

**FEDERALLY ENFORCEABLE STATE
OPERATING PERMIT (FESOP)
and ENHANCED NEW SOURCE REVIEW
OFFICE OF AIR MANAGEMENT**

**Ward Aluminum Casting, Incorporated
642 Growth Ave.
Fort Wayne, IN 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.

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 and 326 IAC 2-1-3.2, as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Operation Permit No.: F\ENSR003-10264-00198	
Issued by: Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date:

SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM). 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 source, secondary aluminum foundry heat treating and producing aluminum castings.

Responsible Official: Ward Aluminum Casting, Inc.
Source Address: 642 Growth Ave., Fort Wayne, IN 46808
Mailing Address: 642 Growth Ave., Fort Wayne, IN 46808
SIC Code: 3361
County Location: Allen
County Status: Attainment for all criteria pollutants
Source Status: Federally Enforceable State Operating Permit (FESOP)
Minor Source, under PSD Rules

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) gas reverberatory furnaces, identified as GR1-3, 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) gas crucibles, identified as CR1-8, 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 EM1-2, 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 (to be constructed after the permit issuance), 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, 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 and casting operation, with a maximum capacity of 7.57 tons per hour of melted aluminum,

- (3) one (1) castings knockout and shakeout operation, consisting of:
 - (i) one (1) shake out unit, with a maximum capacity of 50 tons per hour to replace the existing shake out unit, utilizing a baghouse (BH1) for particulate control, exhausting at stack 3,
 - (ii) five (5) knockout machines, identified as KN1-5, and
 - (iii) one (1) elevator, with a maximum capacity of 50 tons per hour to replace the existing elevator, utilizing a baghouse (BH1) for particulate control, exhausting at stack 3.
- (4) one (1) wheelabrator shotblaster, identified as SB2, 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) One (1) Sand Handling and Ancillary Operation, consisting of:
 - (1) one (1) sand muller, identified as MU1, with a total maximum capacity of 40 tons of sand per hour, with particulate matter emissions controlled by a baghouse (BH1), exhausting through stack 3,
 - (2) 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,
 - (3) two (2) Betaset core machines, identified as CM 11 and 12, each with a maximum capacity of 5 tons per hour,
 - (4) 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,
 - (5) one (1) core sand vibra-mill, identified as MIL, with a maximum capacity of 15 tons per hour, utilizing a baghouse (BH4) for PM control and exhausting at stack 43, and
 - (6) two (2) no bake core sand mixers, identified as SM1 and 2, with a maximum capacity of 3 and 1.5 tons per hour, respectively, used for small jobs or research projects.
- (d) One (1) Surface Coating Operation, consisting of:
 - (1) 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) Machining where an aqueous cutting coolant continuously floods the machining interface.
- (b) Any operation using aqueous solutions containing less than 1% by weight of VOCs excluding HAPs.
- (c) Replacement or repair of electrostatic precipitators, bags in baghouses and filters in other air filtration equipment.
- (d) 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.
- (e) Paved and unpaved roads and parking lots with public access.
- (f) Blowdown for any of the following: sight glass; boiler; compressors; pumps; and cooling tower.

- (g) 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;
 - (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 R1-2,
 - (iv) one (1) milling machine, identified as M1,
 - (v) two (2) bandsaws, identified as BS1-2.
 - (vi) two (2) disc sanders, identified as DS 1-2,
 - (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) three (3) belt grinders, identified as BG1-3, utilizing a baghouse (BH2) for particulate control.
- (h) 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, each with a maximum throughput of 0.4165 tons per hour, consisting of:
 - (i) two (2) core machines, identified as CM1-2, each with a rated heat input of 0.1100 MMBtu per hour,
 - (ii) two (2) core machines, identified as CM3-4, each with a rated heat input of 0.1972 MMBtu per hour,
 - (iii) two (2) core machines, identified as CM5-6, each with a rated heat input of 0.3712 MMBtu per hour,
 - (iv) one (1) core machines, identified as CM7, each 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 with a rated heat input of 1.5 MMBtu per hour; exhausting at stack 32;
 - (3) nine (9) space heaters, identified as SH1-9, each with a rated heat input of 0.123 MMBtu per hour; and
 - (4) one (1) boilers, identified as B1, with a rated heat input of 8.368 MMBtu per hour.
- (i) Other activities or categories not previously identified with emissions below insignificant thresholds:
 - (1) saws for removing gates and risers from castings,
 - (2) five (5) aluminum cut off band saws, identified as CO1-5, with no particulate control,
 - (3) one (1) 1.25 gal/hr waste oil heater, identified as OB-1, 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,
 - (4) one (1) carbide-tip aluminum chop saw, identified as CS1,
 - (5) eight (8) core mold machines, identified as CM1-8,
 - (6) three (3) aluminum belt grinders, identified as BG 1-3, utilizing a baghouse (BH2) for particulate control, and

- (7) two (2) disc grinders, identified as DG 1-2, utilizing a baghouse (BH2) for particulate control.

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 Management (OAM) for a Federally Enforceable State Operating Permit (FESOP).

A.5 Prior Permit Conditions

- (a) This permit shall be used as the primary document for determining compliance with applicable requirements established by previously issued permits.
- (b) If, after issuance of this permit, it is determined that the permit is in nonconformance with an applicable requirement that applied to the source on the date of permit issuance, including any term or condition from a previously issued construction or operation permit, IDEM, OAM, shall immediately take steps to reopen and revise this permit and issue a compliance order to the Permittee to ensure expeditious compliance with the applicable requirement until the permit is reissued.

SECTION B GENERAL CONDITIONS

B.1 Permit No Defense [326 IAC 2-1-10] [IC 13]

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

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

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

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

This permit is issued for a fixed term of five (5) years from the effective date, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3.

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

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

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

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

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

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

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

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

B.8 Duty to Supplement and Provide Information [326 IAC 2-8-3(f)] [326 IAC 2-8-4(5)(E)]

- (a) The Permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall promptly submit such supplementary facts or corrected information to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

- (b) The Permittee shall furnish to IDEM, OAM, within a reasonable time, any information that IDEM, OAM, 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.
- (c) Upon request, the Permittee shall also furnish to IDEM, OAM, copies of records required to be kept by this permit. If the Permittee wishes to assert a claim of confidentiality over any of the furnished records, the Permittee must furnish such records to IDEM, OAM, along with a claim of confidentiality under 326 IAC 17. If requested by IDEM, OAM, or the U.S. EPA, to furnish copies of requested records directly to U. S. EPA, and if the Permittee is making a claim of confidentiality regarding the furnished records, the Permittee must furnish such confidential records directly to the U.S. EPA along with a claim of confidentiality under 40 CFR 2, Subpart B.

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

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

B.10 Compliance with Permit Conditions [326 IAC 2-8-4(5)(A)] [326 IAC 2-8-4(5)(B)]

- (a) The Permittee must comply with all conditions of this permit. Noncompliance with any provisions of this permit constitutes a violation of the Clean Air Act and is grounds for:
- (1) Enforcement action;
 - (2) Permit termination, revocation and reissuance, or modification; and
 - (3) Denial of a permit renewal application.
- (b) 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.

B.11 Certification [326 IAC 2-8-3(d)] [326 IAC 2-8-4(3)(C)(i)] [326 IAC 2-8-5(1)]

- (a) Any application form, report, or compliance certification submitted under this permit shall contain certification by a responsible official of truth, accuracy, and completeness. This certification, and any other certification required under this permit, 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, on the attached Certification Form, with each submittal.

- (c) A responsible official is defined at 326 IAC 2-7-1(34).

B.12 Annual Compliance Certification [326 IAC 2-8-5(a)(1)]

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

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

- (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, OAM, on or before the date it is due.
- (c) The annual compliance certification report shall include the following:
- (1) The identification of each term or condition of this permit that is the basis of the certification;
 - (2) The compliance status;
 - (3) Whether compliance was based on continuous or intermittent data;
 - (4) The methods used for determining the compliance status of the source, currently and over the reporting period consistent with 326 IAC 2-8-4(3); and
 - (5) Such other facts as specified in Sections D of this permit, IDEM, OAM, may require to determine the compliance status of the source.

The notification which shall be submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

B.13 Preventive Maintenance Plan [326 IAC 1-6-3][326 IAC 2-8-4(9)] [326 IAC 2-8-5(a)(1)]

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

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

Indiana Department of Environmental Management
Compliance Branch, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

- (b) The Permittee shall implement the Preventive Maintenance Plans as necessary to ensure that lack of proper maintenance does not cause or contribute to a violation of any limitation on emissions or potential to emit.
- (c) PMP's shall be submitted to IDEM, OAM, upon request and shall be subject to review and approval by IDEM, OAM.

B.14 Emergency Provisions [326 IAC 2-8-12]

- (a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for noncompliance with a federal or state health-based emission limitation, except as provided in 326 IAC 2-8-12.
- (b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a health-based or technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that describes the following:
 - (1) An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;
 - (2) The permitted facility was at the time being properly operated;
 - (3) During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit;
 - (4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAM, within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

Telephone No.: 1-800-451-6027 (ask for Office of Air Management, Compliance Section) or,
Telephone No.: 317-233-5674 (ask for Compliance Section)
Facsimile No.: 317-233-5967

Failure to notify IDEM, OAM, by telephone or facsimile within four (4) daytime business hours after the beginning of the emergency, or after the emergency is discovered or reasonably should have been discovered, shall constitute a violation of 326 IAC 2-8 and any other applicable rules. [326 IAC 2-8-12(f)]

- (5) For each emergency lasting one (1) hour or more, the Permittee submitted notice either in writing or facsimile, of the emergency to:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

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

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

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

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

- (6) The Permittee immediately took all reasonable steps to correct the emergency.
- (c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.
 - (d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions) for sources subject to this rule after the effective date of this rule. This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.
 - (e) IDEM, OAM, 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, OAM, by telephone or facsimile of an emergency lasting more than one (1) hour in compliance 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.

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 Provision), the probable cause of such deviations, and any response steps or preventive measures taken shall be reported to:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

within ten (10) calendar days from the date of the discovery of the deviation.

- (b) A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit or a rule. It does not include:
- (1) An excursion from compliance monitoring parameters as identified in Section D of this permit unless tied to an applicable rule or limit; or
 - (2) An emergency as defined in 326 IAC 2-7-1(12); or
 - (3) Failure to implement elements of the Preventive Maintenance Plan unless lack of maintenance has caused or contributed to a deviation.
 - (4) Failure to make or record information required by the compliance monitoring provisions of Section D unless such failure exceeds 5% of the required data in any calendar quarter.

A Permittee's failure to take the appropriate response step when an excursion of a compliance monitoring parameter has occurred is a deviation.

- (c) Written notification shall be submitted on the attached Emergency/Deviation Occurrence Reporting Form or its substantial equivalent. The notification does not need to be certified by the "responsible official" as defined by 326 IAC 2-7-1(34).
- (d) Proper notice submittal under 326 IAC 2-7-16 satisfies the requirement of this subsection.

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 FESOP modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any condition of this permit. [326 IAC 2-8-4(5)(C)]

- (b) This permit shall be reopened and revised under any of the circumstances listed in IC 13-15-7-2 or if IDEM, OAM 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, OAM, 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, OAM, at least thirty (30) days in advance of the date this permit is to be reopened, except that IDEM, OAM, 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, OAM 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).

Request for renewal shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, IN 46206-6015

- (b) Timely Submittal of Permit Renewal [326 IAC 2-8-3]
 - (1) A timely renewal application is one that is:
 - (A) Submitted at least nine (9) months prior to the date of the expiration of this permit; and
 - (B) If the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAM, on or before the date it is due. [326 IAC 2-5-3]
 - (2) If IDEM, OAM upon receiving a timely and complete permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect until the renewal permit has been issued or denied.

- (c) Right to Operate After Application for Renewal [326 IAC 2-8-9]
If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-8 until IDEM, OAM 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, OAM, any additional information identified as needed to process the application.

B.18 Permit Amendment or Modification [326 IAC 2-8-10] [326 IAC 2-8-11]

- (a) The Permittee must comply with the requirements of 326 IAC 2-8-10 or 326 IAC 2-8-11 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 Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

Any such application should be certified by the "responsible official" as defined by 326 IAC 2-7-1(34) only if a certification is required by the terms of the applicable rule.

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

B.19 Permit Revision Under Economic Incentives and Other Programs [326 IAC 2-8-11(b)(2)]

Notwithstanding 326 IAC 2-8-11(b)(1)(D)(i) and 326 IAC 2-8-11(c)(1), minor permit modification procedures may be used for modifications of this permit involving the use of economic incentives, marketable permits, emissions trading, and other similar approaches to the extent that such minor permit modification procedures are explicitly provided for in the applicable State Implementation Plan (SIP) or in applicable requirements promulgated by U.S. EPA.

B.20 Changes Under Section 502(b)(10) of the Clean Air Act [326 IAC 2-8-15(b)]

The Permittee may make Section 502(b)(10) of the Clean Air Act changes (this term is defined at 326 IAC 2-7-1(36)) without a permit revision, subject to the constraint of 326 IAC 2-8-15(a) and the following additional condition:

For each such change, the required written notification shall include a brief description of the change within the source, the date on which the change will occur, any change in emissions, and any permit term or condition that is no longer applicable as a result of the change.

B.21 Operational Flexibility [326 IAC 2-8-15]

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

- (1) The changes are not modifications under any provision of Title I of the Clean Air Act;
- (2) Any approval required by 326 IAC 2-1 has been obtained;

- (3) The changes do not result in emissions which exceed the emissions allowable under 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 Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

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 which document, on a rolling five (5) year basis, all such changes and emissions trading that are subject to 326 IAC 2-8-15(b) through (d) and makes such records available, upon reasonable request, to public review.

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

- (h) For each such Section 502(b)(10) of the Clean Air Act change, the required written notification shall include the following:

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

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

- (c) Emission Trades [326 IAC 2-8-15(c)]
The Permittee may trade increases and decreases in emissions 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).

- (d) Alternative Operating Scenarios [326 IAC 2-8-15(d)]
The Permittee may make changes at the source within the range of alternative operating scenarios that are described in the terms and conditions of this permit in accordance with 326 IAC 2-8-4(7). No prior notification of IDEM, OAM or U.S. EPA is required.
- (e) Backup fuel switches specifically addressed in, and limited under, Section D of this permit shall not be considered alternative operating scenarios. Therefore, the notification requirements of part (a) of this condition do not apply.

B.22 Construction Permit Requirement [326 IAC 2]

Except as allowed by Indiana P.L. 130-1996 Section 12, as amended by P.L. 244-1997, modification, construction, or reconstruction shall be approved as required by and in accordance with 326 IAC 2.

B.23 Inspection and Entry [326 IAC 2-8-5(a)(2)]

Upon presentation of proper identification cards, credentials, and other documents as may be required by law, the Permittee shall allow IDEM, OAM, 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) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- (c) Inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;
- (d) Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and
- (e) Utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.
[326 IAC 2-8-5(a)(4)]
 - (1) The Permittee may assert a claim that, in the opinion of the Permittee, information removed or about to be removed from the source by IDEM, OAM, or an authorized representative, contains information that is confidential under IC 5-14-3-4(a). The claim shall be made in writing before or at the time the information is removed from the source. In the event that a claim of confidentiality is so asserted, neither IDEM, OAM, nor an authorized representative, may disclose the information unless and until IDEM, OAM, makes a determination under 326 IAC 17-1-7 through 326 IAC 17-1-9 that the information is not entitled to confidential treatment and that determination becomes final. [IC 5-14-3-4; IC 13-14-11-3; 326 IAC 17-1-7 through 326 IAC 17-1-9]

- (2) The Permittee, and IDEM, OAM, acknowledge that the federal law applies to claims of confidentiality made by the Permittee with regard to information removed or about to be removed from the source by U.S. EPA. [40 CFR Part 2, Subpart B]

B.24 Transfer of Ownership or Operation [326 IAC 2-1-6][326 IAC 2-8-10]
Pursuant to 326 IAC 2-1-6 and 2-8-10:

- (a) In the event that ownership of this source is changed, the Permittee shall notify IDEM, OAM, Permits Branch, within thirty (30) days of the change. Notification shall include a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current Permittee and the new owner.
- (b) The written notification shall be sufficient to transfer the permit to the new owner by an administrative amendment pursuant to 326 IAC 2-8-10. The notification which shall be submitted by the Permittee does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).
- (c) IDEM, OAM shall reserve the right to issue a new permit.

B.25 Annual Fee Payment [326 IAC 2-8-4(6)][326 IAC 2-8-16]

- (a) The Permittee shall pay annual fees to IDEM, OAM, within thirty (30) calendar days of receipt of a billing. If the Permittee does not receive a bill from IDEM, OAM 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 317-233-0425 (ask for OAM, Technical Support and Modeling Section), to determine the appropriate permit fee.

B.26 Enhanced New Source Review [326 IAC 2]

The requirements of the construction permit rules in 326 IAC 2 are satisfied by this permit for any previously unpermitted facilities and such facilities to be constructed within eighteen (18) months after the date of issuance of this permit, as listed in Sections A.2 and A.3.

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

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

C.1 Overall Source Limit [326 IAC 2-8]

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

- (a) Pursuant to 326 IAC 2-8:
- (1) The potential to emit any regulated pollutant from the entire source shall be limited to less than one-hundred (100) tons per twelve (12) consecutive month period, rolled on a monthly basis. This limitation shall also make the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable;

- (2) The potential to emit any combination of HAPs from the entire source shall be limited to less than twenty-five (25) tons per twelve (12) consecutive month period, rolled on a monthly basis.
- (b) Pursuant to 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), emissions of particulate matter (PM) from the entire source shall be limited to less than two hundred fifty (250) tons per twelve (12) consecutive month period, rolled on a monthly basis.
- (c) This condition shall include all emission points at this source including those that are insignificant as defined in 326 IAC 2-7-1(21). The source shall be allowed to add insignificant activities not already listed in this permit, provided that the source's potential to emit does not exceed the above specified limits.
- (d) Section D of this permit contains independently enforceable provisions to satisfy this requirement.

C.2 Opacity [326 IAC 5-1]

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

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

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

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

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

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

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

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

C.6 Operation of Equipment [326 IAC 2-8-5(a)(4)]

All air pollution control equipment listed in this permit and used to comply with an applicable requirement shall be operated at all times that the emission units vented to the control equipment are in operation.

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

- (a) 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 61.140]

- (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 Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

The notifications do not require a certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (e) **Procedures for Asbestos Emission Control**
The Permittee shall comply with the emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-4 emission control requirements are mandatory 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) Indiana Accredited Asbestos Inspector
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Accredited Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos. The requirement that the inspector be accredited is federally enforceable.

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

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

- (a) All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing methods approved by the IDEM, OAM.

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 Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

no later than thirty-five (35) days prior to the intended test date. The Permittee shall submit a notice of the actual test date to the above address so that it is received at least two weeks prior to the test date.

- (b) All test reports must be received by IDEM, OAM within forty-five (45) days after the completion of the testing. An extension may be granted by the Commissioner, if the source submits to IDEM, OAM, a reasonable written explanation within five (5) days prior to the end of the initial forty-five (45) day period.

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

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

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

Compliance with applicable requirements shall be documented as required by this permit. The Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment no more than ninety (90) days after receipt of this permit. If due to circumstances beyond its control, this schedule cannot be met, the Permittee may extend compliance schedule an additional ninety (90) days provided the Permittee notify:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

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

The notification which shall be submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

C.11 Maintenance of Monitoring Equipment [326 IAC 2-8-4(3)(A)(iii)]

- (a) In the event that a breakdown of the monitoring equipment occurs, a record shall be made of the times and reasons of the breakdown and efforts made to correct the problem. To the extent practicable, supplemental or intermittent monitoring of the parameter should be implemented at intervals no less frequent than required in Section D of this permit until such time as the monitoring equipment is back in operation. In the case of continuous monitoring, supplemental or intermittent monitoring of the parameter should be implemented at intervals no less than one (1) hour until such time as the continuous monitor is back in operation.
- (b) The Permittee shall install, calibrate, quality assure, maintain, and operate all necessary monitors and related equipment. In addition, prompt corrective action shall be initiated whenever indicated.

C.12 Monitoring Methods [326 IAC 3]

Any monitoring or testing performed to meet the applicable requirements of this permit shall be performed according to the provisions of 326 IAC 3, 40 CFR 60, Appendix A, or other approved methods as specified in this permit.

C.13 Pressure Gauge Specifications

Whenever a condition in this permit requires the measurement of pressure drop across any part of the unit or its control device, the gauge employed shall have a scale such that the expected normal reading shall be no less than twenty percent (20%) of full scale and be accurate within plus or minus two percent ($\pm 2\%$) of full scale reading.

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 Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

within 180 days from the date on which this source commences operation).

The ERP does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (c) If the ERP is disapproved by IDEM, OAM, 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, OAM, 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 68.215]

If a regulated substance, subject to 40 CFR 68, is present in a process in more than the threshold quantity, 40 CFR 68 is an applicable requirement and the Permittee shall:

- (a) Submit:
 - (1) A compliance schedule for meeting the requirements of 40 CFR 68 by the date provided in 40 CFR 68.10(a); or
 - (2) As a part of the compliance certification submitted under 326 IAC 2-7-6(5), a certification statement that the source is in compliance with all the requirements of 40 CFR 68, including the registration and submission of a Risk Management Plan (RMP); and
 - (3) A verification to IDEM, OAM, that a RMP or a revised plan was prepared and submitted as required by 40 CFR 68.
- (b) Provide annual certification to IDEM, OAM, that the Risk Management Plan is being properly implemented.

All documents submitted pursuant to this condition shall include the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

C.16 Compliance Monitoring Plan - Failure to Take Response Steps [326 IAC 2-8-4][326 IAC 2-8-5] [326 IAC 1-6]

- (a) The Permittee is required to implement a compliance monitoring plan to ensure that reasonable information is available to evaluate its continuous compliance with applicable requirements. This compliance monitoring plan is comprised of:
 - (1) This condition;
 - (2) The Compliance Determination Requirements in Section D of this permit;
 - (3) The Compliance Monitoring Requirements in Section D of this permit;
 - (4) The Record Keeping and Reporting Requirements in Section C (Monitoring Data Availability, General Record Keeping Requirements, and General Reporting Requirements) and in Section D of this permit; and
 - (5) A Compliance Response Plan (CRP) for each compliance monitoring condition of this permit. CRP's shall be submitted to IDEM, OAM upon request and shall be subject to review and approval by IDEM, OAM. The CRP shall be prepared within ninety (90) days after issuance of this permit by the Permittee and maintained on site, and is comprised of:

- (A) Response steps that will be implemented in the event that compliance related information indicates that a response step is needed pursuant to the requirements of Section D of this permit; and
 - (B) A time schedule for taking such response steps including a schedule for devising additional response steps for situations that may not have been predicted.
- (b) For each compliance monitoring condition of this permit, appropriate response steps shall be taken when indicated by the provisions of that compliance monitoring condition. Failure to perform the actions detailed in the compliance monitoring conditions or failure to take the response steps within the time prescribed in the Compliance Response Plan, shall constitute a violation of the permit unless taking the response steps set forth in the Compliance Response Plan would be unreasonable.
- (c) After investigating the reason for the excursion, the Permittee is excused from taking further response steps for any of the following reasons:
 - (1) The monitoring equipment malfunctioned, giving a false reading. This shall be an excuse from taking further response steps providing that prompt action was taken to correct the monitoring equipment.
 - (2) The Permittee has determined that the compliance monitoring parameters established in the permit conditions are technically inappropriate, has previously submitted a request for an administrative amendment to the permit, and such request has not been denied or;
 - (3) An automatic measurement was taken when the process was not operating; or
 - (4) The process has already returned to operating within "normal" parameters and no response steps are required.
- (d) Records shall be kept of all instances in which the compliance related information was not met and of all response steps taken. In the event of an emergency, the provisions of 326 IAC 2-7-16 (Emergency Provisions) requiring prompt corrective action to mitigate emissions shall prevail.

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 corrective actions. The Permittee shall submit a description of these corrective actions to IDEM, OAM, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize emissions from the affected facility while the corrective actions are being implemented. IDEM, OAM shall notify the Permittee within thirty (30) days, if the corrective actions taken are deficient. The Permittee shall submit a description of additional corrective actions taken to IDEM, OAM within thirty (30) days of receipt of the notice of deficiency. IDEM, OAM reserves the authority to use enforcement activities to resolve noncompliant stack tests.

- (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, OAM that retesting in one-hundred and twenty (120) days is not practicable, IDEM, OAM may extend the retesting deadline. Failure of the second test to demonstrate compliance with the appropriate permit conditions may be grounds for immediate revocation of the permit to operate the affected facility.

The documents submitted pursuant to this condition do not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

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

C.18 Emission Statement [326 IAC 2-6] [326 IAC 2-8-4(3)]

- (a) The Permittee shall submit an annual emission statement certified pursuant to the requirements of 326 IAC 2-6, that meets the requirements of 326 IAC 2-6 (Emission Reporting). This annual statement must be received by July 1 of each year and must comply with the minimum requirements specified in 326 IAC 2-6-4. The submittal should cover the period defined in 326 IAC 2-6-2(8) (Emission Statement Operating Year). The annual statement must be submitted to:

Indiana Department of Environmental Management
Technical Support and Modeling Section, Office of Air Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

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

C.19 Monitoring Data Availability

- (a) With the exception of performance tests conducted in accordance with Section C-Performance Testing all observations, sampling, maintenance procedures, and record keeping, required as a condition of this permit shall be performed at all times the equipment is operating at normal representative conditions.
- (b) As an alternative to the observations, sampling, maintenance procedures, and record keeping of subsection (a) above, when the equipment listed in Section D of this permit is not operating, the Permittee shall either record the fact that the equipment is shut down or perform the observations, sampling, maintenance procedures, and record keeping that would otherwise be required by this permit.
- (c) If the equipment is operating but abnormal conditions prevail, additional observations and sampling should be taken with a record made of the nature of the abnormality.
- (d) If for reasons beyond its control, the operator fails to make required observations, sampling, maintenance procedures, or record keeping, reasons for this must be recorded.

- (e) At its discretion, IDEM may excuse such failure providing adequate justification is documented and such failures do not exceed five percent (5%) of the operating time in any quarter.
- (f) Temporary, unscheduled unavailability of staff qualified to perform the required observations, sampling, maintenance procedures, or record keeping shall be considered a valid reason for failure to perform the requirements in (a) above.

C.20 General Record Keeping Requirements [326 IAC 2-8-4(3)][326 IAC 2-8-5]

- (a) Records of all required monitoring data and support information 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 kept at the source location for a minimum of three (3) years and available upon the request of an IDEM, OAM, representative. 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 written request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.
- (b) Records of required monitoring information shall include, where applicable:
 - (1) The date, place, and time of sampling or measurements;
 - (2) The dates analyses were performed;
 - (3) The company or entity performing the analyses;
 - (4) The analytic techniques or methods used;
 - (5) The results of such analyses; and
 - (6) The operating conditions existing at the time of sampling or measurement.
- (c) Support information shall include, where applicable:
 - (1) Copies of all reports required by this permit;
 - (2) All original strip chart recordings for continuous monitoring instrumentation;
 - (3) All calibration and maintenance records;
 - (4) Records of preventive maintenance shall be sufficient to demonstrate that improper maintenance did not cause or contribute to a violation of any limitation on emissions or potential to emit. To be relied upon subsequent to any such violation, these records may include, but are not limited to: work orders, parts inventories, and operator's standard operating procedures. Records of response steps taken shall indicate whether the response steps were performed in accordance with the Compliance Response Plan required by Section C - Compliance Monitoring Plan - Failure to take Response Steps, of this permit, and whether a deviation from a permit condition was reported. All records shall briefly describe what maintenance and response steps were taken and indicate who performed the tasks.

- (d) All record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance.

C.21 General Reporting Requirements [326 IAC 2-8-4(3)(C)]

- (a) To affirm that the source has met all the compliance monitoring requirements stated in this permit the source shall submit a Quarterly Compliance Monitoring Report. Any deviation from the requirements and the date(s) of each deviation must be reported.
- (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 Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015
- (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, OAM, on or before the date it is due.
- (d) Unless otherwise specified in this permit, any quarterly report shall be submitted within thirty (30) days of the end of the reporting period.
- (e) All instances of deviations as described in Section B- Deviations from Permit Requirements Conditions must be clearly identified in such reports.
- (f) Any corrective actions or response steps taken as a result of each deviation must be clearly identified in such reports.
- (g) The first report shall cover the period commencing on the date of issuance of this permit and ending on the last day of the reporting period.

The documents submitted pursuant to this condition do not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

Stratospheric Ozone Protection

C.22 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

MELTING OPERATION

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

- (a) One (1) Melting Operation installed in 1964, consisting of:
- (1) three (3) gas reverberatory furnaces, identified as GR1-3, 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) gas crucibles, identified as CR1-8, 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 EM1-2, 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 (to be constructed after the permit issuance), identified as EM4, with a maximum melting capacity of 1.5 tons of aluminum per hour, exhausting through stacks 25 and 27.

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

D.1.1 Particulate Matter less than 10 Microns (PM-10) [326 IAC 2-8-4]

Pursuant to 326 IAC 2-8-4, particulate matter less than 10 microns emissions from the entire source, including those units listed in Sections D.1 through D.5, shall not exceed 22.6 pounds per hour, including both filterable and condensable fractions. Compliance with this limit will satisfy 326 IAC 2-8-4. Therefore, the Part 70 rules (326 IAC 2-7) do not apply.

D.1.2 PSD Minor Limit [326 IAC 2-2] [40 CFR 52.21]

Pursuant to 326 IAC 2-2, Particulate Matter emissions from the entire source shall not exceed 250 tons per twelve (12) consecutive month period, rolled on a monthly basis. Therefore, the requirements of 326 IAC 2-2 (PSD) do not apply.

D.1.3 Particulate Matter (PM) [326 IAC 6-3]

Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rates are:

- (1) the two (2) Glow Bar electric melt furnaces (EM 1 and 2) shall not exceed 6.52 pounds per hour when each is operating at a process weight rate of 2000 pounds per hour,
- (2) the one (1) electric melt furnace (EM3) shall not exceed 4.10 pounds per hour when operating at a process weight rate of 2500 pounds per hour,
- (3) the one (1) electric melt furnace (EM4) shall not exceed 5.38 pounds per hour when operating at a process weight rate of 3000 pounds per hour,
- (4) the three (3) Gas Reverberatory furnaces, (GR1-3) shall not exceed 5.38 pounds per hour when each is operating at a process weight rate of 1000 pounds per hour, and
- (5) the eight (8) Gas Crucibles, (CR1-8) shall not exceed 4.94 pounds per hour when each is operating at a process weight rate of 330 pounds per hour.

The pounds per hour limitation was calculated with the following equation:

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

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

D.1.4 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 its control device.

Compliance Determination Requirements

D.1.5 Testing Requirements [326 IAC 2-8-5(a)(1), (4)]

The Permittee is not required to test this facility by this permit. However, IDEM may require compliance testing at any specific time when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance with the PM and PM-10 limits specified in Conditions D.1.1 and D.1.2 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

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

D.1.6 Visible Emissions Notations

- (a) Daily visible emission notations of the one (1) melting operation stack exhaust shall be performed during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

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

D.1.7 Record Keeping Requirements

- (a) To document compliance with Condition D.1.6, the Permittee shall maintain a log of daily overspray observations, daily and weekly inspections, and those additional inspections prescribed by the Preventative Maintenance Plan.

SECTION D.2 FACILITY OPERATION CONDITIONS

CASTING, CLEANING AND FINISHING OPERATIONS

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

- (b) One (1) Casting, Cleaning, and Finishing Operation, consisting of:
- (1) one (1) wheelabrator shotblaster, identified as SB1, 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 and casting operation, with a maximum capacity of 7.57 tons per hour of melted aluminum,
 - (3) one (1) castings knockout and shakeout operation, consisting of:
 - (i) one (1) shake out unit, with a maximum capacity of 50 tons per hour to replace the existing shake out unit, utilizing a baghouse (BH1) for particulate control, exhausting at stack 3,
 - (ii) five (5) knockout machines, identified as KN1-5, and
 - (iii) one (1) elevator, with a maximum capacity of 50 tons per hour to replace the existing elevator, utilizing a baghouse (BH1) for particulate control, exhausting at stack 3.
 - (4) one (1) wheelabrator shotblaster, identified as SB2, with a maximum capacity of 8.25 tons of steel shot per hour, utilizing a baghouse (BH3) for particulate control, exhausting at stack 2.

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

D.2.1 Particulate Matter less than 10 Microns (PM-10) [326 IAC 2-8-4]

Pursuant to 326 IAC 2-8-4, particulate matter less than 10 microns emissions from the entire source, including those units listed in Sections D.1 through D.5, shall not exceed 22.6 pounds per hour, including both filterable and condensable fractions. Compliance with this limit will satisfy 326 IAC 2-8-4. Therefore, the Part 70 rules (326 IAC 2-7) do not apply.

D.2.2 PSD Minor Limit [326 IAC 2-2] [40 CFR 52.21]

Pursuant to 326 IAC 2-2, Particulate Matter emissions from the entire source shall not exceed 250 tons per twelve (12) consecutive month period, rolled on a monthly basis. Therefore, the requirements of 326 IAC 2-2 (PSD) do not apply.

D.2.3 Particulate Matter (PM) [326 IAC 6-3]

Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rates are:

- (1) one (1) wheelabrator shotblaster, (SB1) shall not exceed 21.67 pounds per hour when operating at a process weight rate of 24,000 pounds per hour.
- (2) one (1) wheelabrator shotblaster, (SB2) shall not exceed 16.86 pounds per hour when operating at a process weight rate of 16,500 pounds per hour.

The pounds per hour limitation was calculated with the following equation:

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

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rate from the one (1) castings knockout and shakeout operation shall not exceed 44.58 pounds per hour when operating at a process weight rate of 100,000 pounds per hour.

The pounds per hour limitation was calculated with the following equation:
Interpolation and extrapolation of the data for the process weight rate in excess of 60,000 pounds per hour shall be accomplished by use of the equation:

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

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 this facility and its control device.

Compliance Determination Requirements

D.2.5 Testing Requirements [326 IAC 2-8-5(a)(1), (4)]

The Permittee is not required to test this facility by this permit. However, IDEM may require compliance testing at any specific time when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance with the PM and PM-10 limits specified in Condition D.2.1 and D.2.2 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

D.2.6 Particulate Matter (PM)

The baghouses for PM control shall be in operation at all times when the two (2) wheelabrator shotblaster (SB1 and 2) and the castings knockout and shakeout operation are in operation and exhausting to the outside atmosphere.

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

D.2.7 Visible Emissions Notations

- (a) Daily visible emission notations of the two (2) wheelabrator shotblaster (SB1 and 2) and the castings knockout and shakeout operation stack exhaust shall be performed during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

D.2.8 Parametric Monitoring

The Permittee shall record:

- (a) the total static pressure drop across the baghouse used in conjunction with the two (2) wheelabrator shotblasters (SB1 and 2) operation, at least once daily when the two (2) wheelabrator shotblasters (SB1 and 2) are in operation when venting to the atmosphere. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across the baghouse shall be maintained within the range of 1.0 and 4.0 inches of water or a range established during the latest stack test.
- (b) the total static pressure drop across the baghouse used in conjunction with the castings knockout and shakeout operation, at least once daily when the castings knockout and shakeout operation, are in operation when venting to the atmosphere. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across the baghouse shall be maintained within the range of 4.0 and 6.0 inches of water or a range established during the latest stack test.

The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for any one reading.

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

D.2.9 Baghouse Inspections

An inspection shall be performed each calendar quarter of all bags controlling the one (1) Casting, Cleaning, and Finishing operation when venting to the atmosphere. A baghouse inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting indoors. All defective bags shall be replaced.

D.2.10 Broken or Failed Bag Detection

In the event that bag failure has been observed:

- (a) The affected compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) hours of discovery of the failure and shall include a timetable for completion. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).
- (b) For single compartment baghouses, failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

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

D.2.11 Record Keeping Requirements

- (a) To document compliance with Condition D.2.7, the Permittee shall maintain records of daily visible emission notations of the two (2) wheelabrator shotblaster (SB1 and 2) and the castings knockout and shakeout operation stack exhaust, identified as stacks 2 and 3, respectively.
- (b) To document compliance with Condition D.2.8, the Permittee shall maintain the following:
 - (1) Daily records of the following operational parameters during normal operation when venting to the atmosphere:
 - (A) Inlet and outlet differential static pressure; and
 - (B) Cleaning cycle: frequency and differential pressure
 - (2) Documentation of all response steps implemented, per event .
 - (3) Operation and preventive maintenance logs, including work purchases orders, shall be maintained.
 - (4) Quality Assurance/Quality Control (QA/QC) procedures.
 - (5) Operator standard operating procedures (SOP).
 - (6) Manufacturer's specifications or its equivalent.
 - (7) Equipment "troubleshooting" contingency plan.
 - (8) Documentation of the dates vents are redirected.
- (b) To document compliance with Condition D.2.1 and D.2.2, the Permittee shall maintain records of the results of the inspections required under Condition D.2.9 and the dates the vents are redirected.
- (c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

SECTION D.3

FACILITY OPERATION CONDITIONS

SAND HANDLING AND ANCILLARY OPERATIONS

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

- (c) One (1) Sand Handling and Ancillary Operation, consisting of:
- (1) one (1) sand muller, identified as MU1, with a total maximum capacity of 40 tons of sand per hour, with particulate matter emissions controlled by a baghouse (BH1), exhausting through stack 3,
 - (2) two (2) Isojet 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,
 - (3) two (2) Betaset core machines, identified as CM 11 and 12, each with a maximum capacity of 5 tons per hour,
 - (4) 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,
 - (5) one (1) core sand vibra-mill, identified as MIL, with a maximum capacity of 15 tons per hour, utilizing a baghouse (BH4) for PM control and exhausting at stack 43, and
 - (6) two (2) no bake core sand mixers, identified as SM1 and 2, with a maximum capacity of 3 and 1.5 tons per hour, respectively.

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

D.3.1 Volatile Organic Compounds (VOCs) [326 IAC 2-3] [326 IAC 2-8] [326 IAC 8-1-6]

The usage of VOC delivered to the applicators, including clean up solvents, for the two (2) Isojet core machines (CM 9 and 10) and the two (2) Betaset core machines (CM 11 and 12) combined shall be limited to less than 25 tons per twelve (12) consecutive month period, rolled on a monthly basis. Therefore, the best available control technology (BACT) requirements in 326 IAC 8-1-6 (New Facilities: General Reduction Requirements) does not apply.

Compliance with this VOC limit shall render the source in compliance with 326 IAC 2-8 (FESOP).

D.3.2 Hazardous Air Pollutants (HAPs) [326 IAC 2-8-4(1)]

The usage of total HAPs delivered to the applicators, including clean up solvents, for the two (2) Isojet core machines (CM 9 and 10) and the two (2) Betaset core machines (CM 11 and 12) shall be limited such that any single HAP and total HAPs are limited to less than 10 and 25 tons per 12 month period, respectively. The HAP emission limits include emissions from solvent usage. Therefore, the requirements of 326 IAC 2-7 (Part 70 Permit Program) do not apply.

D.3.3 Particulate Matter less than 10 Microns (PM-10) [326 IAC 2-8-4]

Pursuant to 326 IAC 2-8-4, particulate matter less than 10 microns emissions from the entire source, including those units listed in Sections D.1 through D.5, shall not exceed 22.6 pounds per hour, including both filterable and condensable fractions. Compliance with this limit will satisfy 326 IAC 2-8-4. Therefore, the Part 70 rules (326 IAC 2-7) do not apply.

D.3.4 PSD Minor Limit [326 IAC 2-2] [40 CFR 52.21]

Pursuant to 326 IAC 2-2, Particulate Matter emissions from the entire source shall not exceed 250 tons per twelve (12) consecutive month period, rolled on a monthly basis. Therefore, the requirements of 326 IAC 2-2 (PSD) do not apply.

D.3.5 Particulate Matter (PM) [326 IAC 6-3]

Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rate from the:

- (a) one (1) sand muller (MU1) shall not exceed 42.53 pounds per hour when operating at a process weight rate of 80,000 pounds per hour.

The pounds per hour limitation was calculated with the following equation:
Interpolation and extrapolation of the data for the process weight rate in excess of 60,000 pounds per hour shall be accomplished by use of the equation:

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

- (b) one (1) sand muller (MU3) shall not exceed 25.16 pounds per hour when operating at a process weight rate of 30,000 pounds per hour.

The pounds per hour limitation was calculated with the following equation:

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

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

D.3.6 Sulfur Dioxide (SO₂) [326 IAC 2-8-4]

Pursuant to 326 IAC 2-8-4, Sulfur Dioxide emissions from the two (2) Isoset core machines (CM 9 and 10) shall not exceed 3.00 pounds per hour, including both filterable and condensable fractions. Compliance with this limit will satisfy 326 IAC 2-8-4. Therefore, the Part 70 rules (326 IAC 2-7) do not apply.

D.3.7 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for this facility and its control device.

Compliance Determination Requirements

D.3.8 Testing Requirements [326 IAC 2-8-5(a)(1), (4)]

During the period between 24 and 36 months after issuance of this permit, the Permittee shall perform SO₂ testing utilizing Method 6 (40 CFR 60, Appendix A) for SO₂ or other 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. In addition to these requirements, IDEM may require compliance testing when necessary to determine if the facility is in compliance. If additional testing is required by IDEM, compliance with the PM-10, VOC, and HAP limits specified in Condition D.3.1, D.3.2, and D.3.3 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

D.3.9 Particulate Matter (PM)

The baghouse for PM control shall be in operation at all times when the two (2) sand mullers (MU1 and 3) are in operation and exhausting to the outside atmosphere.

D.3.10 Sulfur Dioxide (SO₂)

The SO₂ scrubber for sulfur dioxide control shall be in operation at all times when the two (2) Isoset core machines (CM 9 and 10) are in operation.

D.3.11 Volatile Organic Compounds (VOC)

Compliance with the VOC content and usage limitations contained in Conditions D.3.1 shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) using formulation data supplied by the coating manufacturer. IDEM, OAM reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

D.3.12 VOC Emissions

Compliance with Condition D.3.1 shall be demonstrated at the end of each month based on the total volatile organic compound usage for the most recent twelve (12) month period.

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

D.3.13 Visible Emissions Notations

- (a) Daily visible emission notations of the two (2) sand mullers (MU1 and 3) stack exhaust shall be performed during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

D.3.14 Parametric Monitoring for Baghouse

The Permittee shall record the total static pressure drop across the baghouse used in conjunction with the two (2) sand mullers (MU1 and 3), at least once daily when the two (2) sand mullers (MU1 and 3), are in operation when venting to the atmosphere. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across the baghouse shall be maintained within the range of 4.0 and 6.0 inches of water or a range established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for any one reading.

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

D.3.15 Baghouse Inspections

An inspection shall be performed each calendar quarter of all bags controlling the two (2) sand mullers (MU1 and 3) operation when venting to the atmosphere. A baghouse inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting indoors. All defective bags shall be replaced.

D.3.16 Broken or Failed Bag Detection

In the event that bag failure has been observed:

- (a) The affected compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) hours of discovery of the failure and shall include a timetable for completion. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).
- (b) For single compartment baghouses, failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

D.3.17 Parametric Monitoring for SO₂ Scrubber

The Permittee shall record the air flow rate of the SO₂ Scrubber used in conjunction with the two (2) Isoset core machines, (CM 9 and 10), at least once daily when the two (2) Isoset core machines, (CM 9 and 10) are in operation when venting to the atmosphere. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the air flow across the SO₂ Scrubber shall be maintained within the range of 2,000 and 4,000 acfm or a range established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for any one reading.

The instruments used for determining the flow rate shall be subject to approval by IDEM, OAM, and shall be calibrated at least once every six (6) months.

D.3.18 SO₂ Scrubber Inspection

An inspection shall be performed each calendar quarter of the scrubber. Defective scrubber part(s) shall be replaced. A record shall be kept of the results of the inspection and the number of scrubber part(s) replaced.

D.3.19 SO₂ Scrubber Failure

In the event that a scrubber's failure has been observed:

- (a) The affected process will be shut down immediately until the failed unit has been replaced.
- (b) Based upon the findings of the inspection, any additional corrective actions will be devised within eight (8) hours of discovery and will include a timetable for completion.

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

D.3.20 Record Keeping Requirements

- (a) To document compliance with Conditions D.3.1 and D.3.2, the Permittee shall maintain records in accordance with (1) through (6) below. Records maintained for (1) through (6) shall be taken daily and shall be complete and sufficient to establish compliance with the VOC and total HAP usage limits established in Conditions D.3.1 and D.3.2, respectively.

- (1) The amount and VOC and HAP content of each coating material and solvent used. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used. Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents;
 - (2) A log of the dates of use;
 - (3) The volume weighted VOC and HAP content of the coatings used for each day;
 - (4) The cleanup solvent usage for each day;
 - (5) The total VOC and total HAP usage for each day; and
 - (6) The weight of VOCs and HAPs emitted for each compliance period.
- (b) To document compliance with Condition D.3.13, the Permittee shall maintain records of daily visible emission notations of the two (2) sand mullers (MU1 and 3) stack exhaust.
- (c) To document compliance with Condition D.3.14, the Permittee shall maintain the following:
- (1) Daily records of the following operational parameters during normal operation when venting to the atmosphere:
 - (A) Inlet and outlet differential static pressure; and
 - (B) Cleaning cycle: frequency and differential pressure
 - (2) Documentation of all response steps implemented, per event .
 - (3) Operation and preventive maintenance logs, including work purchases orders, shall be maintained.
 - (4) Quality Assurance/Quality Control (QA/QC) procedures.
 - (5) Operator standard operating procedures (SOP).
 - (6) Manufacturer's specifications or its equivalent.
 - (7) Equipment "troubleshooting" contingency plan.
 - (8) Documentation of the dates vents are redirected.
- (d) To document compliance with Condition D.3.10, the Permittee shall maintain records of the results of the inspections required under Condition D.3.18 and the dates the vents are redirected.
- (e) To document compliance with Condition D.3.17, the Permittee shall maintain the following:
- (1) Daily records of the following operational parameters during normal operation when venting to the atmosphere:

- (A) acid content, pressure drop and flow rate of the scrubber;
- (2) Documentation of all response steps implemented, per event .
- (3) Operation and preventive maintenance logs, including work purchases orders, shall be maintained.
- (4) Quality Assurance/Quality Control (QA/QC) procedures.
- (5) Operator standard operating procedures (SOP).
- (6) Manufacturer's specifications or its equivalent.
- (7) Equipment "troubleshooting" contingency plan.
- (8) Documentation of the dates vents are redirected.
- (f) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.3.21 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.3.1 and D.3.2 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported.

SECTION D.4 FACILITY OPERATION CONDITIONS

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

- (d) One (1) Surface Coating Operation, consisting of:
 - (1) 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 Limitations and Standards [326 IAC 2-7-5(1)]

D.4.1 Particulate Matter less than 10 Microns (PM-10) [326 IAC 2-8-4]

Pursuant to 326 IAC 2-8-4, particulate matter less than 10 microns emissions from the entire source, including those units listed in Sections D.1 through D.5, shall not exceed 22.6 pounds per hour, including both filterable and condensable fractions. Compliance with this limit will satisfy 326 IAC 2-8-4. Therefore, the Part 70 rules (326 IAC 2-7) do not apply.

D.4.2 PSD Minor Limit [326 IAC 2-2] [40 CFR 52.21]

Pursuant to 326 IAC 2-2, Particulate Matter emissions from the entire source shall not exceed 250 tons per twelve (12) consecutive month period, rolled on a monthly basis. Therefore, the requirements of 326 IAC 2-2 (PSD) do not apply.

D.4.3 Particulate Matter (PM) [326 IAC 6-3]

The PM from the one (1) manual paint booth (PB1) shall not exceed the pound per hour emission rate established as E in the following formula:

Interpolation and extrapolation 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

D.4.4 Volatile Organic Compounds (VOC) [326 IAC 8-2-9] [326 IAC 2-3] [326 IAC 2-8] [326 IAC 8-1-6]

- (1) Pursuant to 326 IAC 8-2-9 (Miscellaneous Metal Coatings), no owner or operator engaged in the surface coating of miscellaneous metal parts shall discharge into the atmosphere any volatile organic compound (VOC) in excess of the following:

The volatile organic compound (VOC) content of coating delivered to the applicator at the one (1) manual paint booth, (PB1) shall each be limited to 3.5 pounds of VOCs per gallon of coating less water, for air dried coatings.

Solvent sprayed from application equipment at the one (1) manual paint booth, (PB1) 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.

- (2) The one (1) manual paint booth, (PB1) shall use no more than 69.05 tons of VOC, including coatings, dilution solvents, and cleaning solvents, per twelve (12) consecutive month period, rolled on a monthly basis. This usage limit is required to limit the source-wide potential to emit of VOC to less than 100 tons per twelve (12) consecutive month period, rolled on a monthly basis. Compliance with this VOC limit shall render the source in compliance with 326 IAC 2-8 (FESOP), and makes 326 IAC 2-7 (Part 70) not applicable.

D.4.5 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.4.6 Testing Requirements [326 IAC 2-8-5(a)(1), (4)]

The Permittee is not required to test this facility by this permit. However, IDEM may require compliance testing at any specific time when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance with the PM and VOC limits specified in Condition D.4.1 and D.4.2 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

D.4.7 Volatile Organic Compounds

Compliance with the VOC content and usage limitations contained in Condition D.4.3 shall be determined pursuant to 326 IAC 8-1-4(a)(3)(A) using formulation data supplied by the coating manufacturer. However, IDEM, OAM reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

D.4.8 Particulate Matter (PM)

The dry filters for PM control shall be in operation at all times when the one (1) manual paint booth (PB1) is in operation.

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

D.4.9 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 one (1) manual paint booth (PB1) while one or more of the booths are in operation. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.
- (2) Monthly inspections shall be performed of the coating emissions from the stack and the presence of overspray on the rooftops and the nearby ground. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when a noticeable change in overspray emission, or evidence of overspray emission is observed. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.
- (c) Additional inspections and preventive measures shall be performed as prescribed in the Preventive Maintenance Plan.

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

D.4.10 Record Keeping Requirements

- (a) To document compliance with Condition D.4.9, the Permittee shall maintain a log of daily overspray observations, daily and weekly inspections, and those additional inspections prescribed by the Preventative Maintenance Plan.
- (b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

SECTION D.5

FACILITY OPERATION CONDITIONS

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

- (a) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) Btu per hour;
 - (1) one (1) boiler, identified as B1, with a rated heat input of 8.368 MMBtu per hour.

Process

Boilers

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

D.5.1 Particulate Matter (PM)

Pursuant to 326 IAC 6-2-4 (Particulate Matter Emission Limitations for Sources of Indirect Heating, the PM emissions from the 2.59 MMBtu per hour heat input boiler shall be limited to 0.6 pounds per MMBtu heat input.

This limitation is based on the lower of 0.6 lb/MMBtu and the limit calculated with the following equation:

$$P_t = \frac{1.09}{Q^{0.26}} \quad \text{where: } P_t = \text{maximum allowable particulate matter (PM) emitted per MMBtu heat input}$$

$Q = \text{total source max. indirect heater input}$
 $= 8.368 \text{ MMBtu/hr}$

Compliance Determination Requirement

D.5.2 Testing Requirements [326 IAC 2-8-5(a)(1), (4)]

The Permittee is not required to test this facility by this permit. However, IDEM may require compliance testing at any specific time when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance with the PM limit specified in Condition D.5.1 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

SECTION D.6 FACILITY CONDITIONS

Facility Description [326 IAC 2-8-4(10)] The modification of the secondary aluminum foundry which includes the installation of the following equipment:

- (a) One (1) Casting, Cleaning, and Finishing Operation, consisting of:
 - (1) one (1) castings knockout and shakeout operation, consisting of:
 - (i) one (1) shake out unit, with a maximum capacity of 50 tons per hour to replace the existing shake out unit, utilizing a baghouse (BH1) for particulate control, exhausting at stack 3,
 - (ii) five (5) knockout machines, identified as KN1-5, and
 - (iii) one (1) elevator, with a maximum capacity of 50 tons per hour to replace the existing elevator, utilizing a baghouse (BH1) for particulate control, exhausting at stack 3.
 - (2) one (1) wheelabrator shotblaster, identified as SB2, with a maximum capacity of 8.25 tons of steel shot per hour, utilizing a baghouse (BH3) for particulate control, exhausting at stack 2.
- (b) One (1) Melting Operation, consisting of:
 - (1) one (1) electric melt furnace, identified as EM3, with a maximum melting capacity of 1.25 tons of aluminum per hour, rebuilt in 1998, exhausting through stacks 25 and 27, and
 - (2) one (1) electric melt furnace, identified as EM4, with a maximum melting capacity of 1.5 tons of aluminum per hour, rebuilt in 1998, exhausting through stacks 25 and 27.
- (c) One (1) Sand Handling and Ancillary Operation, consisting of:
 - (1) two (2) Isojet 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) 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,
 - (4) one (1) core sand vibra-mill, identified as MIL, with a maximum capacity of 15 tons per hour, utilizing a baghouse (BH4) for PM control and exhausting at stack 43, and
 - (5) two (2) core sand mixers, identified as SM1 and 2, with a maximum capacity of 3 and 1.5 tons per hour, respectively.

THIS SECTION OF THE PERMIT IS BEING ISSUED UNDER THE PROVISIONS OF 326 IAC 2-1 AND 40 CFR 52.780, WITH CONDITIONS LISTED BELOW.

Construction Conditions [326 IAC 2-1-3.2]

General Construction Conditions

- D.6.1 This permit to construct does not relieve the Permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

Effective Date of the Permit

- D.6.2 Pursuant to IC 13-15-5-3, this section of this permit becomes effective upon its issuance.

First Time Operation Permit

- D.6.3 This document shall also become the first-time operation permit for the facilities under this section of this permit, pursuant to 326 IAC 2-1-4 (Operating Permits) when, prior to start of operation, the following requirements are met:

- (a) The attached affidavit of construction shall be submitted to:

Indiana Department of Environmental Management
Permit Administration & Development Section, Office of Air Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

verifying that the facilities were constructed as proposed in the application. The facilities covered in this section of this permit may begin operating on the date the Affidavit of Construction is postmarked or hand delivered to IDEM.

- (b) If construction is completed in phases; i.e., the entire construction is not done continuously, a separate affidavit must be submitted for each phase of construction. Any permit conditions associated with operation start up dates such as stack testing for New Source Performance Standards (NSPS) shall be applicable to each individual phase.
- (c) The Permittee shall receive an Operation Permit Validation Letter from the Chief of the Permit Administration & Development Section and attach it to this permit.

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

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

Source Name: Ward Aluminum Casting, Inc.
Source Address: 642 Growth Ave., Fort Wayne, IN 46808
Mailing Address: 642 Growth Ave., Fort Wayne, IN 46808
FESOP No.: F\ENSR003-10264-00198

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:

9 Annual Compliance Certification Letter

9 Test Result (specify) _____

9 Report (specify) _____

9 Notification (specify) _____

9 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 MANAGEMENT
COMPLIANCE DATA SECTION
P.O. Box 6015
100 North Senate Avenue
Indianapolis, Indiana 46206-6015
Phone: 317-233-5674
Fax: 317-233-5967**

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

Source Name: Ward Aluminum Casting, Inc.
Source Address: 642 Growth Ave., Fort Wayne, IN 46808
Mailing Address: 642 Growth Ave., Fort Wayne, IN 46808
FESOP No.: F\ENSR003-10264-00198

This form consists of 2 pages

Page 1 of 2

Check either No. 1 or No.2

9 1. This is an emergency as defined in 326 IAC 2-7-1(12)
CThe Permittee must notify the Office of Air Management (OAM), within four **(4)** business hours (1-800-451-6027 or 317-233-5674, ask for Compliance Section); and
CThe Permittee must submit notice in writing or by facsimile within two **(2)** days (Facsimile Number: 317-233-5967), and follow the other requirements of 326 IAC 2-7-16

9 2. This is a deviation, reportable per 326 IAC 2-7-5(3)(c)
CThe Permittee must submit notice in writing within ten **(10)** calendar days

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/Deviation:

Describe the cause of the Emergency/Deviation:

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

Page 2 of 2

Date/Time Emergency/Deviation started:
Date/Time Emergency/Deviation was corrected:
Was the facility being properly operated at the time of the emergency/deviation? 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/deviation:
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: _____

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

**FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
NATURAL GAS FIRED BOILER CERTIFICATION**

Source Name: Ward Aluminum Casting, Inc.
Source Address: 642 Growth Ave., Fort Wayne, IN 46808
Mailing Address: 642 Growth Ave., Fort Wayne, IN 46808
FESOP No.: F\ENSR003-10264-00198

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

Report period

Beginning: _____

Ending: _____

Boiler Affected

Alternate Fuel

Days burning alternate fuel
From To

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 MANAGEMENT
COMPLIANCE DATA SECTION**

FESOP Quarterly Report

Source Name: Ward Aluminum Casting, Inc.
Source Address: 642 Growth Ave., Fort Wayne, IN 46808
Mailing Address: 642 Growth Ave., Fort Wayne, IN 46808
FESOP No.: F\ENSR003-10264-00198
Facility: four (4) core machines (CM 9,10, 11 and 12)
Parameter: VOC Usage
Limit: The usage of VOC delivered to the applicators, including clean up solvents, in each of the four (4) core machines (CM 9,10, 11 and 12) shall be limited to 24.00 tons per year.

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	VOC Usage This Month	VOC Usage Previous 11 Months	VOC Usage 12 Month Total
Month 1			
Month 2			
Month 3			

9 No deviation occurred in this quarter.

9 Deviation/s occurred in this quarter.

Deviation has been reported on: _____

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

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

FESOP Quarterly Report

Source Name: Ward Aluminum Casting, Inc.
Source Address: 642 Growth Ave., Fort Wayne, IN 46808
Mailing Address: 642 Growth Ave., Fort Wayne, IN 46808
FESOP No.: F\ENSR003-10264-00198
Facility: Source
Parameter: Total HAP usage
Limit: The sourcewide usage of any single HAP and total HAPs delivered to the applicators, including clean up solvents, shall be limited such that any single HAP and total HAPs are limited to less than 10 and 25 tons per 12 month period, respectively.

YEAR: _____

Month	Column 1		Column 2		Column 1 + Column 2	
	Any Single HAP Usage This Month	Total HAP Usage This Month	Any Single HAP Usage Previous 11 Months	Total HAP Usage Previous 11 Months	Any Single HAP Usage 12 Month Total	Total HAP Usage 12 Month Total
Month 1						
Month 2						
Month 3						

9 No deviation occurred in this quarter.

9 Deviation/s occurred in this quarter.

Deviation has been reported on: _____

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

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

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

Source Name: Ward Aluminum Casting, Inc.
Source Address: 642 Growth Ave., Fort Wayne, IN 46808
Mailing Address: 642 Growth Ave., Fort Wayne, IN 46808
FESOP No.: F\ENSR003-10264-00198

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

This report is an affirmation that the source has met all the compliance monitoring requirements stated in this permit. This report shall be submitted quarterly. Any deviation from the compliance monitoring requirements and the date(s) of each deviation must be reported. Additional pages may be attached if necessary. This form can be supplemented by attaching the Emergency/Deviation Occurrence Report. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period".

9 NO DEVIATIONS OCCURRED THIS REPORTING PERIOD

9 THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD.

Compliance Monitoring Requirement (eg. Permit Condition D.1.3)	Number of Deviations	Date of each Deviation

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

Attach a signed certification to complete this report.

Indiana Department of Environmental Management Office of Air Management

Technical Support Document (TSD) for a Federally Enforceable State Operating Permit (FESOP) and Enhanced New Source Review (ENSR)

Source Background and Description

Source Name:	Ward Aluminum Casting, Incorporated
Source Location:	642 Growth Ave., Fort Wayne, IN 46808
County:	Allen
SIC Code:	3361, 3398
Operation Permit No.:	F\ENSR003-10264-00198
Permit Reviewer:	Phillip Ritz/EVP

The Office of Air Management (OAM) has reviewed a Federally Enforceable State Operating Permit (FESOP) application from Ward Aluminum Casting, Inc. (formerly known as Ward Pattern and Engineering, Inc.) relating to the operation of a secondary aluminum foundry heat treating and producing aluminum castings.

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) gas reverberatory furnaces, identified as GR1-3, 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) gas crucibles, identified as CR1-8, 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, and
 - (3) two (2) Glow Bar electric melt furnaces, identified as EM1-2, each with a maximum melting capacity of 1 ton of aluminum per hour and exhausting through stacks 25 and 27, respectively.
- (b) One (1) Casting, Cleaning, and Finishing Operation, consisting of:
 - (1) one (1) wheelabrator shotblaster, identified as SB1, with a maximum capacity of 12 tons of steel shot per hour, utilizing a baghouse (BH3) for particulate control, exhausting at stack 2, and
 - (2) one (1) pouring and casting operation, with a maximum capacity of 7.57 tons per hour of melted aluminum.
- (c) One (1) Sand Handling and Ancillary Operation, consisting of:
 - (1) one (1) sand muller, identified as MU1, with a total maximum capacity of 40 tons of sand per hour, with particulate matter emissions controlled by a baghouse (BH1), exhausting through stack 3, and

- (d) One (1) Surface Coating Operation, consisting of:
 - (1) 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.

Unpermitted Emission Units and Pollution Control Equipment Requiring ENSR

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

New Emission Units and Pollution Control Equipment Requiring ENSR

The application includes information relating to the construction and operation of the following equipment:

- (a) One (1) Casting, Cleaning, and Finishing Operation, consisting of:
 - (1) one (1) castings knockout and shakeout operation, consisting of:
 - (i) one (1) shake out unit, with a maximum capacity of 50 tons per hour to replace the existing shake out unit, utilizing a baghouse (BH1) for particulate control, exhausting at stack 3,
 - (ii) five (5) knockout machines, identified as KN1-5, and
 - (iii) one (1) elevator, with a maximum capacity of 50 tons per hour to replace the existing elevator, utilizing a baghouse (BH1) for particulate control, exhausting at stack 3.
 - (2) one (1) wheelabrator shotblaster, identified as SB2, with a maximum capacity of 8.25 tons of steel shot per hour, utilizing a baghouse (BH3) for particulate control, exhausting at stack 2.
- (b) One (1) Melting Operation, consisting of:
 - (1) one (1) electric melt furnace, identified as EM3, with a maximum melting capacity of 1.25 tons of aluminum per hour, rebuilt in 1998, exhausting through stacks 25 and 27, and
 - (2) one (1) electric melt furnace, identified as EM4, with a maximum melting capacity of 1.5 tons of aluminum per hour, rebuilt in 1998, exhausting through stacks 25 and 27.
- (c) One (1) Sand Handling and Ancillary Operation, consisting of:
 - (1) two (2) Iso-set 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) 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,
 - (4) one (1) core sand vibra-mill, identified as MIL, with a maximum capacity of 15 tons per hour, utilizing a baghouse (BH4) for PM control and exhausting at stack 43, and
 - (5) two (2) core sand mixers, identified as SM1 and 2, with a maximum capacity of 3 and 1.5 tons per hour, respectively.

The new emission units also consist 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) one (1) core machine, identified as CM8, with a maximum heat input of 0.21 MMBtu per hour.

- (b) Other activities or categories not previously identified with emissions below insignificant thresholds:
- (1) one (1) 1.25 gal/hr waste oil heater, identified as OB-1, 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,
 - (2) two (2) aluminum cut off band saws, identified as CO4-5, utilizing a baghouse (BH2) for particulate control and exhausting at stack 33,
 - (3) two (2) wood disc sanders, identified as DS1-2, utilizing a baghouse for particulate control
 - (4) one (1) carbide-tip aluminum chop saw, identified as CS1,
 - (5) two (2) no bake core sand mixers,
 - (6) four (4) aluminum mold machines, identified as CM1-4,
 - (7) one (1) wood lathe, identified as L1, utilizing an existing cyclone for particulate control,
 - (8) one (1) wood table saw, identified as TS1,
 - (9) one (1) wood radial arm saw, identified as RAS1,
 - (10) four (4) space heaters, identified as SH6-9, and
 - (11) one (1) aluminum belt grinder, identified as BG3, utilizing a baghouse (BH2) for particulate control.

Insignificant Activities

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

- (a) Machining where an aqueous cutting coolant continuously floods the machining interface.
- (b) Any operation using aqueous solutions containing less than 1% by weight of VOCs excluding HAPs.
- (c) Replacement or repair of electrostatic precipitators, bags in baghouses and filters in other air filtration equipment.
- (d) 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.
- (e) Paved and unpaved roads and parking lots with public access.
- (f) Blowdown for any of the following: sight glass; boiler; compressors; pumps; and cooling tower.
- (g) 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;
 - (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 R1-2,
 - (iv) one (1) milling machine, identified as M1,
 - (v) two (2) bandsaws, identified as BS1-2.
 - (vi) two (2) disc sanders, identified as DS 1-2,
 - (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) three (3) belt grinders, identified as BG1-3, utilizing a baghouse (BH2) for particulate control.
- (h) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) Btu per hour;

- (1) seven (7) core machines, each with a maximum throughput of 0.4165 tons per hour, consisting of:
 - (i) two (2) core machines, identified as CM1-2, each with a rated heat input of 0.1100 MMBtu per hour,
 - (ii) two (2) core machines, identified as CM3-4, each with a rated heat input of 0.1972 MMBtu per hour,
 - (iii) two (2) core machines, identified as CM5-6, each with a rated heat input of 0.3712 MMBtu per hour, and
 - (iv) one (1) core machines, identified as CM7, each with a rated heat input of 0.5800 MMBtu per hour.
- (2) one (1) heat treat oven, identified as HT1 with a rated heat input of 1.5 MMBtu per hour; exhausting at stack 32;
- (3) five (5) space heaters, identified as SH1-5, each with a rated heat input of 0.123 MMBtu per hour; and
- (4) one (1) boilers, identified as B1, with a rated heat input of 8.368 MMBtu per hour.
- (i) Other activities or categories not previously identified with emissions below insignificant thresholds:
 - (1) two (2) small sand mixer for no-bake cores used for small jobs or research projects, identified as SM1 and 2,
 - (3) saws for removing gates and risers from castings, and
 - (2) three (3) aluminum cut off band saws, identified as CO1-3.

Existing Approvals

The source has been operating under previous approvals including, but not limited to, the following:

- (1) CP-003-3374-00198, issued on January 27, 1995; and
- (2) CP-003-6405-00198, issued on October 9, 1996; and
- (3) CP-003-8302-00198, issued on August 19, 1997.

All conditions from previous approvals were incorporated into this FESOP.

Enforcement Issue

There are no enforcement actions pending.

Recommendation

The staff recommends to the Commissioner that the FESOP 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 incomplete FESOP application for the purposes of this review was received on December 9, 1998. Additional information received on January 12, 1999, makes the FESOP application administratively complete.

Emission Calculations

See Appendix A of this document for detailed emissions calculations (Appendix A, pages 1 through 14).

Potential Emissions

Pursuant to 326 IAC 1-2-55, Potential Emissions are defined as “emissions of any one (1) pollutant which would be emitted from a facility, if that facility were operated without the use of pollution control equipment unless such control equipment is necessary for the facility to produce its normal product or is integral to the normal operation of the facility.”

Pollutant	Potential Emissions (tons/year)
PM	2,607.61
PM-10	1,344.33
SO ₂	658.24
VOC	184.16
CO	10.97
NO _x	27.33
Formaldehyde	1.53
Phenol	7.67
Cumene	9.91
Ethylene Glycol	7.67
Methanol	3.07
Total HAPs	29.84

Note: For the purpose of determining Title V applicability for particulates, PM-10, not PM, is the regulated pollutant in consideration.

- (a) The potential emissions (as defined in 326 IAC 1-2-55) of PM-10, SO₂, and VOC are equal to or greater than 100 tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7.
- (b) This source, otherwise required to obtain a Title V permit, has agreed to accept a permit with federally enforceable limits that restrict its PTE to below the Title V emission levels. Therefore, this source will be issued a Federally Enforceable State Operating Permit (FESOP), pursuant to 326 IAC 2-8.
- (c) Pursuant to the EPA's analysis of Die Casting Operations, this source is not a secondary aluminum foundry, because (1) the facility uses feedstock such as ingots, billets, bars or sows that is of a specified alloy and purity or scrap from other industrial facilities for which the quality is specified and guaranteed by contract and for which little fluxing or alloying is required; and (2) the facility does not produce intermediate forms of feedstock for sale or use by other facilities. Therefore, the source is not one of the 28 listed categories.

Potential Emissions for the Proposed Modification

Pollutant	Potential Emissions (tons/year)
PM	1,483.08
PM-10	828.81
SO ₂	657.00
VOC	170.27
CO	0.00
NO _x	9.90
Formaldehyde	1.53
Phenol	7.67
Cumene	9.91
Ethylene Glycol	7.67
Methanol	3.07
Total HAPs	29.84

- (a) The potential emissions (as defined in 326 IAC 1-2-55) of PM-10, SO₂, VOC and CO are equal to or greater than 100 tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7.
- (b) Fugitive Emissions
Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.
- (c) Allowable emissions (as defined in the Indiana Rule) of PM, PM10, SO₂ and VOC are greater than 25 tons per year. Therefore, pursuant to 326 IAC 2-1, Sections 1 and 3, a construction permit is required.

Limited Potential to Emit

- (a) The source has accepted a federally enforceable limit on potential to emit PM10 of less than 100 tons per year, consisting of:
 - (i) 77.67 tons per year for the significant activities; and
 - (ii) 1.09 tons per year for the insignificant activities.
- (b) The source has accepted a federally enforceable limit on potential to emit SO₂ of less than 100 tons per year, consisting of:
 - (i) 14.30 tons per year for the significant activities; and
 - (ii) 0.08 tons per year for the insignificant activities.
- (c) The source has accepted a federally enforceable limit on potential to emit VOC of less than 100 tons per year, consisting of:
 - (i) 37.17 tons per year for the significant activities; and

(ii) 0.72 tons per year for the insignificant activities.

(d) The table below summarizes the total limited potential to emit of the significant and insignificant emission units.

Process/facility	Limited Potential to Emit (tons/year)							
	PM	PM-10	SO ₂	VOC	CO	NO _x	Any Single HAP	Total HAPs
Reverberatory Furnace (GR 1-3)	28.25	17.08	0.00	1.31	0.00	0.00	0.00	0.00
Gas Crucible Furnace (CR 1-8)	10.99	9.83	0.00	0.00	0.00	0.00	0.00	0.00
Electric Melt Furnace (EM 1-2)	10.40	9.31	0.00	0.00	0.00	0.00	0.00	0.00
Electric Melt Furnace (EM 3)	8.32	7.45	0.00	0.00	0.00	0.00	0.00	0.00
Electric Melt Furnace (EM 4)	12.48	11.17	0.00	0.00	0.00	0.00	0.00	0.00
Pouring/Casting	0.00	0.00	0.66	4.64	0.00	0.33	0.00	0.00
Sand Muller Units (MU 1)	1.26	0.19	0.00	0.00	0.00	0.00	0.00	0.00
Sand Muller Unit (MU 3)	0.47	0.07	0.00	0.00	0.00	0.00	0.00	0.00
Vibra Mill (MIL)	0.47	0.07	0.00	0.00	0.00	0.00	0.00	0.00
Sand Mixers (SM1-2)	0.00	0.00	0.00	0.00	0.00	9.90	0.00	0.00
eight (8) core machines, (CM 1-8)	0.00	0.00	0.00	0.00	0.00	3.94	0.00	0.00
Core Machine Units (CM 9, 10, 11 and 12)	0.00	0.00	13.14	24.00	0.00	0.00	9.9 (cumene)	24.00
Castings Knockout/ Shakeout (KN1-2)	1.40	0.98	0.00	0.00	0.00	0.00	0.00	0.00
Waste Oil Combustion	0.00	0.00	0.50	0.00	0.00	0.10	0.00	0.00
*Nat. Gas Combustion	0.99	0.99	0.08	0.72	10.97	13.06	0.00	0.00
Surface Coating	2.21	2.21	0.00	7.22	0.00	0.00	0.00	0.00
Shot Blasting SB-1	0.84	0.72	0.00	0.00	0.00	0.00	0.00	0.00
Shot Blasting SB-2	0.58	0.50	0.00	0.00	0.00	0.00	0.00	0.00
Insignificant Activities	0.10	0.10	insig.	insig.	insig.	insig.	insig.	insig.
Total Emissions	78.76	60.67	14.38	37.89	10.97	27.33	9.9 (cumene)	24.00

* These activities also qualify as insignificant activities (see Insignificant Activities).

County Attainment Status

The source is located in Allen County.

Pollutant	Status
PM-10	attainment
SO ₂	attainment
NO ₂	attainment
Ozone	attainment
CO	attainment
Lead	attainment

- (a) Volatile organic compounds (VOC) and oxides of nitrogen (NO_x) are precursors for the formation of ozone. Therefore, VOC and NO_x emissions are considered when evaluating the rule applicability relating to the ozone standards. Allen County has been designated as attainment or unclassifiable for ozone.

Federal Rule Applicability

- (a) There are no New Source Performance Standards (326 IAC 12), 40 CFR Part 60, applicable to this source.
- (b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs), 40 CFR Part 63, applicable to this source.

State Rule Applicability - Entire Source

326 IAC 2-2 (Prevention of Significant Deterioration)

This source is not subject to 326 IAC 2-2 (PSD) as it has accepted federally enforceable operation conditions which limit emissions of PM-10, SO₂, and VOC to below 100 tons per year.

326 IAC 2-6 (Emission Reporting)

This source is not subject to 326 IAC 2-6 (Emission Reporting), which would require the source to submit an annual emission statement. Pursuant to this rule, any physical or operational limitation on the capacity of the source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is enforceable. This source has accepted federally enforceable operation conditions which limit emissions of PM-10, SO₂, and VOC to below 100 tons per year. Therefore, the requirements of 326 IAC 2-6 do not apply.

326 IAC 2-8-4 (Federally Enforceable State Operating Permit Program)

This source is subject to 326 IAC 2-8-4 (FESOP). Pursuant to this rule, the source will limit sourcewide PM-10, SO₂, and VOC emissions to less than 100 tons per year. The source will also limit any single HAP and total HAPs to less than 10 and 25 tons per year, respectively. The limitation will render 326 IAC 2-7 (Part 70 Permit Program) not applicable.

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 Exemptions), 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.

State Rule Applicability - Individual Facilities

326 IAC 6-2-4 [Emissions Limitations for Sources of Indirect Heating]

Pursuant to 326 IAC 6-2-4 (Particulate Matter Emission Limitations for Sources of Indirect Heating), the PM emissions from the natural gas-fired boiler rated 8.368 mmBtu/hr (see Insignificant Activity), constructed after September 21, 1983, shall be limited to 0.63 pounds of PM per million (mm) British thermal unit (Btu) heat input.

The limitation was calculated using the following equation:

$$Pt = \frac{1.09}{Q^{0.26}} \quad \text{where:} \quad \begin{array}{l} Pt = \text{maximum allowable particulate matter (PM)} \\ \text{emitted per MMBtu heat input} \\ Q = \text{total source max. indirect heater input} \\ = 8.368 \text{ MMBtu/hr} \end{array}$$

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

Pursuant to 326 IAC 6-2-4(a), the particulate matter limit is truncated to 0.6 pounds per mmBtu heat input for indirect heating facilities less than 10 mmBtu per hour. Therefore the PM emissions from the 8.368 mmBtu per hour natural gas-fired boiler are limited to 0.6 pounds per mmBtu.

The 8.368 mmBtu per hour boiler has the potential to emit 0.064 pounds per mmBtu, and is in compliance with 326 IAC 6-2-4 (Emissions Limitations for Sources of Indirect Heating).

326 IAC 6-3-2 (Process Operations)

Pursuant to 326 IAC 6-3-2 (Process Operations), the particulate matter (PM) from the:

- (a) secondary aluminum foundry shall be limited by the following:

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

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

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:

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

The allowable emissions for each facility are as follows:

Emission Unit	Process Weight Rate (tons/hr)	Uncontrolled PM Emissions (lb/hr)	Control Efficiency %	Controlled PM Emissions (lb/hr)	Allowable PM Emissions (326 IAC 6-3-2) (lb/hr)
Reverberatory Furnace (GR 1)	0.50	2.15	0.00%	2.15	2.58
Reverberatory Furnace (GR 2)	0.50	2.15	0.00%	2.15	2.58
Reverberatory Furnace (GR 3)	0.50	2.15	0.00%	2.15	2.58
Gas Crucible Furnace (CR 1-8)	1.32	2.50	0.00%	2.50	4.94
Electric Melt Furnace (EM 1-2)	2.00	2.28	0.00%	2.28	6.52
Electric Melt Furnace (EM 3)	1.00	1.89	0.00%	1.89	4.10
Electric Melt Furnace (EM 4)	1.50	2.84	0.00%	2.84	5.38
Sand Muller Units (MU 1)	40.00	143.99	99.80%	0.29	42.53
Sand Muller Unit (MU 3)	15.00	54.00	99.80%	0.11	25.16
Vibra Mill (MIL)	15.00	54.00	99.80%	0.11	25.16
Castings Knockout/ Shakeout (KN1-2)	50.00	160.00	99.80%	0.32	44.58
Shot Blasting SB-1	12.00	96.00	99.80%	0.19	21.67
Shot Blasting SB-2	8.25	66.00	99.80%	0.13	16.86

PM emissions from the furnaces are in compliance with 326 IAC 6-3-2, and the source utilizes baghouses for particulate matter control on the other emission units to comply with 326 IAC 6-3-2 (Process Operations).

- (b) one (1) manual paint booth, identified as PB1 shall be limited by the following:

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

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

The source utilizes dry filters for particulate matter control on their surface coating booths to comply with 326 IAC 6-3-2 (Process Operations).

326 IAC 6-4 (Fugitive Dust Emissions)

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

326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations)

The sulfur dioxide emissions from this source are from foundry furnaces, not from combustion units, therefore no limitations apply.

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

New facilities, which have potential emissions of 25 tons or more per year, located anywhere in the state, which are not otherwise regulated by other provisions of this article (326 IAC 8), shall reduce VOC emissions using best available control technology (BACT). This source has accepted federally enforceable operation conditions which limit emissions of volatile organic compounds from the Core Machine Units (CM 9, 10, 11 and 12) to less than 25 tons per year, therefore, the requirements of 326 IAC 8-1-6 do not apply.

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

Pursuant to 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations), the volatile organic compound (VOC) content of 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 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 is in compliance with this requirement.

There are no other 326 IAC 8 rules applicable to this source.

Compliance Requirements

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

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

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

- (a) The one (1) Casting, Cleaning, and Finishing Operation has applicable compliance monitoring conditions as specified below:
 - (1) Daily visible emission notations of the two (2) wheelabrator shotblasters (PB1 and 2) and the castings knockout and shakeout operation stack exhaust shall be performed during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal. For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time. In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions. A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.
 - (2) The Permittee shall record the total static pressure drop across the:
 - (i) baghouse used in conjunction with the two (2) wheelabrator shotblasters (SB1 and 2) operation, at least once weekly when the two (2) wheelabrator shotblasters (SB1 and 2) are in operation when venting to the atmosphere. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across the baghouse shall be maintained within the range of 1.0 and 4.0 inches of water or a range established during the latest stack test.
 - (ii) baghouse used in conjunction with the castings knockout and shakeout operation, at least once weekly when the castings knockout and shakeout operation, are in operation when venting to the atmosphere. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across the baghouse shall be maintained within the range of 4.0 and 6.0 inches of water or a range established during the latest stack test.
- The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for any one reading.
- (3) An inspection shall be performed each calendar quarter of all bags controlling the Casting, Cleaning, and Finishing operation when venting to the atmosphere. A baghouse inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting indoors. All defective bags shall be replaced.

- (4) In the event that bag failure has been observed, the affected compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) hours of discovery of the failure and shall include a timetable for completion. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of the permit. For single compartment baghouses, failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of the permit.

These monitoring conditions are necessary because the baghouses identified as BH1 and BH3 for the two (2) wheelabrator shotblasters (SB1 and 2) and the castings knockout and shakeout operation, must operate properly to ensure compliance with 326 IAC 6-3 (Process Operations) and 326 IAC 2-8-4 (FESOP).

- (b) The one (1) Sand Handling and Ancillary Operations has applicable compliance monitoring conditions as specified below:
 - (1) Daily visible emission notations of the two (2) sand mullers (MU1 and 3) stack exhaust shall be performed during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal. For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time. In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions. A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.
 - (2) The Permittee shall record the total static pressure drop across the baghouse used in conjunction with the two (2) sand mullers (MU1 and 3), at least once weekly when the two (2) sand mullers (MU1 and 3), are in operation when venting to the atmosphere. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across the baghouse shall be maintained within the range of 4.0 and 6.0 inches of water or a range established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for any one reading.
 - (3) An inspection shall be performed each calendar quarter of all bags controlling the two (2) sand mullers (MU1 and 3) operation when venting to the atmosphere. A baghouse inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting indoors. All defective bags shall be replaced.

- (4) In the event that bag failure has been observed, the affected compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) hours of discovery of the failure and shall include a timetable for completion. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of the permit. For single compartment baghouses, failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of the permit.
- (5) The Permittee shall record the air flow rate of the SO₂ Scrubber used in conjunction with the two (2) Isojet core machines, (CM 9 and 10), at least once weekly when the two (2) Isojet core machines, (CM 9 and 10) are in operation when venting to the atmosphere. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the air flow across the SO₂ Scrubber shall be maintained within the range of 2,000 and 4,000 acfm or a range established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for any one reading. The instruments used for determining the flow rate shall be subject to approval by IDEM, OAM, and shall be calibrated at least once every six (6) months.
- (6) An inspection shall be performed each calendar quarter of the scrubber. Defective scrubber part(s) shall be replaced. A record shall be kept of the results of the inspection and the number of scrubber part(s) replaced.
- (7) In the event that a scrubber's failure has been observed, the affected process will be shut down immediately until the failed unit has been replaced. Based upon the findings of the inspection, any additional corrective actions will be devised within eight (8) hours of discovery and will include a timetable for completion.
- (8) Total single HAP and total HAPs usage shall be limited such that single HAP and total HAP emissions do not exceed 10 and 25 tons, respectively per 12 month period, rolled on a monthly basis; and
- (9) Quarterly reports shall be submitted to OAM Compliance Section. These reports shall include total daily single HAP emissions for the two (2) Isojet core machines (CM 9 and 10) and the two (2) Betaset core machines (CM 11 and 12).

These monitoring conditions are necessary because the baghouses and scrubber identified as BH1 and SCR, respectively, for the two (2) sand mullers (MU1 and 3), and the two core machines (CM 9 and 10) must operate properly to ensure compliance with 326 IAC 6-3 (Process Operations) and 326 IAC 2-8-4 (FESOP). These monitoring requirements are necessary to ensure that the requirements of 326 IAC 8-1-6 (BACT) and 326 IAC 2-7 (Title V) do not apply, and to ensure compliance with 326 IAC 2-8 (Federally Enforceable State Operating Permit Program).

- (c) The one (1) manual paint booth (PB1) has applicable compliance monitoring conditions as specified below:
 - (1) The dry filters for PM control shall be in operation at all times when the one (1) manual paint booth (PB1) is in operation.
 - (2) 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. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Monthly inspections shall be performed of the coating emissions from the stack and the presence of overspray on the rooftops and the nearby ground. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when a noticeable change in overspray emission, or evidence of overspray emission is observed. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step.
 - (3) Additional inspections and preventive measures shall be performed as prescribed in the Preventive Maintenance Plan.

These monitoring conditions are necessary because the dry filters for the one (1) manual paint booth (PB1) must operate properly to ensure compliance with 326 IAC 6-3 (Process Operations) and 326 IAC 2-8-4 (FESOP).

Air Toxic Emissions

Indiana presently requests applicants to provide information on emissions of the 187 hazardous air pollutants (HAPs) set out in the Clean Air Act Amendments of 1990. These pollutants are either carcinogenic or otherwise considered toxic and are commonly used by industries. They are listed as air toxics on the Office of Air Management (OAM) FESOP Application Form GSD-08.

- (a) This source has accepted federally enforceable air toxic emission limits of 9.9 tons per year for any single HAP and 24 tons per year for any combination of HAPs.
- (b) See attached calculations for detailed air toxic calculations. (Appendix A, page 7 of 14)

Conclusion

The operation of this secondary aluminum foundry heat treating and producing aluminum castings shall be subject to the conditions of the attached proposed **FESOP No. FIENSR003-10264-00198**.

Indiana Department of Environmental Management Office of Air Management

Addendum to the Technical Support Document for Federally Enforceable State Operating Permit (FESOP) and Enhanced New Source Review (ENSR)

Source Name: Ward Aluminum Casting, Incorporated
Source Location: 642 Growth Ave., Fort Wayne, IN 46808
County: Allen
SIC Code: 3361, 3398
Operation Permit No.: F\ENSR003-10264-00198
Permit Reviewer: Phillip Ritz/EVP

On February 24, 1999, the Office of Air Management (OAM) had a notice published in the Fort Wayne Journal Gazette/News Sentinel, Fort Wayne, Indiana, stating that Ward Aluminum Casting, Incorporated had applied for a Federally Enforceable State Operating Permit (FESOP) to operate a secondary aluminum foundry heat treating castings and producing aluminum castings. The notice also stated that OAM proposed to issue a FESOP for this operation and provided information on how the public could review the proposed FESOP and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this FESOP should be issued as proposed.

On March 23, 1999, Bruce Johns submitted comments on behalf of Ward Aluminum Casting, Incorporated on the proposed FESOP. The summary of the comments and corresponding responses is as follows (changes indicated in **bold face** or ~~strikeout~~):

Comment 1:

The following are changes requested in the draft Federally Enforceable State Operating Permit (FESOP) to correct errors in the number of pieces of equipment listed in the respective departments, to delete equipment listed that is not an emission unit or pollution control device:

Under A.2 (c)(6)

two (2) **no bake** core sand mixers, identified as SM1 and 2, with a maximum capacity of 3 and 1.5 tons per hour, respectively, **used for small jobs or research projects.**

Under A.3 (h)(3)

~~five (5)~~ **nine (9)** space heaters, identified as SH1-~~59~~, each with a rated heat input of 0.123 MMBtu per hour; and

Under A.3 (i)(1)

~~(1) — two (2) small sand mixer for no bake cores used for small jobs or research projects, identified as SM1 and 2;~~

~~(21)~~ saws for removing gates and risers from castings,

~~(32)~~ **three (3) five (5)** aluminum cut off band saws, identified as CO1-~~35~~, **with no particulate control,**

~~(43)~~ one (1) 1.25 gal/hr waste oil heater, identified as OB-1, 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,

~~(5) — two (2) aluminum cut off band saws, identified as CO4-5, utilizing a baghouse (BH2) for particulate control and exhausting at stack 33;~~

- ~~(6) two (2) wood disc sanders, identified as DS1-2, utilizing a baghouse for particulate control~~
- ~~(74) one (1) carbide-tip aluminum chop saw, identified as CS1,~~
- ~~(8) two (2) no bake core sand mixers,~~
- ~~(95) four (4) eight (8) aluminum core mold machines, identified as CM1-48,~~
- ~~(10) one (1) wood lathe, identified as L1, utilizing an existing cyclone for particulate control,~~
- ~~(11) one (1) wood table saw, identified as TS1,~~
- ~~(12) one (1) wood radial arm saw, identified as RAS1,~~
- ~~(13) four (4) space heaters, identified as SH6-9, and~~
- ~~(146) one (1) three (3) aluminum belt grinders, identified as BG 1-3, utilizing a baghouse (BH2) for particulate control, and~~
- (7) two (2) disc grinders, identified as DG 1-2, utilizing a baghouse (BH2) for particulate control.**

Response 1: Condition A.2 "Emission Units and Pollution Control Equipment Summary" and A.3 "Insignificant Activities" have been changed to be as follows :

Under A.2 (c)(6)

two (2) **no bake** core sand mixers, identified as SM1 and 2, with a maximum capacity of 3 and 1.5 tons per hour, respectively, **used for small jobs or research projects.**

Under A.3 (h)(3)

~~five (5)~~ **nine (9)** space heaters, identified as SH1-~~59~~, each with a rated heat input of 0.123 MMBtu per hour; and

Under A.3 (h)(1)

- ~~(1) two (2) small sand mixer for no bake cores used for small jobs or research projects, identified as SM1 and 2,~~
- ~~(21) saws for removing gates and risers from castings,~~
- ~~(32) three (3) five (5) aluminum cut off band saws, identified as CO1-35, with no particulate control,~~
- ~~(43) one (1) 1.25 gal/hr waste oil heater, identified as OB-1, 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,~~
- ~~(5) two (2) aluminum cut off band saws, identified as CO4-5, utilizing a baghouse (BH2) for particulate control and exhausting at stack 33,~~
- ~~(6) two (2) wood disc sanders, identified as DS1-2, utilizing a baghouse for particulate control~~
- ~~(74) one (1) carbide-tip aluminum chop saw, identified as CS1,~~
- ~~(8) two (2) no bake core sand mixers,~~
- ~~(95) four (4) eight (8) aluminum core mold machines, identified as CM1-48,~~
- ~~(10) one (1) wood lathe, identified as L1, utilizing an existing cyclone for particulate control,~~
- ~~(11) one (1) wood table saw, identified as TS1,~~
- ~~(12) one (1) wood radial arm saw, identified as RAS1,~~
- ~~(13) four (4) space heaters, identified as SH6-9, and~~
- ~~(146) one (1) three (3) aluminum belt grinders, identified as BG 1-3, utilizing a baghouse (BH2) for particulate control, and~~
- (7) two (2) disc grinders, identified as DG 1-2, utilizing a baghouse (BH2) for particulate control.**

Comment 2:

The following are changes requested in the TSD to correct errors in the number of pieces of equipment listed in the respective departments, to delete equipment listed that is not an emission unit or pollution control device :

Under New Emission Units and Pollution Control Equipment Requiring ENSR

- (c)(5) two (2) **no bake** core sand mixers, identified as SM1 and 2, with a maximum capacity of 3 and 1.5 tons per hour, respectively.

Under insignificant activities for new emission units:

- (b) Other activities or categories not previously identified with emissions below insignificant thresholds:
- (1) one (1) 1.25 gal/hr waste oil heater, identified as OB-1, 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,
 - (2) two (2) aluminum cut off band saws, identified as CO4-5, ~~utilizing a baghouse (BH2) for particulate control and exhausting at stack 33,~~ **with no emission controls**
 - (3) two (2) wood disc sanders, identified as DS1-2, ~~utilizing a baghouse for particulate control~~
 - (4) one (1) carbide-tip aluminum chop saw, identified as CS1,
 - ~~(5) two (2) no bake core sand mixers,~~
 - ~~(65)~~ four (4) **aluminum core** mold machines, identified as CM1-45-8,
 - ~~(76)~~ one (1) wood lathe, identified as L1, utilizing an existing cyclone for particulate control,
 - ~~(87)~~ one (1) wood table saw, identified as TS1,
 - ~~(98)~~ one (1) wood radial arm saw, identified as RAS1,
 - ~~(109)~~ four (4) space heaters, identified as SH 6-9, and
 - ~~(140)~~ one (1) aluminum belt grinder, identified as BG3, utilizing a baghouse (BH2) for particulate control.

Response 2: Condition A.2 "Emission Units and Pollution Control Equipment Summary" have been changed to be as follows :

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

Under New Emission Units and Pollution Control Equipment Requiring ENSR

- (c)(5) two (2) **no bake** core sand mixers, identified as SM1 and 2, with a maximum capacity of 3 and 1.5 tons per hour, respectively.

Under insignificant activities for new emission units:

- (b) Other activities or categories not previously identified with emissions below insignificant thresholds:
- (1) one (1) 1.25 gal/hr waste oil heater, identified as OB-1, 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,
 - (2) two (2) aluminum cut off band saws, identified as CO4-5, ~~utilizing a baghouse (BH2) for particulate control and exhausting at stack 33,~~ **with no emission controls**

- (3) two (2) wood disc sanders, identified as DS1-2, ~~utilizing a baghouse for particulate control~~
- (4) one (1) carbide-tip aluminum chop saw, identified as CS1,
- ~~(5) two (2) no bake core sand mixers,~~
- (65) four (4) ~~aluminum core~~ mold machines, identified as CM1-45-8,
- (76) one (1) wood lathe, identified as L1, utilizing an existing cyclone for particulate control,
- ~~(87)~~ one (1) wood table saw, identified as TS1,
- (98) one (1) wood radial arm saw, identified as RAS1,
- ~~(109)~~ four (4) space heaters, identified as SH 6-9, and
- (140) one (1) aluminum belt grinder, identified as BG3, utilizing a baghouse (BH2) for particulate control.

Comment 3: Please change condition D.3.7 (Testing Requirements) to reflect a testing period between 24 to 36 months, and not the current 30-36 month time period. The current requirement provides a testing window which is too narrow.

Response 3: Condition D.3.7 has been revised as follows to allow a testing period between 24 to 36 months, and to specify that PM-10, not PM testing may be required in addition to the SO₂ testing.

Condition D.3.7 "Testing Requirements" has been changed to be as follows :

D.3.7 Testing Requirements [326 IAC 2-8-5(a)(1), (4)]

During the period between ~~30~~ 24 and 36 months after issuance of this permit, the Permittee shall perform SO₂ testing utilizing Method 6 (40 CFR 60, Appendix A) for SO₂ or other 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. In addition to these requirements, IDEM may require compliance testing when necessary to determine if the facility is in compliance. If additional testing is required by IDEM, compliance with the PM-10, VOC, and HAP limits specified in Condition D.3.1, D.3.2, and D.3.3 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

Comment 4: Please change the recording requirements for Condition D.2.10 and D.3.19 to require weekly recording, not daily recording, as this conflicts with their compliance monitoring conditions D.2.7, D.3.13 and D.3.16, which require weekly, not daily recording.

Response 4: Daily monitoring provide daily records of the inlet and outlet differential static pressure, and monitoring intervals longer than one day could result in long periods of noncompliance with the particulate matter limitations in 326 IAC 2-8 and 326 IAC 6-3-2. The Parametric Monitoring conditions should have stated that records shall be taken at least once daily. The changes to the condition are as follows:

1. Condition D.2.7, now D.2.8, in the Permit, has been revised to reflect the requirement in Condition D.2.10, now D.2.11, to maintain daily records of the inlet and outlet differential static pressure. The language has been changed to :

D.2.78 Parametric Monitoring

The Permittee shall record:

- (a) the total static pressure drop across the baghouse used in conjunction with the two (2) wheelabrator shotblasters (SB1 and 2) operation, at least once ~~weekly~~ **daily** when the two (2) wheelabrator shotblasters (SB1 and 2) are in operation when venting to the atmosphere. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across the baghouse shall be maintained within the range of 1.0 and 4.0 inches of water or a range established during the latest stack test.
 - (b) the total static pressure drop across the baghouse used in conjunction with the castings knockout and shakeout operation, at least once ~~weekly~~ **daily** when the castings knockout and shakeout operation, are in operation when venting to the atmosphere. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across the baghouse shall be maintained within the range of 4.0 and 6.0 inches of water or a range established during the latest stack test.
2. Condition D.3.13, now D.3.14, in the Permit, has been revised to reflect the requirement in Condition D.3.19(c) to maintain daily records of the inlet and outlet differential static pressure. The language has been changed to:

D.3.4314 Parametric Monitoring for Baghouse

The Permittee shall record the total static pressure drop across the baghouse used in conjunction with the two (2) sand mullers (MU1 and 3), at least once ~~weekly~~ **daily** when the two (2) sand mullers (MU1 and 3), are in operation when venting to the atmosphere. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across the baghouse shall be maintained within the range of 4.0 and 6.0 inches of water or a range established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for any one reading.

3. Condition D.3.16, now D.3.17, in the Permit, has been revised to reflect the requirement in Condition D.3.19(e), now D.3.20(e), to maintain daily records of the inlet and outlet differential static pressure. The language has been changed to :

D.3.4617 Parametric Monitoring for SO₂ Scrubber

The Permittee shall record the air flow rate of the SO₂ Scrubber used in conjunction with the two (2) Isojet core machines, (CM 9 and 10), at least once ~~weekly~~ **daily** when the two (2) Isojet core machines, (CM 9 and 10) are in operation when venting to the atmosphere. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the air flow across the SO₂ Scrubber shall be maintained within the range of 2,000 and 4,000 acfm or a range established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for any one reading.

On March 22, 1999, Sam Portanova of the U.S. E.P.A. submitted comments on the proposed FESOP. The summary of the comments and corresponding responses is as follows:

Comment 1: Corresponding PM limits for 326 IAC 2-2 (PSD) are needed in addition to the PM-10 limits for 326 IAC 2-8 in the permit.

Response 1:

1. Condition C.1 (Overall Source Limit) in the Permit, has been modified to address the PM emission limitation. The other C.1 requirements have been re-numbered. The new language reads as follows :

C.1 Overall Source Limit [326 IAC 2-8]

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

(a) Pursuant to 326 IAC 2-8:

- (1) The potential to emit any regulated pollutant from the entire source shall be limited to less than one-hundred (100) tons per ~~three hundred sixty five (365) consecutive day period.~~ **twelve (12) consecutive month period, rolled on a monthly basis.** This limitation shall also make the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable;
- (2) The potential to emit any combination of HAPs from the entire source shall be limited to less than twenty-five (25) tons per ~~three hundred sixty five (365) consecutive day period.~~ **twelve (12) consecutive month period, rolled on a monthly basis.**

(b) Pursuant to 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), emissions of particulate matter (PM) from the entire source shall be limited to less than two hundred fifty (250) tons per twelve (12) consecutive month period, rolled on a monthly basis.

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

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

2. Condition D.1.2 in the Permit has been added to the permit so as to limit particulate matter emissions at less than PSD levels. The other D.1 conditions and references have been re-numbered. The new condition will read as follows:

D.1.2 PSD Minor Limit [326 IAC 2-2] [40 CFR 52.21]

Pursuant to 326 IAC 2-2, Particulate Matter emissions from the entire source shall not exceed 250 tons per twelve (12) consecutive month period, rolled on a monthly basis. Therefore, the requirements of 326 IAC 2-2 (PSD) do not apply.

3. Condition D.2.2 in the Permit has been added to the permit so as to limit particulate matter emissions at less than PSD levels. The other D.2 conditions and references have been re-numbered. The new condition will read as follows:

D.2.2 PSD Minor Limit [326 IAC 2-2] [40 CFR 52.21]

Pursuant to 326 IAC 2-2, Particulate Matter emissions from the entire source shall not exceed 250 tons per twelve (12) month consecutive period, rolled on a monthly basis. Therefore, the requirements of 326 IAC 2-2 (PSD) do not apply.

4. Condition D.3.4 in the Permit has been added to the permit so as to limit particulate matter emissions at less than PSD levels. The other D.3 conditions and references have been re-numbered. The new condition will read as follows:

D.3.4 PSD Minor Limit [326 IAC 2-2] [40 CFR 52.21]

Pursuant to 326 IAC 2-2, Particulate Matter emissions from the entire source shall not exceed 250 tons per twelve (12) consecutive month period, rolled on a monthly basis. Therefore, the requirements of 326 IAC 2-2 (PSD) do not apply.

5. Condition D.4.2 in the Permit has been added to the permit so as to limit particulate matter emissions at less than PSD levels. The other D.4 conditions and references have been re-numbered. The new condition will read as follows:

D.4.2 PSD Minor Limit [326 IAC 2-2] [40 CFR 52.21]

Pursuant to 326 IAC 2-2, Particulate Matter emissions from the entire source shall not exceed 250 tons per twelve (12) consecutive month period, rolled on a monthly basis. Therefore, the requirements of 326 IAC 2-2 (PSD) do not apply.

Comment 2: The PM-10 limits in Condition D.1.1 are not federally enforceable because they are annual limits.

Response 2: Condition D.1.1 in the Permit, has been revised to clarify the particulate matter less than 10 microns emission limitation. To ensure that the PM-10 limit is limited to less than 100 tons per year and is federally enforceable, the PM-10 emission limits, previously in tons per year, have been converted to pounds per hour. This short-term pound per hour limitation is federally enforceable. The language has been changed as follows:

D.1.1 Particulate Matter less than 10 Microns (PM-10) [326 IAC 2-8-4]

~~Pursuant to 326 IAC 2-8-4, particulate matter less than 10 microns emissions are limited as follows:~~

- ~~(a) two (2) Glow Bar electric melt furnaces, identified as EM1-2 shall not exceed 9.31 tons per year, including both filterable and condensible fractions;~~
- ~~(b) one (1) electric melt furnace, identified as EM3 shall not exceed 7.45 tons per year, including both filterable and condensible fractions;~~
- ~~(c) one (1) electric melt furnace, identified as EM4 shall not exceed 11.00 tons per year, including both filterable and condensible fractions;~~
- ~~(d) three (3) Gas Reverberatory furnaces, identified as GR1-3 shall not exceed 17.08 tons per year, including both filterable and condensible fractions, and~~
- ~~(e) eight (8) Gas Crucibles, identified as CR1-8 shall not exceed 9.83 tons per year, including both filterable and condensible fractions.~~

Pursuant to 326 IAC 2-8-4, particulate matter less than 10 microns emissions from the entire source, including those units listed in Sections D.1 through D.5, shall not exceed 22.6 pounds per hour, including both filterable and condensible fractions. Compliance with this limit will satisfy 326 IAC 2-8-4. Therefore, the Part 70 rules (326 IAC 2-7) do not apply.

Comment 3: Section D.1 does not include any monitoring requirements needed to demonstrate compliance with the PM-10 limits.

Response 3: Condition D.1.5, now D.1.6, Visible Emission Notations, provides compliance monitoring requirements for particulate matter. Record keeping requirements for Visible Emissions have been added to Section D.1. The new language reads as follows :

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

D.1.6 Record Keeping Requirements

-
- (a) **To document compliance with Condition D.1.5, the Permittee shall maintain a log of daily overspray observations, daily and weekly inspections, and those additional inspections prescribed by the Preventative Maintenance Plan.**

Comment 4: The PM-10 limits in Condition D.2.1 are not federally enforceable because they are annual limits.

Response 4: Condition D.2.1 in the Permit, has been revised to clarify the particulate matter less than 10 microns emission limitation. To ensure that the PM-10 limit is limited to less than 100 tons per year and is federally enforceable, the PM-10 emission limits, previously in tons per year, have been converted to pounds per hour. The language has been changed as follows:

D.2.1 Particulate Matter less than 10 Microns (PM-10) [326 IAC 2-8-4]

Pursuant to 326 IAC 2-8-4, particulate matter less than 10 microns emissions are limited as follows:

- ~~(a) one (1) castings knockout and shakeout operation shall not exceed 0.98 tons per year, including both filterable and condensible fractions.~~
~~(b) one (1) wheelabrator shotblaster, identified as SB1 shall not exceed 0.72 tons per year, including both filterable and condensible fractions.~~
~~(c) one (1) wheelabrator shotblaster, identified as SB2 shall not exceed 0.50 tons per year, including both filterable and condensible fractions.~~

Pursuant to 326 IAC 2-8-4, particulate matter less than 10 microns emissions from the entire source, including those units listed in Sections D.1 through D.5, shall not exceed 22.6 pounds per hour, including both filterable and condensible fractions. Compliance with this limit will satisfy 326 IAC 2-8-4. Therefore, the Part 70 rules (326 IAC 2-7) do not apply.

Comment 5: The VOC limit in Condition D.3.1 is not federally enforceable because it is an annual limit.

Response 5: Condition D.3.1 in the Permit, has been revised to clarify the VOC emission limitation. The language has been changed to :

D.3.1 Volatile Organic Compounds (VOCs) [326 IAC 2-3] [326 IAC 2-8] [326 IAC 8-1-6]

The usage of VOC delivered to the applicators, including clean up solvents, for the two (2) Isoset core machines (CM 9 and 10) and the two (2) Betaset core machines (CM 11 and 12) **combined** shall be limited to **24.00 less than 25 tons per year twelve (12) consecutive month period, rolled on a monthly basis.** ~~This usage limit is required to limit each new facilities potential to emit of VOC to less than 25 tons per year, therefore, the best available control technology (BACT) requirements in 326 IAC 8-1-6 (New Facilities: General Reduction Requirements) does not apply.~~

Compliance with this VOC limit shall render the source in compliance with 326 IAC 2-8 (FESOP).

Comment 6: The PM-10 limits in Condition D.3.3 are not federally enforceable because they are annual limits.

Response 6: Condition D.3.3 in the Permit has been revised to clarify the particulate matter less than 10 microns emission limitation. To ensure that the PM-10 limit is limited to less than 100 tons per year and is federally enforceable, the PM-10 emission limits, previously in tons per year, have been converted to pounds per hour. The language has been changed as follows :

D.3.3 Particulate Matter less than 10 Microns (PM-10) [326 IAC 2-8-4]

~~Pursuant to 326 IAC 2-8-4, particulate matter less than 10 microns emissions from the:~~

~~(a) one (1) sand muller (MU1) shall not exceed 0.19 tons per year, including both filterable and condensible fractions, and~~

~~(b) one (1) core sand muller (MU3) shall not exceed 0.07 tons per year, including both filterable and condensible fractions.~~

Pursuant to 326 IAC 2-8-4, particulate matter less than 10 microns emissions from the entire source, including those units listed in Sections D.1 through D.5, shall not exceed 22.6 pounds per hour, including both filterable and condensible fractions. Compliance with this limit will satisfy 326 IAC 2-8-4. Therefore, the Part 70 rules (326 IAC 2-7) do not apply.

Comment 7: The PM-10 limits in Condition D.4.1 are not federally enforceable because they are annual limits.

Response 7: Condition D.4.1 in the Permit, has been revised to clarify the particulate matter less than 10 microns emission limitation. To ensure that the PM-10 limit is limited to less than 100 tons per year and is federally enforceable, the PM-10 emission limits, previously in tons per year, have been converted to pounds per hour. The language has been changed as follows :

D.4.1 Particulate Matter less than 10 Microns (PM-10) [326 IAC 2-8-4]

~~Pursuant to 326 IAC 2-8-4, Particulate Matter less than 10 Microns emissions from the one (1) manual paint booth (PB1) shall not exceed 2.21 tons per year, including both filterable and condensible fractions.~~

Pursuant to 326 IAC 2-8-4, particulate matter less than 10 microns emissions from the entire source, including those units listed in Sections D.1 through D.5, shall not exceed 22.6 pounds per hour, including both filterable and condensible fractions. Compliance with this limit will satisfy 326 IAC 2-8-4. Therefore, the Part 70 rules (326 IAC 2-7) do not apply.

Comment 8: The TSD lists electric melting furnaces, identified as EM3 and EM4, as new units requiring ENSR, but says that they were rebuilt in 1998. Were these units constructed/modified without a permit?

Response 8: After further discussion with the source, it has been determined that EM3 was never rebuilt and has a maximum operating capacity equal to the previously permitted capacity of 1 ton per hour. EM4 has not yet been constructed.

1. Condition A.2(a) in the Permit, has been revised to remove incorrect data and to show the correct maximum capacity for the units. The language has been changed to :

- (4) one (1) electric melt furnace, identified as EM3, with a maximum melting capacity of ~~4.25 tons~~ **1 ton** of aluminum per hour, ~~rebuilt in 1998~~, exhausting through stacks 25 and 27, and

- (5) one (1) electric melt furnace **(to be constructed after the permit issuance)**, identified as EM4, with a maximum melting capacity of 1.5 tons of aluminum per hour, ~~rebuilt in 1998~~, exhausting through stacks 25 and 27.
2. Condition D.1 (Facility Description) in the Permit, has been revised to remove incorrect data and to show the correct maximum capacity. The language has been changed to:
 - (4) one (1) electric melt furnace, identified as EM3, with a maximum melting capacity of ~~1.25 tons~~ **1 ton** of aluminum per hour, ~~rebuilt in 1998~~, exhausting through stacks 25 and 27, and
 - (5) one (1) electric melt furnace **(to be constructed after the permit issuance)**, identified as EM4, with a maximum melting capacity of 1.5 tons of aluminum per hour, ~~rebuilt in 1998~~, exhausting through stacks 25 and 27.

Upon further review from the OAM, the OAM has decided to make the following changes to the FIENSR003-10264-00198 (additions indicated in **boldface**, deletions indicated by ~~strikeout~~ for emphasis):

1. Condition D.1.4, now D.1.5, (Testing Requirements) in the Permit has been revised to specify that PM-10, not PM testing, may be required. The language has been changed to:

D.1.45 Testing Requirements [326 IAC 2-8-5(a)(1), (4)]

The Permittee is not required to test this facility by this permit. However, IDEM may require compliance testing at any specific time when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance with the PM **and PM-10** limits specified in Conditions D.1.1 and D.1.2 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

2. Condition D.2.4, now D.2.5, (Testing Requirements) in the Permit has been revised to specify that PM-10, not PM testing, may be required. The language has been changed to:

D.2.45 Testing Requirements [326 IAC 2-8-5(a)(1), (4)]

The Permittee is not required to test this facility by this permit. However, IDEM may require compliance testing at any specific time when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance with the PM **and PM-10** limits specified in Condition D.2.1 **and D.2.2** shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

3. Condition D.3.19, now D.3.20, (Record Keeping Requirements) in the Permit has been revised to reference the correct conditions. The language has been changed to:
 - (b) To document compliance with Condition D.3.~~9-13~~, the Permittee shall maintain records of daily visible emission notations of the two (2) sand mullers (MU1 and 3) stack exhaust.
 - (c) To document compliance with Condition D.3.~~9-14~~, the Permittee shall maintain the following:
 - (e) To document compliance with Condition D.3.~~9-17~~, the Permittee shall maintain the following:
4. Condition D.4.5 (Testing Requirements) in the Permit has been revised to specify that PM-10, not PM testing, may be required. The language has been changed to:

D.4.5 Testing Requirements [326 IAC 2-8-5(a)(1), (4)]

The Permittee is not required to test this facility by this permit. However, IDEM may require compliance testing at any specific time when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance with the PM and VOC limits specified in Condition D.4.1 and D.4.2 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

1. In the Technical Support Document, under Permitted Emission Units and Pollution Control Equipment, EM3 has been added (changes indicated in **bold face** or ~~strikeout~~):

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

- (a) One (1) Melting Operation installed in 1964, consisting of:
 - (7) three (3) gas reverberatory furnaces, identified as GR1-3, 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) gas crucibles, identified as CR1-8, 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, ~~and~~
 - (3) two (2) Glow Bar electric melt furnaces, identified as EM1-2, each with a maximum melting capacity of 1 ton of aluminum per hour and exhausting through stacks 25 and 27, respectively, ~~and~~
 - (4) **one (1) electric melt furnace, identified as EM3, with a maximum melting capacity of 1.0 ton of aluminum per hour, exhausting through stacks 25 and 27.**
2. In the Technical Support Document, under New Emission Units and Pollution Control Equipment Requiring ENSR, the descriptions for EM3 and EM4 have been changed as it has been determined that EM3 was never rebuilt and has a maximum operating capacity equal to the previously permitted capacity of 1 ton per hour. EM4 has not yet been constructed :

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

- (b) One (1) Melting Operation, consisting of:
 - (1) ~~one (1) electric melt furnace, identified as EM3, with a maximum melting capacity of 1.25 tons of aluminum per hour, rebuilt in 1998, exhausting through stacks 25 and 27, and~~
 - ~~(2)~~ **one (1) electric melt furnace (to be constructed after the permit issuance), identified as EM4, with a maximum melting capacity of 1.5 tons of aluminum per hour, ~~rebuilt in 1998~~, exhausting through stacks 25 and 27.**
3. In the Technical Support Document, under Compliance Requirements, visible emission notations for the one (1) Melting Operation has been added. The other compliance monitoring conditions have been re-numbered:

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

(a) The one (1) Melting Operation has applicable compliance monitoring conditions as specified below:

- (1) Daily visible emission notations of the one (1) melting operation stack exhaust shall be performed during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal. For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time. In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions. A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.**

These monitoring conditions are necessary because the source must limit particulate matter emissions and particulate matter less than 10 microns emissions to ensure compliance with 326 IAC 2-2 (PSD), 326 IAC 6-3 (Process Operations) and 326 IAC 2-8-4 (FESOP).

Appendix A: Summary of Emissions

Appendix A, page 1 of 15

Company Name: Ward Aluminum Casting, Inc.
Address City IN Zip: 642 Growth Ave. Fort Wayne, IN 46808
FESOP: F003-10264-00198
Reviewer: PR/EVP
Date: November 9, 1998

Appendix A: Summary of Emissions

Appendix A, page 1 of 15

Company Name: Ward Aluminum Casting, Inc.
Address City IN Zip: 642 Growth Ave. Fort Wayne, IN 46808
FESOP: F003-10264-00198
Reviewer: PR/EVP
Date: November 9, 1998

Potential Uncontrolled Emissions (tons/year)																				
Emissions Generating Activity																				
Pollutant	Reverberatory Furnace (GR 1-3)	Gas Crucible Furnace (CR 1-8)	Electric Melt Furnace (EM 1-2)	Electric Melt Furnace (EM 3)	Electric Melt Furnace (EM 4)	Pouring/ Casting	Sand Muller Units (MU 1)	Sand Muller Unit (MU 3)	Vibra Mill Unit (MIL)	Sand Mixers Units (SM1-2)	Core Machine Units (CM 1-8)	Core Machine Isoset+Betaset Units (CM 9-12)	Castings Knockout/ Shakeout (KN1-5)	Waste Oil Combustion	Nat. Gas Combustion	Surface Coating	Shot Blasting SB-1	Shot Blasting SB-2	Insignificant Activities	Total
SCC code 3-04	001-03	001-02	001-02	001-02	001-02	001-14	003-25	003-25	003-50	003-71		applicant	003-31	AP-42	AP-42(T1.4-1)		003-40			
PM	28.25	10.99	10.40	8.32	12.48	0.00	630.70	236.52	236.50	0.00	0.00	0.00	700.80	0.00	0.99	22.10	420.48	289.08	0.40	2,608.01
PM10	17.08	9.83	9.31	7.45	11.17	0.00	94.60	35.48	35.50	0.00	0.00	0.00	490.60	0.00	0.99	22.10	361.61	248.61	0.40	1,344.73
SO2	0.00	0.00	0.00	0.00	0.00	0.66	0.00	0.00	0.00	0.00	0.00	657.00	0.00	0.50	0.08	0.00	0.00	0.00	0.00	658.24
VOC	1.31	0.00	0.00	0.00	0.00	4.64	0.00	0.00	0.00	0.00	0.00	170.27	0.00	0.00	0.72	7.22	0.00	0.00	0.00	184.16
CO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.97	0.00	0.00	0.00	0.00	10.97
NOx	0.00	0.00	0.00	0.00	0.00	0.33	0.00	0.00	0.00	9.90	3.94	0.00	0.00	0.10	13.06	0.00	0.00	0.00	0.00	27.33

Potential Controlled Emissions (tons/year)																				
Emissions Generating Activity																				
Pollutant	Reverberatory Furnace (GR 1-3)	Gas Crucible Furnace (CR 1-8)	Electric Melt Furnace (EM 1-2)	Electric Melt Furnace (EM 3)	Electric Melt Furnace (EM 4)	Pouring/ Casting	Sand Muller Units (MU 1)	Sand Muller Unit (MU 3)	Vibra Mill Unit (MIL)	Sand Mixers Units (SM1-2)	Core Machine Units (CM 1-8)	Core Machine Isoset+BetasetUnits (CM 9-12)	Castings Knockout/ Shakeout (KN1-5)	Waste Oil Combustion	Nat. Gas Combustion	Surface Coating	Shot Blasting SB-1	Shot Blasting SB-2	Insignificant Activities	Total
PM	28.25	10.99	10.40	8.32	12.48	0.00	1.26	0.47	0.47	0.00	0.00	0.00	1.40	0.00	0.99	2.21	0.84	0.58	0.10	78.76
PM10	17.08	9.83	9.31	7.45	11.17	0.00	0.19	0.07	0.07	0.00	0.00	0.00	0.98	0.00	0.99	2.21	0.72	0.50	0.10	60.67
SO2	0.00	0.00	0.00	0.00	0.00	0.66	0.00	0.00	0.00	0.00	0.00	13.14	0.00	0.50	0.08	0.00	0.00	0.00	0.00	14.38
VOC	1.31	0.00	0.00	0.00	0.00	4.64	0.00	0.00	0.00	0.00	0.00	24.00	0.00	0.00	0.72	7.22	0.00	0.00	0.00	37.89
CO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.97	0.00	0.00	0.00	0.00	10.97
NOx	0.00	0.00	0.00	0.00	0.00	0.33	0.00	0.00	0.00	9.90	3.94	0.00	0.00	0.10	13.06	0.00	0.00	0.00	0.00	27.33

Total emissions based on rated capacity at 8,760 hours/year with control.

Insignificant Activities: Woodworking operations have a potential to emit 0.4 tpy PM and 0.1 tpy PM-10 (from CP 003-3374), and are insignificant. Controlled emissions with cyclone are 0.1 tpy PM and 0.1 tpy PM10.

Summary of New Emission Units

Pollutant	Electric Melt Furnace (EM 3)	Electric Melt Furnace (EM 4)	Vibra Mill Unit (MIL)	Sand Mixers Units (SM1-2)	Core Machine Isoset+BetasetUnits (CM 9-12)	Sand Muller Unit (MU 3)	Castings Knockout/ Shakeout (KN1-5)	Shot Blasting SB-2	Total
	001-02	001-02	003-50	003-71	applicant	003-25	003-31		
PM	8.32	12.48	236.50	0.00	0.00	236.52	700.80	289.08	1,483.70
PM10	7.45	11.17	35.50	0.00	0.00	35.48	490.60	248.61	828.81
SO2	0.00	0.00	0.00	0.00	657.00	0.00	0.00	0.00	657.00
VOC	0.00	0.00	0.00	0.00	170.27	0.00	0.00	0.00	170.27
CO	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NOx	0.00	0.00	0.00	9.90	0.00	0.00	0.00	0.00	9.90

**Appendix A: Secondary Metal Production
Aluminum**

Company Name: Ward Aluminum Casting, Inc.
Address City IN Zip: 642 Growth Ave. Fort Wayne, IN 46808
FESOP: F003-10264-00198
Reviewer: PR/EVP
Date: November 9, 1998
**Appendix A: Secondary Metal Production
Aluminum**
Company Name: Ward Aluminum Casting, Inc.
Address City IN Zip: 642 Growth Ave. Fort Wayne, IN 46808
FESOP: F003-10264-00198
Reviewer: PR/EVP
Date: November 9, 1998

Potential Uncontrolled Emissions

Appendix A, page 2 of 15

SCC# 3-04-001-03

Three (3) Gas Reverberatory Furnace (1964)

TYPE OF MATERIAL	Throughput LBS/HR	1 TON/2000 lbs	TON/HR			
Aluminum	3000	2000	1.5			
	PM lbs/ton Produced	PM10 lbs/ton Produced	SOx lbs/ton Produced	NOx lbs/ton Produced	VOC lbs/ton Produced	CO lbs/tons Produced
	4.30	2.60	0.00	0.00	0.20	--
Potential Emissions lbs/hr	6.45	3.90	0.00	0.00	0.30	--
Potential Emissions lbs/day	154.80	93.60	0.00	0.00	7.20	--
Potential Emissions tons/year	28.25	17.08	0.00	0.00	1.31	--

SCC# 3-04-001-02

Eight (8) Gas Crucible Furnaces (1964)

TYPE OF MATERIAL	Throughput LBS/HR	1 TON/2000 lbs	TON/HR			
Aluminum	2640	2000	1.32			
	PM lbs/ton Produced	PM10 lbs/ton Produced	SOx lbs/ton Produced	NOx lbs/ton Produced	VOC lbs/ton Produced	CO lbs/tons Produced
	1.9	1.7	2.50	1.70	2.50	--
Potential Emissions lbs/hr	2.51	2.24	3.30	2.24	3.30	--
Potential Emissions lbs/day	60.19	53.86	79.20	53.86	79.20	--
Potential Emissions tons/year	10.99	9.83	14.45	9.83	14.45	--

Appendix A: Secondary Metal Production

Aluminum

Company Name: Ward Aluminum Casting, Inc.
Address City IN Zip: 642 Growth Ave. Fort Wayne, IN 46808
FESOP: F003-10264-00198
Reviewer: PR/EVP
Date: November 9, 1998

Appendix A, page 3 of 15

SCC# 3-04-001-02

Two (2) Electric Melt Furnaces (1964)

TYPE OF MATERIAL	Throughput		1 TON/2000 lbs		TON/HR	
	LBS/HR					
Aluminum	2400		2000		1.2	
	PM lbs/ton Produced	PM10 lbs/ton Produced	SOx lbs/ton Produced	NOx lbs/ton Produced	VOC lbs/ton Produced	CO lbs/tons Produced
	1.90	1.70	0.00	0.00	0.00	--
Potential Emissions lbs/hr	2.28	2.04	0.00	0.00	0.00	--
Potential Emissions lbs/day	54.72	48.96	0.00	0.00	0.00	--
Potential Emissions tons/year	9.99	8.94	0.00	0.00	0.00	--

SCC# 3-04-001-02

One (1) Electric Melt Furnaces (EM3) (1998) - 1.25 tph

TYPE OF MATERIAL	Throughput		1 TON/2000 lbs		TON/HR	
	LBS/HR					
Aluminum	2500		2000		1.25	
	PM lbs/ton Produced	PM10 lbs/ton Produced	SOx lbs/ton Produced	NOx lbs/ton Produced	VOC lbs/ton Produced	CO lbs/tons Produced
	1.90	1.70	0.00	0.00	0.00	--
Potential Emissions lbs/hr	2.38	2.13	0.00	0.00	0.00	--
Potential Emissions lbs/day	57.00	51.00	0.00	0.00	0.00	--
Potential Emissions tons/year	10.40	9.31	0.00	0.00	0.00	--

Appendix A: Secondary Metal Production**Aluminum**

Company Name: Ward Aluminum Casting, Inc.
Address City IN Zip: 642 Growth Ave. Fort Wayne, IN 46808
FESOP: F003-10264-00198
Reviewer: PR/EVP
Date: November 9, 1998

Appendix A, page 4 of 15

SCC# 3-04-001-02

One (1) Electric Melt Furnaces (EM4) (1998) - 1.5 tph

TYPE OF MATERIAL	Throughput					
	LBS/HR	1 TON/2000 lbs		TON/HR		
Aluminum	3000	2000	1.5			
	PM lbs/ton Produced	PM10 lbs/ton Produced	SOx lbs/ton Produced	NOx lbs/ton Produced	VOC lbs/ton Produced	CO lbs/tons Produced
	1.90	1.70	0.00	0.00	0.00	--
Potential Emissions lbs/hr	2.85	2.55	0.00	0.00	0.00	--
Potential Emissions lbs/day	68.40	61.20	0.00	0.00	0.00	--
Potential Emissions tons/year	12.48	11.17	0.00	0.00	0.00	--

SCC# 3-04-001-14

Pouring/Casting (P-1, P-2)

TYPE OF MATERIAL	Throughput					
	LBS/HR	1 TON/2000 lbs		TON/HR		
Aluminum	15140	2000	7.57			
	PM lbs/ton metal produced	PM10 lbs/ton metal produced	SOx lbs/ton metal produced	NOx lbs/ton metal produced	VOC lbs/ton metal produced	CO lbs/tons metal produced
	--	--	0.02	0.01	0.14	--
Potential Emissions lbs/hr	0.00	0.00	0.15	0.08	1.06	--
Potential Emissions lbs/day	0.00	0.00	3.63	1.82	25.44	--
Potential Emissions tons/year	0.00	0.00	0.66	0.33	4.64	--

Emission Factors taken from EPA (Fire 5.0: Source Classification Codes and Emission Factor Listing for Criteria Pollutants)

Appendix A: Secondary Metal Production

Aluminum

Company Name: Ward Aluminum Casting, Inc.
Address City IN Zip: 642 Growth Ave. Fort Wayne, IN 46808
FESOP: F003-10264-00198
Reviewer: PR/EVP
Date: November 9, 1998

Appendix A: Secondary Metal Production

Aluminum

Company Name: Ward Aluminum Casting, Inc.
Address City IN Zip: 642 Growth Ave. Fort Wayne, IN 46808
FESOP: F003-10264-00198
Reviewer: PR/EVP
Date: November 9, 1998

Potential Uncontrolled Emissions for sand handling operations at aluminum foundry:

Appendix A, page 5 of 15

SCC# 3-04-003-50

Sand Muller (MU 1)

TYPE OF MATERIAL	Throughput					
	LBS/HR		1 TON/2000 lbs		TON/HR	
Sand	80000		2000		40	
	PM lbs/ton Sand Handled 3.6	PM10 lbs/ton Sand Handled 0.54	SOx lbs/ton Sand Handled --	NOx lbs/ton Sand Handled --	VOC lbs/ton Sand Handled --	CO lbs/ton Sand Handled --
Potential Emissions lbs/hr	144.0	21.6	--	--	--	--
Potential Emissions lbs/day	3456.0	518.4	--	--	--	--
Potential Emissions tons/year	630.7	94.6	--	--	--	--

SCC# 3-04-003-50

Sand Muller (MU 3)

TYPE OF MATERIAL	Throughput					
	LBS/HR		1 TON/2000 lbs		TON/HR	
Sand	30000		2000		15	
	PM lbs/ton Sand Handled 3.6	PM10 lbs/ton Sand Handled 0.54	SOx lbs/ton Sand Handled --	NOx lbs/ton Sand Handled --	VOC lbs/ton Sand Handled --	CO lbs/ton Sand Handled --
Potential Emissions lbs/hr	54.0	8.1	--	--	--	--
Potential Emissions lbs/day	1296.0	194.4	--	--	--	--
Potential Emissions tons/year	236.5	35.5	--	--	--	--

Appendix A: Secondary Metal Production

Aluminum

Company Name: Ward Aluminum Casting, Inc.
Address City IN Zip: 642 Growth Ave. Fort Wayne, IN 46808
FESOP: F003-10264-00198
Reviewer: PR/EVP
Date: November 9, 1998

Appendix A, page 6 of 15

SCC# 3-04-003-50

Vibra Mill (MIL)

TYPE OF MATERIAL	Throughput					
	LBS/HR	1 TON/2000 lbs	TON/HR			
Sand	30000	2000	15			
	PM lbs/ton Sand Handled 3.6	PM10 lbs/ton Sand Handled 0.54	SOx lbs/ton Sand Handled --	NOx lbs/ton Sand Handled --	VOC lbs/ton Sand Handled --	CO lbs/ton Sand Handled --
Potential Emissions lbs/hr	54.0	8.1	--	--	--	--
Potential Emissions lbs/day	1296.0	194.4	--	--	--	--
Potential Emissions tons/year	236.5	35.5	--	--	--	--

SCC# 3-04-003-71

Sand Mixers (SM1 and 2) 3 tph and 1.5 tph, respectively

TYPE OF MATERIAL	Throughput					
	LBS/HR	1 TON/2000 lbs	TON/HR			
Sand	9000	2000	4.5			
	PM lbs/ton Sand Handled 0	PM10 lbs/ton Sand Handled 0	SOx lbs/ton Sand Handled --	NOx lbs/ton Sand Handled 0.5	VOC lbs/ton Sand Handled --	CO lbs/ton Sand Handled --
Potential Emissions lbs/hr	0.0	0.0	--	2.3	--	--
Potential Emissions lbs/day	0.0	0.0	--	54.0	--	--
Potential Emissions tons/year	0.0	0.0	--	9.9	--	--

Appendix A: Secondary Metal Production

Aluminum

Company Name: Ward Aluminum Casting, Inc.
Address City IN Zip: 642 Growth Ave. Fort Wayne, IN 46808
FESOP: F003-10264-00198
Reviewer: PR/EVP
Date: November 9, 1998

Appendix A, page 7 of 15

SCC# 3-04-003-71

Core Machine (CM 1-8)

TYPE OF MATERIAL	Throughput		TON/HR			
	LBS/HR	1 TON/2000 lbs				
Sand	3600	2000	1.8			
	PM lbs/ton Sand Handled 0	PM10 lbs/ton Sand Handled 0	SOx lbs/ton Sand Handled --	NOx lbs/ton Sand Handled 0.5	VOC lbs/ton Sand Handled --	CO lbs/ton Sand Handled --
Potential Emissions lbs/hr	0.0	0.0	--	0.90	--	--
Potential Emissions lbs/day	0.0	0.0	--	21.60	--	--
Potential Emissions tons/year	0.0	0.0	--	3.94	--	--

SCC# supplied by applicant

Core Machine (CM 9-10)

TYPE OF MATERIAL		LBS/HR	TON/HR	Control Efficiency:		98.00%
Sand		20000	10.00			
	PM lbs/ton metal charged 0.00	PM10 lbs/ton metal charged 0.00	SOx lbs/ton metal charged 15.00	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	0.00	0.00	150.00	0.00	0.00	0.00
Potential Uncontrolled Emissions lbs/day	0.00	0.00	3600.00	0.00	0.00	0.00
Potential Uncontrolled Emissions tons/year	0.00	0.00	657.00	0.00	0.00	0.00
Potential Controlled Emissions lbs/hr	0.00	0.00	3.00	0.00	0.00	0.00
Potential Controlled Emissions lbs/day	0.00	0.00	72.00	0.00	0.00	0.00
Potential Controlled Emissions tons/year	0.00	0.00	13.14	0.00	0.00	0.00

Appendix A: Secondary Metal Production

Aluminum

Company Name: Ward Aluminum Casting, Inc.
Address City IN Zip: 642 Growth Ave. Fort Wayne, IN 46808
FESOP: F003-10264-00198
Reviewer: PR/EVP
Date: November 9, 1998

Appendix A, page 8 of 15

SCC# 3-04-003-31

Castings Knockout/Shakeout (KN-1 thru KN-5)

TYPE OF MATERIAL	Throughput					
	LBS/HR	1 TON/2000 lbs	TON/HR			
Aluminum	15000	2000	7.5			
	PM lbs/ton metal charged 3.2	PM10 lbs/ton metal charged 2.24	SOx lbs/ton metal charged --	NOx lbs/ton metal charged --	VOC lbs/ton metal charged --	CO lbs/ton metal charged --
Potential Emissions lbs/hr	24.0	16.8	--	--	--	--
Potential Emissions lbs/day	576.0	403.2	--	--	--	--
Potential Emissions tons/year	105.1	73.6	--	--	--	--

SCC# 3-04-003-40

Shotblasting (SB-1)

TYPE OF MATERIAL		LBS/HR	TON/HR	Control Efficiency:		99.97%
Aluminum		24000	12.00			
	PM lbs/ton metal charged 8	PM10 lbs/ton metal charged 6.88	SOx lbs/ton metal charged -	NOx lbs/ton metal charged -	VOC lbs/ton metal charged -	CO lbs/ton metal charged --
Potential Uncontrolled Emissions lbs/hr	96.00	82.56	0.00	0.00	0.00	0.00
Potential Uncontrolled Emissions lbs/day	2304.00	1981.44	0.00	0.00	0.00	0.00
Potential Uncontrolled Emissions tons/year	420.48	361.61	0.00	0.00	0.00	0.00
Potential Controlled Emissions lbs/hr	0.03	0.02	0.00	0.00	0.00	0.00
Potential Controlled Emissions lbs/day	0.69	0.59	0.00	0.00	0.00	0.00
Potential Controlled Emissions tons/year	0.13	0.11	0.00	0.00	0.00	0.00

Appendix A: Secondary Metal Production

Aluminum

Company Name: Ward Aluminum Casting, Inc.
Address City IN Zip: 642 Growth Ave. Fort Wayne, IN 46808
FESOP: F003-10264-00198
Reviewer: PR/EVP
Date: November 9, 1998

Appendix A, page 9 of 15

SCC# 3-04-003-40

Shotblasting (SB-2)

TYPE OF MATERIAL		Throughput		Control Device:		Control Efficiency:	
		LBS/HR	TON/HR				
Aluminum		16500	8.25			Baghouse 99.97%	
	PM lbs/ton metal charged 8	PM10 lbs/ton metal charged 6.88	SOx lbs/ton metal charged -	NOx lbs/ton metal charged -	VOC lbs/ton metal charged -	CO lbs/ton metal charged --	
Potential Uncontrolled Emissions lbs/hr	66.00	56.76	0.00	0.00	0.00	0.00	
Potential Uncontrolled Emissions lbs/day	1584.00	1362.24	0.00	0.00	0.00	0.00	
Potential Uncontrolled Emissions tons/year	289.08	248.61	0.00	0.00	0.00	0.00	
Potential Controlled Emissions lbs/hr	0.02	0.02	0.00	0.00	0.00	0.00	
Potential Controlled Emissions lbs/day	0.48	0.41	0.00	0.00	0.00	0.00	
Potential Controlled Emissions tons/year	0.09	0.07	0.00	0.00	0.00	0.00	

Company Name: Ward Aluminum Casting, Inc.
Address City IN Zip: 642 Growth Ave. Fort Wayne, IN 46808
FESOP: F003-10264-00198
Reviewer: PR/EVP
Date: November 9, 1998

Company Name: Ward Aluminum Casting, Inc.
Address City IN Zip: 642 Growth Ave. Fort Wayne, IN 46808
FESOP: F003-10264-00198
Reviewer: PR/EVP
Date: November 9, 1998

Material	Lbs of Mat (Lbs/unit)	Weight % Volatile (H2O& Organics)	Maximum (unit/hour)	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential ton/yr	Transfer Efficiency
Betacure 100	7.00	100.00%	1.000	7.00	168.00	30.66	0.00	100%
Betaset 9512	35.00	73.00%	1.000	25.55	613.20	111.91	0.00	100%
Isoset 4304 Binder	15.60	40.00%	1.000	6.24	149.76	27.33	0.00	100%
Isoset 4305NS Binder	8.40	1.00%	1.000	0.08	2.02	0.37	0.00	100%

State Potential Emissions **Add worst case coating to all solvents** **38.87** **932.98** **170.27** **0.00**

% Limited VOC Usage		Limited VOC pounds per hour	Limited VOC pounds per day	Limited VOC tons per year
14.10%		5.48	131.51	24.00

METHODOLOGY

Potential VOC Pounds per Hour = Percent of VOC * Pounds of Material (lbs/unit) * Maximum (units/hr)

Potential VOC Pounds per Day = Pounds of VOC * Pounds of Material (lbs/unit) * Maximum (units/hr) * (24 hr/day)

Potential VOC Tons per Year = Pounds of VOC * Pounds of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)

Particulate Potential Tons per Year = (units/hour) * (lbs/unit) * (1- Weight % Volatiles) * (1-Transfer efficiency) *(8760 hrs/yr) *(1 ton/2000 lbs)

Total = Worst Coating + Sum of all solvents used

VOC emissions from the Isoset/Betaset core machines will be limited to 24 tpy to avoid 326 IAC 8-1-6 (BACT).

Appendix A: Particulate Emissions from Secondary Aluminum Processing

Appx A, page 11 of 15

Company Name: Ward Aluminum Casting, Inc.
Address City IN Zip: 642 Growth Ave. Fort Wayne, IN 46808
FESOP: F003-10264-00198
Reviewer: PR/EVP
Date: November 9, 1998

Appendix A: Particulate Emissions from Secondary Aluminum Processing

Appx A, page 11 of 15

Company Name: Ward Aluminum Casting, Inc.
Address City IN Zip: 642 Growth Ave. Fort Wayne, IN 46808
FESOP: F003-10264-00198
Reviewer: PR/EVP
Date: November 9, 1998

PROCESS	Baghouse ID	Total Process Weight Rate (tons/hr)	Uncontrolled Emissions (tons/yr)		Control Efficiency (%)		Controlled Emissions (tons/yr)		Allowable Emissions (326 IAC 6-3-2)	
			PM	PM-10	PM	PM-10	PM	PM-10	(lb/hr)	(tons/yr)
Combustion	none	n/a	0.00	0.00	0.00%	0.00%	0.00	0.00	n/a	n/a
Combustion	none	n/a	0.00	0.00	0.00%	0.00%	0.00	0.00	n/a	n/a
Three (3) Gas Reverberatory Furnace (1964)	none	1.50	28.25	17.08	0.00%	0.00%	28.25	17.08	5.38	23.56
Eight (8) Gas Crucible Furnaces (1964)	none	1.32	10.99	9.53	0.00%	0.00%	10.99	9.53	4.94	21.63
Two (2) Electric Melt Furnaces (1964)	none	2.00	9.99	8.94	0.00%	0.00%	9.99	8.94	6.52	28.57
One (1) Electric Melt Furnaces (1998) - one 1	none	1.00	8.32	7.45	0.00%	0.00%	8.32	7.45	4.10	17.96
One (1) Electric Melt Furnaces (1998) -one 1	none	1.50	12.48	11.17	0.00%	0.00%	12.48	11.17	5.38	23.56
Pouring/Casting (P-1,P-2),	none	5.52	0.00	0.00	0.00%	0.00%	0.00	0.00	12.88	56.41
Sand Muller (MU-1),	BH1	40.00	630.70	94.60	99.80%	99.80%	1.26	0.19	48.55	212.64
Sand Muller (MU-3),	BH1	12.00	236.52	33.50	99.80%	99.80%	0.47	0.07	21.67	94.91
Vibra Mill (MIL)	BH4	15.00	236.52	33.50	99.80%	99.80%	0.47	0.07	25.16	110.21
Knockout/Shakeout (SK-1, SK-2)	BH2	50.00	700.80	490.60	99.80%	99.80%	1.40	0.98	44.58	195.24
Surface Coating	none	5.00	22.10	22.10	90.00%	90.00%	2.21	2.21	25.65	112.36
Shotblasting (SB-1)	BH3	12.00	420.48	361.61	99.80%	99.80%	0.84	0.72	21.67	94.91
Shotblasting (SB-2)	BH3	8.25	289.08	248.61	99.80%	99.80%	0.58	0.50	16.86	73.84
Total Emissions			2,606.23	1,338.69			77.27	58.90	243.33	1,065.81

Allowable emissions are calculated pursuant to 326 IAC 6-3-2 (Process Operations) using the following formulas:

Interpolation and extrapolation 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

See pages 2 through 8 of 15, Appendix A, for detailed emission 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: F003-10264-00198

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: F003-10264-00198
Reviewer: PR/EVP
Date: November 9, 1998

Material	Density (Lb/Gal)	Weight % Volatile (H2O& 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%

State Potential EmissionsAdd worst case coating to all solvents1.6539.577.2222.10

Federal Potential Emissions (controlled):

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

Total Federal Potential 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

HAP Emission Calculations

Page 13 of 15 TSD AppA

Company Name: Ward Aluminum Casting, Inc.
Address City IN Zip: 642 Growth Ave. Fort Wayne, IN 46808
FESOP: F003-10264-00198
Reviewer: PR/EVP
Date: November 9, 1998
HAP Emission Calculations

Page 13 of 15 TSD AppA

Company Name: Ward Aluminum Casting, Inc.
Address City IN Zip: 642 Growth Ave. Fort Wayne, IN 46808
FESOP: F003-10264-00198
Reviewer: PR/EVP
Date: November 9, 1998

Material	Lbs of Mat (Lbs/unit)	Maximum (unit/hour)	Emission Factor	Weight % Formaldehyde	Weight % Phenol	Weight % Cumene	Weight % Ethylene Glycol	Weight % Methanol	Formaldehyde Emissions (ton/yr)	Phenol Emissions (ton/yr)	Cumene Emissions (ton/yr)	Ethylene Glycol Emissions (ton/yr)	Methanol Emissions (ton/yr)	TOTAL HAP EMISSIONS (ton/yr)
Betacure 100	7.00	1.00	1.00	0.00%	0.00%	0.00%	0.00%	10.00%	0.00	0.00	0.00	0.00	3.07	3.07
Betaset 9512	35.00	1.00	1.00	1.00%	5.00%	0.00%	5.00%	0.00%	1.53	7.67	0.00	7.67	0.00	16.86
Isoaset 4304 Binder	15.60	1.00	0.50	0.00%	0.00%	29.00%	0.00%	0.00%	0.00	0.00	9.91	0.00	0.00	9.91
Isoaset 4305NS Binder	8.40	1.00	1.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00

Total State Potential Emissions for Isoaset line

1.53 7.67 9.91 7.67 3.07 29.84

Limited Potential Emissions (controlled):

Total Limited Potential Emissions for Isoaset line

Limited Isoaset Usage *	Limited	Limited	Limited	Limited	Limited	LIMITED HAP EMISSIONS (ton/year)
	Formaldehyde (ton/year)	Phenol (ton/year)	Cumene (ton/year)	Ethylene Glycol (ton/year)	Methanol (ton/year)	
14.10%	0.22	1.08	1.40	1.08	0.43	4.21

METHODOLOGY

HAPS emission rate (tons/yr) = Pounds of Material (lb/unit) * Maximum (unit/hr) * Emission Factor *Weight % HAP * 8760 hrs/yr * 1 ton/2000 lbs

* HAP limitations are from VOC spreadsheet. To avoid 326 IAC 8-1-6, Isoaset voc usage and Betacure usage has been limited to 24 tons per year. Compliance with this limitation will lower HAP emissions.

Appendix A: Emission Calculations
Natural Gas Combustion
MM Btu/hr 0.3 - < 100

Page 14 of 15 TSD App A

Company Name: Ward Aluminum Casting, Inc.
Address City IN Zip: 642 Growth Ave. Fort Wayne, IN 46808
FESOP: F003-10264-00198

Appendix A: Emission Calculations
Natural Gas Combustion
MM Btu/hr 0.3 - < 100

Page 14 of 15 TSD App A

Company Name: Ward Aluminum Casting, Inc.
Address City IN Zip: 642 Growth Ave. Fort Wayne, IN 46808
FESOP: F003-10264-00198
Reviewer: PR/EVP
Date: November 9, 1998

Heat Input Capacity
MMBtu/hr

Potential Throughput
MMCF/yr

29.8

261.3

Heat Input Capacity includes:

Three (3) GR 1-3 Reverberatory Furnaces 2.9 mmBtu
Eight (8) CR 1-8 Gas Melt Crucibles 1.0 mmBtu
Two (2) CM 1-2 Core Machines 0.11 mmBtu
Two (2) CM 3-4 Core Machines 0.1972 mmBtu
Two (2) CM 5-6 Core Machines 0.3712 mmBtu
One (1) CM 7 Core Machines 0.58 mmBtu

One (1) CM 8 Core Machine 0.21 mmBtu
One (1) HT 1 Heat Treat Oven 1.5 mmBtu
One (1) B 1 Boiler 8.368 mmBtu
Nine (9) SH 1-9 Space Heaters 0.123 mmBtu

	Pollutant					
Emission Factor in lb/MMCF	PM 7.6	PM10 7.6	SO2 0.6	NOx 100.0	VOC 5.5	CO 84.0
Potential Emission in tons/yr	0.99	0.99	0.08	13.06	0.72	10.97

Methodology:

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

All PM is assumed to be less than 1.0 micrometer in diameter. Therefore, the PM emission factors may be used to estimate PM10, PM2.5, and PM1 emissions.

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

Emission Factors from AP 42, Chapter 1.4, Tables 1.4-1 and 1.4-2, Residential Furnaces (no SCC)

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

Appendix A: Emissions Calculations

Page 15 of 15 TSD App A

Waste Oil Combustion**Space Heater-Vaporizing Burner**

Company Name: Ward Aluminum Casting, Inc.
Address City IN Zip: 642 Growth Ave. Fort Wayne, IN 46808
FESOP: F003-10264-00198
Reviewer: PR/EVP

Appendix A: Emissions Calculations

Page 15 of 15 TSD App A

Waste Oil Combustion**Space Heater-Vaporizing Burner**

Company Name: Ward Aluminum Casting, Inc.
Address City IN Zip: 642 Growth Ave. Fort Wayne, IN 46808
FESOP: F003-10264-00198
Reviewer: PR/EVP
Date: November 9, 1998

Heat Input Capacity
MMBtu/hr

Potential Throughput
kgals/year

A = Weight % Ash =	0.8
L = Weight % Lead =	0.0005
S = Weight % Sulfur =	0.8

0.18

11.3438849

Pollutant

	PM	PM10	SO ₂	NO _x	TOC	CO	Pb
Emission Factor in lb/kgal	2.2 (2.8A)	0.00 (ND)	80.0 (100S)	11.0	0.1	1.7	0.000205 (0.41L)
Potential Emission in tons/yr	0.0	0.0	0.5	0.1	0.0	0.0	0.0

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 1-05-001-14

Emission (tons/yr) = Throughput kgals per year x Emission Factor (lb/kgal)/2,000 lb/ton