INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We make Indiana a cleaner, healthier place to live.

Mitchell E. Daniels, Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
MC 61-53 IGCN 1003
(317) 232-8603
(800) 451-6027
www.IN.gov/idem

TO: Interested Parties / Applicant

DATE: November 14, 2007

RE: Ward Aluminum Casting, Inc. / 003-17986-00198

FROM: Nisha Sizemore
Chief, Permits Branch
Office of Air Quality

Notice of Decision: Approval - Effective Immediately

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

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

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

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

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

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

Enclosures
FNPER.dot 03/23/06

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

Ward Aluminum Casting
642 Growth Avenue
Fort Wayne, Indiana 46808

(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.

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

Operation Permit No.: F003-17986-00198	
Issued by:Original signed by Nisha Sizemore, Chief Permits Branch Office of Air Quality	Issuance Date:November 14, 2007 Expiration Date:November 14, 2012

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 foundry heat treating source producing aluminum castings.

Source Address:	642 Growth Avenue, Fort Wayne, Indiana 46808
Mailing Address:	642 Growth Avenue, Fort Wayne, Indiana 46808
General Source Phone:	(260) 426-8700
SIC Code:	3361, 3398
County Location:	Allen
Source Location Status:	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

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

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

(a) One (1) Melting Operation installed in 1964, consisting of:
- (1) three (3) natural gas fired reverberatory furnaces, identified as GR1 through GR3, each with a rated heat input of 2.9 MMBtu per hour and a maximum melting capacity of 0.5 tons per hour of aluminum, exhausting at stacks 6, 8 and 23, respectively,
- (2) eight (8) natural gas fired crucibles, identified as CR1 through CR8, each with a rated heat input of 1 MMBtu per hour and a maximum melting capacity of 0.165 tons per hour of aluminum, exhausting at stack 15,
- (3) two (2) glow bar electric melt furnaces, identified as EM1 and EM2, each with a maximum melting capacity of 1 ton of aluminum per hour and exhausting through stacks 25 and 27, respectively,
- (4) one (1) electric melt furnace, identified as EM3, with a maximum melting capacity of 1 ton of aluminum per hour, exhausting through stacks 25 and 27, and
- (5) one (1) electric melt furnace (constructed in 2000), identified as EM4, with a maximum melting capacity of 1.5 tons of aluminum per hour, exhausting through stacks 25 and 27.

(b) One (1) Casting, Cleaning, and Finishing Operation, consisting of:
- (1) one (1) wheelabrator shotblaster, identified as SB1, constructed in 1995, with a maximum capacity of 12 tons of steel shot per hour, utilizing a baghouse (BH3) for particulate control, exhausting at stack 2,
- (2) one (1) pouring/casting and cooling operation, identified as P1/P2, constructed in 1995, with a maximum capacity of 7.57 tons per hour of melted aluminum,
- (3) one (1) Castings Knockout and Shakeout operation, constructed in 1995, and consisting of:
  - (i) one (1) shake out unit and five (5) knockout machines (KN1 through KN5), with a maximum capacity of 50 tons per hour, utilizing a baghouse (BH1) for particulate control, exhausting at stack 3,

(ii) one (1) elevator, identified as EV1, with a maximum capacity of 50 tons per hour, utilizing a baghouse (BH1) for particulate control, exhausting at stack 3.

(4) one (1) wheelabrator shotblaster, identified as SB2, constructed in 1995, with a maximum capacity of 8.25 tons of steel shot per hour, utilizing a baghouse (BH3) for particulate control, exhausting at stack 2.

(c) Three (3) aluminum belt grinders, identified as BG1 through BG3, constructed in 1995, each with a maximum capacity of 0.75 tons per hour, utilizing a baghouse (BH2) for particulate control.

(d) Two (2) disc grinders, identified as DG1 through DG2, constructed in 1995, each with a maximum capacity of 0.75 tons per hour, utilizing a baghouse (BH2) for particulate control.

(e) One (1) Sand Handling and Ancillary Operation, constructed in 1964, and consisting of:
(1) one (1) sand muller, identified as MU1, with a maximum capacity of 40 tons of sand per hour, with particulate matter emissions controlled by a baghouse (BH1), exhausting through stack 3,
(2) one (1) core sand muller, identified as MU3, with a maximum capacity of 15 tons per hour, utilizing an existing baghouse (BH1) for PM control and exhausting at stack 3.

(f) One (1) Surface Coating Operation, constructed in 1996, consisting of:
One (1) manual paint booth, identified as PB1, using an air atomization application system and coating a maximum of 40 aluminum parts per hour, using dry filters for overspray control, exhausting at two (2) stacks 38 and 39.

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

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

(a) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) Btu per hour;
(1) Eight (8) core machines, constructed in 1995, each with a maximum throughput of 0.4165 tons per hour, consisting of:
(i) two (2) core machines, identified as CM1 and CM2, each with a rated heat input of 0.1100 MMBtu per hour,
(ii) two (2) core machines, identified as CM3 and CM4, each with a rated heat input of 0.1972 MMBtu per hour,
(iii) two (2) core machines, identified as CM5 and CM6, each with a rated heat input of 0.3712 MMBtu per hour,
(iv) one (1) core machines, identified as CM7, with a rated heat input of 0.5800 MMBtu per hour, and
(v) one (1) core machine, identified as CM8, with a maximum heat input of 0.21 MMBtu per hour.
(2) One (1) heat treat oven, identified as HT1, constructed in 1995, with a rated heat input of 1.5 MMBtu per hour; exhausting at stack 32.
(3) Nine (9) space heaters, identified as SH1 through SH9, each constructed in 1995 with a rated heat input of 0.123 MMBtu per hour.
(4) One (1) boiler, identified as B1, constructed in 1995, with a rated heat input of 8.368 MMBtu per hour. [326 IAC 6-2-4]

(b) Grinding and machining operations controlled 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 4000 actual cubic feet per minute, including the following: deburring; buffing; polishing; abrasive blasting; pneumatic conveying; and woodworking operations; [326 IAC 6-3-2]

(1) pattern woodshop equipment, utilizing a cyclone on some units for particulate control, and consisting of:
- (i) one (1) jointer, identified as J1,
- (ii) one (1) planer, identified as P1,
- (iii) two (2) routers, identified as R1 and R2,
- (iv) one (1) milling machine, identified as M1,
- (v) two (2) bandsaws, identified as BS1 and BS2.
- (vi) two (2) disc sanders, identified as DS1 and DS2,
- (vii) one (1) wood lathe, identified as L1,
- (viii) one (1) table saw, identified as TS1, and
- (ix) one (1) radial arm saw, identified as RAS 1.

(2) Saws for removing gates and risers from castings.

(3) Five (5) aluminum cut off band saws, identified as CO1 through CO5, with no particulate control.

(4) One (1) carbide tip aluminum chop saw, identified as CS1. [326 IAC 6-3-2]

(c) Other activities with emission below insignificant thresholds:
One (1) 1.25 gal/hr waste oil heater, identified as OB1, with a rated heat input of 0.18 MMBtu per hour, burning waste oils consisting of general plant oils and oils recovered from cutting fluids.

(d) Machining where an aqueous cutting coolant continuously floods the machining interface.

(e) Any operation using aqueous solutions containing less than 1% by weight of VOCs excluding HAPs.

(f) Replacement or repair of electrostatic precipitators, bags in baghouses and filters in other air filtration equipment.

(g) Trimmers that do not produce fugitive emissions and that are equipped with a dust collection or trim material recovery device such as a bag filter or cyclone.

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

(i) Blowdown for any of the following: sight glass; boiler; compressors; pumps; and cooling tower.

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

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

SECTION B GENERAL CONDITIONS

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

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

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

(a) This permit, F003-17986-00198, is issued for a fixed term of five (5) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date of this permit.

(b) If IDEM, OAQ , upon receiving a timely and complete renewal permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect.

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

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

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

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

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

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

B.5 Severability [326 IAC 2-8-4(4)]

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

B.6 Property Rights or Exclusive Privilege [326 IAC 2-8-4(5)(D)]

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

B.7 Duty to Provide Information [326 IAC 2-8-4(5)(E)]

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

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

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

(a) Where specifically designated by this permit or required by an applicable requirement, any application form, report, or compliance certification submitted shall contain certification by an "authorized individual" of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

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

(c) An "authorized individual" is defined at 326 IAC 2-1.1-1(1).

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

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

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

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

(c) The annual compliance certification report shall include the following:

(1) The appropriate identification of each term or condition of this permit that is the basis of the certification;

(2) The compliance status;

(3) Whether compliance was continuous or intermittent;

(4) The methods used for determining the compliance status of the source, currently and over the reporting period consistent with 326 IAC 2-8-4(3); and

(5) Such other facts, as specified in Sections D of this permit, as IDEM, OAQ may require to determine the compliance status of the source.

The submittal by the Permittee does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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

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

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

(a) If required by specific condition(s) in Section D of this permit, the Permittee shall maintain and implement Preventive Maintenance Plans (PMPs) including the following information on each facility:

(1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;

(2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and

(3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

(b) A copy of the PMPs shall be submitted to IDEM, OAQ upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ . IDEM, OAQ may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions or potential to emit. The PMPs do not require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(c) To the extent the Permittee is required by 40 CFR Part 60/63 to have an Operation Maintenance, and Monitoring (OMM) Plan for a unit, such Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

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

(a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for noncompliance with a federal or state health-based emission limitation except as provided in 326 IAC 2-8-12.

(b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a health-based or technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that describe the following:

(1) An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;

(2) The permitted facility was at the time being properly operated;

(3) During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit;

(4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ, within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

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

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

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

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

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

(A) A description of the emergency;

(B) Any steps taken to mitigate the emissions; and

(C) Corrective actions taken.

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

(6) The Permittee immediately took all reasonable steps to correct the emergency.

(c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.

(d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.

(e) The Permittee seeking to establish the occurrence of an emergency shall make records available upon request to ensure that failure to implement a PMP did not cause or contribute to an exceedance of any limitations on emissions. However, IDEM, OAQ may require that the Preventive Maintenance Plans required under 326 IAC 2-8-3(c)(6) be revised in response to an emergency.

(f) Failure to notify IDEM, OAQ by telephone or facsimile of an emergency lasting more than one (1) hour in accordance with (b)(4) and (5) of this condition shall constitute a violation of 326 IAC 2-8 and any other applicable rules.

(g) Operations may continue during an emergency only if the following conditions are met:

(1) If the emergency situation causes a deviation from a technology-based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.

(2) If an emergency situation causes a deviation from a health-based limit, the Permittee may not continue to operate the affected emissions facilities unless:

(A) The Permittee immediately takes all reasonable steps to correct the emergency situation and to minimize emissions; and

(B) Continued operation of the facilities is necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw material of substantial economic value.

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

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

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

(a) All terms and conditions of permits established prior to F129-23109-00021 and issued pursuant to permitting programs approved into the state implementation plan have been either:

(1) incorporated as originally stated,

(2) revised, or

(3) deleted.

(b) All previous registrations and permits are superseded by this permit.

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

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

B.15 Deviations from Permit Requirements and Conditions [326 IAC 2-8-4(3)(C)(ii)]

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

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

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

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

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

B.16 Permit Modification, Reopening, Revocation and Reissuance, or Termination [326 IAC 2-8-4(5)(C)][326 IAC 2-8-7(a)][326 IAC 2-8-8]

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

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

(1) That this permit contains a material mistake.

(2) That inaccurate statements were made in establishing the emissions standards or other terms or conditions.

(3) That this permit must be revised or revoked to assure compliance with an applicable requirement. [326 IAC 2-8-8(a)]

(c) Proceedings by IDEM, OAQ, to reopen and revise this permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of this permit for which cause to reopen exists. Such reopening and revision shall be made as expeditiously as practicable. [326 IAC 2-8-8(b)]

(d) The reopening and revision of this permit, under 326 IAC 2-8-8(a), shall not be initiated before notice of such intent is provided to the Permittee by IDEM, OAQ, at least thirty (30) days in advance of the date this permit is to be reopened, except that IDEM, OAQ, may provide a shorter time period in the case of an emergency. [326 IAC 2-8-8(c)]

B.17 Permit Renewal [326 IAC 2-8-3(h)]

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

Request for renewal shall be submitted to:

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

(b) A timely renewal application is one that is:

(1) Submitted at least nine (9) months prior to the date of the expiration of this permit; and

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

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

B.18 Permit Amendment or Revision [326 IAC 2-8-10][326 IAC 2-8-11.1]

(a) Permit amendments and revisions are governed by the requirements of 326 IAC 2-8-10 or 326 IAC 2-8-11.1 whenever the Permittee seeks to amend or modify this permit.

(b) Any application requesting an amendment or modification of this permit shall be submitted to:

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

Any such application shall be certified by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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

B.19 Operational Flexibility [326 IAC 2-8-15][326 IAC 2-8-11.1]

(a) The Permittee may make any change or changes at the source that are described in 326 IAC 2-8-15(b) through (d) without a prior permit revision, if each of the following conditions is met:

(1) The changes are not modifications under any provision of Title I of the Clean Air Act;

(2) Any approval required by 326 IAC 2-8-11.1 has been obtained;

(3) The changes do not result in emissions which exceed the limitations provided in this permit (whether expressed herein as a rate of emissions or in terms of total emissions);

(4) The Permittee notifies the:

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

and

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

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

(5) The Permittee maintains records on-site, on a rolling five (5) year basis, which document all such changes and emission trades that are subject to 326 IAC 2-8-15(b) through (d). The Permittee shall make such records available, upon reasonable request, for public review.

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

(b) Emission Trades [326 IAC 2-8-15(c)]
The Permittee may trade emissions increases and decreases at in the source, where the applicable SIP provides for such emission trades without requiring a permit revision, subject to the constraints of Section (a) of this condition and those in 326 IAC 2-8-15(c).

(c) Alternative Operating Scenarios Federally Enforceable State Operating Permit
The Permittee may make changes at the source within the range of alternative operating scenarios that are described in the terms and conditions of this permit in accordance with 326 IAC 2-8-4(7). No prior notification of IDEM, OAQ, or U.S. EPA is required.

(d) Backup fuel switches specifically addressed in, and limited under, Section D of this permit shall not be considered alternative operating scenarios. Therefore, the notification requirements of part (a) of this condition do not apply.

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

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

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

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

(a) Enter upon the Permittee's premises where a FESOP source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;

(b) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, have access to and copy,at reasonable times, any records that must be kept under the conditions of this permit;

(c) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, inspect,at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;

(d) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, sample or monitor,at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and

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

B.22 Transfer of Ownership or Operational Control [326 IAC 2-8-10]

(a) The Permittee must comply with the requirements of 326 IAC 2-8-10 whenever the Permittee seeks to change the ownership or operational control of the source and no other change in the permit is necessary.

(b) Any application requesting a change in the ownership or operational control of the source shall contain a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new Permittee. The application shall be submitted to:

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

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

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

B.23 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-8-4(6)] [326 IAC 2-8-16][326 IAC 2-1.1-7]

(a) The Permittee shall pay annual fees to IDEM, OAQ, within thirty (30) calendar days of receipt of a billing. Pursuant to 326 IAC 2-7-19(b), if the Permittee does not receive a bill from IDEM, OAQ, the applicable fee is due April 1 of each year.

(b) Failure to pay may result in administrative enforcement action or revocation of this permit.

(c) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-4230 (ask for OAQ, Billing, Licensing, and Training Section), to determine the appropriate permit fee.

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

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

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

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

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

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

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

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

(a) Pursuant to 326 IAC 2-8:

(1) The potential to emit any regulated pollutant, except particulate matter (PM), from the entire source shall be limited to less than one hundred (100) tons per twelve (12) consecutive month period. This limitation shall also render the requirements of 326 IAC 2-2 (PSD) not applicable;

(2) The potential to emit any individual hazardous air pollutant (HAP) from the entire source shall be limited to less than ten (10) tons per twelve (12) consecutive month period; and

(3) The potential to emit any combination of HAPs from the entire source shall be limited to less than twenty-five (25) tons per twelve (12) consecutive month period.

(b) The potential to emit particulate matter (PM) from the entire source shall be limited to less than two hundred fifty (250) tons per twelve (12) consecutive month period. This limitation shall make the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

(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 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]

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

C.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
MC 61-52 IGCN 1003
Indianapolis, Indiana 46204-2251

The notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project. The notifications do not require a certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(e) Procedures for Asbestos Emission Control
The Permittee shall comply with the applicable emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-1, emission control requirements are applicable for any removal or disturbance of RACM greater than three (3) linear feet on pipes or three (3) square feet on any other facility components or a total of at least 0.75 cubic feet on all facility components.

(f) Demolition and Renovation
The Permittee shall thoroughly inspect the affected facility or part of the facility where the demolition or renovation will occur for the presence of asbestos pursuant to 40 CFR 61.145(a).

(g) Indiana Accredited Asbestos Inspector
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Accredited Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos.

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

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

(a) Compliance testing on new emissions units shall be conducted within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up, if specified in Section D of this approval. All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

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

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

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

(b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ, if the Permittee submits to IDEM, OAQ, a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

Compliance Requirements [326 IAC 2-1.1-11]

C.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 within ninety (90) days of permit issuance. If required by Section D, the Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. If due to circumstances beyond its control, that equipment cannot be installed and operated within ninety (90) days, the Permittee may extend the compliance schedule related to the equipment for an additional ninety (90) days provided the Permittee notifies:

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

in writing, prior to the end of the initial ninety (90) day compliance schedule, with full justification of the reasons for the inability to meet this date.

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

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

C.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 2-8-4(3)][326 IAC 2-8-5(1)]

(a) When required by any condition of this permit, an analog instrument used to measure a parameter related to the operation of an air pollution control device shall have a scale such that the expected maximum reading for the normal range shall be no less than twenty percent (20%) of full scale.

(b) The Permittee may request that the IDEM, OAQ approve the use of an instrument that does not meet the above specifications provided the Permittee can demonstrate that an alternative instrument specification will adequately ensure compliance with permit conditions requiring the measurement of the parameters.

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

C.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 shall prepare written emergency reduction plans (ERPs) consistent with safe operating procedures.

(b) These ERPs shall be submitted for approval to:

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

within ninety (90) days from the date of issuance of this permit.

The ERP does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(c) If the ERP is disapproved by IDEM, OAQ, the Permittee shall have an additional thirty (30) days to resolve the differences and submit an approvable ERP.

(d) These ERPs shall state those actions that will be taken, when each episode level is declared, to reduce or eliminate emissions of the appropriate air pollutants.

(e) Said ERPs shall also identify the sources of air pollutants, the approximate amount of reduction of the pollutants, and a brief description of the manner in which the reduction will be achieved.

(f) 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 2-8-4] [326 IAC 2-8-5]

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

(b) The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Corrective actions may include, but are not limited to, the following:

(1) initial inspection and evaluation;

(2) recording that operations returned to normal without operator action (such as through response by a computerized distribution control system); or

(3) any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.

(c) A determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, the following:

(1) monitoring results;

(2) review of operation and maintenance procedures and records;

(3) inspection of the control device, associated capture system, and the process.

(d) Failure to take reasonable response steps shall be considered a deviation from the permit.

(e) The Permittee shall maintain the following records:

(1) monitoring data;

(2) monitor performance data, if applicable; and

(3) corrective actions taken.

C.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 twenty (120) days is not practicable, IDEM, OAQ may extend the retesting deadline.

(c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

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

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

C.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 an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(b) The report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted to:

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

(c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.

(d) Unless otherwise specified in this permit, all reports required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. All reports do require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(e) Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit “calendar year” means the twelve (12) month period from January 1 to December 31 inclusive.

Stratospheric Ozone Protection

C.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)]

(a) One (1) Melting Operation installed in 1964, consisting of:
- (1) three (3) natural gas fired reverberatory furnaces, identified as GR1 through GR3, each with a rated heat input of 2.9 MMBtu per hour and a maximum melting capacity of 0.5 tons per hour of aluminum, exhausting at stacks 6, 8 and 23, respectively,
- (2) eight (8) natural gas fired crucibles, identified as CR1 through CR8, constructed in 1964, each with a rated heat input of 1 MMBtu per hour and a maximum melting capacity of 0.165 tons per hour of aluminum, exhausting at stack 15,
- (3) two (2) glow bar electric melt furnaces, identified as EM1 and EM2, each with a maximum melting capacity of 1 ton of aluminum per hour and exhausting through stacks 25 and 27, respectively,
- (4) one (1) electric melt furnace, identified as EM3, with a maximum melting capacity of 1 ton of aluminum per hour, exhausting through stacks 25 and 27, and
- (5) one (1) electric melt furnace (constructed in 2000), identified as EM4, with a maximum melting capacity of 1.5 tons of aluminum per hour, exhausting through stacks 25 and 27.

(b) One (1) Casting, Cleaning, and Finishing Operation, consisting of:
- (1) one (1) wheelabrator shotblaster, identified as SB1, constructed in 1995, with a maximum capacity of 12 tons of steel shot per hour, utilizing a baghouse (BH3) for particulate control, exhausting at stack 2,
- (2) one (1) pouring/casting and cooling operation, identified as P1/P2, constructed in 1995, with a maximum capacity of 7.57 tons per hour of melted aluminum,
- (3) one (1) Castings Knockout and Shakeout operation, constructed in 1995, and consisting of:
  - (i) one (1) shake out unit and five (5) knockout machines (KN1 through KN5), with a maximum capacity of 50 tons per hour, utilizing a baghouse (BH1) for particulate control, exhausting at stack 3,
  - (ii) one (1) elevator, identified as EV1, with a maximum capacity of 50 tons per hour, utilizing a baghouse (BH1) for particulate control, exhausting at stack 3.
- (4) one (1) wheelabrator shotblaster, identified as SB2, constructed in 1995, with a maximum capacity of 8.25 tons of steel shot per hour, utilizing a baghouse (BH3) for particulate control, exhausting at stack 2.

(c) Three (3) aluminum belt grinders, identified as BG1 through BG3, constructed in 1995, each with a maximum capacity of 0.75 tons per hour, utilizing a baghouse (BH2) for particulate control.

(d) Two (2) disc grinders, identified as DG1 through DG2, constructed in 1995, each with a maximum capacity of 0.75 tons per hour, utilizing a baghouse (BH2) for particulate control.

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

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

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

The particulate emissions from the emission units listed in the table below shall be limited 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:

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

or

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

$E = 55.0 P^{0.11} - 40$ where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

The allowable emissions for each facility operating at its maximum process weight rate are as follows:

Emission Unit	Process Weight Rate (tons/hr)	Allowable Particulate Emissions (326 IAC 6-3-2) (lb/hr)
Sand Muller Units (MU 1)	40.00	42.53
Sand Muller Unit (MU 3)	15.00	25.16
Pouring/Casting (P1/P2)	7.57	15.91
Cooling	7.57	15.91
Castings Knockout and Shakeout	50.00	44.58
Shot Blasting SB1	12.00	21.67
Shot Blasting SB2	8.25	16.86
Aluminum Belt Grinders (BG1 through BG3)	2.25	7.05
Disc Grinders (DG1 and DG2)	1.50	5.38

D.1.2 Particulate Emission Limitations [326 IAC 11-1-2]

Pursuant to 326 IAC 11-1-2, the allowable particulate emission rate from the melting operations shall be limited as follows:

Emission Unit	Process Weight Rate (tons/hr)	Allowable Particulate Emissions (326 IAC 11-1) (lb/hr)
Reverberatory Furnaces (GR1)	0.50	3.05
Reverberatory Furnace (GR2)	0.50	3.05
Reverberatory Furnace (GR3)	0.50	3.05
Gas Crucible Furnace (CR1 through CR8)	1.32	5.756
Electric Melt Furnace (EM1 and EM2)	2.0	8.0
Electric Melt Furnace (EM 3)	1.0	4.70
Electric Melt Furnace (EM 4)	1.50	6.35

D.1.3 PSD Minor Limit [326 IAC 2-2]

(a) The total metal throughput to the melting furnaces shall be limited to less than 18,396 tons of metal per twelve (12) consecutive month period each, with compliance determined at the end of each month.

(b) The PM emissions from melting furnaces (GR1 through GR3, CR1 through CR8, and EM1 through EM4) shall not exceed 4.30 pounds per ton of metal.

(c) The PM emissions from Pouring/Casting (P1/P2) operation shall not exceed 4.20 pounds per ton of metal.

(d) The PM emissions from Cooling operation shall not exceed 1.40 pounds per ton of metal.

(e) The PM emissions from Casting Knockout and Shakeout operation shall not exceed 0.0064 pounds per ton of metal.

(f) The PM emissions from Wheelabrator Shotblasters (SB1 and SB2) shall not exceed 0.248 pounds per hour.

(g) The PM emissions from Grinders (BG1 through BG3, DG1 and DG2) shall not exceed 0.036 pounds per hour.

Compliance with the above emission limits in combination with Condition D.2.2 and potential PM emissions from the insignificant activities shall limit the sourcewide PM emissions to less than 250 tons per year and shall render 326 IAC 2-2 (PSD) not applicable to this source.

D.1.4 PSD Minor and FESOP Limits [326 IAC 2-2] [326 IAC 2-8-4]

(a) The PM10 emissions from melting furnaces (GR1 through GR3, CR1 through CR8, and EM1 through EM4) shall not exceed 2.60 pounds per ton of metal.

(b) The PM10 emissions from Pouring/Casting (P1/P2) operation shall not exceed 2.40 pounds per ton of metal.

(c) The PM10 emissions from Cooling operation shall not exceed 1.40 pounds per ton of metal.

(d) The PM10 emissions from Casting Knockout and Shakeout operation shall not exceed 0.0044 pounds per ton of metal.

(e) The PM10 emissions from Wheelabrator Shotblasters (SB1 and SB2) shall not exceed 0.025 pounds per hour.

(f) The PM10 emissions from Grinders (BG1 through BG3, DG1 and DG2) shall not exceed 0.016 pounds per hour.

Compliance with the above emission limits in combination with Conditions D.1.3(a), D.2.3, and potential PM10 emissions from all other emission units shall limit the sourcewide PM10 emissions to less than 100 tons per year and shall render 326 IAC 2-2 (PSD) and 326 IAC 2-7 (Part 70) not applicable to this source.

D.1.5 PSD Minor and FESOP Limits [326 IAC 2-2] [326 IAC 2-8-4]

(a) The total metal throughput to the Pouring/Casting (P1/P2), Cooling and Castings Knockout and Shakeout operations for sand molds shall be less than 4,555.2 tons of metal per twelve (12) consecutive month period each, with compliance determined at the end of each month.

(b) The CO emissions from the Pouring/Casting (P1/P2), Cooling and Castings Knockout and Shakeout operations for sand molds shall not exceed 6.0 pounds per ton of metal.

Compliance with the above emission limits in combination with Condition D.1.3(a) and the potential emissions from all other emission units shall limit the sourcewide CO emissions to less than 100 tons per twelve (12) consecutive month period and shall render 326 IAC 2-2 (PSD) and 326 IAC 2-7 (Part 70) not applicable to this source.

D.1.6 New Facilities; General Reduction Requirements Limit [326 IAC 8-1-6]

(a) The maximum metal throughput through Castings Knockout and Shakeout operations for sand molds shall not exceed 12.50 tons of metal per day.

(b) The VOC emissions from the Castings Knockout and Shakeout operation for sand molds shall not exceed 1.20 pounds per ton of metal.

Compliance with the above emission limit shall limit the VOC emissions to less than fifteen (15) pounds per day from the Castings Knockout and Shakeout operations for sand molds and shall render 326 IAC 8-1-6 (BACT) not applicable to the Castings Knockout and Shakeout operation.

D.1.7 Metallic HAP Minor Limits [326 IAC 2-8]

(a) Emissions of lead from the Pouring/Casting operation (P1/P2) shall not exceed 0.109 pounds per ton of metal.

(b) Emissions of manganese from the Pouring/Casting operation (P1/P2) shall not exceed 0.217 pounds per ton of metal.

(c) Emission of total metal HAPs from the Pouring/Casting operation (P1/P2) shall not exceed 0.435 pounds per ton of metal.

(d) Emissions of lead from the Cooling operation shall not exceed 0.109 pounds per ton of metal.

(e) Emissions of manganese from the Cooling operation shall not exceed 0.217 pounds per ton of metal.

(f) Emissions of total metal HAPs from the Cooling operation shall not exceed 0.435 pounds per ton of metal throughput.

(g) Emissions of lead from the Castings Knockout and Shakeout operation shall not exceed 0.109 pounds per ton of metal.

(h) Emissions of manganese from the Castings Knockout and Shakeout operation shall not exceed 0.217 pounds per ton of metal.

(i) Emissions of total metal HAPs from the Castings Knockout and Shakeout operation shall not exceed 0.435 pounds per ton of metal throughput.

(j) Emissions of lead from the Wheelabrator Shotblasters SB1 and SB2 shall not exceed 0.217 pounds per ton of metal.

(k) Emissions of manganese from the Wheelabrator Shotblasters SB1 and SB2 shall not exceed 0.217 pounds per ton of metal.

(l) Emission of total metal HAPs from the Wheelabrator Shotblasters SB1 and SB2 shall not exceed 0.435 pounds per ton of metal.

(m) Emissions of lead from the Grinders (BG1 through BG3, DG1, and DG2) shall not exceed 0.109 pounds per hour.

(n) Emissions of manganese from the Grinders (BG1 through BG3, DG1, and DG2) shall not exceed 0.109 pounds per ton of metal.

(o) Emission of total metal HAPs from the Grinders (BG1 through BG3, DG1, and DG2) shall not exceed 0.217 pounds per ton of metal.

Compliance with the manganese emission limits above in conjunction with the other manganese limits included in this permit and Condition D.1.3(a) shall limit source-wide manganese emissions to less than 10 tons per year. Compliance with the lead emission limit above shall limit source-wide lead emissions to less than 10 tons per year. Compliance with the total metal HAP limits above in conjunction with the other total HAP limits included in this permit limit source-wide emissions of total HAPs to less than 25 tons per year and renders 326 IAC 2-7 (Part 70) not applicable to this source.

D.1.8 Organic HAP Minor Limits [326 IAC 2-8]

(a) The total missions of Toluene from the Pouring/Casting (P1/P2), Cooling, and Castings Knockout and Shakeout operations for sand molds shall not exceed 0.44 pounds per ton of metal.

(b) The total emissions of Phenol from the Pouring/Casting (P1/P2), Cooling, and Castings Knockout and Shakeout operations for sand molds shall not exceed 0.66 pounds per ton of metal.

(c) The total emissions of Benzene from the Pouring/Casting (P1/P2), Cooling, and Castings Knockout and Shakeout operations for sand molds shall not exceed 0.88 pounds per ton of metal.

(d) The total emissions of organic HAPs from the Pouring/Casting (P1/P2), Cooling, and Castings Knockout and Shakeout operations for sand molds shall not exceed 2.20 pounds per ton of metal.

Compliance with the toluene, phenol and benzene emission limits above and Condition D.1.5(a) shall limit source-wide toluene, phenol and benzene emissions to less than 10 tons per year, each. Compliance with the combined organic HAP limits above in conjunction with the other total HAP limits included in this permit limit source-wide emissions of total HAPs to less than 25 tons per year. Therefore, the requirements of 326 IAC 2-7 (Part 70) do not apply.

D.1.9 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for the Pouring/Casting (P1/P2), Cooling, Castings Knockout and Shakeout operations, Shoblasters SB1 and SB2, Belt Grinders (BG1 through BG3), and Disc Grinders DG1 and DG2.

Compliance Determination Requirements

D.1.10 Particulate and HAP Emission Control

(a) In order to comply with conditions D.1.1, D.1.2, D.1.3, D.1.4, and D.1.7, the baghouses (BH1, BH2, and BH3) for particulate and metal HAP control shall be in operation and control emissions from the Castings Knockout and Shakeout operation, Wheelabrator Shotblasters SB1 and SB2, Belt Grinders (BG1 through BG3), and Disc Grinders DG1 and DG2), at all times that the facilities are in operation.

(b) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

D.1.11 Testing Requirements [326 IAC 2-7-6(1), (6)]

Within 180 days after issuance of this FESOP permit F003-17986-00198, in order to demonstrate compliance with Conditions D.1.1, D.1.2, D.1.3 and D.1.4, the Permittee shall perform PM and PM10 emissions testing on the Castings Kncokout and Shakeout operation utilizing methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. PM10 includes filterable and condensible PM10. Testing shall be conducted in accordance with Section C- Performance Testing.

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

D.1.12 Visible Emissions Notations

(a) Visible emission notations of the baghouse BH1, BH2, and BH3 stacks exhausts (3, 33, and 2, respectively) shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

D.1.13 Parametric Monitoring

The Permittee shall record the pressure drop across the baghouse BH1, BH2 and BH3 used in conjunction with the emission units Castings Knockout and Shakeout operation, MU1, MU3, SB-1, SB-2, BG1 through BG3, DG1 and DG2, at least once per day 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 6.0 inches of water for BH1, 4.0 and 6.0 inches of water for BH2, and 1.0 to 5.0 inches of water for BH3 or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

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

D.1.14 Broken or Failed Bag Detection

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

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

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

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

D.1.15 Record Keeping Requirements

(a) To document compliance with Conditions D.1.3, D.1.4, D.1.5, D.1.7, and D.1.8, the Permittee shall maintain monthly records of the amount of material processed through Pouring/Casting (P1/P2), Cooling, and Castings Knockout and Shakeout operations.

(b) To document compliance with Condition D.1.6, the Permittee shall maintain daily records of the amount of material processed through Castings Knockout and Shakeout operation.

(c) To document compliance with Condition D.1.12, the Permittee shall maintain a daily record of visible emission notations of baghouse BH1, BH2 and BH3 stacks exhausts (3, 33, and 2, respectively). The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation, (e.g. the process did not operate that day).

(d) To document compliance with Condition D.1.13, the Permittee shall maintain a daily record of the pressure drop across each baghouse controlling the Castings Knockout and Shakeout operation, SB-1 and SB-2, BG1 through BG3, DG1 and DG2. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading, (e.g. the process did not operate that day).

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

D.1.16 Reporting Requirements

A quarterly summary of the metal throughput limit to document compliance with Conditions D.1.3, D.1.4, D.1.5, D.1.6, D.1.7, and D.1.8 shall be submitted to the addresses listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).

SECTION D.2 FACILITY OPERATION CONDITIONS

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

(c) One (1) Sand Handling and Ancillary Operation, constructed in 1964, and consisting of:
(1) one (1) sand muller, identified as MU1, with a maximum capacity of 40 tons of sand per hour, with particulate matter emissions controlled by a baghouse (BH1), exhausting through stack 3,
(2) one (1) core sand muller, identified as MU3, with a maximum capacity of 15 tons per hour, utilizing an existing baghouse (BH1) for PM control and exhausting at stack 3.

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

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

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

The particulate emissions from the emission units listed in the table below shall be limited 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:

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

or

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

$E = 55.0 P^{0.11} - 40$ where E = rate of emission in pounds per hour and P = process weight rate in tons per hour

The allowable emissions for each facility operating at its maximum process weight rate are as follows:

Emission Unit	Process Weight Rate (tons/hr)	Allowable PM Emissions (326 IAC 6-3-2) (lb/hr)
Sand Muller Units (MU 1)	40.00	42.53
Sand Muller Unit (MU 3)	15.00	25.16

D.2.2 PSD Minor Limit [326 IAC 2-2]

The PM emissions from each Sand Muller (MU1 and MU2) shall not exceed 0.052 pounds per hour.

Compliance with the above emission limits in combination with Condition D.1.3 and potential PM emissions from all other emission units shall limit the sourcewide PM emissions to less than 250 tons per year and shall render 326 IAC 2-2 (PSD) not applicable to this source.

D.2.3 PSD Minor and FESOP Limits [326 IAC 2-2] [326 IAC 2-8-4]

The PM10 emissions from each Sand Muller (MU1 and MU2) shall not exceed 0.006 pounds per hour.

Compliance with the above emission limits in combination with Conditions D.1.4 and potential PM10 emissions from all other emission units shall limit the sourcewide PM10 emissions to less than 100 tons per year and shall render 326 IAC 2-2 (PSD) and 326 IAC 2-7 (Part 70) not applicable to this source.

D.2.4 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 these facilities and their control device.

Compliance Determination Requirements

D.2.5 Particulate Control

In order to comply with conditions D.2.1, D.2.2 and D.2.3, the baghouse for particulate control identified as BH1 shall be in operation when the core sand mullers (MU1 and MU3) are in operation.

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

Within 180 days after issuance of this FESOP permit, in order to demonstrate compliance with Conditions D.2.2 and D.2.3, the Permittee shall perform PM/PM10 emissions testing on one of the Sand Mullers (MU1 or MU3) utilizing methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. PM10 includes filterable and condensible PM10. Testing shall be conducted in accordance with Section C- Performance Testing.

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

D.2.7 Visible Emissions Notations

(a) Visible emission notations of the stack exhaust (BH1) shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

D.2.8 Parametric Monitoring

The Permittee shall record the pressure drop across the baghouse BH1 used in conjunction with the emission units MU-1 and MU-3, at least once per day 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 and 6.0 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.2.9 Broken or Failed Bag Detection

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

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

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

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

D.2.10 Record Keeping Requirements

(a) To document compliance with Condition D.2.7, the Permittee shall maintain a daily record of visible emission notations of baghouse BH1 stacks exhaust (3). The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation, (e.g. the process did not operate that day).

(b) To document compliance with Condition D.2.8, the Permittee shall maintain a daily record of the pressure drop across baghouse (BH1) controlling Sand Mullers (MU1 and MU3). The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading, (e.g. the process did not operate that day).

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

SECTION D.3 FACILITY OPERATION CONDITIONS

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

(d) One (1) Surface Coating Operation, constructed in 1996, consisting of:
One (1) manual paint booth, identified as PB1, using an air atomization application system and coating a maximum of 40 aluminum parts per hour, using dry filters for overspray control, exhausting at two (2) stacks 38 and 39.

(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 Volatile Organic Compounds (VOC) Limitations [326 IAC 8-2-9]

Pursuant to 326 IAC 8-2-9, the owner or operator shall not allow the discharge into the atmosphere VOC in excess of three and five-tenths (3.5) pounds of VOC per gallon of coating, excluding water, as delivered to the applicator.

D.3.2 Volatile Organic Compound (VOC) Limitations, Clean-up Requirements [326 IAC 8-2-9]

Pursuant to 326 IAC 8-2-9(f), all solvents sprayed from the application equipment of manual paint booth (PB1) during cleanup or color changes shall be directed into containers. Said containers shall be closed as soon as the solvent spraying is complete. In addition, all waste solvent shall be disposed of in such a manner that minimizes evaporation.

D.3.3 Particulate [326 IAC 6-3-2(d)]

Pursuant to 326 IAC 6-3-2(d) the dry filters for particulate control shall be in operation in accordance with manufacturer's specifications and control emissions from PB1 at all times when the paint booth is in operation.

D.3.4 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 this facility and any control devices.

Compliance Determination Requirements

D.3.5 Volatile Organic Compounds (VOC)[326 IAC 8-1-2] [326 IAC 8-1-4]

Compliance with the VOC content contained in Condition D.3.1 shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) by preparing or obtaining from the manufacturer the copies of the "as supplied" and "as applied" VOC data sheets. IDEM, OAQ, reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

D.3.6 Particulate Matter (PM) Control

The dry filter for particulate matter (PM) control shall be in operation and control emissions from the one (1) spray booth, identified as PB1, at all times that the spray booth is in operation.

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

D.3.7 Monitoring

(a) Daily inspections shall be performed to verify the placement, integrity and particle loading of the filters. To monitor the performance of the dry filters, weekly observations shall be made of the overspray from the surface coating booth stacks (38 and 39) while one or more of the booths are in operation. If a condition exists which should result in a response step, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

(b) Monthly inspections shall be performed of the coating emissions from the stacks and the presence of overspray on the rooftops and the nearby ground. When there is a noticeable change in overspray emissions, or when evidence of overspray emissions is observed, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

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

D.3.8 Record Keeping Requirements

(a) To document compliance with condition D.3.1, the Permittee shall maintain records in accordance with (1) through (7) below. Records maintained for (1) through (7) shall be taken as stated below and shall be complete and sufficient to establish compliance with the VOC content limit established in condition D.3.1 and the PM/PM10 limits in Condition D.3.4.

(1) The VOC content of each coating material and solvent used less water.

(2) The amount of coating material and solvent used on monthly basis:

(A) Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used.

(B) Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents;

(3) The monthly cleanup solvent usage;

(4) The total VOC usage for each month;

(b) To document compliance with Condition D.3.8, the Permittee shall maintain a log of weekly overspray observations, and daily and monthly inspections.

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

SECTION D.4 FACILITY OPERATION CONDITIONS

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

Insignificant Activities:

(a) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) Btu per hour;
- (1) Eight (8) core machines, constructed in 1995, each with a maximum throughput of 0.4165 tons per hour, consisting of:
  - (i) two (2) core machines, identified as CM1 and CM2, each with a rated heat input of 0.1100 MMBtu per hour,
  - (ii) two (2) core machines, identified as CM3 and CM4, each with a rated heat input of 0.1972 MMBtu per hour,
  - (iii) two (2) core machines, identified as CM5 and CM6, each with a rated heat input of 0.3712 MMBtu per hour,
  - (iv) one (1) core machines, identified as CM7, with a rated heat input of 0.5800 MMBtu per hour, and
  - (v) one (1) core machine, identified as CM8, with a maximum heat input of 0.21 MMBtu per hour.
- (2) One (1) heat treat oven, identified as HT1, constructed in 1995, with a rated heat input of 1.5 MMBtu per hour; exhausting at stack 32.
- (3) Nine (9) space heaters, identified as SH1 through SH9, each constructed in 1995 with a rated heat input of 0.123 MMBtu per hour.
- (4) One (1) boiler, identified as B1, constructed in 1995, with a rated heat input of 8.368 MMBtu per hour. [326 IAC 6-2-4]

(b) Grinding and machining operations controlled 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 4000 actual cubic feet per minute, including the following: deburring; buffing; polishing; abrasive blasting; pneumatic conveying; and woodworking operations; [326 IAC 6-3-2]
- (1) pattern woodshop equipment, utilizing a cyclone on some units for particulate control, and consisting of:
  - (i) one (1) jointer, identified as J1,
  - (ii) one (1) planer, identified as P1,
  - (iii) two (2) routers, identified as R1 and R2,
  - (iv) one (1) milling machine, identified as M1,
  - (v) two (2) bandsaws, identified as BS1 and BS2.
  - (vi) two (2) disc sanders, identified as DS1 and DS2,
  - (vii) one (1) wood lathe, identified as L1,
  - (viii) one (1) table saw, identified as TS1, and
  - (ix) one (1) radial arm saw, identified as RAS 1.
- (2) Saws for removing gates and risers from castings.
- (3) Five (5) aluminum cut off band saws, identified as CO1 through CO5, with no particulate control.
- (4) One (1) carbide tip aluminum chop saw, identified as CS1. [326 IAC 6-3-2]

(c) Other activities with emission below insignificant thresholds:
One (1) 1.25 gal/hr waste oil heater, identified as OB1, with a rated heat input of 0.18 MMBtu per hour, burning waste oils consisting of general plant oils and oils recovered from cutting fluids.

(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 Particulate Emission Limitations for Sources of Indirect Heating [326 IAC 6-2-4]

Pursuant to 326 IAC 6-2-4 (a) (Particulate Emission Limitations for Sources of Indirect Heating), the particulate emissions from Boiler B1, shall be limited to 0.6 pounds of particulate matter per million British thermal units heat input.

D.4.2 Particulate Emission Limitations For Processes with Process Weight Rates Less Than One Hundred (100) pounds per hour [326 IAC 6-3-2(c)]

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 includes the following operations:

(1) Grinding and machining operations controlled 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 4000 actual cubic feet per minute, including the following: deburring; buffing; polishing; abrasive blasting; pneumatic conveying; and woodworking operations.

$$0.03 \frac{\text{grains}}{\text{acfm}} \times 4000 \text{ acfm} \times \frac{1 \text{ pound}}{7000 \text{ grains}} \times \frac{60 \text{ min}}{1 \text{ hour}} = 1.028 \text{ lb/hour}$$

(A) Pattern woodshop equipment, utilizing a cyclone on some units for particulate control, and consisting of:
- (i) one (1) jointer, identified as J1,
- (ii) one (1) planer, identified as P1,
- (iii) two (2) routers, identified as R1 and R2,
- (iv) one (1) milling machine, identified as M1,
- (v) two (2) bandsaws, identified as BS1 and BS2.
- (vi) two (2) disc sanders, identified as DS1 and DS2,
- (vii) one (1) wood lathe, identified as L1,
- (viii) one (1) table saw, identified as TS1, and
- (ix) one (1) radial arm saw, identified as RAS 1.

(B) Saws for removing gates and risers from castings.

(C) Five (5) aluminum cut off band saws, identified as CO1 through CO5, with no particulate control.

(D) One (1) carbide tip aluminum chop saw, identified as CS1.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP) CERTIFICATION

Source Name: Ward Aluminum Casting, Inc.
Source Address: 642 Growth Ave., Fort Wayne, Indiana 46808
Mailing Address: 642 Growth Ave., Fort Wayne, Indiana 46808
FESOP No.: F003-17986-00198

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

Please check what document is being certified:

☐ Annual Compliance Certification Letter

☐ Test Result (specify)_____

☐ Report (specify)_____

☐ Notification (specify)_____

☐ Affidavit (specify)_____

☐ Other (specify)_____

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

Signature:

Printed Name:

Title/Position:

Date:

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE BRANCH
P.O. Box 6015
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46206-6015
Phone: 317-233-0178
Fax: 317-233-6865

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
EMERGENCY OCCURRENCE REPORT

Source Name: Ward Aluminum Casting, Inc.
Source Address: 642 Growth Ave., Fort Wayne, Indiana 46808
Mailing Address: 642 Growth Ave., Fort Wayne, Indiana 46808
FESOP No.: F003-17986-00198

This form consists of 2 pages **Page 1 of 2**

□ 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 317-233-0178, ask for Compliance Section); and
- The Permittee must submit notice in writing or by facsimile within two (2) working days (Facsimile Number: 317-233-6865), and follow the other requirements of 326 IAC 2-7-16

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

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

If any of the following are not applicable, mark N/A **Page 2 of 2**

Date/Time Emergency started:
Date/Time Emergency was corrected:
Was the facility being properly operated at the time of the emergency? Y N Describe:
Type of Pollutants Emitted: TSP, PM-10, SO_2, VOC, NO_X, CO, Pb, other:
Estimated amount of pollutant(s) emitted during emergency:
Describe the steps taken to mitigate the problem:
Describe the corrective actions/response steps taken:
Describe the measures taken to minimize emissions:
If applicable, describe the reasons why continued operation of the facilities are necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw materials of substantial economic value:

Form Completed by: _____
Title / Position: _____
Date: _____
Phone: _____

A certification is not required for this report.

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

FESOP Quarterly Report

Source Name: Ward Aluminum Casting, Inc.
Source Address: 642 Growth Ave., Fort Wayne, Indiana 46808
Mailing Address: 642 Growth Ave., Fort Wayne, Indiana 46808
FESOP No.: F003-17986-00198
Facility: Melting Furnaces
Parameter: Melting Rate
Limit: The total metal throughput to the melting furnaces shall be less than 18,396 tons of metal per twelve (12) consecutive month period each, with compliance determined at the end of each month.

YEAR:

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

No deviation occurred in this month.

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

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

Attach a signed certification to complete this report.

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

FESOP Quarterly Report

Source Name: Ward Aluminum Casting, Inc.
Source Address: 642 Growth Ave., Fort Wayne, Indiana 46808
Mailing Address: 642 Growth Ave., Fort Wayne, Indiana 46808
FESOP No.: F003-17986-00198
Facility: Pouring/Casting (P1/P2), Cooling, and Castings Knockout and Shakeout operations
Parameter: Metal Throughput Rate for Sand Molds
Limit: The total metal throughput to the Pouring/Casting (P1/P2), Cooling and Castings Knockout and Shakeout operations for sand molds shall be less than 4,555.2 tons of metal per twelve (12) consecutive month period each, with compliance determined at the end of each month.

YEAR:

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

No deviation occurred in this month.

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

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

Attach a signed certification to complete this report.

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

FESOP Quarterly Report

Source Name: Ward Aluminum Casting, Inc.
Source Address: 642 Growth Ave., Fort Wayne, Indiana 46808
Mailing Address: 642 Growth Ave., Fort Wayne, Indiana 46808
FESOP No.: F003-17986-00198
Facility: Pouring/Casting (P1/P2), Cooling, and Castings Knockout and Shakeout operations
Parameter: Metal Throughput Rate for Sand Molds
Limit: The maximum metal throughput to the Pouring/Casting (P1/P2), Cooling, and Castings Knockout and Shakeout operations for sand molds shall not exceed 12.50 tons of metal per day, each.

Month: _____ **Year:** _____

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

☐ No deviation occurred in this month.

☐ Deviation/s occurred in this month.
Deviation has been reported on_____

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

Attach a signed certification to complete this report.

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: Ward Aluminum Casting, Inc.
Source Address: 642 Growth Ave., Fort Wayne, Indiana 46808
Mailing Address: 642 Growth Ave., Fort Wayne, Indiana 46808
FESOP No.: F003-17986-00198

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

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. Deviations that are required to be reported by an applicable requirement shall be reported according to the schedule stated in the applicable requirement and do not need to be included in this report. Additional pages may be attached if necessary. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period".	
☐ NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.	
☐ THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD	
Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	
Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

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

Form Completed By: _____

Title/Position: _____

Date: _____

Phone: _____

Attach a signed certification to complete this report.

Indiana Department of Environmental Management
Office of Air Quality

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

Source Name:	Ward Aluminum Casting, Inc.
Source Location:	642 Growth Ave., Fort Wayne, IN 46808
County:	Allen
SIC Code:	3361, 3398
Operation Permit No.:	F003-10264-00198
Operation Permit Issuance Date:	June 10, 1999
Permit Renewal No.:	F003-17986-00198
Permit Reviewer:	AY/EVP

On October 9, 2007, the Office of Air Quality (OAQ) had a notice published in the Forty Wayne Journal Gazetter, Fort Wayne, Indiana, stating that Ward Aluminum Casting, Inc. had applied for the renewal of the FESOP permit for an aluminum foundry heat treating and aluminum castings production operation. 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.

No comment has been received from the source or other interest public persons during public notice or at the end of public notice. However, upon further review, OAQ has determined the following changes (bolded language has been added and the language with a line through it has been deleted) will be made to the permit:

1. On September 5, 2007 the Indiana Air Pollution Control Board finalized a temporary emergency rule to redesignate Allen, Clark, Elkhart, Floyd, LaPorte, St. Joseph as attainment for the 8-hour ozone standard. Since this source is located in Allen county, Section A.1 of the permit has been revsied as follows:

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

The Permittee owns and operates a stationary aluminum foundry heat treating source producing aluminum castings.

Source Address:	642 Growth Avenue, Fort Wayne, Indiana 46808
Mailing Address:	642 Growth Avenue, Fort Wayne, Indiana 46808
General Source Phone:	(260) 426-8700
SIC Code:	3361, 3398
County Location:	**Allen**
Source Location Status:	~~Allen~~ ~~Nonattainment for 8-hour ozone~~ 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

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:	Ward Aluminum Casting, Inc.
Source Location:	642 Growth Ave., Fort Wayne, IN 46808
County:	Allen
SIC Code:	3361, 3398
Operation Permit No.:	F003-10264-00198
Operation Permit Issuance Date:	June 10, 1999
Permit Renewal No.:	F003-17986-00198
Permit Reviewer:	AY/EVP

The Office of Air Quality (OAQ) has reviewed a FESOP renewal application from Ward Aluminum Casting, Inc. relating to the operation of an aluminum foundry heat treating and aluminum castings production operation.

Permitted Emission Units and Pollution Control Equipment

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

(a) One (1) Melting Operation installed in 1964, consisting of:
- (1) three (3) natural gas fired reverberatory furnaces, identified as GR1 through GR3, each with a rated heat input of 2.9 MMBtu per hour and a maximum melting capacity of 0.5 tons per hour of aluminum, exhausting at stacks 6, 8 and 23, respectively,
- (2) eight (8) natural gas fired crucibles, identified as CR1 through CR8, each with a rated heat input of 1 MMBtu per hour and a maximum melting capacity of 0.165 tons per hour of aluminum, exhausting at stack 15,
- (3) two (2) glow bar electric melt furnaces, identified as EM1 and EM2, each with a maximum melting capacity of 1 ton of aluminum per hour and exhausting through stacks 25 and 27, respectively,
- (4) one (1) electric melt furnace, identified as EM3, with a maximum melting capacity of 1 ton of aluminum per hour, exhausting through stacks 25 and 27, and
- (5) one (1) electric melt furnace (constructed in 2000), identified as EM4, with a maximum melting capacity of 1.5 tons of aluminum per hour, exhausting through stacks 25 and 27.

(b) One (1) Casting, Cleaning, and Finishing Operation, consisting of:
- (1) one (1) wheelabrator shotblaster, identified as SB1, constructed in 1995, with a maximum capacity of 12 tons of steel shot per hour, utilizing a baghouse (BH3) for particulate control, exhausting at stack 2,
- (2) one (1) pouring/casting and cooling operation, identified as P1/P2, constructed in 1995, with a maximum capacity of 7.57 tons per hour of melted aluminum,

(3) one (1) Castings Knockout and Shakeout operation, constructed in 1995, and consisting of:
  (i) one (1) shake out unit and five (5) knockout machines (KN1 through KN5), with a maximum capacity of 50 tons per hour, utilizing a baghouse (BH1) for particulate control, exhausting at stack 3,
  (ii) one (1) elevator, identified as EV1, with a maximum capacity of 50 tons per hour, utilizing a baghouse (BH1) for particulate control, exhausting at stack 3.

(4) one (1) wheelabrator shotblaster, identified as SB2, constructed in 1995, with a maximum capacity of 7.23 tons of steel shot per hour, utilizing a baghouse (BH3) for particulate control, exhausting at stack 2.

(c) Three (3) aluminum belt grinders, identified as BG1 through BG3, constructed in 1995, each with a maximum capacity of 0.75 tons per hour, utilizing a baghouse (BH2) for particulate control, exhausting at stack 33.

(d) Two (2) disc grinders, identified as DG1 through DG2, constructed in 1995, each with a maximum capacity of 0.75 tons per hour, utilizing a baghouse (BH2) for particulate control, exhausting at stack 33.

(e) One (1) Sand Handling and Ancillary Operation, constructed in 1964, and consisting of:
(1) one (1) sand muller, identified as MU1, with a maximum capacity of 40 tons of sand per hour, with particulate matter emissions controlled by a baghouse (BH1), exhausting through stack 3,
(2) one (1) core sand muller, identified as MU3, with a maximum capacity of 15 tons per hour, utilizing an existing baghouse (BH1) for PM control and exhausting at stack 3.

(f) One (1) Surface Coating Operation, constructed in 1996, consisting of:
One (1) manual paint booth, identified as PB1, using an air atomization application system and coating a maximum of 40 aluminum parts per hour, using dry filters for overspray control, exhausting at two (2) stacks 38 and 39.

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

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

Insignificant Activities

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

(a) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) Btu per hour;
(1) Eight (8) core machines, constructed in 1995, each with a maximum throughput of 0.4165 tons per hour, consisting of:
  (i) two (2) core machines, identified as CM1 and CM2, each with a rated heat input of 0.1100 MMBtu per hour,
  (ii) two (2) core machines, identified as CM3 and CM4, each with a rated heat input of 0.1972 MMBtu per hour,
  (iii) two (2) core machines, identified as CM5 and CM6, each with a rated heat input of 0.3712 MMBtu per hour,
  (iv) one (1) core machines, identified as CM7, with a rated heat input of 0.5800 MMBtu per hour, and
  (v) one (1) core machine, identified as CM8, with a maximum heat input of 0.21 MMBtu per hour.

(2) One (1) heat treat oven, identified as HT1, constructed in 1995, with a rated heat input of 1.5 MMBtu per hour; exhausting at stack 32.
(3) Nine (9) space heaters, identified as SH1 through SH9, each constructed in 1995 with a rated heat input of 0.123 MMBtu per hour.
(4) One (1) boiler, identified as B1, constructed in 1995, with a rated heat input of 8.368 MMBtu per hour. [326 IAC 6-2-4]

(b) Grinding and machining operations controlled 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 4000 actual cubic feet per minute, including the following: deburring; buffing; polishing; abrasive blasting; pneumatic conveying; and woodworking operations; [326 IAC 6-3-2]
(1) pattern woodshop equipment, utilizing a cyclone on some units for particulate control, and consisting of:
(i) one (1) jointer, identified as J1,
(ii) one (1) planer, identified as P1,
(iii) two (2) routers, identified as R1 and R2,
(iv) one (1) milling machine, identified as M1,
(v) two (2) bandsaws, identified as BS1 and BS2.
(vi) two (2) disc sanders, identified as DS1 and DS2,
(vii) one (1) wood lathe, identified as L1,
(viii) one (1) table saw, identified as TS1, and
(ix) one (1) radial arm saw, identified as RAS 1.
(2) Saws for removing gates and risers from castings.
(3) Five (5) aluminum cut off band saws, identified as CO1 through CO5, with no particulate control.
(4) One (1) carbide tip aluminum chop saw, identified as CS1. [326 IAC 6-3-2]

(c) Other activities with emission below insignificant thresholds:
One (1) 1.25 gal/hr waste oil heater, identified as OB1, with a rated heat input of 0.18 MMBtu per hour, burning waste oils consisting of general plant oils and oils recovered from cutting fluids.

(d) Machining where an aqueous cutting coolant continuously floods the machining interface.

(e) Any operation using aqueous solutions containing less than 1% by weight of VOCs excluding HAPs.

(f) Replacement or repair of electrostatic precipitators, bags in baghouses and filters in other air filtration equipment.

(g) Trimmers that do not produce fugitive emissions and that are equipped with a dust collection or trim material recovery device such as a bag filter or cyclone.

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

(i) Blowdown for any of the following: sight glass; boiler; compressors; pumps; and cooling tower.

Emission Units and Pollution Control Equipment Removed From the Source

The following emission unit has been removed from the FESOP permit F003-17986-00198:

(a) One (1) Sand Handling and Ancillary Operation, consisting of:
  (1) two (2) Isoset core machines, identified as CM 9 and 10, each with a maximum capacity of 5 tons per hour, using one (1) sulfur dioxide scrubber, identified as SCR, for sulfur dioxide control,
  (2) two (2) Betaset core machines, identified as CM 11 and 12, each with a maximum capacity of 5 tons per hour, and
  (3) two (2) core sand mixers, identified as SM1 and 2, with a maximum capacity of 3 and 1.5 tons per hour, respectively.

Existing Approvals

The source has been operating under the following previous approvals:

(a) FESOP 003-10264-00198, issued on June 10, 1999.
(b) First Administrative Amendment No. 003-11247-00198, issued on October 25, 1999.
(c) First Reopening No. 003-13010-00198, issued on December 26, 2001.

All conditions from previous approvals were incorporated into this FESOP except the following:

Section D.3 and D.6 of the FESOP permit contained one (1) sand handling and ancillary operation with advanced source modification approval. The following units are not being included in this FESOP renewal since they were never constructed and the source has no future plans to construct them.

(b) One (1) Sand Handling and Ancillary Operation, consisting of:
  (1) two (2) Isoset core machines, identified as CM 9 and 10, each with a maximum capacity of 5 tons per hour, using one (1) sulfur dioxide scrubber, identified as SCR, for sulfur dioxide control,
  (2) two (2) Betaset core machines, identified as CM 11 and 12, each with a maximum capacity of 5 tons per hour, and
  (3) two (2) core sand mixers, identified as SM1 and 2, with a maximum capacity of 3 and 1.5 tons per hour, respectively.

All the permit conditions related to the above listed units have not been incorporated in this FESOP renewal.

Enforcement Issue

There are no enforcement actions pending.

Emission Calculations

See Appendix A of this document for detailed emissions calculations (fifteen (15) pages).

County Attainment Status

The source is located in Allen County.

Pollutant	Status
PM2.5	Attainment
PM-10	Attainment
SO_2	Attainment
NO_2	Attainment
8-hour Ozone	Attainment
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. Allen County has been designated as attainment or unclassifiable for ozone. Therefore, VOC emissions and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability for the source section.

(b) Allen 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) Allen 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.

(d) On October 25, 2006, the Indiana Air Pollution Control Board finalized a rule revision to 326 IAC 1-4-1 revoking the one-hour ozone standard in Indiana.

Unrestricted Potential Emissions

This table reflects the unrestricted potential emissions of the source.

Pollutant	Unrestricted Potential Emissions (tons/yr)
PM	Greater than 250
PM-10	Greater than 250
SO_2	Less than 100
VOC	Less than 100
CO	Less than 250
NO_x	Less than 100

HAPs	Unrestricted Potential Emissions (tons/yr)
Manganese	Less than 10
Hexane	Less than 10
Others	Less than 10
Total	Greater than 25

(a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of PM10, VOC, and CO is equal to or greater than 100 tons per year, each. The source is subject to the provisions of 326 IAC 2-7. However, the source has agreed to limit their PM10, VOC, and CO emissions to less than Title V levels, therefore the source will be issued a FESOP.

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

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

Fugitive Emissions

Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-7, fugitive emissions are not counted toward the determination of Part 70 applicability..

Actual Emissions

No previous emission data has been received from the source.

Potential to Emit After Issuance

The source has opted to remain a FESOP source. The table below summarizes the potential to emit, reflecting all limits of the emission units. Any control equipment is considered enforceable only after issuance of this FESOP and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

	Potential To Emit (tons/year)							
Process/emission unit	**PM**	**PM_{10}**	**SO_2**	**VOC**	**CO**	**NO_x**	**HAPs**	
							Single Worst Case	**Combined Total**
Melting furnaces (GR1 through GR3, CR1 through CR8, and EM1 through EM4) [a]	39.55	23.91	30.35	23.00	0.00	15.64	0.50 (Pb)	0.82
Pouring / Casting (P1/P2)	38.63	22.08	0.00	1.29	13.67	0.00	6.0 (Mn)	17.0
Cooling	12.88	12.88	0.00	0.00		0.00		
Castings Knockout and Shakeout	0.01	0.01	0.00	2.73 [c]		0.00		
Sand Muller Units (MU 1 and MU 3)	0.23	0.03	0.00	0.00	0.00	0.00	0.00	0.00
Surface Coating (PB1)	2.21	2.21	0.00	7.22	0.00	0.00	0.00	0.00
Shot Blasting (SB1 and SB2)	1.09	0.11	0.00	0.00	0.00	0.00	2.0 (Mn)	4.00
Grinders (BG1 through BG3, DG1, and DG2)	0.16	0.07	0.00	0.00	0.00	0.00	1.0 (Mn)	2.00
Core Machines (CM1 through CM8) [b]	0.00	0.00	2.52	0.01	0.00	3.94	0.00	0.00
Natural Gas Combustion [b]	0.25	0.99	0.08	0.72	10.97	13.06	0.235 (Hexane)	0.25
Waste Oil Combustion [b]	0.29	0.23	0.67	0.01	0.03	0.11	Negl.	Negl.
Insignificant woodworking	0.05	0.05	0.00	0.00	0.00	0.00	0.00	0.00
Total Emissions	95.36	62.58	33.62	34.97	24.67	26.94	9.0 (Mn)	24.07

Notes:
a. Emissions reflect the limited emissions based on maximum melt rate of 18,396 tons per year.
b. Qualify as insignificant activities.
c. The source processes both permanent and sand molds. VOC emissions only reflect the emissions from the sand molds with limited throughput of 4555.2 tons/yr for Castings Knockout and Shakeout operations. Permanent molds do not produce VOC emissions.

(a) This existing stationary source is not major for PSD because the emissions of each criteria pollutant and PM are less than two hundred fifty (<250) tons per year, and it is not one of the twenty-eight (28) listed source categories.

(b) Fugitive Emissions
Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 or 326 IAC 2-3 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive emissions are not counted toward determination of PSD or Emission Offset applicability.

Federal Rule Applicability

(a) The requirements of the New Source Performance Standard (NSPS), 326 IAC 12, 40 CFR 60.191, Subpart S (Primary Aluminum Reduction) are not included in this permit because the source does not perform primary aluminum reduction as defined in 40 CFR 60.191. This source is an aluminum foundry plant, therefore the requirements under 326 IAC 12, (40 CFR 60.191, Subpart S) are not included in the permit.

(b) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP), 40 CFR 63.1500 through 63.1519, Subpart RRR are not included in the permit because this source is not a secondary aluminum production facility as defined in 40 CFR 63.1503. Pursuant to 40 CFR 63.1503, aluminum die casting facilities, aluminum foundries, and aluminum extrusion facilities are not considered to be secondary aluminum production facilities if the only materials they melt are clean charge, customer returns, or internal scrap, and if they do not operate sweat furnaces, thermal chip dryers, or scrap dryers/delacquering kilns/decoating kilns. This source only melts clean charge, customer returns, or internal scrap and does not operate sweat furnaces, thermal chip dryers, or scrap dryers/delacquering kilns/decoating kilns. Also, this source has no aluminum chip dryer as defined in 40 CFR 63.1503. Therefore, the requirements of this rule are not included in the permit.

Note: This non-applicability determination is based on the final rule as published in the December 30, 2002 Federal Register.

(c) The requirements of the New Source Performance Standard, 326 IAC 12, (40 CFR 60.40c, Subpart Dc) for the one (1) boiler (rated at 8.368) are not included in the permit because the boiler's maximum heat input capacity is less than ten (10) million Btu per hour (MMBtu/hr).

(d) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP), 326 IAC 20, (40 CFR Part 63, Subpart EEEE (National Emission Standards for Hazardous Air Pollutants for Iron and Steel Foundries)) for this source are not included in the permit because this source is not a Iron and Steel Foundry.

(e) The requirements of 40 CFR Part 64, Compliance Assurance Monitoring, are not applicable to this source. Generally, such requirements apply to a Part 70 source that involves a pollutant-specific emissions unit (PSEU), as defined in 40 CFR 64.1, that meets the following criteria:

(1) the unit is subject to an emission limitation or standard for an applicable regulated air pollutant,

(2) the unit uses a control device as defined in 40 CFR 64.1 to comply with that emission limitation or standard, and

(3) the unit has a potential to emit before controls equal to or greater than the applicable Part 70 major source threshold for the regulated pollutant.

As a FESOP source, this source has accepted federally enforceable limits such that the requirements of 326 IAC 2-7 (Part 70) do not apply. Therefore, the requirements of 40 CFR 64, Compliance Assurance Monitoring, are not applicable to this source.

State Rule Applicability – Entire Source

326 IAC 2-2 (Minor Source Limit Prevention of Significant Deterioration & FESOP)

The existing source was constructed prior to the August 7, 1977 rule applicability date. This source is not considered a major source because it is not one of the 28 listed source categories and it has the potential to emit after controls of less than 250 tons per year of each regulated pollutant. In order to comply with 326 IAC 2-8 (FESOP) emissions of PM-10 and CO are controlled and/or limited to less than 100 tons per year. This limit will also render the requirements of 326 IAC 2-2 not applicable.

Since uncontrolled PM and PM10 emissions are greater than 250 tons per year, enforceable limits shall be included as follows:

(a) The total metal throughput to the melting furnaces shall be limited to less than 18,396 tons of metal per twelve (12) consecutive month period each, with compliance determined at the end of each month.

(b) The PM emissions from melting furnaces (GR1 through GR3, CR1 through CR8, and EM1 through EM4) shall not exceed 4.30 pounds per ton of metal.

(c) The PM emissions from Pouring/Casting (P1/P2) operation shall not exceed 4.20 pounds per ton of metal.

(d) The PM emissions from Cooling operation shall not exceed 1.40 pounds per ton of metal.

(e) The PM emissions from Casting Knockout and Shakeout operation shall not exceed 0.0064 pounds per ton of metal.

(f) The PM emissions from Wheelabrator Shotblasters (SB1 and SB2) shall not exceed 0.248 pounds per hour.

(g) The PM emissions from Grinders (BG1 through BG3, DG1 and DG2) shall not exceed 0.036 pounds per hour.

(h) The PM emissions from each Sand Muller (MU1 and MU2) shall not exceed 0.052 pounds per hour.

Compliance with above PM emission limits in combination with potential emissions from all other emission units shall limit the sourcewide PM emissions to less than 250 tons per year and will render 326 IAC 2-2 (PSD) not applicable

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 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 2-4.1-1 (New Source Toxics Control)

This source is not subject to 326 IAC 2-4.1-1 (New Source Toxics Control) because the source has PTE of any HAP less than 10 tons per year and PTE of any combination of HAPs less than 25 tons per year. Therefore, 326 IAC 2-4.1-1 does not apply.

326 IAC 2-8-4 (FESOP), Minor Source PSD and Emission Offset Limit

This source is subject to 326 IAC 2-8-4 (FESOP). Pursuant to this rule, the following conditions shall apply:

(a) The total metal throughput to the melting furnaces shall be less than 18,396 tons of metal per twelve (12) consecutive month period each, with compliance determined at the end of each month.

(b) The PM10 emissions from melting furnaces (GR1 through GR3, CR1 through CR8, and EM1 through EM4) shall not exceed 2.60 pounds per ton of metal.

(c) The PM10 emissions from Pouring/Casting (P1/P2) operation shall not exceed 2.40 pounds per ton of metal.

(d) The PM10 emissions from Cooling operation shall not exceed 1.40 pounds per ton of metal.

(e) The PM10 emissions from Casting Knockout and Shakeout operation shall not exceed 0.0044 pounds per ton of metal.

(f) The PM10 emissions from Wheelabrator Shotblasters (SB1 and SB2) shall not exceed 0.025 pounds per hour.

(g) The PM10 emissions from Grinders (BG1 through BG3, DG1 and DG2) shall not exceed 0.016 pounds per hour.

(h) The PM10 emissions from each Sand Muller (MU1 and MU2) shall not exceed 0.006 pounds per hour.

(i) Total emissions of CO from the Pouring/Casting (P1/P2), Cooling and Castings Knockout and Shakeout operations shall not exceed 6.0 pounds per ton of metal throughput.

(j) The total metal throughput through Pouring/Casting (P1/P2), Cooling and Castings Knockout and Shakeout operations for sand molds shall be less than 4,555.2 tons of metal per twelve (12) consecutive month period each, with compliance determined at the end of each month.

(k) Emissions of VOC from the Pouring/Casting (P1/P2), Cooling and Castings Knockout and Shakeout operations for sand moldsshall not exceed 1.20 pounds per ton of metal.

(l) Emissions of lead from the Pouring/Casting operation (P1/P2) shall not exceed 0.109 pounds per ton of metal.

(m) Emissions of manganese from the Pouring/Casting operation (P1/P2) shall not exceed 0.217 pounds per ton of metal.

(n) Emission of total metal HAPs from the Pouring/Casting operation (P1/P2) shall not exceed 0.435 pounds per ton of metal.

(o) Emissions of lead from the Cooling operation shall not exceed 0.109 pounds per ton of metal.

(p) Emissions of manganese from the Cooling operation shall not exceed 0.217 pounds per ton of metal.

(q) Emissions of total metal HAPs from the Cooling operation shall not exceed 0.435 pounds per ton of metal throughput.

(r) Emissions of lead from the Castings Knockout and Shakeout operation shall not exceed 0.109 pounds per ton of metal.

(s) Emissions of manganese from the Castings Knockout and Shakeout operation shall not exceed 0.217 pounds per ton of metal.

(t) Emissions of total metal HAPs from the Castings Knockout and Shakeout operation shall not exceed 0.435 pounds per ton of metal throughput.

(u) Emissions of lead from the Wheelabrator Shotblasters SB1 and SB2 shall not exceed 0.217 pounds per ton of metal.

(v) Emissions of manganese from the Wheelabrator Shotblasters SB1 and SB2 shall not exceed 0.217 pounds per ton of metal.

(w) Emission of total metal HAPs from the Wheelabrator Shotblasters SB1 and SB2 shall not exceed 0.435 pounds per ton of metal.

(x) Emissions of lead from the Grinders (BG1 through BG3, DG1, and DG2) shall not exceed 0.109 pounds per hour.

(y) Emissions of manganese from the Grinders (BG1 through BG3, DG1, and DG2) shall not exceed 0.109 pounds per ton of metal.

(z) Emission of total metal HAPs from the Grinders (BG1 through BG3, DG1, and DG2) shall not exceed 0.217 pounds per ton of metal.

(aa) The total missions of Toluene from the Pouring/Casting (P1/P2), Cooling, and Castings Knockout and Shakeout operations for sand molds shall not exceed 0.44 pounds per ton of metal.

(bb) The total emissions of Phenol from the Pouring/Casting (P1/P2), Cooling, and Castings Knockout and Shakeout operations for sand molds shall not exceed 0.66 pounds per ton of metal.

(cc) The total emissions of Benzene from the Pouring/Casting (P1/P2), Cooling, and Castings Knockout and Shakeout operations for sand molds shall not exceed 0.88 pounds per ton of metal.

(dd) The total emissions of organic HAPs from the Pouring/Casting (P1/P2), Cooling, and Castings Knockout and Shakeout operations for sand molds shall not exceed 2.20 pounds per ton of metal.

Compliance with above emission limits in combination with potential emissions of PM10, CO, single HAP, and total HAPs from insignificant activities shall limit the source-wide PM10, and CO emissions to less than 100 tons per twelve consecutive month period each, and single HAP and total HAPs emissions to less than 10 and 25 tons per twelve consecutive month period, respectively. Therefore, the requirements of 326 IAC 2-7 (Part 70) do not apply. The above limits for PM10 will also render 326 IAC 2-2 (PSD) not applicable.

State Rule Applicability – Individual Facilities

326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating)

The one (1) natural gas fired boiler (B1 constructed after 1983), with a maximum heat input capacity rating of 8.368 MMBtu per hour, is subject to the particulate matter limitations of 326 IAC 6-2-4. Pursuant to this rule, particulate emissions from indirect heating facilities constructed after September 21, 1983, shall be limited by the following equation:

$Pt = 1.09/Q^{0.26}$

where: Pt = maximum allowable particulate matter (PM) emitted per MMBtu heat input
Q = total source maximum operation capacity rating = 8.368 MMBtu/hr

$Pt = 1.09/8.368^{0.26} = 0.627$ lbs PM/MMBtu

However, pursuant to 326 IAC 6-2-4(a), because the maximum heat input capacity is less than 10 MMBtu/hr, the boiler is limited to emissions of less than 0.6 lbs PM/MMBtu.

Compliance calculation:
Potential PM emissions for boiler (B1) = 1.9 lb PM/MMCF * (1/1000) (MMCF/MMBtu) = 0.0019 lbs PM/MMBtu

Potential PM emissions for the boiler B1 (0.0019 lbs PM/MMBtu) are less than the allowable 0.6 lbs PM/MMBtu, therefore the boiler will comply with the requirements of 326 IAC 6-2-4.

326 IAC 6-3-2 (Particulate Emission Limitations, Work Practices, and Control Technologies)

(a) Pursuant to 326 IAC 6-3-2 the particulate emissions from the foundry operations shall be limited 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:

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

or

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

$E = 55.0 P^{0.11} - 40$ where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

Emission Unit	Process Weight Rate (tons/hr)	Controlled PM Emissions (lb/hr)	Allowable Particulate Emissions (326 IAC 6-3-2) (lb/hr)
Sand Muller Units (MU 1)	40.00	0.29	42.53
Sand Muller Unit (MU 3)	15.00	0.11	25.16
Pouring/Casting (P1/P2)	7.57	2.185	15.91
Cooling	7.57	0.728	15.91
Castings Knockout and Shakeout	50.00	0.002	44.58
Shot Blasting SB1	12.00	0.19	21.67
Shot Blasting SB2	8.25	0.13	16.86
Aluminum Belt Grinders (BG1 through BG3)	2.25	0.08	7.05
Disc Grinders (DG1 and DG2)	1.50	0.05	5.38

These facilities can comply with the allowable particulate emission limits since their emissions after control are less than the allowable particulate emissions.

The baghouses (BH1 and BH3) shall be in operation at all times the foundry equipment is in operation, in order to comply with these limits.

(b) Pursuant to 326 IAC 6-3-2(e)(2), the allowable particulate emissions rate from any process which has a maximum process weight rate less than 100 pounds per hour shall not exceed 0.551 pounds per hour. This includes the following equipment, as insignificant activities:

(1) Grinding and machining operations controlled 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 4000 actual cubic feet per minute, including the following: deburring; buffing; polishing; abrasive blasting; pneumatic conveying; and woodworking operations.

$$0.03 \frac{\text{grains}}{\text{acfm}} \times 4000 \text{ acfm} \times \frac{1 \text{ pound}}{7000 \text{ grains}} \times \frac{60 \text{ min}}{1 \text{ hour}} = 1.028 \text{ lb/hour}$$

(A) Pattern woodshop equipment, utilizing a cyclone on some units for particulate control, and consisting of:
- (i) one (1) jointer, identified as J1,
- (ii) one (1) planer, identified as P1,
- (iii) two (2) routers, identified as R1 and R2,
- (iv) one (1) milling machine, identified as M1,
- (v) two (2) bandsaws, identified as BS1 and BS2.
- (vi) two (2) disc sanders, identified as DS1 and DS2,
- (vii) one (1) wood lathe, identified as L1,
- (viii) one (1) table saw, identified as TS1, and
- (ix) one (1) radial arm saw, identified as RAS 1.

(B) Saws for removing gates and risers from castings.

(C) Five (5) aluminum cut off band saws, identified as CO1 through CO5, with no particulate control.

(D) One (1) carbide tip aluminum chop saw, identified as CS1.

(c) The reverberatory furnaces (GR1 through GR3), gas crucible furnaces (CR1 through CR8), electric melt furnaces (EM1 through EM4) are not subject to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), because the allowable emissions for 326 IAC 6-3-2 for each are less stringent than the allowable emissions for 326 IAC 11-1. Pursuant to 326 IAC 6-3-1(b) (1), above operations are not subject to 326 IAC 6-3-2.

326 IAC 6-3-2(d) (Particulate Emission Limitations, Work practices, and Control Technologies)

Pursuant to 326 IAC 6-3-2(d), particulate from the surface coating operation, identified as PB1, shall be controlled by a dry particulate filter, and the Permittee shall operate the control device in accordance with manufacturer's specifications.

326 IAC 7-1.1 (Sulfur Dioxide Emissions)

The foundry furnaces at this source are not subject to 326 IAC 7-1, because they do not emit SO_2 at a rate equal to or greater than 25 tons per year or 10 pounds per hour.

326 IAC 8-1-6 (General Volatile Organic Compound Reduction Requirements)

This rule applies to facilities located anywhere in the state that were constructed on or after January 1, 1980, which have potential volatile organic compound (VOC) emissions of 25 tons per year or more, and which are not otherwise regulated by another provision of Article 8.

The Castings Knockout and Shakeout operation was constructed in 1995 and has potential VOC emissions above 25 tons per year. The Castings Knockout and Shakeout operation shall be subject to the following:

(a) The VOC emissions from the Castings Knockout and Shakeout operation for sand molds shall be limited to less than fifteen (15) pounds per day and 1.2 pounds per ton of metal.

(b) The maximum metal throughput through Pouring/Casting (P1/P2), Cooling, and Castings Knockout and Shakeout operations shall not exceed 12.50 tons of metal per day.

Therefore the Best Available Control Technology (BACT) requirements under 326 IAC 8-1-6 (General Reduction Requirements) are not applicable to the Castings Knockout and Shakeout operation.

The one paint booth (PB1) has maximum uncontrolled VOC potential emissions of 7.22 tons per year, therefore, this rule does not apply.

Other operations including Pouring/Casting operation (P1/P2), reverberatory furnaces (GR1 through GR3), gas crucible furnaces (CR1 through CR8), electric melt furnaces (EM1 through EM4), each has maximum uncontrolled VOC potential emissions of less than 25 tons per year, therefore, this rule does not apply.

326 IAC 8-2-9 (Miscellaneous Metal Coating)

One paint booth (PB1) is subject to the requiremetns of 326 IAC 8-2-9 since it applies coatings to metal parts. Pursuant to 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations), the volatile organic compound (VOC) content of the coating delivered to the applicator at the manual paint booth (PB1) shall be limited to 3.5 pounds of VOCs per gallon of coating less water, for forced warm air dried coatings.

Solvent sprayed from application equipment during cleanup or color changes shall be directed into containers. Such containers shall be closed as soon as such solvent spraying is complete, and the waste solvent shall be disposed of in such a manner that evaporation is minimized.

Based on the MSDS submitted by the source and calculations made, the spray booth can comply with this requirement.

326 IAC 11-1 (Emission Limitations for Existing Foundries)

This rule establishes specific emission limitations for particulate matter from foundries in operation on or before December 6, 1968. Foundries beginning operation after December 6, 1968 are required to comply with the emission limits specified in 326 IAC 6-3. This foundry was constructed prior to 1968, therefore, this rule is applicable to the melting operations at this source. Pursuant to 326 IAC 11-1-2, the allowable particulate emission rate from the melting operations shall be limited as follows:

Emission Unit	Process Weight Rate (lb/hr)	Potential PM Emissions (lb/hr)	Allowable Particulate Emissions (326 IAC 11-1) (lb/hr)
Reverberatory Furnaces (GR1)	1,000	2.15	3.05
Reverberatory Furnace (GR2)	1,000	2.15	3.05
Reverberatory Furnace (GR3)	1,000	2.15	3.05
Gas Crucible Furnace (CR1 through CR8)	2,640	2.50	5.756
Electric Melt Furnace (EM1 and EM2)	4,000	3.80	8.0
Electric Melt Furnace (EM 3)	2,000	1.90	4.70
Electric Melt Furnace (EM 4)	3,000	2.85	6.35

These facilities can comply with the allowable particulate emission limits since their potential emissions are less than the allowable particulate emissions.

Testing Requirements

Original FESOP/ENSR No. 003-10264-00198, issued on June 10, 1999 required SO_2 emissions testing for the Core Machine Units (CM 9 through CM12) to be done during the period between 24 and 36 months after issuance of the permit (see Condition D.3.8). However, these emissions units (CM 9 through CM12) were never constructed and therefore testing was not done. During this permit renewal, these emission units (CM9 through CM12) are being removed from the permit.

The following testing requirements are applicable to this source:

(a) Within 180 days after issuance of this FESOP permit F003-17986-00198, the Permittee shall perform PM/PM10 testing on the Pouring/Casting (P1/P2), Cooling, and Castings Knockout and Shakeout operations utilizing methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C-Performance Testing.

(b) Within 180 days after issuance of this FESOP permit F003-17986-00198, the Permittee shall perform PM/PM10 testing on one of the sand mullers (MU1 or MU3) utilizing methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C - Performance Testing.

Compliance Determination and Monitoring Requirements

Permits issued under 326 IAC 2-8 are required to ensure that sources can demonstrate compliance with all applicable state and federal rules on a continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a continuous demonstration. When this occurs IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-8-4. As a result, Compliance Determination Requirements are included in the permit. The Compliance Determination Requirements in Section D of the permit are those conditions that are found directly within state and federal rules and the violation of which serves as grounds for enforcement action.

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

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

Control	Parameter	Frequency	Range	Excursions and Exceedances
Baghouse BH1 (Stack 3)	Water Pressure Drop	Daily	2 to 6 inches	Response Steps
	Visible Emissions		Normal-Abnormal	
Baghouse BH2 (Stack 33)	Water Pressure Drop	Daily	4 to 6 inches	Response Steps
	Visible Emissions		Normal-Abnormal	
Baghouse BH3 (Stack 2)	Water Pressure Drop	Daily	1 to 5 inches	Response Steps
	Visible emissions		Normal-Abnormal	
Dry Filters for PB1	Filter Inspection	Daily	Verify the placement, integrity, and particle loading	Response Steps
	Filter Performance	Weekly	Overspray	
	Rooftop and ground overspray	Monthly	Overspray	

These monitoring conditions are necessary because the baghouses for the Castings Knockout and Shakeout operation, MU1, MU3, SB-1, SB-2, BG1 through BG3, DG1 and DG2 must operate properly to ensure compliance with 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), and the metal HAP limits to render 326 IAC 2-7 (Part 70) not applicable.

These monitoring conditions are necessary because the dry filters for the surface coating oeprations must operate properly to ensure compliance with 326 IAC 6-3-2 (Particulate Emission Limitations, Work practices, and Control Technologies).

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 September 10, 2003.

Conclusion

The operation of this aluminum foundry heat treating source producing aluminum castings shall be subject to the conditions of this FESOP F003-17986-00198.

Appendix A: Emission Calculations

Company Name: Ward Aluminum Casting, Inc.
Address City IN Zip: 642 Growth Ave. Fort Wayne, IN 46808
FESOP: F003-17986-00198
Reviewer: AY/EVP
Date: September 1, 2006

Total Potential To Emit (tons/year)

	Emissions Generating Activity								
Pollutant	Gas Reverberatory Furnaces (GR1 through GR3)	Melt Furnaces (CR1 through CR8, EM1 through EM4)	Pouring/Casting (P1/P2)	Cooling	Castings Knockout and Shakeout	Sand Mullers MU1 and MU3	Shotblaster SB1 and SB2	Surface Coating Operation	Natural Gas Combustion
PM	76.68		134.66	44.89	102.60	115.42	545.05	22.10	0.25
PM10	60.42		76.95	44.89	71.82	17.31	54.50	22.10	0.99
SO2	14.45		0.00	0.00	0.00	0.00	0.00	0.00	0.08
NOx	9.83		0.00	0.00	0.00	0.00	0.00	0.00	13.06
VOC	15.76		4.49	0.00	38.47	0.00	0.00	7.22	0.72
CO	0.00		192.37			0.00	0.00	0.00	10.97
total HAPs	2.85		17.70			0.00	6.48	0.00	0.24
worst case single HAP	1.747 (Lead)		5.267 (Benzene)			0.00	2.725 (Manganese)	0.00	0.235 (Hexane)

Pollutant	Waste Oil Combustion	Grinding Operations BG1 through BG3, DG1, and DG2	Insignificant Core Machines (CM1 through CM8)	Insignificant Woodworking Operations	**TOTAL**
PM	0.29	0.16	0.00	4.51	1046.60
PM10	0.23	0.07	0.00	4.51	353.80
SO2	0.67	0.00	2.52	0.00	17.72
NOx	0.11	0.00	3.94	0.00	26.94
VOC	0.01	0.00	0.01	0.00	66.67
CO	0.03	0.00	0.00	0.00	203.37
total HAPs	negl.	negl.	0.00	0.00	27.27
worst case single HAP	negl.	negl.	0.00	0.00	5.267 (Benzene)

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

Appendix A: Emission Calculations

Company Name: Ward Aluminum Casting, Inc.
Address City IN Zip: 642 Growth Ave. Fort Wayne, IN 46808
FESOP: F003-17986-00198
Reviewer: AY/EVP
Date: September 1, 2006

Limited Potential To Emit (tons/year)

	Emissions Generating Activity								
Pollutant	Gas Reverberatory Furnaces (GR1 through GR3)	Melt Furnaces (CR1 through CR8, EM1 through EM4)	Pouring/Casting (P1/P2)	Cooling	Castings Knockout and Shakeout	Sand Mullers MU1 and MU3	Shotblaster SB1 and SB2	Surface Coating Operation	Natural Gas Combustion
PM	39.55		38.63	12.88	0.01	0.23	1.09	2.21	0.25
PM10	23.91		22.08	12.88	0.01	0.03	0.11	2.21	0.99
SO2	30.35		0.00	0.00	0.00	0.00	0.00	0.00	0.08
NOx	15.64		0.00	0.00	0.00	0.00	0.00	0.00	13.06
VOC	23.00		1.29	0.00	2.73	0.00	0.00	7.22	0.72
CO	0.00		13.67			0.00	0.00	0.00	10.97
total HAPs *	0.82		17.00			0.00	4.00	0.00	0.25
worst case single HAP *	0.501 (Lead)		6.0 (Manganese)			0.00	2.0 (Manganese)	0.00	0.235 (Hexane)

Pollutant	Waste Oil Combustion	Grinding Operations BG1 through BG3, DG1, and DG2	Insignificant Core Machines (CM1 through CM8)	Insignificant Woodworking Operations	**TOTAL**
PM	0.29	0.16	0.00	0.05	95.36
PM10	0.23	0.07	0.00	0.05	62.58
SO2	0.67	0.00	2.52	0.00	33.62
NOx	0.11	0.00	3.94	0.00	32.75
VOC	0.01	0.00	0.01	0.00	34.97
CO	0.03	0.00	0.00	0.00	24.67
total HAPs *	negl.	2.00	0.00	0.00	24.07
worst case single HAP *	negl.	1.0 (Manganese)	0.00	0.00	9.0 (Manganese)

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

* Total HAPs and worst case single HAP emissions are limited for each operation such that the source wide total HAPs and worst case single HAP emissions are limited to less than 25 and 10 typ, respectively.

Appendix A: Emission Calculations

Company Name: Ward Aluminum Casting, Inc.
Address City IN Zip: 642 Growth Ave. Fort Wayne, IN 46808
FESOP No.: F003-17986-00198
Reviewer: AY//EVP

SCC# 3-04-001-03
Three (3) Gas Reverberatory Furnaces (GR1 through GR3) (1964)

	Maximum Throughput LBS/HR	TON/HR		
			Control Device:	N/A
TYPE OF MATERIAL	3000	1.5	Control Efficiency:	N/A
Aluminum				

	PM lbs/ton metal charged 4.3	PM10 lbs/ton metal charged 2.6	SOx lbs/ton metal charged 0.00	NOx lbs/ton metal charged 0.00	VOC lbs/ton metal charged 0.20	CO lbs/ton metal charged 0.00
Potential Uncontrolled Emissions lbs/hr	6.45	3.90	0.00	0.00	0.30	0.00
Potential Uncontrolled Emissions tons/year	**28.25**	**17.08**	**0.00**	**0.00**	**1.31**	**0.00**
Potential Controlled Emissions lbs/hr	6.45	3.90	0.00	0.00	0.30	0.00
Potential Controlled Emissions tons/year	**28.25**	**17.08**	**0.00**	**0.00**	**1.31**	**0.00**

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

SCC# 3-04-001-02
Eight (8) Gas Crucible Furnaces Identified as CR1 through CR8 (1964)

	Maximum Throughput LBS/HR	TON/HR		
			Control Device:	N/A
			Control Efficiency:	N/A
TYPE OF MATERIAL	2640	1.32		
	Limited Throughput			
Aluminum				

	PM lbs/ton metal charged 1.90	PM10 lbs/ton metal charged 1.70	SOx lbs/ton metal charged 2.50	NOx lbs/ton metal charged 1.70	VOC lbs/ton metal charged 2.50	CO lbs/ton metal charged 0.00
Potential Uncontrolled Emissions lbs/hr	2.51	2.24	3.30	2.24	3.30	0.00
Potential Uncontrolled Emissions tons/year	**10.99**	**9.83**	**14.45**	**9.83**	**14.45**	**0.00**
Potential Controlled Emissions lbs/hr	2.51	2.24	3.30	2.24	3.30	0.00
Potential Controlled Emissions tons/year	**10.99**	**9.83**	**14.45**	**9.83**	**14.45**	**0.00**

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

Appendix A: Emission Calculations

Company Name: Ward Aluminum Casting, Inc.
Address City IN Zip: 642 Growth Ave. Fort Wayne, IN 46808
FESOP No.: F003-17986-00198
Reviewer: AY//EVP

SCC# 3-04-001-02
Two (2) electric melt furnaces identified as EM1 and EM2 (1964)

	Maximum Throughput LBS/HR	Maximum Throughput TON/HR		
			Control Device:	N/A
TYPE OF MATERIAL	4000	2	Control Efficiency:	N/A
	Limited Throughput			
Aluminum				

	PM lbs/ton metal charged 1.9	PM10 lbs/ton metal charged 1.7	SOx lbs/ton metal charged 0.00	NOx lbs/ton metal charged 0.00	VOC lbs/ton metal charged 0.00	CO lbs/ton metal charged 0.00
Potential Uncontrolled Emissions lbs/hr	3.80	3.40	0.00	0.00	0.00	0.00
Potential Uncontrolled Emissions tons/year	**16.64**	**14.89**	**0.00**	**0.00**	**0.00**	**0.00**
Potential Controlled Emissions lbs/hr	3.80	3.40	0.00	0.00	0.00	0.00
Potential Controlled Emissions tons/year	**16.64**	**14.89**	**0.00**	**0.00**	**0.00**	**0.00**

Emission factors from USEPA's Factor Information Retrieval (FIRE) Data System, version 6.23.

SCC# 3-04-001-02
One (1) electric melt furnace identified as EM3 (1998)

	Maximum Throughput LBS/HR	Maximum Throughput TON/HR		
			Control Device:	N/A
TYPE OF MATERIAL	2000	1.00	Control Efficiency:	N/A
Aluminum				

	PM lbs/ton metal charged 1.9	PM10 lbs/ton metal charged 1.7	SOx lbs/ton metal charged 0.0	NOx lbs/ton metal charged 0.0	VOC lbs/ton metal charged 0.0	CO lbs/ton metal charged 0.0
Potential Uncontrolled Emissions lbs/hr	1.90	1.70	0.00	0.00	0.00	0.00
Potential Uncontrolled Emissions tons/year	**8.32**	**7.45**	**0.00**	**0.00**	**0.00**	**0.00**
Potential Controlled Emissions lbs/hr	1.90	1.70	0.00	0.00	0.00	0.00
Potential Controlled Emissions tons/year	**8.32**	**7.45**	**0.00**	**0.00**	**0.00**	**0.00**

Note: Emission factors from USEPA's Factor Information Retrieval (FIRE) Data System, version 6.23.

Appendix A: Emission Calculations

Company Name: Ward Aluminum Casting, Inc.
Address City IN Zip: 642 Growth Ave. Fort Wayne, IN 46808
FESOP No.: F003-17986-00198
Reviewer: AY//EVP

SCC# 3-04-001-02
One (1) electric melt furnace identified as EM4 (1998)

	Maximum Throughput LBS/HR	Maximum Throughput TON/HR
TYPE OF MATERIAL	3000	1.5

Control Device: N/A
Control Efficiency: N/A

Aluminum

	PM lbs/ton metal charged 1.9	PM10 lbs/ton metal charged 1.7	SOx lbs/ton metal charged 0.0	NOx lbs/ton metal charged 0.0	VOC lbs/ton metal charged 0.0	CO lbs/ton metal charged 0.0
Potential Uncontrolled Emissions lbs/hr	2.85	2.55	0.00	0.00	0.00	0.00
Potential Uncontrolled Emissions tons/year	**12.48**	**11.17**	**0.00**	**0.00**	**0.00**	**0.00**
Potential Controlled Emissions lbs/hr	2.85	2.55	0.00	0.00	0.00	0.00
Potential Controlled Emissions tons/year	**12.48**	**11.17**	**0.00**	**0.00**	**0.00**	**0.00**

Note: Emission factors from USEPA's Factor Information Retrieval (FIRE) Data System, version 6.23.

48.43 43.34 14.45 9.83 14.45 0.00

SCC# 3-04-001-14 and 3-04-003-18
Pouring/Casting (P1/P2)

	Maximum Throughput LBS/HR	Maximum Throughput TONS/YR
TYPE OF MATERIAL	14640	64123.2

Control Device: N/A
Control Efficiency: N/A

Aluminum

	Limited Throughput TONS/YR
	4200	18,396.00

	PM lbs/ton metal charged 4.2	PM10 lbs/ton metal charged 2.4	SOx lbs/ton metal charged 0.0	NOx lbs/ton metal charged 0.0	VOC ** lbs/ton metal charged 0.14	CO lbs/ton metal charged see next page
Potential Uncontrolled Emissions lbs/hr	30.74	17.57	0.00	0.00	1.02	0.00
Potential Uncontrolled Emissions tons/year	**134.66**	**76.95**	**0.00**	**0.00**	**4.49**	**0.00**
Potential Controlled Emissions lbs/hr	8.82	5.04	0.00	0.00	0.29	0.00
Potential Controlled Emissions tons/year	**38.63**	**22.08**	**0.00**	**0.00**	**1.29**	**0.00**

Note: Emission factors from USEPA's Factor Information Retrieval (FIRE) Data System, version 6.23.
CO emissions included in Castings Knockout and Shakeout operation
** VOC emissions are only from the sand molds

Appendix A: Emission Calculations

Company Name: Ward Aluminum Casting, Inc.
Address City IN Zip: 642 Growth Ave. Fort Wayne, IN 46808
FESOP No.: F003-17986-00198
Reviewer: AY//EVP

SCC# 3-04-003-25
Cooling
Max. throughput reflects the maximum metal melting capacity
TYPE OF MATERIAL

Maximum Throughput LBS/HR	Maximum Throughput TONS/YR
14640	64123.2

Control Device: N/A
Control Efficiency: N/A

Aluminum

Limited Throughput LBS/HR	Limited Throughput TONS/YR
4200	18,396.00

	PM lbs/ton metal charged	PM10 lbs/ton metal charged	SOx lbs/ton metal charged	NOx lbs/ton metal charged	VOC ** lbs/ton metal charged	CO lbs/ton metal charged
	1.4	1.4	0.0	0.0	0.0	see next page
Potential Uncontrolled Emissions lbs/hr	10.25	10.25	0.00	0.00	0.00	0.00
Potential Uncontrolled Emissions tons/year	**44.89**	**44.89**	**0.00**	**0.00**	**0.00**	**0.00**
Potential Controlled Emissions lbs/hr	10.25	10.25	0.00	0.00	0.00	0.00
Potential Controlled Emissions tons/year	**12.88**	**12.88**	**0.00**	**0.00**	**0.00**	**0.00**

Note: Emission factors from USEPA's Factor Information Retrieval (FIRE) Data System, version 6.23.
CO emissions included in Castings Knockout and Shakeout operation

SCC# 3-04-003-31
Castings Knockout and shakeout operation (Shakeout, KN1 through KN5 and Elevator)
Max. throughput reflects the maximum metal melting capacity
TYPE OF MATERIAL

Maximum Throughput LBS/HR	Maximum Throughput TONS/YR
14640	64123.2

Control Device: Baghouse (BH1)
Control Efficiency: 99.80%

Aluminum

Limited Throughput LBS/HR	Limited Throughput TONS/YR
1040	4555.20

	PM lbs/ton metal charged	PM10 lbs/ton metal charged	SOx lbs/ton metal charged	NOx lbs/ton metal charged	VOC ** lbs/ton metal charged	CO * lbs/ton metal charged
	3.2	2.24	0.00	0.00	1.20	6.0
Potential Uncontrolled Emissions lbs/hr	23.42	16.40	0.00	0.00	8.78	43.92
Potential Uncontrolled Emissions tons/year	**102.60**	**71.82**	**0.00**	**0.00**	**38.47**	**192.37**
Potential Controlled Emissions lbs/hr	**0.00**	**0.00**	**0.00**	**0.00**	**76947.84**	**384739.20**
Potential Controlled Emissions tons/year	**0.01**	**0.01**	**0.00**	**0.00**	**2.73**	**13.67**

Note: Emission factors from USEPA's Factor Information Retrieval (FIRE) Data System, version 6.23.
* CO emission factor based on best available information for CO emissions from pouring, cooling, and shakeout operations.
** VOC emissions are only from the sand molds. VOC emissions are limited to less than 15 LBS./DAY, 2.73 tons per year by limiting the throughput to less than 4555.2 ton/year.

Company Name: Ward Aluminum Casting, Inc.
Address City IN Zip: 642 Growth Ave. Fort Wayne, IN 46808
FESOP No.: F003-17986-00198
Reviewer: AY//EVP

SCC# 3-04-003-50
Sand Mullers identified as MU1 and MU3
Max. throughput reflects the maximum metal melting capacity

TYPE OF MATERIAL	Throughput LBS/HR	Throughput TONS/YR	Limited Throughput TONS/YR
Sand	14640	64123.2	4555.20

Control Device: Baghouse (BH1)
Control Efficiency: 99.80%

	PM lbs/ton metal charged 3.6	PM10 lbs/ton metal charged 0.54	SOx lbs/ton metal charged 0.0	NOx lbs/ton metal charged 0.0	VOC lbs/ton metal charged 0.0	CO lbs/ton metal charged 0.0
Potential Uncontrolled Emissions lbs/hr	26.35	3.95	0.00	0.00	0.00	0.00
Potential Uncontrolled Emissions tons/year	**115.42**	**17.31**	**0.00**	**0.00**	**0.00**	**0.00**
Potential Controlled Emissions lbs/hr	0.05	0.01	0.00	0.00	0.00	0.00
Potential Controlled Emissions tons/year	**0.23**	**0.03**	**0.00**	**0.00**	**0.00**	**0.00**

Note: Emission factors from USEPA's Factor Information Retrieval (FIRE) Data System, version 6.23.

Appendix A: Emission Calculations

Company Name: Ward Aluminum Casting, Inc.
Address City IN Zip: 642 Growth Ave. Fort Wayne, IN 46808
FESOP No.: F003-17986-00198
Reviewer: AY//EVP

SCC# 3-04-003-40
Shotblaster identified as SB1 and SB2
Max. throughput reflects the maximum metal melting capacity
TYPE OF MATERIAL: Aluminum

Maximum Throughput LBS/HR	Maximum Throughput TON/HR
14640	64123.2

Control Device: Baghouse (BH3)
Control Efficiency: 99.80%

Limited Throughput TONS/YR	
24000	18,396.00

	PM lbs/ton sand handled 17	PM10 lbs/ton sand handled 1.7	SOx lbs/ton sand handled 0.0	NOx lbs/ton sand handled 0.0	VOC lbs/ton sand handled 0.0	CO lbs/ton sand handled 0.0
Potential Uncontrolled Emissions lbs/hr	124.44	12.44	0.00	0.00	0.00	0.00
Potential Uncontrolled Emissions tons/year	**545.05**	**54.50**	**0.00**	**0.00**	**0.00**	**0.00**
Potential Controlled Emissions lbs/hr	0.25	0.02	0.00	0.00	0.00	0.00
Potential Controlled Emissions tons/year	**1.09**	**0.11**	**0.00**	**0.00**	**0.00**	**0.00**

Note: Emission factors from USEPA's Factor Information Retrieval (FIRE) Data System, version 6.23.

SCC# 3-04-003-60
Grinders (BG1 through BG3, DG1 and DG2)
Max. throughput reflects the maximum metal melting capacity
TYPE OF MATERIAL: Aluminum

Throughput LBS/HR	Throughput TON/YR
7500	32850.00

Control Device: Baghouse (BH1)
Control Efficiency: 99.80%

Limited Throughput TONS/YR	
4500	18,396.00

	PM lbs/ton metal charged 0.01	PM10 lbs/ton metal charged 0.0045	SOx lbs/ton metal charged 0.0	NOx lbs/ton metal charged 0.0	VOC lbs/ton metal charged 0.0	CO lbs/ton metal charged 0.0
Potential Uncontrolled Emissions lbs/hr	0.04	0.02	0.00	0.00	0.00	0.00
Potential Uncontrolled Emissions tons/year	**0.16**	**0.07**	**0.00**	**0.00**	**0.00**	**0.00**
Potential Controlled Emissions lbs/hr	0.00	0.00	0.00	0.00	0.00	0.00
Potential Controlled Emissions tons/year	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Note: Emission factors from USEPA's Factor Information Retrieval (FIRE) Data System, version 6.23.

Appendix A: Emission Calculations
HAP Emissions from Foundry Operations

Company Name: Ward Aluminum Casting, Inc.
Address City IN Zip: 642 Growth Ave. Fort Wayne, IN 46808
FESOP No.: F003-17986-00198
Reviewer: AY//EVP

Process	Maximum Rate (tons/yr)	Limited Rate (tons/yr)	PM emission factor lb/ton	Pollutant	Ef (lb/ton produced)	Uncontrolled Emissions (ton/yr)	Controlled Emissions (ton/yr)	Control Device	Control Efficiency (%)
Melting - GR1 through GR3 NG Reverberatory Furnaces	13140		4.30 FIRE 6.24	chromium	0.00163	0.052	0.015	N/A	
				nickel	0.00288	0.092	0.026		
				arsenic	0.00056	0.018	0.005		
Melting - Gas Cruicible CR1 through CR8	11563.20			Lead	0.05450	1.747	0.501		
				Manganese	0.02150	0.689	0.198		
				Antimony	0.00796	0.255	0.073		
Melting - Electric Induction Furnace (EM1 and EM2)	17520.0	18,396.00		**TOTAL**	**0.08903**	**2.85**	**0.82**	N/A	
Melting - Electric Melt Furnace (EM3)	8760.0								
Melting - Electric Melt Furnace (EM4)	13140.0								
Pouring/Casting (P1/P2)	64123.2	18396.00	4.20 FIRE 6.24	chromium	0.00160	0.051	0.015	N/A	
				nickel	0.00281	0.090	0.026		
				arsenic	0.00055	0.018	0.005		
				Lead	0.01617	0.518	0.149		
				Manganese	0.02100	0.673	0.193		
				Antimony	0.00777	0.249	0.071		
				TOTAL	**0.04990**	**1.60**	**0.46**		
Cooling	64123.2	18396.00	1.40 FIRE 6.24	chromium	0.00053	0.017	0.005	N/A	
				nickel	0.00094	0.030	0.009		
				arsenic	0.00018	0.006	0.002		
				Lead	0.00539	0.173	0.050		
				Manganese	0.00700	0.224	0.064		
				Antimony	0.00259	0.083	0.024		
				TOTAL	**0.01663**	**0.53**	**0.15**		
Castings Knockout/Shakeout KN1 through KN5	64123.2	18396.00	3.20 FIRE 6.24	chromium	0.00122	0.039	2.24E-05	Baghouse (BH1)	99.8%
				nickel	0.00214	0.069	3.94E-05		
				arsenic	0.00042	0.013	7.65E-06		
				Lead	0.01232	0.395	2.27E-04		
				Manganese	0.01600	0.513	2.94E-04		
				Antimony	0.00592	0.190	1.09E-04		
				TOTAL	**0.03802**	**1.22**	**6.99E-04**		

Appendix A: Emission Calculations
HAP Emissions from Foundry Operations

Company Name: Ward Aluminum Casting, Inc.
Address City IN Zip: 642 Growth Ave. Fort Wayne, IN 46808
FESOP No.: F003-17986-00198
Reviewer: AY//EVP

Process	Maximum Rate (tons/hr)	Limited Rate (tons/hr)	PM emission factor lb/ton	Pollutant	Ef (lb/ton produced)	Uncontrolled Emissions (ton/yr)	Controlled Emissions (ton/yr)	Control Device	Control Efficiency (%)
Shotblasters SB1 and SB2	64123.2	18396.00	17.00	chromium	0.00646	0.207	1.19E-04	Baghouse	99.8%
SCC# 3-04-003-40				nickel	0.01139	0.365	2.10E-04	BH-3	
AP-42 Ch. 12.10		Maximum		arsenic	0.00221	0.071	4.07E-05		
		Possible		Lead	0.06545	2.098	1.20E-03		
		Throughput		Manganese	0.08500	2.725	1.56E-03		
				Antimony	0.03145	1.008	5.79E-04		
				TOTAL	**0.20196**	**6.48**	**3.72E-03**		
Belt Grinders (BG1 through BG3)	32850.00	18396.00	0.01	chromium	0.00000	6.24E-05	6.99E-08	Baghouse	99.8%
Disc Grinders (DG1 and DG2)				nickel	0.00001	1.10E-04	1.23E-07	BH-1	
SCC# 3-04-003-40		Maximum		arsenic	0.00000	2.14E-05	2.39E-08		
AP-42 Ch. 12.10		Possible		Lead	0.00004	6.32E-04	7.08E-07		
		Throughput		Manganese	0.00005	8.21E-04	9.20E-07		
				Antimony	0.00002	3.04E-04	3.40E-07		
				TOTAL	**0.00012**	**1.95E-03**	**2.19E-06**		

Notes:
* HAP emission factors for the are based on the PM emission factor from FIRE 6.24, and percent of PM that is HAP based on information from SPECIATE, v 3.1. Lead emission factor from FIRE version 6.24.

USEPA Speciate v 3.1 Data	
Metal	Gen. Foundry
Manganese	0.500%
Chromium	0.038%
Nickel	0.067%
Arsenic	0.013%
Antimony	0.185%
Lead	0.385%

Total Potential Emissions Before Controls

chromium	0.37	tons/year
nickel	0.65	tons/year
arsenic	0.13	tons/year
Lead	4.93	tons/year
Manganese	4.83	tons/year
Antimony	1.79	tons/year
Total	**12.68**	**tons/year**

Total Limited Emissions After Controls

	0.03	tons/year
	0.06	tons/year
	0.01	tons/year
	0.70	tons/year
	0.46	tons/year
	0.17	tons/year
	1.44	**tons/year**

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

Appendix A: Secondary Metal Production
Pouring, Cooling and Shakeout HAP Emissions

Company Name: Ward Aluminum Casting, Inc.
Address City IN Zip: 642 Growth Ave. Fort Wayne, IN 46808
FESOP No.: F003-17986-00198
Reviewer: AY//EVP

Organic Hazardous Air Pollution Emission Estimates from Sand Molds

Maximum Rate for Pouring/Cooling/Shakeout	**64123.2**	**tons/yr**	
Limited Rate for Pouring/Cooling/Shakeout*	**4,555.20**	**tons/yr**	
Analyte	Combined PCS Ef (lbs/ton)	Emission Before Limitations (tons/yr)	Emissions After Limitations (tons/yr)
Phenol	0.0718	2.3020	0.1635
Benzene	0.1643	5.2677	0.3742
Analine	0.0366	1.1735	0.0834
o-Cresol	0.0185	0.5931	0.0421
Naphthalene	0.0048	0.1539	0.0109
N,N-Dimethylaniline	0.0085	0.2725	0.0194
Toluene	0.0647	2.0744	0.1474
m, p-Cresol	0.0059	0.1892	0.0134
m, p-Xylene	0.0044	0.1411	0.0100
Xylene (Total)	0.0383	1.2280	0.0872
Acetaldehyde	0.0100	0.3206	0.0228
Ethylbenzene	0.0070	0.2244	0.0159
Formaldehyde	0.0011	0.0353	0.0025
Hexane	0.0046	0.1475	0.0105
Other HAPs	0.0070	0.2244	0.0159
Total HAPs	**0.4475**	**14.3476**	**1.0192**

METHODOLOGY

HAP Emissions = Usage Rate (tons/hr) * 8760 hrs/yr * EF (lb/ton) * 1 tons/2000 lbs
by the Air Quality Committee (10-E) of the American Foundry Society August 16, 2005 for Calculating Emission Factors for Pouring, Cooling and Shakeout Operation.

Appendix A: Foundry Operations

Company Name: Ward Aluminum Casting, Inc.
Address City IN Zip: 642 Growth Ave. Fort Wayne, IN 46808
FESOP No.: F003-17986-00198
Reviewer: AY//EVP

PM Emission Limits

Operation	Maximum Process Weight Rate	Limited Process Weight Rate *	Emission Factor	Control Device	Control Efficiency (%)	Potential PM Emissions	Controlled/Limited PM Emissions
	(ton/yr)	(ton/yr)	(lb/ton)			(ton/yr)	(ton/yr)
Pouring/Casting (P1/P2)	64123.20	18396.00	4.20	None	N/A	134.66	38.63
Cooling	64123.20	18396.00	1.40	None	N/A	44.89	12.88
Castings/Knockout and Shakeout	64123.20	18396.00	3.20	Baghouse (BH1)	99.80	102.60	0.01
Sand Muellers (MU1 and MU3)	64123.20	4555.20	3.60	Baghouse (BH1)	99.80	115.42	0.23
Shotblasters (SB1 and SB2)	64123.20	18396.00	17.00	Baghouse (BH3)	99.80	545.05	1.09
Grinders (BG1 through BG3, DG1 and DG	32850.00	18396.00	0.01	Baghouse (BH2)	99.80	0.16	0.00

4,555.2 tons per year; 18,396 tons per year.

PM10 Emission Limits

Operation	Maximum Process Weight Rate	Limited Process Weight Rate *	Emission Factor	Control Device	Control Efficiency (%)	Potential PM10 Emissions	Controlled/Limited PM10 Emissions
	(ton/yr)	(ton/yr)	(lb/ton)			(ton/yr)	(ton/yr)
Pouring/Casting (P1/P2)	64123.20	18396.00	2.40	None	N/A	76.95	22.08
Cooling	64123.20	18396.00	1.40	None	N/A	44.89	12.88
Castings/Knockout and Shakeout	64123.20	18396.00	2.24	Baghouse (BH1)	99.80	71.82	0.01
Sand Muellers (MU1 and MU3)	64123.20	4555.20	0.54	Baghouse (BH1)	99.80	17.31	0.03
Shotblasters (SB1 and SB2)	64123.20	18396.00	1.70	Baghouse (BH3)	99.80	54.50	0.11
Grinders (BG1 through BG3, DG1 and DG	32850.00	18396.00	0.0045	Baghouse (BH2)	99.80	0.07	0.00

CO Emission Limits for Sand Molds Only

Operation	Maximum Process Weight Rate	Limited Process Weight Rate	Emission Factor	Control Device	Control Efficiency (%)	Potential CO Emissions	Controlled/Limited CO Emissions
	(ton/yr)	(ton/yr)	(lb/ton)			(ton/yr)	(ton/yr)
Pouring/Casting (P1/P2)				None	N/A		
Cooling	64123.20	4555.20	6.00	None	N/A	192.37	13.67
Castings/Knockout and Shakeout				None	N/A		

VOC Emission Limitsn for Sand Molds only

Operation	Maximum Process Weight Rate	Limited Process Weight Rate *	Emission Factor	Control Device	Control Efficiency (%)	Potential VOC Emissions	Controlled/Limited VOC Emissions
	(ton/yr)	(ton/yr)	(lb/ton)			(ton/yr)	(ton/yr)
Castings Knockout and Shakeout Operations	64123.20	4555.20	1.20	None	N/A	38.47	2.73

* Process weight rate for Pouring/Casting, Cooling and Castings/Knockout and Shakeout has been limited to limit the CO emissions to less than 100 tons per year for the entire source.

Following are the allowable emissions from the melting furnaces based on the worst case emission factor and the melting throughput of 18,396 tons per year.

Pollutant	Maximum Process Weight Rate	Limited Process Weight Rate *	Worst Case Emission Factor	Control Device	Control Efficiency (%)	Potential PM Emissions	Controlled/Limited PM Emissions
	(ton/yr)	(ton/yr)	(lb/ton)			(ton/yr)	(ton/yr)
PM	64123.20	18396.00	4.30	None	N/A	76.69	39.55
PM10	64123.20	18396.00	2.60	None	N/A	60.42	23.91
SO2	64123.20	18396.00	3.3	None	N/A	14.45	30.35
NOx	64123.20	18396.00	1.7	None	N/A	9.83	15.64
VOC	64123.20	18396.00	2.5	None	N/A	15.76	23.00

Appendix A: Emission Calculations
Single HAP Emission Limits for HAPs with Unrestricted PTE Greater Than 10 Tons Per Year and Combined HAP Emission Limits

Company Name: Ward Aluminum Casting, Inc.
Address City IN Zip: 642 Growth Ave. Fort Wayne, IN 46808
FESOP No.: F003-17986-00198
Reviewer: AY//EVP

Unrestricted HAP emissions (tons/yr)

Unit/Operation	Lead	Manganese	Toluene	Phenol	Benzene	Total Metal HAPs*	Total Organic HAPs*
Gas Reberberatory Furnaces GR1 through GR3	1.75	0.69	0.00	0.00	0.00	2.85	0.00
Crucibles (CR1 through CR8) and Electric Melt Furnaces (EM1 through EM4)			0.00	0.00	0.00		0.00
Pouring/Casting (P1/P2)	0.52	0.67				1.60	
Cooling	0.17	0.22	2.07	2.30	5.27	0.53	14.35
Castings/Knockout and Shakeout	0.39	0.51				1.22	
Shotblasters SB1 and SB2	2.10	2.73	0.00	0.00	0.00	6.48	0.00
Grinders (BG1 through BG3, DG1, and DG2)	6.32E-04	8.21E-04	0.00	0.00	0.00	1.95E-03	0.00
Total	**4.93**	**4.83**	**2.07**	**2.30**	**5.27**	**12.68**	**14.35**
					Total HAPs		**27.03**

*Note: Total metal HAPs and total organic HAPs include HAPs listed above and all other HAPs emitted at each emission unit not shown here

Limited HAP emissions (tons/yr)

Unit	Lead	Manganese	Toluene	Phenol	Benzene	Total Metal HAPs*	Total Organic HAPs*
Gas Reberberatory Furnaces GR1 through GR3	0.50	0.20	0.00	0.00	0.00	0.82	0.00
Crucibles (CR1 through CR8) and Electric Melt Furnaces (EM1 through EM4)			0.00	0.00	0.00		0.00
Pouring/Casting (P1/P2)	1.00	2.00				4.00	
Cooling	1.00	2.00	1.00	1.50	2.00	4.00	5.00
Castings/Knockout and Shakeout	1.00	2.00				4.00	
Shotblasters SB1 and SB2	2.00	2.00	0.00	0.00	0.00	4.00	0.00
Grinders (BG1 through BG3, DG1, and DG2)	1.00	1.00	0.00	0.00	0.00	2.00	0.00
Total	**6.50**	**9.20**	**1.00**	**1.50**	**2.00**	**18.82**	**5.00**
					Total HAPs		**23.82**

Equivalent Emission Limits (lb/ton)

Unit	Lead	Manganese	Toluene	Phenol	Benzene	Total Metal HAPs*	Total Organic HAPs*
Gas Reberberatory Furnaces GR1 throuhg GR3	NA	NA	NA	NA	NA	NA	NA
Crucibles (CR1 through CR8) and Electric Melt Furnaces (EM1 through EM4)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Pouring/Casting (P1/P2)	0.109	0.217				0.435	
Cooling	0.109	0.217	0.44	0.66	0.88	0.435	2.20
Castings/Knockout and Shakeout	0.109	0.217				0.435	
Shotblasters SB1 and SB2	0.217	0.217	N/A	N/A	N/A	0.435	0.00
Belt Grinders BG1 through BG3	0.109	0.109	N/A	N/A	N/A	0.217	0.00

Each allowable emission limit (lb/ton) listed above is atleast 5 times the value of FIRE 6.23 emission factor for each unit, therefore, the testing is not required for HAPs.

Appendix A: Emissions Calculations
VOC and Particulate
From Surface Coating Operations

Company Name: Ward Aluminum Casting, Inc.
Address City IN Zip: 642 Growth Ave. Fort Wayne, IN 46808
FESOP: F003-17986-00198
Reviewer: AY/EVP
Date: September 1, 2006

Material	Density (Lb/Gal)	Weight % Volatile (H20& Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Vol (solids)	Gal of Mat (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential ton/yr	lb VOC /gal solids	Transfer Efficiency
Red Oxide Water Base Primer (50-2632)	11.02	54.21%	46.73%	7.48%	59.75%	23.90%	0.05000	40.000	2.05	0.82	1.65	39.57	7.22	22.10	3.45	50%

Potential Emissions **Add worst case coating to all solvents** **1.65** **39.57** **7.22** **22.10**

Limited Emissions :

Control Efficiency: VOC	Control Efficiency: PM	VOC lbs per Hour	VOC lbs per Day	VOC tons per Year	Controlled PM tons/yr
0.00%	90.00%	1.65	39.57	7.22	2.21

Total Limited Emissions:

METHODOLOGY

Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)
Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)
Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr)
Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)
Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)
Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) *(8760 hrs/yr) *(1 ton/2000 lbs)
Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)
Total = Worst Coating + Sum of all solvents used

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

Company Name: **Ward Aluminum Casting, Inc.**
Address City IN Zip: **642 Growth Avenue, Fort Wayne, IN 46808**
Permit No: **003-17986-00198**
Reviewer: **AY/EVP**
Date: **September 1, 2006**

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
29.8	261.2

Heat Input Capacity includes:	Total		Total
Three (3) GR 1-3 Reverberatory Furnaces 2.9 mmBtu	8.70	One (1) CM 8 Core Machine 0.21 mmBtu	0.21
Eight (8) CR 1-8 Gas Melt Crucibles 1.0 mmBtu	8.00	One (1) HT 1 Heat Treat Oven 1.5 mmBtu	1.50
Two (2) CM 1-2 Core Machines 0.11 mmBtu	0.22	One (1) B 1 Boiler 8.368 mmBtu	8.37
Two (2) CM 3-4 Core Machines 0.1972 mmBtu	0.59	Nine (9) SH 1-9 Space Heaters 0.123 mmBtu	1.11
Two (2) CM 5-6 Core Machines 0.3712 mmBtu	0.74		
One (1) CM 7 Core Machines 0.58 mmBtu	0.58		

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	0.6	100.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.2	1.0	0.1	13.1	0.7	11.0

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
See next page for HAPs emissions calculations.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler
HAPs Emissions

Company Name: **Ward Aluminum Casting, Inc.**
Address City IN Zip: **642 Growth Avenue, Fort Wayne, IN 46808**
Permit No: **003-17986-00198**
Reviewer: **AY/EVP**
Date: **September 1, 2006**

HAPs - Organics

	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	2.743E-04	1.567E-04	9.796E-03	2.351E-01	4.441E-04

HAPs - Metals

	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	6.531E-05	1.437E-04	1.829E-04	4.964E-05	2.743E-04

Methodology is the same as previous page.

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

Appendix A: Emissions Calculations
Waste Oil Combustion

Company Name: **Ward Aluminum Casting, Inc.**
Address City IN Zip: **642 Growth Avenue, Fort Wayne, IN 46808**
Permit No: **003-17986-00198**
Reviewer: **AY/EVP**
Date: **September 1, 2006**

Heat Input Capacity MMBtu/hr	Potential Throughput kgals/year			
		A =	Weight % Ash =	0.8
		L =	Weight % Lead =	0.0005
0.18	11.34388489	S =	Weight % Sulfur =	0.8

One (1) waste oil heater rated at 0.18 MMBtu/hr.

Pollutant	PM*	PM10*	SO2	NOx	TOC	CO	Pb
Emission Factor in lb/kgal	51.2 *(64A)*	40.80 *(51A)*	117.6 *(147S)*	19.0	1.0	5.0	0.0275 *(55L)*
Potential Emission in tons/yr	0.3	0.2	0.7	0.1	0.0	0.0	0.0002

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

Methodology

Emission Factor Units are lb/1000 gal
A = weight% ash in fuel, L = weight% lead in fuel, S = weight % sulfur in fuel
Potential Throughput (kgals/year) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1kgal per 1000 gallon x 1 gal per 0.139 MM Btu
Emission Factors from AP-42, Chapter 1.11, SCC 1-03-013-02 (Supplement B 10/96)
Emission (tons/yr) = Throughput kgals per year x Emission Factor (lb/kgal)/2,000 lb/ton
See next page for HAPs calculations

Appendix A: Emissions Calculations
Waste Oil Combustion

HAPs Calculations

Company Name: Ward Aluminum Casting, Inc.
Address City IN Zip: 642 Growth Avenue, Fort Wayne, IN 46808
Permit No: 003-17986-00198
Reviewer: AY/EVP
Date: September 1, 2006

	Pollutant					
	Arsenic	Cadmium	Chromium	Manganese	Nickel	Cobalt
Emission Factor in lb/kgal	1.1E-01	9.3E-03	2.0E-02	6.8E-02	1.1E-02	2.1E-04
Potential Emission in tons/yr	6.24E-04	5.27E-05	1.13E-04	3.86E-04	6.24E-05	1.19E-06

Methodology is the same as previous page.

Appendix A: Emissions Calculations
Core Machines Emissions

Company Name: Ward Aluminum Casting, Inc.
Address City IN Zip: 642 Growth Avenue, Fort Wayne, IN 46808
Permit No: 003-17986-00198
Reviewer: AY/EVP
Date: September 1, 2006

Insignificant Activity

SCC# 3-04-003-71
Core Machine (CM 1-8)

TYPE OF MATERIAL	Throughput LBS/HR	1 TON/2000 lbs	TON/HR
Sand	3600	2000	1.8

	PM lbs/ton Sand Handled	PM10 lbs/ton Sand Handled	SOx lbs/ton Sand Handled	NOx lbs/ton Sand Handled	VOC lbs/ton Sand Handled	CO lbs/ton Sand Handled
	0	0	0.32	0.5	0.0008	--
Potential Emissions lbs/hr	0.0	0.0	0.58	0.90	0.00	--
Potential Emissions lbs/day	0.0	0.0	13.82	21.60	0.03	--
Potential Emissions tons/year	0.0	0.0	2.52	3.94	0.01	--

Emission calculations have been reproduced from CP 003-3374-00198, issued on January 27, 1995.

Appendix A: Emissions Calculations
Particulater Matter (PM) Emissions

Company Name: **Ward Aluminum Casting, Inc.**
Address City IN Zip: **642 Growth Avenue, Fort Wayne, IN 46808**
Permit No: **003-17986-00198**
Reviewer: **AY/EVP**
Date: **September 1, 2006**

Particulate Emissions from Insignificant Woodworking Operation

PM/PM10:	0.0030	gr/acf outlet x	4000	acf/min x	60	min/hr /	7000	gr/lb x	4.38	ton/yr / lb/hr /

(1- control effeciency) =	**4.51 tons/yr (uncontrolled)**
where the total control efficiency is listed at	90.00%				**0.45 tons/yr (controlled)**

Methodology

Uncontrolled PM/PM10 = grain loading (gr/acf outlet) * Flow rate (acfm) * (60 min/hr) * (1 lb/7000 gr) * 4.38 (tons/yr / lb/hr) / (1- control effeciency %)
Particulate emissions are controlled by a cyclone with 95% conrol efficiency