charge handling operation (EU1) shall not exceed 0.60 pound per ton of iron throughput;
- (c) Total PM emissions from the two (2) electric melting furnaces (EU2) shall not exceed 0.90 pound per ton of combined iron throughput;
- (d) Total PM emissions from the iron pouring/casting operation (EU4) and the iron casting cooling operation (EU5) shall not exceed 4.2 pounds per ton of iron throughput;
- (e) PM emissions from the iron shakeout operation (EU6) shall not exceed 3.2 pounds per ton of iron throughput;
- (f) The throughput of iron to the iron magnesium treatment operation (EU3) shall not exceed 200 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (g) PM emissions from the iron magnesium treatment operation (EU3) shall not exceed 1.80 pounds per ton of iron throughput;
- (h) The total throughput of aluminum to the aluminum foundry, including the five (5) 2,300 lb melting furnaces and one (1) 700 lb melting furnace (EU7), the one (1) 300 lb melting furnace (EU8), the aluminum pouring/casting operation (EU10), the aluminum casting cooling operation (EU11), and the aluminum shakeout operation (EU12), shall not exceed 12,042 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;

- (i) Total PM emissions from the five (5) 2,300 lb melting furnaces and one (1) 700 lb melting furnace (EU7), and the one (1) 300 lb melting furnace (EU8) shall not exceed 1.90 pounds per ton of aluminum throughput;
- (j) Total PM emissions from the aluminum pouring/casting operation (EU10) and the aluminum casting cooling operation (EU11) shall not exceed 4.2 pounds per ton of aluminum throughput;
- (k) PM emissions from the aluminum shakeout operation (EU12) shall not exceed 3.2 pounds per ton of iron throughput;
- (l) The throughput of aluminum to the aluminum magnesium treatment operation (EU9) shall not exceed 10,236 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (m) PM emissions from the aluminum magnesium treatment operation (EU9) shall not exceed 1.80 pounds per ton of aluminum throughput;
- (n) The combined throughput of sand to the Kloster Sand Mixer (EU19), the Palmer Core Mixer #1 (EU20), the Palmer Core Mixer #2 (EU21), and the Strong Scott Sand Mixer (EU18) shall not exceed 9,675 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (o) Total PM emissions from the Kloster Sand Mixer (EU19), the Palmer Core Mixer #1 (EU20), the Palmer Core Mixer #2 (EU21), and the Strong Scott Sand Mixer (EU18) shall not exceed 0.36 pounds per ton of sand throughput. The inherent moisture and binder resins shall be used with the Strong Scott and Kloster sand mixers and the two (2) Palmer core mixers at all times that the mixers are in operation, in order to comply with this limit;
- (p) The throughput of sand to the mechanical sand reclamation unit (EU13) shall not exceed 9,675 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (q) PM emissions from the mechanical sand reclamation unit (EU13) shall not exceed 3.6 pounds per ton of sand throughput;
- (r) The throughput of sand to the thermal sand reclamation unit (EU17) shall not exceed 9,675 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (s) PM emissions from the baghouse controlling the thermal sand reclamation unit (EU17) shall not exceed 0.10 pound per ton of sand throughput;
- (t) The throughput of metal castings to the GOFF shot blast machine (EU14) shall not exceed 7,825 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (u) The PM emissions from the baghouse controlling the GOFF shot blast machine (EU14) shall not exceed 0.85 pound per ton of metal castings throughput;
- (v) The throughput of metal castings to the small shot blast machine (EU15) shall not exceed 1,174 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (w) The PM emissions from the baghouse controlling the small shot blast machine (EU15) shall not exceed 0.85 pound per ton of metal castings throughput;

- (x) The throughput of metal castings to the sand blaster machine (EU16) shall not exceed 1,174 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (y) The PM emissions from the baghouse controlling the sand blaster machine (EU16) shall not exceed 0.85 pound per ton of metal castings throughput.

326 IAC 2-6 (Emission Reporting)

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

326 IAC 2-8-4 (FESOP)

Pursuant to this rule, the emissions 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 source has accepted throughput limits for aluminum, iron and sand for the emission units at this source, so that source-wide PM₁₀ emissions, including potential PM₁₀ emissions from insignificant activities, are limited to less than 100 tons per year to comply with 326 IAC 2-8-4. These limits will also render 326 IAC 2-2 (PSD) not applicable. The PM₁₀ limits are as follows:

- (a) The total throughput of iron to the iron foundry, including the iron charge handling operation (EU1), the two (2) electric melting furnaces (EU2), the iron pouring/casting operation (EU4), the iron casting cooling operation (EU5), and the iron shakeout operation (EU6) shall not exceed 1,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (b) PM₁₀ emissions from the iron charge handling operation (EU1) shall not exceed 0.36 pound per ton of iron throughput;
- (c) Total PM₁₀ emissions from the two (2) electric melting furnaces (EU2) shall not exceed 0.86 pound per ton of combined iron throughput;
- (d) Total PM₁₀ emissions from the iron pouring/casting operation (EU4) and the iron casting cooling operation (EU5) shall not exceed 2.06 pound per ton of iron throughput;
- (e) PM₁₀ emissions from the iron shakeout operation (EU6) shall not exceed 2.24 pounds per ton of iron throughput;
- (f) The throughput of iron to the iron magnesium treatment operation (EU3) shall not exceed 200 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (g) PM₁₀ emissions from the iron magnesium treatment operation (EU3) shall not exceed 1.80 pounds per ton of iron throughput;
- (h) The total throughput of aluminum to the aluminum foundry, including the five (5) 2,300 lb melting furnaces and one (1) 700 lb melting furnace (EU7), the one (1) 300 lb melting furnace (EU8), the aluminum pouring/casting operation (EU10), the aluminum casting cooling operation (EU11), and the aluminum shakeout operation (EU12), shall not exceed 12,042 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (i) Total PM₁₀ emissions from the five (5) 2,300 lb melting furnaces and one (1) 700 lb melting furnace (EU7), and the one (1) 300 lb melting furnace (EU8) shall not exceed 1.70 pounds per ton of aluminum throughput;

- (j) Total PM₁₀ emissions from the aluminum pouring/casting operation (EU10) and the aluminum casting cooling operation (EU11) shall not exceed 2.06 pound per ton of aluminum throughput;
- (k) PM₁₀ emissions from the aluminum shakeout operation (EU12) shall not exceed 2.24 pounds per ton of iron throughput;
- (l) The throughput of aluminum to the aluminum magnesium treatment operation (EU9) shall not exceed 10,236 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (m) PM₁₀ emissions from the aluminum magnesium treatment operation (EU9) shall not exceed 1.80 pounds per ton of aluminum throughput;
- (n) The combined throughput of sand to the Kloster Sand Mixer (EU19), the Palmer Core Mixer #1 (EU20), the Palmer Core Mixer #2 (EU21), and the Strong Scott Sand Mixer (EU18) shall not exceed 9,675 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (o) Total PM₁₀ emissions from the Kloster Sand Mixer (EU19), the Palmer Core Mixer #1 (EU20), the Palmer Core Mixer #2 (EU21), and the Strong Scott Sand Mixer (EU18) shall not exceed 0.54 pounds per ton of sand throughput;
- (p) The throughput of sand to the mechanical sand reclamation unit (EU13) shall not exceed 9,675 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (q) PM₁₀ emissions from the mechanical sand reclamation unit (EU13) shall not exceed 0.54 pounds per ton of sand throughput;
- (r) The throughput of sand to the thermal sand reclamation unit (EU17) shall not exceed 9,675 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (s) PM₁₀ emissions from the baghouse controlling the thermal sand reclamation unit (EU17) shall not exceed 4.926 pounds per ton of sand throughput;
- (t) The throughput of metal castings to the GOFF shot blast machine (EU14) shall not exceed 7,825 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (u) The PM₁₀ emissions from the baghouse controlling the GOFF shot blast machine (EU14) shall not exceed 1.7 pounds per ton of metal castings throughput;
- (v) The throughput of metal castings to the small shot blast machine (EU15) shall not exceed 1,174 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (w) The PM₁₀ emissions from the baghouse controlling the small shot blast machine (EU15) shall not exceed 1.7 pounds per ton of metal castings throughput;
- (x) The throughput of metal castings to the sand blaster machine (EU16) shall not exceed 1,174 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (y) The PM₁₀ emissions from the baghouse controlling the sand blaster machine (EU16) shall not exceed 1.7 pounds per ton of metal castings throughput.

Based on new information obtained by IDEM regarding CO emissions from foundry operations, CO limits have been incorporated into the permit to ensure that CO emissions from the source are less than 100 tons per year.

326 IAC 5-1 (Opacity Limitations)

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

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

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

The operation of this stationary aluminum and gray and ductile iron foundry will emit less than 10 tons per year of a single HAP or 25 tons per year of a combination of HAPs. Therefore, 326 IAC 2-4.1 does not apply.

State Rule Applicability – Individual Facilities

326 IAC 2-8-4(9) (Preventive Maintenance Plan)

A Preventive Maintenance Plan is not required for the EU1 through EU12, EU22 through EU24 and EU26 because the emission units do not have controls and the actual PM emissions are less than twenty five (25) tons per year.

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

- (a) The particulate from the facilities at this source shall be limited as specified in the following table:

Emission Unit	Process Weight Rate (tons per hour)	Allowable PM Emission Rate (pounds per hour)	Potential PM Emission Rate After Controls (pounds per hour)
Iron Foundry			
Charge Handling EU1	0.45	2.40	0.07 (limited)
Two (2) Electric Melting Furnaces (EU2)	0.45 total	2.40 total	0.10 (total after limit)
Magnesium Treatment (EU3)	0.09	0.817	0.04 (limited)
Pouring/Casting (EU4) & Casting Cooling (EU5)*	1.038	4.20	0.48 (limited)
Shakeout (EU6)*	0.519	2.64	0.37 (limited)
Aluminum Foundry			
Five (5) 2,300 lb Melting Furnace (EU7)	1.39 total (0.278 each)	5.11 total (1.02 each)	2.11 total (0.42 each)
700 lb Melting Furnace (EU7)	0.23	1.53	0.36

Emission Unit	Process Weight Rate (tons per hour)	Allowable PM Emission Rate (pounds per hour)	Potential PM Emission Rate After Controls (pounds per hour)
300 lb Melting Furnace (EU8)	0.09	0.82	0.13
Magnesium Treatment (EU9)	1.45	5.26	2.10
Pouring/Casting (EU10) & Casting Cooling (EU11)*	3.972	10.33	5.77
Shakeout (EU12)*	1.986	6.49	4.40
Mechanical Sand Reclamation Unit (EU13)	1.5	5.38	3.97 (limited)
GOFF Shot Blaster (EU14)	1.096	4.36	0.76 (controlled)
Small Aluminum Shot Blaster (EU15)	0.16	1.20	0.11 (controlled)
Sand Blaster (EU16)	0.16	1.20	0.11 (controlled)
Thermal Sand Reclamation Unit (EU17)	1.00	4.10	0.11 (controlled)
Strong Scott Mixer (EU18)	6.00	13.6	0.20 (limited uncontrolled)
Kloster Mixer (EU19)	9.00	17.9	2.38 (limited uncontrolled)
Palmer Core Mixer #1 (EU20)	6.0	13.6	1.19 (limited uncontrolled)
Palmer Core Mixer #2 (EU21)	6.0	13.6	0.20 (limited uncontrolled)

*Note process weight rates for the pouring/casting, casting cooling, and shakeout operations in both the iron and aluminum foundry include maximum metal and sand throughputs.

The allowable particulate matter (PM) emission rates from the above facilities were calculated by the following:

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

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

The baghouses for EU14, EU15, EU16 and EU17 shall be in operation at all times when the GOFF shot blaster, the small aluminum shot blaster, the sand blaster, and thermal sand reclamation system are in operation to comply with this limit.

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

- (1) Grinding and machining operations controller with fabric filters, scrubbers, mist collectors, wet collectors and electrostatic precipitators with a design grain loading of less than or equal to 0.03 grains per actual cubic foot and a gas flow

rate less than or equal to 4,000 actual cubic feet per minute, including the following: deburring; buffing; polishing; abrasive blasting; pneumatic conveying; and woodworking operations. [326 IAC 6-3-2]

- (2) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, and welding equipment. [326 IAC 6-3-2]
- (3) Three (3) sand storage silos, equipped with bin-top filler banks exhausted through Stacks #9, #10 and #11, capacity: 10, 40 and 40 tons, respectively, throughput 1,462.25 tons of sand per year total; [326 IAC 6-3-2]
- (4) Woodworking activities in the pattern shop (sawing, cutting, routing and planing). [326 IAC 6-3-2]

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

On June 12, 2002, revisions to 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes) became effective and were incorporated into the Indiana State Implementation Plan (SIP) on September 23rd, 2005; this rule was previously referred to as 326 IAC 6-3 (Process Operations).

The source currently uses less than 5 gallons per day of pattern parting spray and core release spray which is under the exemption threshold defined under 326 IAC 6-3-1(b) (15) for surface coating manufacturing processes.

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

This rule applies to new facilities, constructed after January 1, 1980 that have potential VOC emissions of 25 tons or more per year which are not otherwise regulated by other provisions of 326 IAC 8. None of the emission units at this source have potential VOC emissions that are greater than 25 tons per year. Therefore, the requirements of this rule do not apply.

326 IAC 8-3-2 (Cold Cleaner Operations)

This rule applies to new facilities, constructed after January 1, 1980 performing organic solvent degreasing operations. The insignificant degreasing operations are subject to this rule.

Therefore, the owner or operator shall:

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

326 IAC 8-3-5 (Cold Cleaner Degreaser Operation and Control)

This rule applies to facilities using cold cleaning degreasers without remote solvent reservoirs and constructed after July 1, 1990. This unit was constructed after July 1, 1990 and uses a covered cold cleaner. Therefore, this rule is applicable to the degreasing operations located at the facility and the following conditions apply:

- (a) The owner or operator of a cold cleaner degreaser facility shall ensure that the following control equipment requirements are met:

- (1) Equip the degreaser with a cover. The cover must be designed so that it can be easily operated with one (1) hand if:
 - (A) The solvent volatility is greater than two (2) kiloPascals (fifteen (15) millimeters of mercury or three-tenths (0.3) pounds per square inch) measured at thirty-eight degrees Celsius (38EC) (one hundred degrees Fahrenheit (100EF));
 - (B) The solvent is agitated; or
 - (C) The solvent is heated.
 - (2) Equip the degreaser with a facility for draining cleaned articles. If the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38EC) (one hundred degrees Fahrenheit (100EF)), then the drainage facility must be internal such that articles are enclosed under the cover while draining. The drainage facility may be external for applications where an internal type cannot fit into the cleaning system.
 - (3) Provide a permanent, conspicuous label which lists the operating requirements outlined in subsection (b).
 - (4) The solvent spray, if used, must be a solid, fluid stream and shall be applied at a pressure which does not cause excessive splashing.
 - (5) Equip the degreaser with one (1) of the following control devices if the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38EC) (one hundred degrees Fahrenheit (100EF)), or if the solvent is heated to a temperature greater than forty-eight and nine-tenths degrees Celsius (48.9EC) (one hundred twenty degrees Fahrenheit (120EF)):
 - (A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.
 - (B) A water cover when solvent is used is insoluble in, and heavier than, water.
 - (C) Other systems of demonstrated equivalent control such as a refrigerated chiller or carbon adsorption. Such systems shall be submitted to the U.S. EPA as a SIP revision.
- (b) The owner or operator of a cold cleaning facility shall ensure that the following operating requirements are met:
- (1) Close the cover whenever articles are not being handled in the degreaser.
 - (2) Drain cleaned articles for at least fifteen (15) seconds or until dripping ceases.
 - (3) Store waste solvent only in covered containers and prohibit the disposal or transfer of waste solvent in any manner in which greater than twenty percent (20%) of the waste solvent by weight could evaporate.

Testing Requirements

No testing is required since no single emission unit represents over forty (40%) percent of the total PM or PM₁₀ potential to emit and emissions were calculated using AP-42 emission factors.

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:

1. The two (2) sand and two (2) core mixers (EU18 through EU21), the GOFF blaster (EU14) and the thermal sand reclamation unit (EU17) have applicable compliance monitoring conditions as specified below:
 - (a) Daily visible emission notations of the four (4) mixers, the GOFF blaster baghouse, and the thermal sand reclamation unit shall be performed during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.
 - (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
 - (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
 - (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
 - (e) If abnormal emissions are observed at any baghouse exhaust, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. Observation of abnormal emissions that do not violate 326 IAC 6-4 (Fugitive Dust Emissions) or an applicable opacity limit is not a deviation from this permit.

- (f) The Permittee shall record the pressure drop across the dust collectors/baghouses used in conjunction with the GOFF blaster (EU14) and the thermal sand reclamation, at least once daily when these procedures are in operation when venting to the atmosphere. When for any one reading, the pressure drop across the baghouse is outside the normal range of 2.0 to 8.0 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.

These monitoring conditions are necessary because the mixers, GOFF blaster and thermal reclamation unit and their control devices must operate properly to ensure compliance with 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes), 326 IAC 5-1 and 326 IAC 2-8 (FESOP).

Conclusion

The operation of this aluminum and gray and ductile iron foundry shall be subject to the conditions of the **FESOP 035-20291-00061**.

Appendix A: Emission Calculations
Summary of Emission Calculations

Company Name: Muncie Casting Corporation
Address City IN Zip: 1406 East 18th Street, Muncie, Indiana 47302
Permit Number: FESOP 035-20291-00061
Reviewer: Ganesh Srinivasan/EVP

Potential Emissions (tons/year)								
Emissions Generating Activity								
Pollutant	Aluminum Melting & Casting Operations	Iron Melting & Casting Operations	Sand Handling	Cleaning/Finishing Process	U-180 Core Making Operations	Phenolic Urethane No-bake Core Making Operations	Additional Activities	TOTAL
PM	65.21	4.63	58.66	86.47	0.00	0.00	0.51	215.48
PM10	45.34	2.94	29.05	8.65	0.00	0.00	0.51	86.49
SO2	0.12	0.01	0.01	0.00	0.00	3.75	0.00	3.89
NOx	0.06	0.01	0.88	0.00	0.00	0.00	0.00	0.95
VOC	9.27	0.67	0.05	0.00	22.00	10.49	2.64	45.12
CO	42.15	3.50	0.74	0.00	0.00	0.00	0.00	46.39
total HAPs	6.59		0.00	0.00	0.00	1.03	0.07	7.69
worst case single HAP	(Benzene) 3.95		0.00	0.00	0.00	(Naphthalene) 0.42	0.00	(Benzene) 3.95
Aluminum Foundry emissions include natural gas combustion emissions from the 300 lb furnace (EU8).								
HAP emissions from pouring, cooling, and shakeout are based on the total source-wide binder usage and therefore represent combined emissions from both foundries.								
Sand Handling emissions include natural gas combustion emissions from the thermal sand reclamation unit (EU17).								
Additional Activities include One surface coating spray application process and fugitive outdoor waste sand storage and handling.								
Controlled Potential Emissions (tons/year)								
Emissions Generating Activity								
Pollutant	Aluminum Melting & Casting Operations	Iron Melting & Casting Operations	Sand Handling	Cleaning/Finishing Process	U-180 Core Making Operations	Phenolic Urethane No-bake Core Making Operations	Additional Activities	TOTAL
PM	65.21	4.63	19.63	4.32	0.00	0.00	0.51	94.30
PM10	45.34	2.94	3.35	0.43	0.00	0.00	0.51	52.57
SO2	0.12	0.01	0.01	0.00	0.00	3.75	0.00	3.89
NOx	0.06	0.01	0.88	0.00	0.00	0.00	0.00	0.95
VOC	9.27	0.67	0.05	0.00	22.00	10.49	2.64	45.12
CO	42.15	3.50	0.74	0.00	0.00	0.00	0.00	46.39
total HAPs	6.59		0.00	0.00	0.00	1.03	0.07	7.69
worst case single HAP	(Benzene) 3.95		0.00	0.00	0.00	(Naphthalene) 0.42	0.00	(Benzene) 3.95
Total emissions based on rated capacity at 8,760 hours/year, after control.								

Note:

The emissions represented above include the limited potential to emit from the source, after application of aluminum, iron, and sand throughput limits.

**Appendix A: Emission Calculations
IRON MELTING & CASTING PROCESS**

Company Name: Muncie Casting Corporation
Address City IN Zip: 1406 East 18th Street, Muncie, Indiana 47302
Permit Number: FESOP 035-20291-00061
Reviewer: Ganesh Srinivasan/EVP

<u>Annual Throughput Limit Metal Melted</u>	2,000,000	Pounds	<u>Annual Throughput Limit Metal Melted</u>	1,000	Tons	<u>Annual Throughput Limit for Magnesium Treatment</u>	200
<u>Process Description</u>	<u>SCC #</u>	<u>Pollutant</u>	<u>Emission Factor (lb/ton produced)</u>	<u>Emissions Before Controls (tons/yr)</u>	<u>Type of Control</u>	<u>Control Efficiency (%)</u>	<u>Emissions After Controls (tons/yr)</u>
Charge Handling	3-04-003-15	PM	0.60	0.30	None	0.0	0.30
		PM-10	0.36	0.18	None	0.0	0.18
One (1) 1000 Lb. and One (1) 500 Lb. Furnace (Electric) ¹	3-04-003-03	PM	0.90	0.45	None	0.0	0.45
		PM-10	0.86	0.43	None	0.0	0.43
Magnesium Treatment ²	3-04-003-21	PM	1.80	0.18	None	0.0	0.18
		PM-10	1.80	0.18	None	0.0	0.18
Pouring/Casting & Casting Cooling	3-04-003-20 3-04-003-25	PM	4.20	2.10	None	0.0	2.10
		PM-10	2.06	1.03	None	0.0	1.03
		SO ₂	0.02	0.01	None	0.0	0.01
		NO _x	0.01	0.01	None	0.0	0.01
		VOC ³	0.14	0.07	None	0.0	0.07
CO ⁴	**						
Shakeout	3-04-003-31	PM	3.20	1.60	None	0.0	1.60
		PM-10	2.24	1.12	None	0.0	1.12
		VOC ³	1.20	0.60	None	0.0	0.60
		CO ⁴	7.00	3.50	None	0.0	3.50
PM EMISSIONS				4.63			4.63
PM-10 EMISSIONS				2.94			2.94
SO₂ EMISSIONS				0.01			0.01
NO_x EMISSIONS				0.01			0.01
VOC EMISSIONS				0.67			0.67
CO EMISSIONS				3.50			3.50

Notes:

¹ There is also a second gray iron electric furnace (identified in the FESOP as the 500 Lb. Furnace) which has the same maximum capacity of the 1000 Lb. Furnace. However, the emission calculations are based upon the use of only one furnace because both furnaces share the same power supply and thus cannot be operated simultaneously.

² Magnesium treatment is only performed on ductile iron, which is a maximum of 20% of the total gray iron melted.

³ Additional VOC emissions from pouring, cooling, and shakeout being emitted from the binder materials used in the cores and molds are included in the emission calculations for core/mold making (pages 7, 8 & 9 of App. A) and for binder usage (page 6 of App. A)

⁴ The CO Emission Factors are based on initial IDEM data

**Appendix A: Emission Calculations
ALUMINUM MELTING & CASTING PROCESS**

Company Name: Muncie Casting Corporation
Address City IN Zip: 1406 East 18th Street, Muncie, Indiana 47302
Permit Number: FESOP 035-20291-00061
Reviewer: Ganesh Srinivasan/EVP

<u>Annual Throughput Limit Metal Melted</u>	24,084,000 Pounds	<u>Annual Throughput Limit Metal Melted</u>	12,042 Tons	<u>Annual Throughput Limit for Magnesium Process</u>	10,236		
<u>Process Description</u>	<u>SCC #</u>	<u>Pollutant</u>	<u>Emission Factor (lb/ton produced)</u>	<u>Emissions Before Controls (tons/yr)</u>	<u>Type of Control</u>	<u>Control Efficiency (%)</u>	<u>Emissions After Controls (tons/yr)</u>
Five (5) 2300 Lb. Electric Furnace, One (1) 700 Lb. Electric Furnace and One (1) 300 Lb. Natural Gas Furnace	3-04-001-02	PM	1.90	11.44	None	0.0	11.44
		PM-10	1.70	10.24	None	0.0	10.24
		VOC	0.20	1.20	None	0.0	1.20
Magnesium Treatment ¹	3-04-003-21	PM	1.80	9.21	None	0.0	9.21
		PM-10	1.80	9.21	None	0.0	9.21
Pouring/Casting & Casting Cooling	3-04-001-14 3-04-003-25	PM	4.20	25.29	None	0.0	25.29
		PM-10	2.06	12.40	None	0.0	12.40
		SO ₂	0.02	0.12	None	0.0	0.12
		NO _x	0.01	0.06	None	0.0	0.06
		VOC ²	0.14	0.84	None	0.0	0.84
		CO ³	**				
Shakeout	3-04-003-31	PM	3.20	19.27	None	0.0	19.27
		PM-10	2.24	13.49	None	0.0	13.49
		VOC ²	1.20	7.23	None	0	7.23
		CO ³	7.00	42.15	None	0	42.15
		PM EMISSIONS		65.21			65.21
		PM-10 EMISSIONS		45.34			45.34
		SO₂ EMISSIONS		0.12			0.12
		NO_x EMISSIONS		0.06			0.06
		VOC EMISSIONS		9.27			9.27
		CO EMISSIONS		42.15			42.15

Notes:

¹ Magnesium treatment is only performed on a maximum of 85% of the total aluminum melted.

² Additional VOC/HAP emissions from pouring, cooling, and shakeout being emitted from the binder materials used in the cores and molds are included in the emission calculations for core/mold making (pages 7, 8 & 9 of App. A) and for binder usage (page 6 of App. A)

³ The CO Emission Factors are based on initial IDEM data

**Appendix A: Emission Calculations
SAND HANDLING**

**Company Name: Muncie Casting Corporation
Address City IN Zip: 1406 East 18th Street, Muncie, Indiana 47302
Permit Number: FESOP 035-20291-00061
Reviewer: Ganesh Srinivasan/EVP**

Annual Throughput Sand Handled¹ **9,675 Tons**

<u>Process Description</u>	<u>SCC #</u>	<u>Pollutant</u>	<u>Emission Factor² (lb/ton handled)</u>	<u>Emissions Before Controls (tons/yr)</u>	<u>Type of Control³</u>	<u>Control Efficiency (%)</u>	<u>Emissions After Controls (tons/yr)</u>
Kloster Sand Mixer + Palmer Core Mixer #1 + Palmer Core Mixer #2 + Strong Scott Sand Mixer	3-04-003-50	PM	3.60	17.42	See Below	90.0	1.74
		PM-10 VOC ⁴	0.54 See Below	2.61	See Below	90.0	0.26
CB-22 Core Machine	N/A	SO ₂ VOC ⁴	See Below See Below				
Dependable Core Machine	N/A	SO ₂ VOC ⁴	See Below See Below				
U-180 Core Machines (4)	N/A	VOC ⁴	See Below				
Mech. Sand Reclaim ⁵ (Screen & Lump Reducer)	3-04-003-50	PM	3.60	17.42	None	0.0	17.42
		PM-10	0.54	2.61	None	0.0	2.61
Thermal Sand Reclaim ⁷ (ThermFire Unit)	N/A	PM	0.10	23.83	Baghouse	98.0	0.48
		PM-10	4.926	23.83	Baghouse	98.0	0.48
PM EMISSIONS				58.66			19.63
PM-10 EMISSIONS				29.05			3.35

Notes:

- ¹ The Annual Throughput Sand Handled number represents the total annual amount of virgin sand that is purchased and added into the sand system each year for the mixers. This total does not include the core (resin bonded) sand purchased in bags that is manually fed into the U-180 core machines. The maximum annual usage of this resin bonded sand is 800,000 lbs/yr. It is assumed that the sand grains pass through the entire sand system approximately 3 times on average with the exception of the Palmer Core Mixer #2 (EU21) which is manually fed only new virgin silica sand.
- ² All sand handling PM and PM-10 emission factors have the following units: lbs/tons of sand handled.
- ³ A control efficiency is included for the sand mixers (see page 8 of the TSD for the existing FESOP for justification).
- ⁴ The VOC emissions from the sand mixing and mold/core making operations are dependent upon the type of binders being utilized in each particular machine. These emissions are not included in this spreadsheet. See VOC/HAP emission calculations for the mold/core making operations on pages 7, 8 and 9 of Appendix A.
- ⁵ The mechanical sand reclamation process is used to "recondition" the spent sand from the Iron and Aluminum Foundry shakeout processes for reuse in the core and mold making process. It is assumed that the sand grains pass through the entire sand system approximately 3 times on average. Therefore, the total sand throughput is based upon the total annual virgin silica sand and resin bonded core sand throughput multiplied by a factor of 3. To be conservative, it is assumed that all virgin silica sand and core resin bonded sand will pass through this process.
- ⁶ The thermal sand reclamation process is used to initially condition all of the virgin sand received on-site. It is also used to "recondition" the spent sand from the Iron and Aluminum Foundry shakeout processes for reuse in the core and mold making process. To be conservative, it is assumed that all virgin sand and core resin bonded sand will pass through this process. The PM/PM-10 emissions from the thermal sand reclaimers are based upon stack testing data supplied by the manufacturer.

**Appendix A: Emission Calculations
CLEANING/FINISHING PROCESS**

Company Name: Muncie Casting Corporation
Address City IN Zip: 1406 East 18th Street, Muncie, Indiana 47302
Permit Number: FESOP 035-20291-00061
Reviewer: Ganesh Srinivasan/EVP

<u>Annual Throughput Limit Metal Melted to GOFF</u>	<div style="background-color: #cccccc; width: 60px; height: 40px; display: flex; align-items: center; justify-content: center;">7,825</div>	Tons	Annual Throughput Limit Metal Melted to Small Shotblast Machine and Blaster	<div style="background-color: #cccccc; width: 60px; height: 40px; display: flex; align-items: center; justify-content: center;">1,174</div>	Tons
---	---	------	--	---	------

Process Description	SCC #	Pollutant	Emission Factor (lb/ton produced)	Emissions Before Controls (tons/yr)	Type of Control	Control Efficiency (%)	Emissions After Controls (tons/yr)
GOFF Shotblast Machine	3-04-003-40	PM	17.00	66.51	Baghouse	95.0	3.33
		PM-10	1.70	6.65	Baghouse	95.0	0.33
Small Shotblast Machine	3-04-003-40	PM	17.00	9.98	Baghouse	95.0	0.50
		PM-10	1.70	1.00	Baghouse	95.0	0.05
Sand Blaster Machine	3-04-003-40	PM	17.00	9.98	Baghouse	95.0	0.50
		PM-10	1.70	1.00	Baghouse	95.0	0.05
				PM EMISSIONS			86.47
				PM-10 EMISSIONS			4.32
							8.65
							0.43

Notes:

**Appendix A: Emission Calculations
Pouring, Cooling and Shakeout Operations HAP Emission Calculations
Aluminum and Iron Foundries**

Company Name: Muncie Casting Corporation
Address City IN Zip: 1406 East 18th Street, Muncie, Indiana 47302
Permit Number: FESOP 035-20291-00061
Reviewer: Ganesh Srinivasan/EVP

Binder System Used: Phenolic Nobake Binder (Pepset Process)		
2003 Part I Binder Used:	63,360	
2003 Part II Binder Used:	50,880	
Maximum Total Resin Usage Rate (Lbs. of Resin/Year): ¹		228,480
Pollutant Name	Emission Factor ² (Lbs. Pollutant/Lbs. Resin)	HAP Emissions ³ (Tons/Yr)
Formaldehyde	0.000010	0.001142
Phenol	0.000975	0.111384
Benzene	0.011209	1.280516
Toluene	0.000634	0.072428
M-xylene	0.000097	0.011081
O-xylene	0.000049	0.005598
Naphthalene	0.000049	0.005598
Total HAPs ⁴		1.487748

Binder System Used: Acrylic-Epoxy Cold Box Binder (Isoaset) ⁵		
2003 Part I Binder Used:	5,000	
2003 Part II Binder Used:	4,000	
Maximum Total Resin Usage Rate (Lbs. of Resin/Year):		18,000
Pollutant Name	Emission Factor ² (Lbs. Pollutant/Lbs. Resin)	HAP Emissions ³ (Tons/Yr)
Formaldehyde	0.000004	0.000036
Phenol	0.000131	0.001179
Benzene	0.000611	0.005499
Toluene	0.000063	0.000567
M-xylene	0.000021	0.000189
O-xylene	0.000021	0.000189
Naphthalene	0.000021	0.000189
Total HAPs ⁴		0.007848

Binder System Used: Shell Binder (Resin-Bonded Sand)		
2003 Part I Binder Used: ⁶	200,000	
Maximum Total Resin Usage Rate (Lbs. of Resin/Year):		800,000
Pollutant Name	Emission Factor ² (Lbs. Pollutant/Lbs. Resin)	HAP Emissions ³ (Tons/Yr)
Formaldehyde	0.000035	0.014000
Phenol	0.002456	0.982400
Benzene	0.006667	2.666800
Toluene	0.002807	1.122800
M-xylene	0.000585	0.234000
O-xylene	0.000117	0.046800
Naphthalene	0.000058	0.023200
Total HAPs ⁴		5.090000

Notes:

- ¹ Maximum total resin usage rate is estimated to be twice the actual 2003 total resin usage.
- ² Emission factors are based upon the American Foundrymen's Society (Mosher) research paper.
- ³ HAP Emissions = Maximum Total Resin Usage Rate x Emission Factor x (1 ton/2000 lbs)
- ⁴ Total HAPs is the sum of all pollutants listed.
- ⁵ This system was not identified in Mosher research paper, so Green Sand Binder factors used.
- ⁶ The total amount of shell binder used is based upon the 2003 total usage increased by a safety factor assuming all four U-180 core machines are operable.

**Appendix A: Emission Calculations
Core Making Operations Emissions Calculations**

**Company Name: Muncie Casting Corporation
Address City IN Zip: 1406 East 18th Street, Muncie, Indiana 47302
Permit Number: FESOP 035-20291-00061
Reviewer: Ganesh Srinivasan/EVP**

U-180 Core Making Machines: 4			
Binder System Used:		Shell Binder (Resin-Bonded Sand)¹	
Maximum Resin-Bonded Sand Usage Rate (Lbs. of Resin/Year) ² :		800,000	
Volatile Components	% in Product ²	% Evaporated ³	VOC Emissions (Tons/Yr)
P/F Novolac Resin	3.5	100.0	14.00
Hexamethylenetetramine	2.0	100.0	8.00
Total VOC (tons/year):		22.00	

Notes:

- ¹ The U-180 core machines all use a shell binder system (not the Pep Set binder).
- ² The Maximum Binder Usage Rate is 200,000 lbs/year for each U-180 core machine. Therefore, the combined Maximum Binder Usage for all four core machines is 800,000 lbs/yr.
- ³ The % in product value is derived from the vendor's MSDS
- ⁴ The % evaporated value is assumed to be 100% since no data on this type of binder system appears in the "Form R" Gold Book (1998).

**Appendix A: Emission Calculations
HAP Emission Calculations - Phenolic Urethane No-bake Core Making**

**Company Name: Muncie Casting Corporation
Address City IN Zip: 1406 East 18th Street, Muncie, Indiana 47302
Permit Number: FESOP 035-20291-00061
Reviewer: Ganesh Srinivasan/EVP**

Material	Maximum Usage (lbs/hr)	Weight % Phenol	Weight % MDI	Weight % Formaldehyde	Weight % Naphthalene	Phenol Emissions (ton/yr)	MDI Emissions (ton/yr)	Formaldehyde Emissions (ton/yr)	Naphthalene Emissions (ton/yr)
Phenolic No-bake Core Making									
Phenolic No-bake Part I Binder	14.47	7.50%	0.00%	47.50%	3.00%	0.00	0.00	0.60	0.11
Phenolic No-bake Part II Binder	11.62	0.00%	20.00%	0.00%	3.00%	0.00	0.00	0.00	0.09
Phenolic No-bake Catalyst	0.59	0.00%	0.00%	0.00%	8.55%	0.00	0.00	0.00	0.22

0.00	0.00	0.60	0.42
-------------	-------------	-------------	-------------

1.03

Reduction Factors for Core Making

Pollutant	Phenolic Urethane No-Bake Part I Reduction Factors	Phenolic Urethane No-Bake Part II Reduction Factors
Phenol	0.00%	N/A
MDI	N/A	0.00%
Formaldehyde	2.00%	N/A
Xylene	5.85%	5.85%
Naphthalene	5.85%	5.85%
Sulfuric Acid	N/A	N/A

METHODOLOGY

Max. Hourly Resin Usage Rate = Max. Annual Resin Usage rate (lbs/yr) / 8,760 (hrs/yr)

HAP Emissions from Resins = Max. Hourly Usage Rate * % HAP * Reduction Factor * 8760 hrs/yr * 1 ton/2000 lbs

Reduction factors obtained from the American Foundrymen's Society Publication entitled "Form R Reporting of Binder Chemicals used in Foundries", and refers to the weight percent of HAP that is emitted to the atmosphere.