INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

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

TO: Interested Parties / Applicant

DATE: June 1, 2009

RE: Cast Metals Technologies / 135-26992-00024

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

Notice of Decision: Approval - Effective Immediately

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

If you wish to challenge this decision, IC 4-21.5-3 and IC 13-15-6-1 require that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Suite N 501E, Indianapolis, IN 46204, **within eighteen (18) calendar days of the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

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

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

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

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

Enclosures
FNPER.dot12/03/07

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Minor Source Operating Permit
OFFICE OF AIR QUALITY

Cast Metals Technologies
1036 Old Highway 27
Winchester, Indiana 47394

(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 to the above mentioned company under the provisions of 326 IAC 2-1.1, 326 IAC 2-6.1 and 40 CFR 52.780, with conditions listed on the attached pages.

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 MSOP under 326 IAC 2-6.1.

Operation Permit No.: M135-26992-00024	
Issued by: Iryn Calilung, Section Chief Permits Branch Office of Air Quality	Issuance Date: June 1, 2009 Expiration Date: June 1, 2014

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SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 and A.2 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 2-5.1-3(c)][326 IAC 2-6.1-4(a)]

The Permittee owns and operates a stationary aluminum foundry and die casting source which melts only clean charge, customer returns or internal scrap.

Source Address:	1036 Old Highway 27, Winchester, Indiana 47394
Mailing Address:	550 Liberty Rd,, Delaware, OH 43015
General Source Phone Number:	740-363-1941
SIC Code:	3363, 3365
County Location:	Randolph
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Minor Source Operating Permit Program Minor Source, under PSD and Emission Offset Rules Minor Source, Section 112 of the Clean Air Act Not 1 of 28 Source Categories, under US EPA memo dated December 4, 1998.

A.2 Emission Units and Pollution Control Equipment Summary

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

(a) Old Building Operations

(1) Two (2) die cast crucible furnaces, melting only "clean charge" aluminum for the Die Casting Line, identified as Furnace #1 Die Cast and Furnace #2 Die Cast, constructed prior to 1970, having a maximum heat input capacity of one and five tenths (1.5) MMBtu/hr, each, and a maximum throughput capacity of six hundred (600) pounds (three tenths (0.3) tons) of aluminum per hour, each, uncontrolled and exhausting to stacks #2 and #4, respectively;

(2) Two (2) die cast machines where aluminum castings are formed using metal molds (pouring/casting/cooling), identified as Die Cast Machines #1 and #2, constructed prior to 1970, with a maximum throughput capacity of six hundred (600) pounds (three tenths (0.3) tons) of aluminum per hour, each, uncontrolled and exhausting to the inside of the building;

(3) One (1) die cast crucible furnace, melting only "clean charge" aluminum for the Die Casting Line, identified as Furnace #5 Die Cast, constructed in 1996, having a maximum heat input capacity of one and five tenths (1.5) MMBtu/hr, and a maximum throughput capacity of sixty (60) pounds (three hundredths (0.03) tons) of aluminum per hour, uncontrolled and exhausting to stack #6;

(4) One (1) die cast machine where aluminum castings are formed using a metal mold (pouring/casting/cooling), identified as Die Cast Machine #5, constructed in 1996, with a maximum throughput capacity of sixty (60) pounds (three hundredths (0.03) tons) of aluminum per hour, uncontrolled and exhausting to the inside of the building;

(5) Two (2) perm mold crucible furnaces, melting only "clean charge" aluminum for the Perm Mold Casting Line, identified as Perm Mold Crucible Furnace #1 and Perm Mold Crucible Furnace #2, constructed prior to 1970, having a maximum heat input capacity of one and five tenths (1.5) MMBtu/hr, and a maximum throughput capacity of six hundred (600) pounds (three tenths (0.3) tons) of aluminum per hour, each, uncontrolled and exhausting to the inside of the building;

(6) Two (2) perm mold cast machines where aluminum castings are formed using metal molds (pouring/casting/cooling), identified as Perm Mold Casting Machines #1 and #2, constructed prior to 1970, with a maximum throughput capacity of six hundred (600) pounds (three tenths (0.3) tons) of aluminum per hour, each, uncontrolled and exhausting to the inside of the building;

(7) One (1) Wheelabrator shotblast machine, serving the Perm Mold Casting Line, identified as SB-3, constructed in 1990, with a maximum capacity of five hundred forty-two (542) pounds (two hundred seventy-one thousandths (0.271) tons) of metal castings per hour, controlled by a baghouse, identified as Baghouse 3, and exhausting to the outside;

(8) One (1) Spinner Hanger shotblast machine, serving the Perm Mold Casting Line, identified as SB-4, constructed in 1998, with a maximum capacity of five hundred forty-two (542) pounds (two hundred seventy-one thousandths (0.271) tons) of metal castings per hour, controlled by a baghouse, identified as Baghouse 1, and exhausting to the outside;

(9) Four (4) cope and drag crucible furnaces, melting only "clean charge" aluminum for the Cope and Drag Casting Line, identified as Crucibles #1 - #4, constructed prior to 1970, having a maximum heat input capacity of one and five tenths (1.5) MMBtu/hr, each, and a maximum throughput capacity of six hundred (600) pounds (three tenths (0.3) tons) of aluminum per hour, each, uncontrolled and exhausting to the inside of the building;

(10) One (1) cope and drag pouring and cooling line where aluminum is poured into sand molds (pouring/casting/cooling), identified as Cope and Drag Casting, constructed in 2007, with a maximum throughput capacity of two hundred forty (240) pounds (twelve hundredths (0.12) tons) of aluminum and one thousand four hundred forty (1,440) pounds (seventy-two thousandths (0.72) tons) of sand per hour, respectively, uncontrolled and exhausting to the inside of the building;

(11) One (1) cope and drag sand system, identified as Cope and Drag Muller Sand System, constructed prior to 1970, with a maximum capacity of one thousand four hundred forty (1,440) pounds (seventy-two thousandths (0.72) tons) of sand per hour, uncontrolled and exhausting to the inside of the building;

(12) One (1) cope and drag castings knockout machine, identified as Knockout-5, constructed in 1982, with a maximum throughput capacity of seven hundred (700) pounds (thirty-five hundredths (0.35) tons) of aluminum castings per hour, uncontrolled and exhausting to the inside of the building;

(13) Nine (9) shell core machines, with a combined maximum heat input capacity of two and twenty-five hundredths (2.25) MMBtu/hr, and a combined maximum throughput capacity of two hundred fifty-five (255) pounds (one thousand two hundred seventy-five ten-thousandths (0.1275) tons) of cores per hour and seven hundred sixty-five (765) pounds (three thousand eight hundred twenty-five ten-thousandths (0.3825) tons) of sand per hour, uncontrolled and exhausting to the inside of the building, and consisting of the following;

(A) Six (6) shell core machines, identified as Core Machines #1-6, each constructed in 1996;

(B) One (1) shell core machine, identified as Core Machine #7, constructed in 2000; and

(C) Two (2) shell core machines, identified as Core Machines #8 and #9, each constructed in 2002, each;

(14) One (1) clean sand storage silo, serving the shell core operations, identified as Sand Storage Silo,constructed prior to 1970, with a maximum capacity of one hundred twenty thousand (120,000) pounds (twenty (20) tons);

(b) New Building Operations

(1) One (1) Hunter reverberatory furnace, melting only "clean charge" aluminum for the Hunter Casting Line, identified as Reverberatory Furnace #2, constructed in 1999, having a maximum heat input capacity of seven and five tenths (7.5) MMBtu/hr, and a maximum throughput capacity of three thousand (3000) pounds (one and five tenths (1.5) tons) of aluminum per hour, uncontrolled and exhausting to stack #11;

(2) One (1) Hunter automatic molder machine where aluminum is poured into sand molds (pouring/casting/cooling), identified as Molder #6, constructed in 1999, with a maximum capacity of three thousand (3000) pounds (one and five tenths (1.5) tons) of aluminum and nine (9) tons of sand per hour, respectively, uncontrolled and exhausting to the inside of the building;

(3) One (1) Hunter sand system, identified as Hunter Sand System #2, constructed in 1999, with a maximum capacity of nine (9) tons of sand per hour, controlled by a baghouse dust collector, identified as Baghouse 4, and exhausting to the inside of the building;

(4) One (1) Hunter reclaimed sand storage silo, serving the Hunter Sand System #2, constructed in 1998 with a maximum capacity of 200 tons;

(5) Three (3) Hunter castings knockout machines, uncontrolled and exhausting to the inside of the building, and consisting of the following:

(A) One (1) Hunter castings knockout machine, identified as Knockout-2, constructed in 1999, with a maximum throughput capacity of one thousand seven hundred eighty (1780) pounds (eighty-nine hundredths (0.89) tons) of aluminum castings per hour; and

(B) Two (2) Hunter castings knockout machines, identified as Knockout-3 and Knockout-4, constructed in 2000, with a maximum throughput capacity of seven hundred (700) pounds (thirty-five hundredths (0.35) tons) of aluminum castings per hour, each;

(6) Finishing operations, with a combined maximum capacity of one thousand four hundred forty (1,440) pounds of metal castings per hour, uncontrolled and exhausting to the inside of the building, as follows: [326 IAC 6-3-2]

(A) Three (3) cut-off saws, constructed in 1990;

(B) Nine (9) sanders, constructed in 1998.

(7) One (1) Wheelabrator shotblast machine, identified as SB-5, constructed in 1999, with a maximum throughput capacity of five hundred forty-two (542) pounds (two hundred seventy-one thousandths (0.271) tons) of metal castings per hour, controlled by a baghouse, identified as Baghouse 5, and exhausting to the inside of the building.

(c) Degreasing operations that do not exceed one hundred forty-five (145) gallons per twelve (12) months, except if subject to 326 IAC 20-6 including:

(1) One (1) cold cleaner parts washer, constructed in 2000, using no halogenated solvents; [326 IAC 8-3-2] [326 IAC 8-3-5]

(d) Mold release agents using low volatile products (vapor pressure less than or equal to two (2) kiloPascals measured at thirty-eight (38) degrees Celsius (C);

(e) Chlorine fluxing operations, to reduce the formation of oxides during each melt process, and prevent the buildup of oxides in each furnace, with a maximum usage rate of five and sixty-two hundredths (5.62) pounds (three thousandths (0.003) tons) of flux per hour, combined;

(f) Natural gas-fired combustion sources with heat input equal to or less than ten (10) million Btu per hour, including the following:

(1) Two (2) heat treat furnaces, each constructed prior to 1970, with a maximum heat input capacity of seventy-five hundredths (0.75) million British thermal units per hour, each, uncontrolled and exhausting to stacks #9 and #10;

(2) One (1) age oven, constructed prior to 1970, with a maximum heat input capacity of seventy-five hundredths (0.75) million British thermal units per hour, uncontrolled and exhausting to the inside of the building;

(g) Combustion source flame safety purging on startup;

(h) Quenching operations used with heat treating processes;

(i) The following equipment related to manufacturing activities not resulting in the emission of HAPs; brazing equipment, cutting torches, soldering equipment, welding equipment, including but not limited to the following:

(1) Maintenance welding activities;

Total weld rod and wire usage is less than six hundred twenty-five (625) pounds per day, and less than three thousand four hundred (3,400) inches of metal is cut per hour;

(j) A laboratory as defined in 326 IAC 2-7-1(21)(D).

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

(l) On-site fire and emergency response training approved by the department; and

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

SECTION B GENERAL CONDITIONS

B.1 Definitions [326 IAC 2-1.1-1]

Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, the applicable definitions found in the statutes or regulations (IC 13-11, 326 IAC 1-2 and 326 IAC 2-1.1-1) shall prevail.

B.2 Permit Term [326 IAC 2-6.1-7(a)][326 IAC 2-1.1-9.5][IC 13-15-3-6(a)]

(a) This permit, M135-26992-00024, is issued for a fixed term of five (5) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date of this permit.

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

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

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

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

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

B.4 Enforceability

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

B.5 Severability

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

B.6 Property Rights or Exclusive Privilege

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

B.7 Duty to Provide Information

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

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

B.8 Certification

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

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

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

B.9 Annual Notification [326 IAC 2-6.1-5(a)(5)]

(a) An annual notification shall be submitted by an authorized individual to the Office of Air Quality stating whether or not the source is in operation and in compliance with the terms and conditions contained in this permit.

(b) The annual notice shall be submitted in the format attached no later than March 1 of each year to:

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

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

B.10 Preventive Maintenance Plan [326 IAC 1-6-3]

(a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) within ninety (90) days after issuance of this permit or ninety (90) days after initial start-up, whichever is later, including the following information on each facility:

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

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

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

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

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

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

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

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

B.11 Prior Permits Superseded [326 IAC 2-1.1-9.5]

(a) All terms and conditions of permits established prior to M135-26992-00024 and issued pursuant to permitting programs approved into the state implementation plan have been either:

(1) incorporated as originally stated,

(2) revised, or

(3) deleted.

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

B.12 Termination of Right to Operate [326 IAC 2-6.1-7(a)]

The Permittee's right to operate this source terminates with the expiration of this permit unless a timely and complete renewal application is submitted at least one hundred twenty (120) days prior to the date of expiration of the source's existing permit, consistent with 326 IAC 2-6.1-7.

B.13 Permit Renewal [326 IAC 2-6.1-7]

(a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ and shall include the information specified in 326 IAC 2-6.1-7. Such information shall be included in the application for each emission unit at this source. The renewal application does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Request for renewal shall be submitted to:

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

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

(1) Submitted at least one hundred twenty (120) days prior to the date of the expiration of this permit; and

(2) If the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the

document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

(c) If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-6.1 until IDEM, OAQ takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified in writing by IDEM, OAQ any additional information identified as being needed to process the application.

B.14 Permit Amendment or Revision [326 IAC 2-5.1-3(e)(3)][326 IAC 2-6.1-6]

(a) Permit amendments and revisions are governed by the requirements of 326 IAC 2-6.1-6 whenever the Permittee seeks to amend or modify this permit.

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

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

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

(c) The Permittee shall notify the OAQ within thirty (30) calendar days of implementing a notice-only change. [326 IAC 2-6.1-6(d)]

B.15 Source Modification Requirement

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

B.16 Inspection and Entry
[326 IAC 2-5.1-3(e)(4)(B)][326 IAC 2-6.1-5(a)(4)][IC 13-14-2-2][IC 13-17-3-2][IC 13-30-3-1]

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

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

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

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

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

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

B.17 Transfer of Ownership or Operational Control [326 IAC 2-6.1-6]

(a) The Permittee must comply with the requirements of 326 IAC 2-6.1-6 whenever the Permittee seeks to change the ownership or operational control of the source and no other change in the permit is necessary.

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

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

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

(c) The Permittee may implement notice-only changes addressed in the request for a notice-only change immediately upon submittal of the request. [326 IAC 2-6.1-6(d)(3)]

B.18 Annual Fee Payment [326 IAC 2-1.1-7]

(a) The Permittee shall pay annual fees due within thirty (30) calendar days of receipt of a bill from IDEM, OAQ,.

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

B.19 Credible Evidence [326 IAC 1-1-6]

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

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

Emission Limitations and Standards [326 IAC 2-6.1-5(a)(1)]

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

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

C.2 Permit Revocation [326 IAC 2-1.1-9]

Pursuant to 326 IAC 2-1.1-9 (Revocation of Permits), this permit to operate may be revoked for any of the following causes:

(a) Violation of any conditions of this permit.

(b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this permit.

(c) Changes in regulatory requirements that mandate either a temporary or permanent reduction of discharge of contaminants. However, the amendment of appropriate sections of this permit shall not require revocation of this permit.

(d) Noncompliance with orders issued pursuant to 326 IAC 1-5 (Episode Alert Levels) to reduce emissions during an air pollution episode.

(e) For any cause which establishes in the judgment of IDEM, the fact that continuance of this permit is not consistent with purposes of this article.

C.3 Opacity [326 IAC 5-1]

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

(a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

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

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

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

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

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

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

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

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

The Permittee shall comply with the applicable provisions of 326 IAC 1-7 (Stack Height Provisions), for all exhaust stacks through which a potential (before controls) of twenty-five (25) tons per year or more of particulate matter or sulfur dioxide is emitted by using ambient air quality modeling pursuant to 326 IAC 1-7-4.

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

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

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

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

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

(A) Asbestos removal or demolition start date;

(B) Removal or demolition contractor; or

(C) Waste disposal site.

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

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

All required notifications shall be submitted to:

Indiana Department of Environmental Management
Asbestos Section, Office of Air Quality
100 North Senate Avenue
MC 61-52 IGCN 1003
Indianapolis, Indiana 46204-2251

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

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

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

(g) Indiana Licensed 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 Licensed Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos. The requirement to use an Indiana Licensed Asbestos inspector is not federally enforceable.

Testing Requirements [326 IAC 2-6.1-5(a)(2)]

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

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

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

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

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

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

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

Compliance Requirements [326 IAC 2-1.1-11]

C.10 Compliance Requirements [326 IAC 2-1.1-11]

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

Compliance Monitoring Requirements [326 IAC 2-6.1-5(a)(2)]

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

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. All monitoring and record keeping requirements not already legally required shall be implemented when operation begins.

C.12 Monitoring Methods [326 IAC 3] [40 CFR 60] [40 CFR 63]

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

C.13 Instrument Specifications [326 IAC 2-1.1-11]

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

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

Corrective Actions and Response Steps

C.14 Response to Excursions or Exceedances

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

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

(1) initial inspection and evaluation;

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

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

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

(1) monitoring results;

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

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

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

(e) The Permittee shall maintain the following records:

(1) monitoring data;

(2) monitor performance data, if applicable; and

(3) corrective actions taken.

C.15 Actions Related to Noncompliance Demonstrated by a Stack Test

(a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall take appropriate response actions. The Permittee shall submit a description of these response actions to IDEM, OAQ, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize excess emissions from the affected facility while the response actions are being implemented.

(b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAQ that retesting in one hundred twenty (120) days is not practicable, IDEM, OAQ may extend the retesting deadline.

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

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

Record Keeping and Reporting Requirements [326 IAC 2-6.1-5(a)(2)]

C.16 Malfunctions Report [326 IAC 1-6-2]

Pursuant to 326 IAC 1-6-2 (Records; Notice of Malfunction):

(a) A record of all malfunctions, including startups or shutdowns of any facility or emission control equipment, which result in violations of applicable air pollution control regulations or applicable emission limitations shall be kept and retained for a period of three (3) years and shall be made available to the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) or appointed representative upon request.

(b) When a malfunction of any facility or emission control equipment occurs which lasts more than one (1) hour, said condition shall be reported to OAQ, using the Malfunction Report Forms (2 pages). Notification shall be made by telephone or facsimile, as soon as practicable, but in no event later than four (4) daytime business hours after the beginning of said occurrence.

(c) Failure to report a malfunction of any emission control equipment shall constitute a violation of 326 IAC 1-6, and any other applicable rules. Information of the scope and expected duration of the malfunction shall be provided, including the items specified in 326 IAC 1-6-2(a)(1) through (6).

(d) Malfunction is defined as any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner. [326 IAC 1-2-39]

C.17 General Record Keeping Requirements [326 IAC 2-6.1-5]

(a) Records of all required monitoring data, reports and support information required by this permit shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

(b) Unless otherwise specified in this permit, all record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance or ninety (90) days of initial start-up, whichever is later.

C.18 General Reporting Requirements [326 IAC 2-1.1-11] [326 IAC 2-6.1-2] [IC 13-14-1-13]

(a) Reports required by conditions in Section D of this permit shall be submitted to:

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

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

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

(d) The first report shall cover the period commencing on the date of issuance of this permit or the date of initial start-up, whichever is later, and ending on the last day of the reporting period. Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit, “calendar year” means the twelve (12) month period from January 1 to December 31 inclusive.

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description: Aluminum foundry and die casting operations

(a) Old Building Operations

(1) Two (2) die cast crucible furnaces, melting only "clean charge" aluminum for the Die Casting Line, identified as Furnace #1 Die Cast and Furnace #2 Die Cast, constructed prior to 1970, having a maximum heat input capacity of one and five tenths (1.5) MMBtu/hr, each, and a maximum throughput capacity of six hundred (600) pounds (three tenths (0.3) tons) of aluminum per hour, each, uncontrolled and exhausting to stacks #2 and #4, respectively;

(2) Two (2) die cast machines where aluminum castings are formed using metal molds (pouring/casting/cooling), identified as Die Cast Machines #1 and #2, constructed prior to 1970, with a maximum throughput capacity of six hundred (600) pounds (three tenths (0.3) tons) of aluminum per hour, each, uncontrolled and exhausting to the inside of the building;

(3) One (1) die cast crucible furnace, melting only "clean charge" aluminum for the Die Casting Line, identified as Furnace #5 Die Cast, constructed in 1996, having a maximum heat input capacity of one and five tenths (1.5) MMBtu/hr, and a maximum throughput capacity of sixty (60) pounds (three hundredths (0.03) tons) of aluminum per hour, uncontrolled and exhausting to stack #6;

(4) One (1) die cast machine where aluminum castings are formed using a metal mold (pouring/casting/cooling), identified as Die Cast Machine #5, constructed in 1996, with a maximum throughput capacity of sixty (60) pounds (three hundredths (0.03) tons) of aluminum per hour, uncontrolled and exhausting to the inside of the building;

(5) Two (2) perm mold crucible furnaces, melting only "clean charge" aluminum for the Perm Mold Casting Line, identified as Perm Mold Crucible Furnace #1 and Perm Mold Crucible Furnace #2, constructed prior to 1970, having a maximum heat input capacity of one and five tenths (1.5) MMBtu/hr, and a maximum throughput capacity of six hundred (600) pounds (three tenths (0.3) tons) of aluminum per hour, each, uncontrolled and exhausting to the inside of the building;

(6) Two (2) perm mold cast machines where aluminum castings are formed using metal molds (pouring/casting/cooling), identified as Perm Mold Casting Machines #1 and #2, constructed prior to 1970, with a maximum throughput capacity of six hundred (600) pounds (three tenths (0.3) tons) of aluminum per hour, each, uncontrolled and exhausting to the inside of the building;

(7) One (1) Wheelabrator shotblast machine, serving the Perm Mold Casting Line, identified as SB-3, constructed in 1990, with a maximum capacity of five hundred forty-two (542) pounds (two hundred seventy-one thousandths (0.271) tons) of metal castings per hour, controlled by a baghouse, identified as Baghouse 3, and exhausting to the outside;

(8) One (1) Spinner Hanger shotblast machine, serving the Perm Mold Casting Line, identified as SB-4, constructed in 1998, with a maximum capacity of five hundred forty-two (542) pounds (two hundred seventy-one thousandths (0.271) tons) of metal castings per hour, controlled by a baghouse, identified as Baghouse 1, and exhausting to the outside;

(9) Four (4) cope and drag crucible furnaces, melting only "clean charge" aluminum for the Cope and Drag Casting Line, identified as Crucibles #1 - #4, constructed prior to 1970, having a maximum heat input capacity of one and five tenths (1.5) MMBtu/hr, each, and a maximum throughput capacity of six hundred (600) pounds (three tenths (0.3) tons) of aluminum per hour, each, uncontrolled and exhausting to the inside of the building;

(10) One (1) cope and drag pouring and cooling line where aluminum is poured into sand molds (pouring/casting/cooling), identified as Cope and Drag Casting, constructed in 2007, with a maximum throughput capacity of two hundred forty (240) pounds (twelve hundredths (0.12) tons) of aluminum and one thousand four hundred forty (1,440) pounds (seventy-two thousandths (0.72) tons) of sand per hour, respectively, uncontrolled and exhausting to the inside of the building;

(11) One (1) cope and drag sand system, identified as Cope and Drag Muller Sand System, constructed prior to 1970, with a maximum capacity of one thousand four hundred forty (1,440) pounds (seventy-two thousandths (0.72) tons) of sand per hour, uncontrolled and exhausting to the inside of the building;

(12) One (1) cope and drag castings knockout machine, identified as Knockout-5, constructed in 1982, with a maximum throughput capacity of seven hundred (700) pounds (thirty-five hundredths (0.35) tons) of aluminum castings per hour, uncontrolled and exhausting to the inside of the building;

(13) Nine (9) shell core machines, with a combined maximum heat input capacity of two and twenty-five hundredths (2.25) MMBtu/hr, and a combined maximum throughput capacity of two hundred fifty-five (255) pounds (one thousand two hundred seventy-five ten-thousandths (0.1275) tons) of cores per hour and seven hundred sixty-five (765) pounds (three thousand eight hundred twenty-five ten-thousandths (0.3825) tons) of sand per hour, uncontrolled and exhausting to the inside of the building, and consisting of the following;

(A) Six (6) shell core machines, identified as Core Machines #1-6, each constructed in 1996;

(B) One (1) shell core machine, identified as Core Machine #7, constructed in 2000; and

(C) Two (2) shell core machines, identified as Core Machines #8 and #9, each constructed in 2002, each;

(14) One (1) clean sand storage silo, serving the shell core operations, identified as Sand Storage Silo,constructed prior to 1970, with a maximum capacity of one hundred twenty thousand (120,000) pounds (twenty (20) tons);

(b) New Building Operations

(1) One (1) Hunter reverberatory furnace, melting only "clean charge" aluminum for the Hunter Casting Line, identified as Reverberatory Furnace #2, constructed in 1999, having a maximum heat input capacity of seven and five tenths (7.5) MMBtu/hr, and a maximum throughput capacity of three thousand (3000) pounds (one and five tenths (1.5) tons) of aluminum per hour, uncontrolled and exhausting to stack #11;

(2) One (1) Hunter automatic molder machine where aluminum is poured into sand molds (pouring/casting/cooling), identified as Molder #6, constructed in 1999, with a maximum capacity of three thousand (3000) pounds (one and five tenths (1.5) tons) of

aluminum and nine (9) tons of sand per hour, respectively, uncontrolled and exhausting to the inside of the building;

(3) One (1) Hunter sand system, identified as Hunter Sand System #2, constructed in 1999, with a maximum capacity of nine (9) tons of sand per hour, controlled by a baghouse dust collector, identified as Baghouse 4, and exhausting to the inside of the building;

(4) One (1) Hunter reclaimed sand storage silo, serving the Hunter Sand System #2, constructed in 1998 with a maximum capacity of 200 tons;

(5) Three (3) Hunter castings knockout machines, uncontrolled and exhausting to the inside of the building, and consisting of the following:

(A) One (1) Hunter castings knockout machine, identified as Knockout-2, constructed in 1999, with a maximum throughput capacity of one thousand seven hundred eighty (1780) pounds (eighty-nine hundredths (0.89) tons) of aluminum castings per hour; and

(B) Two (2) Hunter castings knockout machines, identified as Knockout-3 and Knockout-4, constructed in 2000, with a maximum throughput capacity of seven hundred (700) pounds (thirty-five hundredths (0.35) tons) of aluminum castings per hour, each;

(6) Finishing operations, with a combined maximum capacity of one thousand four hundred forty (1,440) pounds of metal castings per hour, uncontrolled and exhausting to the inside of the building, as follows: [326 IAC 6-3-2]

(A) Three (3) cut-off saws, constructed in 1990;

(B) Nine (9) sanders, constructed in 1998.

(7) One (1) Wheelabrator shotblast machine, identified as SB-5, constructed in 1999, with a maximum throughput capacity of five hundred forty-two (542) pounds (two hundred seventy-one thousandths (0.271) tons) of metal castings per hour, controlled by a baghouse, identified as Baghouse 5, and exhausting to the inside of the building.

(c) Degreasing operations that do not exceed one hundred forty-five (145) gallons per twelve (12) months, except if subject to 326 IAC 20-6 including:

(1) One (1) cold cleaner parts washer, constructed in 2000, using no halogenated solvents; [326 IAC 8-3-2] [326 IAC 8-3-5]

(d) Mold release agents using low volatile products (vapor pressure less than or equal to two (2) kiloPascals measured at thirty-eight (38) degrees Celsius (C);

(e) Chlorine fluxing operations, to reduce the formation of oxides during each melt process, and prevent the buildup of oxides in each furnace, with a maximum usage rate of five and sixty-two hundredths (5.62) pounds (three thousandths (0.003) tons) of flux per hour, combined;

(f) Natural gas-fired combustion sources with heat input equal to or less than ten (10) million Btu per hour, including the following:

(1) Two (2) heat treat furnaces, each constructed prior to 1970, with a maximum heat input capacity of seventy-five hundredths (0.75) million British thermal units per hour, each, uncontrolled and exhausting to stacks #9 and #10;

(2) One (1) age oven, constructed prior to 1970, with a maximum heat input capacity of seventy-five hundredths (0.75) million British thermal units per hour, uncontrolled and exhausting to the inside of the building;

(g) Combustion source flame safety purging on startup;

(h) Quenching operations used with heat treating processes;

(i) The following equipment related to manufacturing activities not resulting in the emission of HAPs; brazing equipment, cutting torches, soldering equipment, welding equipment, including but not limited to the following:

(1) Maintenance welding activities;

Total weld rod and wire usage is less than six hundred twenty-five (625) pounds per day, and less than three thousand four hundred (3,400) inches of metal is cut per hour;

(j) A laboratory as defined in 326 IAC 2-7-1(21)(D).

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

(l) On-site fire and emergency response training approved by the department; and

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

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

Emission Limitations and Standards [326 IAC 2-6.1-5(a)(1)]

D.1.1 Particulate Matter (PM) [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from each of the facilities listed in this condition shall not exceed the pound per hour limitations listed in the table below:

Emission Unit	Process Weight Rate		Particulate Emission Limit (lb/hour)
	(lbs/hr)	(tons/hr)	
Die cast Crucible Melt, combined (Furnace #1, #2 & #5 Die Cast)	1,860	0.93	3.91
Perm Mold Crucible Melt, combined (Perm Mold Casting Machines #1 and #2)	600	0.30	1.83
Crucible Melt (Crucibles #1-#4, combined)	240	0.12	0.99
Reverb Furnace Melt (Reverberatory Furnace #2)	3,000	1.50	5.38
Knockout, combined (Knockout-2, Knockout-3, Knockout-4& Knockout-5)	3,240	1.62	5.66
Cope & Drag Muller Sand System	1,440	0.72	3.29
Hunter Sand System #2	18,000	9.00	17.87
Shotblast, each (SB-3, SB-4 & SB-5)	542	0.271	1.71
Cutoff Saws & Sanding	1,440	0.72	3.29

These limitations were calculated as follows:

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

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

D.1.2 Secondary Aluminum Production [40 CFR 63.1500]

The Permittee shall melt only clean charge, customer returns, or internal scrap in the one (1) reverberatory furnace (#2), three (3) Die Cast Crucible furnaces (#1, #2, & #5), the two (2) Perm Mold Crucible furnaces (#1 & #2), and the four (4) Cope and Drag Crucible furnaces (#1, #2, #3, & #4).

Compliance with the above Condition renders the provisions of 40 CFR 63.1505, and 326 IAC 2-2-1(gg), not applicable to the source.

D.1.3 Preventive Maintenance Plan [326 IAC 1-6-3] [326 IAC 2-8-4(9)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for the one (1) sand system (Hunter Sand System #2), and the three (3) shotblast machines (SB-3, SB-4 and SB-5), and each of their respective pollution control devices.

Compliance Determination Requirements

D.1.4 Particulate Control

(a) In order to comply with Condition D.1.1, the baghouse (Baghouse 4) for the Hunter Sand System #2 shall be in operation and control emissions at all times when the sand handling is in operation.

(b) In order to comply with Condition D.1.1, the baghouse (Baghouse 5) for the shotblaster, identified as SB-5, shall be in operation and control emissions at all times when the shotblaster is in operation.

(c) In order to comply with Condition D.1.1, the baghouse (Baghouse 3) for the shotblaster, identified as SB-3, shall be in operation and control emissions at all times when the shotblaster is in operation.

(d) In order to comply with Condition D.1.1, the baghouse (Baghouse 1) for the shotblaster, identified as SB-4, shall be in operation and control emissions at all times when the shotblaster is in operation.

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

Compliance Monitoring Requirements [326 IAC 2-6.1-5(a)(2)]

D.1.5 Visible Emissions Notations

(a) Visible emission notations of the three (3) shotblast machines (SB-3, SB-4 and SB-5), exhausts shall be performed once per day during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.

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

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

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

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

D.1.6 Parametric Monitoring

(a) The Permittee shall record the pressure drop across the baghouse used in conjunction with the one (1) sand system (Hunter Sand System #2) at least once per week when the process exhausting to the control device is in operation. When for any one reading, the pressure drop across the baghouse or dust collection system is outside the normal range of 1.0 and 8.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

(b) The Permittee shall record the pressure drop across the baghouses used in conjunction with the three (3) shotblast machines (SB-3, SB-4 and SB-5), at least once per day when the process exhausting to the control device is in operation. When for any one reading, the pressure drop across the baghouse or dust collection system is outside the normal range of 1.0 and 8.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C - Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

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

D.1.7 Broken or Failed Bag Detection

(a) For a single compartment baghouse or dust collector controlling emissions from a process operated continuously, a failed unit and associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the Permittee has taken reasonable response steps in accordance with Section C - Response to Excursions or Exceedances.

(b) For a single compartment baghouse or dust collector controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the line or emissions unit. Operations may continue only if the Permittee has taken reasonable response steps in accordance with Section C - Response to Excursions or Exceedances.

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

Record Keeping and Reporting Requirements [326 IAC 2-6.1-5(a)(2)]

D.1.8 Record Keeping Requirements

(a) To document compliance with Condition D.1.2, the Permittee shall maintain records of the type of aluminum melted in the furnaces sufficient to show compliance with Condition D.1.3.

(b) To document compliance with Condition D.1.5, the Permittee shall maintain a daily record of visible emission notations of the three (3) shotblast machines (SB-3, SB-4, and SB-5), exhausts when venting to the atmosphere. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation, (e.g., the process did not operate that day).

(c) To document compliance with Condition D.1.6(a), the Permittee shall maintain records once per week of the pressure drop across the baghouse used in conjunction with the one (1) sand system during normal operation when venting to the atmosphere. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of pressure drop reading, (e.g., the process did not operate that day).

(d) To document compliance with Condition D.1.6(b), the Permittee shall maintain records once per day of the pressure drop across the baghouses used in conjunction with the three (3) shotblast machines during normal operation when venting to the atmosphere. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of pressure drop reading, (e.g., the process did not operate that day).

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

SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description: Degreasing

(c) Degreasing operations that do not exceed one hundred forty-five (145) gallons per twelve (12) months, except if subject to 326 IAC 20-6 including:

(1) One (1) cold cleaner parts washer, constructed in 2000, using no halogenated solvents; [326 IAC 8-3-2] [326 IAC 8-3-5]

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

Emission Limitations and Standards [326 IAC 2-6.1-5(a)(1)]

D.2.1 Volatile Organic Compounds (VOC) [326 IAC 8-3-2]

Pursuant to 326 IAC 8-3-2 (Cold Cleaner Operations), for cold cleaning operations constructed after January 1, 1980, the Permittee shall:

(a) Equip the cleaner with a cover;

(b) Equip the cleaner with a facility for draining cleaned parts;

(c) Close the degreaser cover whenever parts are not being handled in the cleaner;

(d) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;

(e) Provide a permanent, conspicuous label summarizing the operation requirements;

(f) Store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere.

D.2.2 Volatile Organic Compounds (VOC) [326 IAC 8-3-5]

(a) Pursuant to 326 IAC 8-3-5(a) (Cold Cleaner Degreaser Operation and Control), for cold cleaner degreaser operations without remote solvent reservoirs constructed after July 1, 1990, the Permittee shall ensure that the following control equipment requirements are met:

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

(A) The solvent volatility is greater than two (2) kiloPascals (fifteen (15) millimeters of mercury or three-tenths (0.3) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F));

(B) The solvent is agitated; or

(C) The solvent is heated.

(2) Equip the degreaser with a facility for draining cleaned articles. If the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F)),

then the drainage facility must be internal such that articles are enclosed under the cover while draining. The drainage facility may be external for applications where an internal type cannot fit into the cleaning system.

(3) Provide a permanent, conspicuous label which lists the operating requirements outlined in subsection (b).

(4) The solvent spray, if used, must be a solid, fluid stream and shall be applied at a pressure which does not cause excessive splashing.

(5) Equip the degreaser with one (1) of the following control devices if the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F)), or if the solvent is heated to a temperature greater than forty-eight and nine-tenths degrees Celsius (48.9°C) (one hundred twenty degrees Fahrenheit (120OF)):

(A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.

(B) A water cover when solvent is used is insoluble in, and heavier than, water.

(C) Other systems of demonstrated equivalent control such as a refrigerated chiller of carbon adsorption. Such systems shall be submitted to the U.S. EPA as a SIP revision.

(b) Pursuant to 326 IAC 8-3-5(b) (Cold Cleaner Degreaser Operation and Control), the owner or operator of a cold cleaning facility construction of which commenced after July 1, 1990, shall ensure that the following operating requirements are met:

(1) Close the cover whenever articles are not being handled in the degreaser.

(2) Drain cleaned articles for at least fifteen (15) seconds or until dripping ceases.

(3) Store waste solvent only in covered containers and prohibit the disposal or transfer of waste solvent in any manner in which greater than twenty percent (20%) of the waste solvent by weight could evaporate.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY

MINOR SOURCE OPERATING PERMIT (MSOP) CERTIFICATION

Source Name: Cast Metals Technologies
Source Address: 1036 Old Highway 27, Winchester, Indiana 47394
Mailing Address: 550 Liberty Rd,, Delaware, OH 43015
MSOP No.: M135-26992-00024

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

Please check what document is being certified:

☐ Annual Compliance Certification Letter

☐ Test Result (specify)_____

☐ Report (specify)_____

☐ Notification (specify)_____

☐ Affidavit (specify)_____

☐ Other (specify)_____

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. Signature:
Printed Name:
Title/Position:
Date:

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE BRANCH

MINOR SOURCE OPERATING PERMIT
ANNUAL NOTIFICATION

This form should be used to comply with the notification requirements under 326 IAC 2-6.1-5(a)(5).

Company Name:	Cast Metals Technologies
Address:	1036 Old Highway 27
City:	Winchester, Indiana 47394
Phone #:	740-363-1941
MSOP #:	M135-26992-00024

I hereby certify that Cast Metals Technologies is :
☐ still in operation.
☐ no longer in operation.

I hereby certify that Cast Metals Technologies is :
☐ in compliance with the requirements of MSOP M135-26992-00024.
☐ not in compliance with the requirements of MSOP M135-26992-00024.

Authorized Individual (typed):
Title:
Signature:
Date:

If there are any conditions or requirements for which the source is not in compliance, provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be achieved.

Noncompliance:

MALFUNCTION REPORT

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
FAX NUMBER: (317) 233-6865

This form should only be used to report malfunctions applicable to Rule 326 IAC 1-6 and to qualify for the exemption under 326 IAC 1-6-4.

THIS FACILITY MEETS THE APPLICABILITY REQUIREMENTS BECAUSE IT HAS POTENTIAL TO EMIT 25 TONS/YEAR PARTICULATE MATTER ?_____, 25 TONS/YEAR SULFUR DIOXIDE ?_____, 25 TONS/YEAR NITROGEN OXIDES?_____, 25 TONS/YEAR VOC ?_____, 25 TONS/YEAR HYDROGEN SULFIDE ?_____, 25 TONS/YEAR TOTAL REDUCED SULFUR ?_____, 25 TONS/YEAR REDUCED SULFUR COMPOUNDS ?_____, 25 TONS/YEAR FLUORIDES ?_____, 100 TONS/YEAR CARBON MONOXIDE ?_____, 10 TONS/YEAR ANY SINGLE HAZARDOUS AIR POLLUTANT ?_____, 25 TONS/YEAR ANY COMBINATION HAZARDOUS AIR POLLUTANT ?_____, 1 TON/YEAR LEAD OR LEAD COMPOUNDS MEASURED AS ELEMENTAL LEAD ?_____, OR IS A SOURCE LISTED UNDER 326 IAC 2-5.1-3(2) ?_____. EMISSIONS FROM MALFUNCTIONING CONTROL EQUIPMENT OR PROCESS EQUIPMENT CAUSED EMISSIONS IN EXCESS OF APPLICABLE LIMITATION _____.

THIS MALFUNCTION RESULTED IN A VIOLATION OF: 326 IAC _____ OR, PERMIT CONDITION # _____ AND/OR PERMIT LIMIT OF _____

THIS INCIDENT MEETS THE DEFINITION OF "MALFUNCTION" AS LISTED ON REVERSE SIDE ? Y N

THIS MALFUNCTION IS OR WILL BE LONGER THAN THE ONE (1) HOUR REPORTING REQUIREMENT ? Y N

COMPANY:_____PHONE NO. ( )_____
LOCATION: (CITY AND COUNTY)_____
PERMIT NO. _____ AFS PLANT ID: _____ AFS POINT ID: _____ INSP:_____
CONTROL/PROCESS DEVICE WHICH MALFUNCTIONED AND REASON:_____
_____

DATE/TIME MALFUNCTION STARTED: _____/_____/ 20____ _____ AM / PM

ESTIMATED HOURS OF OPERATION WITH MALFUNCTION CONDITION: _____

DATE/TIME CONTROL EQUIPMENT BACK-IN SERVICE_____/_____/ 20____ _____ AM/PM

TYPE OF POLLUTANTS EMITTED: TSP, PM-10, SO2, VOC, OTHER:_____

ESTIMATED AMOUNT OF POLLUTANT EMITTED DURING MALFUNCTION: _____
_____

MEASURES TAKEN TO MINIMIZE EMISSIONS:_____
_____

REASONS WHY FACILITY CANNOT BE SHUTDOWN DURING REPAIRS:

CONTINUED OPERATION REQUIRED TO PROVIDE ESSENTIAL* SERVICES:_____
CONTINUED OPERATION NECESSARY TO PREVENT INJURY TO PERSONS:_____
CONTINUED OPERATION NECESSARY TO PREVENT SEVERE DAMAGE TO EQUIPMENT:_____
INTERIM CONTROL MEASURES: (IF APPLICABLE)_____
_____
_____

MALFUNCTION REPORTED BY:_____TITLE:_____
(SIGNATURE IF FAXED)

MALFUNCTION RECORDED BY:_____DATE:_____TIME:_____
*SEE PAGE 2

Please note - This form should only be used to report malfunctions applicable to Rule 326 IAC 1-6 and to qualify for the exemption under 326 IAC 1-6-4.

326 IAC 1-6-1 Applicability of rule

Sec. 1. This rule applies to the owner or operator of any facility required to obtain a permit under 326 IAC 2-5.1 or 326 IAC 2-6.1.

326 IAC 1-2-39 "Malfunction" definition

Sec. 39. Any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner.

***Essential services** are interpreted to mean those operations, such as, the providing of electricity by power plants. Continued operation solely for the economic benefit of the owner or operator shall not be sufficient reason why a facility cannot be shutdown during a control equipment shutdown.

If this item is checked on the front, please explain rationale:

_____

_____

Indiana Department of Environmental Management
Office of Air Quality

Addendum to the Technical Support Document (ATSD) for a
Federally Enforceable State Operating Permit (FESOP)
Transitioning to a Minor Source Operating Permit (MSOP)

Source Background and Description

Source Name:	Cast Metals Technologies
Source Location:	1036 Old Highway 27, Winchester, Indiana 47394
County:	Randolph
SIC Code:	3363, 3365
Operation Permit No.:	135-26992-00024
Permit Reviewer:	Hannah L. Desrosiers

On April 28, 2009, the Office of Air Quality (OAQ) had a notice published in The News-Gazette, Winchester, Indiana, stating that Cast Metals Technologies had applied for a transition from their Federally Enforceable State Operating Permit (FESOP), issued on October 16, 2006, to a Minor Source Operating Permit (MSOP). The notice also stated that the OAQ proposed to issue a MSOP for this operation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

Comments and Responses

No comments were received during the public notice period.

Additional Changes

Upon further evaluation, IDEM, OAQ has performed an applicability determination of 40 CFR 60, Subpart UUU (Standards of Performance for Calciners and Dryers in Mineral Industries) for this source, as follows:

(a) The requirements of the New Source Performance Standard for Calciners and Dryers in Mineral Industries, 40 CFR Part 60.730, Subpart UUU, are not included in the permit since Cast Metals Technologies utilizes mechanical sand reclamation and not thermal sand reclamation in their two (2) sand systems, identified as the Cope and Drag Muller Sand System and the Hunter Sand System #2. Pursuant to EPA's Applicability Determination Index (ADI) database posting dated April 29, 2004 (Control Number: 0500056) (http://www.epa.gov/compliance/monitoring/programs/caa/adi.html), emission units used in the reclamation of foundry sand that remove water through direct or indirect heating meet the definition of calciners and dryers as defined in 40 CFR 60.731. However, mechanical sand reclamation does not meet this definition since heat is not being added for the reclamation of the sand.

IDEM Contact

(a) Questions regarding this proposed MSOP Renewal can be directed to Ms. Hannah Desrosiers at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) 234-5374 or toll free at 1-800-451-6027 extension 4-5374.

(b) A copy of the permit is available on the Internet at: http://www.in.gov/ai/appfiles/idem-caats/

(c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: www.idem.in.gov

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a Federally Enforceable State Operating Permit (FESOP) Transitioning to a Minor Source Operating Permit (MSOP)

Source Description and Location

Source Name:	Cast Metals Technologies
Source Location:	1036 Old Highway 27, Winchester, Indiana 47394
County:	Randolph
SIC Code:	3363, 3365
Operation Permit No.:	135-26992-00024
Permit Reviewer:	Hannah L. Desrosiers

On September 15, 2008, the Office of Air Quality (OAQ) has received an application from Cast Metals Technologies related to the transition of a FESOP to an MSOP. The requested transition was accomplished as follows:

(a) The source has requested the addition of a "clean charge" requirement to the permit, to support a determination that the source is not a secondary metals production facility and therefore not one (1) of the twenty-eight (28) source categories, as specified in 326 IAC 2-2-1(gg)(1), and not subject to 40 CFR 63, Subpart RRR - National Emission Standards for Hazardous Air Pollutants for Secondary Aluminum Production.

IDEM agrees with the request. EPA's Uncategorized Policy and Guidance Document, "Treatment of Aluminum Die Casting Operations for the Purposes of New Source Review Applicability", December 4, 1998, specifically addresses the definition of an aluminum die casting facility in relation to secondary aluminum production, based on the purity of aluminum used. EPA has determined that that a die casting facility is not engaged in secondary aluminum production as a primary activity as long as two conditions are met: (1) the facility uses feedstock such as ingots, billets, bars, sows or shot (or even as molten metal) 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 (e.g., "clean charge" as defined in 40 CFR 63.1503); and (2) the facility does not produce intermediate forms of feedstock (ingots, billets, bars, shot, sows, etc.) for sale or for use by other facilities. Hence, a source that uses "clean charge" and doesn't produce feedstock for sale or distribution is not engaged in secondary aluminum production and would not be classified as a "nested secondary aluminum support facility".

Since Cast Metals Technologies only uses "clean charge" and does not produce intermediate forms of feedstock for sale or use by other facilities, they are not engaged in secondary aluminum production and are not considered one of the twenty-eight (28) source categories, therefore, the Prevention of Significant Deterioration (PSD) threshold for particulate matter (PM) is two hundred fifty (250) tons per year.

(b) The source has requested that IDEM allow the use of an alternative emission factor, developed and published by Technikon, for the Casting Emission Reduction Program (CERP), in a September 2007 Report titled "Emissions from Shell Core Making and Storage", Publication # 1413-122 HN, to estimate VOC emissions from the shell core operations.

IDEM agrees with this request because the requested alternate emission factor has been validated through research and testing by Technikon, a reputable engineering firm that specializes in technical development in the metal casting field and manages various government programs involving metal

castings (e.g., the Casting Emission Reduction Program (CERP)). Testing will not be required to confirm the validity of the alternate emission factor because its use alone would not provide a significant reduction in emissions, and therefore not affect the permitting level for this source.

(c) The source has requested that IDEM allow the use of an established alternative emission factor for estimating Hydrogen Chloride (HCL) emissions from flux usage, which occur during melting operations.

IDEM agrees with this request because the emission factor has been validated through testing, and is in use by other "clean charge" aluminum casting sources, including; General Aluminum Manufacturing Company (GAMCO), Richmond (permit #177-20368-00050), GAMCO Huntington (permit #069-19499-00048), and Amcast Automotive, Fremont (permit #151-15211-00018), each having similar operations.

(d) The source has requested that IDEM apply the PM/PM10 reverberatory melt factor, validated through onsite testing (11/20/00), to all of its melting operations.

IDEM agrees because the AP 42 Emissions Factors for Secondary Aluminum Operations currently being used to calculate the source's potential emissions were not developed for "clean charge" aluminum melt relating to the casting process but to the refining of recycled aluminum for resale. Since the source tested factor for the reverberatory furnace was significantly lower than the AP 42 Emission Factor, and since reverberatory furnace melt emissions are inherently higher than crucible melt emissions, IDEM believes that the tested emission factor is sufficient to estimate the source's potential to emit PM from all of its melt operations

(e) The source has requested IDEM revise the process weight rate (PWR) for each of the casting lines and associated support operations, such as the sand systems, shotblast units, and sawing and sanding operations, to reflect the inherent limitations (i.e., operational bottlenecks) in each production line. The Hunter #2 casting line is limited by the maximum melt capacity of Reverberatory Furnace #2, one and five tenths (1.5) tons per hour, which limits the amount of metal poured in the casting process, the amount of sand processed by the sand system and the number of cores produced. Similarly, the die casting, permanent molding, and cope and drag floor molding operations are limited by the respective melt rates of the furnaces associated with each of these processes.

IDEM agrees with this change since the source can only cast as much metal as it is able to melt, based on the maximum capacities of the respective furnaces. Therefore, the source's emissions calculations have been adjusted to accommodate this limitation.

The operational bottleneck (i.e., maximum melt capacity of the reverberatory furnace), imposed on the Hunter Casting Line has resulted in decreased throughput for the Hunter Sand System #2 from twenty (20) tons of sand per hour to nine (9) tons per hour. This has in turn reduced the source's potential to emit (PTE) particulate matter less than or equal to a nominal 10 micrometers (PM10), from forty-seven and three tenths (47.3) tons per year to twenty-one and twenty-nine hundredths (21.29) tons per year. The reduction in PM10 emissions from the sand system, combined with the reductions from all other above listed revisions, has resulted in a reduction of sourcewide PM10 emissions to less than the Title V (TV) Major Source threshold of one hundred (100) tons per year, and therefore allowing the source to transition from their existing FESOP to the requested MSOP.

(f) The source has requested that IDEM allow the use of an alternative emission factor, developed through unofficial in-house mass balance study performed by the source, for estimating Particulate Matter (PM) emissions from the Hunter Sand System #2. Additionally, the source requests the removal of the associated testing and compliance monitoring requirements.

IDEM agrees with this request. Although the emission factor for PM is based on assumptions formed from a mass balance study performed by the source, IDEM has determined that since the unit exhausts inside the building and because the study data indicate that the uncontrolled potential PM

emissions are less than the 326 IAC 6-3 allowable emissions for this unit, the alternative emission factor be allowed. Additionally, IDEM has determined that testing will not be required to confirm the validity of the alternate emission factor. However, without a valid test, IDEM does not have adequate information to conclude that the uncontrolled sand handling processes actually operate in compliance with 326 IAC 6-3-2. Therefore, IDEM will require the source to operate the control device at all times that the emission unit is in operation. IDEM will also require that the source perform weekly monitoring of the control device in order to ensure that the device is in proper working order.

(g) The source has requested that IDEM remove the PSD limits from the permit. Based on IDEM's acceptance of the alternate emission factor for PM the source's uncontrolled potential PM emissions are now less than the PSD threshold of 250 tons per year.

IDEM agrees with this request because the combination of the operational bottleneck (i.e., maximum melt capacity of the reverberatory furnace), the removal of equipment no longer in operation at the source, and the use of an alternate emission factor for estimating PM emissions from the Hunter Sand System #2 has reduced the source's potential to emit (PTE) particulate matter (PM) from five hundred thirty-one (531) tons per year to one hundred sixty and fifty-two hundredths (160.52) tons per year. The sourcewide reduction in PM emissions, to less than the PSD Major Source Threshold of two hundred fifty (250) tons per year, allow the source to transition from a PSD Major source to a PSD Minor source. Therefore, the PSD limits are no longer required and have been removed from the permit. Finally, the reduction in PM emissions will also allow the source to transition from their existing FESOP to the requested MSOP.

Existing Approvals

The source was issued Federally Enforceable State Operating Permit (FESOP) No. 135-8065-00024 on October 16, 2006. The source has since received the following approval:

(a) Administrative Amendment No. 135-24470-00024, issued on April 17, 2007.

Due to this application, the source is transitioning from a FESOP to an MSOP.

County Attainment Status

The source is located in Randolph County. The following attainment status designations are applicable to Randolph County:

Pollutant	Designation
SO2	Better than national standards.
CO	Unclassifiable or attainment effective November 15, 1990.
O3	Unclassifiable or attainment effective June 15, 2004, for the 8-hour ozone standard.[1]
PM10	Unclassifiable effective November 15, 1990.
PM2.5	Unclassifiable or attainment effective April 5, 2005.
NO2	Cannot be classified or better than national standards.
Pb	Not designated.

➢ [1] Unclassifiable or attainment effective October 18, 2000, for the 1-hour ozone standard which was revoked effective June 15, 2005.

(a) Ozone Standards
Volatile organic compounds (VOC) and Nitrogen Oxides (NOx) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NOx emissions are considered when evaluating the rule applicability relating to ozone. Randolph County has been designated as attainment or unclassifiable

for ozone. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

(b) PM2.5
Randolph County has been classified as attainment for PM2.5. On May 8, 2008 U.S. EPA promulgated the requirements for Prevention of Significant Deterioration (PSD) for PM2.5 emissions, and the effective date of these rules was July 15th, 2008. Indiana has three years from the publication of these rules to revise its PSD rules, 326 IAC 2-2, to include those requirements. The May 8, 2008 rule revisions require IDEM to regulate PM10 emissions as a surrogate for PM2.5 emissions until 326 IAC 2-2 is revised.

(c) Other Criteria Pollutants
Randolph County has been classified as attainment or unclassifiable in Indiana for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

Fugitive Emissions

(a) The fugitive emissions of criteria pollutants and hazardous air pollutants are counted toward the determination of 326 IAC 2-6.1 (Minor Source Operating Permits) applicability.

(b) Based on an U.S. EPA memo on December 4, 1998, aluminum die casting facilities typically need not be considered as a secondary metal production plant because they do not use the feedstock, do not engage in the elaborate processes, and do not produce the end products that are characteristic of facilities engaged in secondary aluminum recovery. As a result, this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2, 326 IAC 2-3, or 326 IAC 2-7, and since there is no applicable New Source Performance Standard that was in effect on August 7, 1980, fugitive emissions are not counted toward the determination of PSD, Emission Offset, and Part 70 Permit applicability.

Background and Description of Permitted Emission Units

The Office of Air Quality (OAQ) has reviewed an application, submitted by Cast Metals Technologies on September 15, 2008, relating to the transition from their Federally Enforceable State Operating Permit (FESOP), issued on October 16, 2006, to a Minor Source Operating Permit (MSOP).

The source consists of the following permitted emission unit(s):

(a) Old Building Operations

(1) Two (2) die cast crucible furnaces, melting only "clean charge" aluminum for the Die Casting Line, identified as Furnace #1 Die Cast and Furnace #2 Die Cast, constructed prior to 1970, having a maximum heat input capacity of one and five tenths (1.5) MMBtu/hr, each, and a maximum throughput capacity of six hundred (600) pounds (three tenths (0.3) tons) of aluminum per hour, each, uncontrolled and exhausting to stacks #2 and #4, respectively;

(2) Two (2) die cast machines where aluminum castings are formed using metal molds (pouring/casting/cooling), identified as Die Cast Machines #1 and #2, constructed prior to 1970, with a maximum throughput capacity of six hundred (600) pounds (three tenths (0.3) tons) of aluminum per hour, each, uncontrolled and exhausting to the inside of the building;

(3) One (1) die cast crucible furnace, melting only "clean charge" aluminum for the Die Casting Line, identified as Furnace #5 Die Cast, constructed in 1996, having a maximum heat input capacity of one and five tenths (1.5) MMBtu/hr, and a maximum throughput capacity of sixty (60) pounds (three hundredths (0.03) tons) of aluminum per hour, uncontrolled and exhausting to stack #6;

(4) One (1) die cast machine where aluminum castings are formed using a metal mold (pouring/casting/cooling), identified as Die Cast Machine #5, constructed in 1996, with a maximum throughput capacity of sixty (60) pounds (three hundredths (0.03) tons) of aluminum per hour, uncontrolled and exhausting to the inside of the building;

(5) Two (2) perm mold crucible furnaces, melting only "clean charge" aluminum for the Perm Mold Casting Line, identified as Perm Mold Crucible Furnace #1 and Perm Mold Crucible Furnace #2, constructed prior to 1970, having a maximum heat input capacity of one and five tenths (1.5) MMBtu/hr, and a maximum throughput capacity of six hundred (600) pounds (three tenths (0.3) tons) of aluminum per hour, each, uncontrolled and exhausting to the inside of the building;

(6) Two (2) perm mold cast machines where aluminum castings are formed using metal molds (pouring/casting/cooling), identified as Perm Mold Casting Machines #1 and #2, constructed prior to 1970, with a maximum throughput capacity of six hundred (600) pounds (three tenths (0.3) tons) of aluminum per hour, each, uncontrolled and exhausting to the inside of the building;

(7) One (1) Wheelabrator shotblast machine, serving the Perm Mold Casting Line, identified as SB-3, constructed in 1990, with a maximum capacity of five hundred forty-two (542) pounds (two hundred seventy-one thousandths (0.271) tons) of metal castings per hour, controlled by a baghouse, identified as Baghouse 3, and exhausting to the outside;

(8) One (1) Spinner Hanger shotblast machine, serving the Perm Mold Casting Line, identified as SB-4, constructed in 1998, with a maximum capacity of five hundred forty-two (542) pounds (two hundred seventy-one thousandths (0.271) tons) of metal castings per hour, controlled by a baghouse, identified as Baghouse 1, and exhausting to the outside;

(9) Four (4) cope and drag crucible furnaces, melting only "clean charge" aluminum for the Cope and Drag Casting Line, identified as Crucibles #1 - #4, constructed prior to 1970, having a maximum heat input capacity of one and five tenths (1.5) MMBtu/hr, each, and a maximum throughput capacity of six hundred (600) pounds (three tenths (0.3) tons) of aluminum per hour, each, uncontrolled and exhausting to the inside of the building;

(10) One (1) cope and drag pouring and cooling line where aluminum is poured into sand molds (pouring/casting/cooling), identified as Cope and Drag Casting, constructed in 2007, with a maximum throughput capacity of two hundred forty (240) pounds (twelve hundredths (0.12) tons) of aluminum and one thousand four hundred forty (1,440) pounds (seventy-two thousandths (0.72) tons) of sand per hour, respectively, uncontrolled and exhausting to the inside of the building;

(11) One (1) cope and drag sand system, identified as Cope and Drag Muller Sand System, constructed prior to 1970, with a maximum capacity of one thousand four hundred forty (1,440) pounds (seventy-two thousandths (0.72) tons) of sand per hour, uncontrolled and exhausting to the inside of the building;

(12) One (1) cope and drag castings knockout machine, identified as Knockout-5, constructed in 1982, with a maximum throughput capacity of seven hundred (700) pounds (thirty-five hundredths (0.35) tons) of aluminum castings per hour, uncontrolled and exhausting to the inside of the building;

(13) Nine (9) shell core machines, with a combined maximum heat input capacity of two and twenty-five hundredths (2.25) MMBtu/hr, and a combined maximum throughput capacity of two hundred fifty-five (255) pounds (one thousand two hundred seventy-five ten-thousandths (0.1275) tons) of cores per hour and seven hundred sixty-five (765) pounds (three thousand eight hundred twenty-five ten-thousandths (0.3825) tons) of sand per hour, uncontrolled and exhausting to the inside of the building, and consisting of the following;

(A) Six (6) shell core machines, identified as Core Machines #1-6, each constructed in 1996;

(B) One (1) shell core machine, identified as Core Machine #7, constructed in 2000; and

(C) Two (2) shell core machines, identified as Core Machines #8 and #9, each constructed in 2002, each;

(14) One (1) clean sand storage silo, serving the shell core operations, identified as Sand Storage Silo,constructed prior to 1970, with a maximum capacity of one hundred twenty thousand (120,000) pounds (twenty (20) tons);

(b) New Building Operations

(1) One (1) Hunter reverberatory furnace, melting only "clean charge" aluminum for the Hunter Casting Line, identified as Reverberatory Furnace #2, constructed in 1999, having a maximum heat input capacity of seven and five tenths (7.5) MMBtu/hr, and a maximum throughput capacity of three thousand (3000) pounds (one and five tenths (1.5) tons) of aluminum per hour, uncontrolled and exhausting to stack #11;

(2) One (1) Hunter automatic molder machine where aluminum is poured into sand molds (pouring/casting/cooling), identified as Molder #6, constructed in 1999, with a maximum capacity of three thousand (3000) pounds (one and five tenths (1.5) tons) of aluminum and nine (9) tons of sand per hour, respectively, uncontrolled and exhausting to the inside of the building;

(3) One (1) Hunter sand system, identified as Hunter Sand System #2, constructed in 1999, with a maximum capacity of nine (9) tons of sand per hour, controlled by a baghouse dust collector, identified as Baghouse 4, and exhausting to the inside of the building;

(4) One (1) Hunter reclaimed sand storage silo, serving the Hunter Sand System #2, constructed in 1998 with a maximum capacity of 200 tons;

(5) Three (3) Hunter castings knockout machines, uncontrolled and exhausting to the inside of the building, and consisting of the following:

(A) One (1) Hunter castings knockout machine, identified as Knockout-2, constructed in 1999, with a maximum throughput capacity of one thousand seven hundred eighty (1780) pounds (eighty-nine hundredths (0.89) tons) of aluminum castings per hour; and

(B) Two (2) Hunter castings knockout machines, identified as Knockout-3 and Knockout-4, constructed in 2000, with a maximum throughput capacity of seven hundred (700) pounds (thirty-five hundredths (0.35) tons) of aluminum castings per hour, each;

(6) Finishing operations, with a combined maximum capacity of one thousand four hundred forty (1,440) pounds of metal castings per hour, uncontrolled and exhausting to the inside of the building, as follows: [326 IAC 6-3-2]

(A) Three (3) cut-off saws, constructed in 1990;

(B) Nine (9) sanders, constructed in 1998.

(7) One (1) Wheelabrator shotblast machine, identified as SB-5, constructed in 1999, with a maximum throughput capacity of five hundred forty-two (542) pounds (two hundred seventy-one thousandths (0.271) tons) of metal castings per hour, controlled by a baghouse, identified as Baghouse 5, and exhausting to the inside of the building.

(c) Degreasing operations that do not exceed one hundred forty-five (145) gallons per twelve (12) months, except if subject to 326 IAC 20-6 including:

(1) One (1) cold cleaner parts washer, constructed in 2000, using no halogenated solvents; [326 IAC 8-3-2] [326 IAC 8-3-5]

(d) Mold release agents using low volatile products (vapor pressure less than or equal to two (2) kiloPascals measured at thirty-eight (38) degrees Celsius (C);

(e) Chlorine fluxing operations, to reduce the formation of oxides during each melt process, and prevent the buildup of oxides in each furnace, with a maximum usage rate of five and sixty-two hundredths (5.62) pounds (three thousandths (0.003) tons) of flux per hour, combined;

(f) Natural gas-fired combustion sources with heat input equal to or less than ten (10) million Btu per hour, including the following:

(1) Two (2) heat treat furnaces, each constructed prior to 1970, with a maximum heat input capacity of seventy-five hundredths (0.75) million British thermal units per hour, each, uncontrolled and exhausting to stacks #9 and #10;

(2) One (1) age oven, constructed prior to 1970, with a maximum heat input capacity of seventy-five hundredths (0.75) million British thermal units per hour, uncontrolled and exhausting to the inside of the building;

(g) Combustion source flame safety purging on startup;

(h) Quenching operations used with heat treating processes;

(i) The following equipment related to manufacturing activities not resulting in the emission of HAPs; brazing equipment, cutting torches, soldering equipment, welding equipment, including but not limited to the following:

(1) Maintenance welding activities;

Total weld rod and wire usage is less than six hundred twenty-five (625) pounds per day, and less than three thousand four hundred (3,400) inches of metal is cut per hour;

(j) A laboratory as defined in 326 IAC 2-7-1(21)(D).

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

(l) On-site fire and emergency response training approved by the department; and

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

Enforcement Issues

There are no pending enforcement actions related to this source.

Emission Calculations

See Appendix A of this TSD for detailed emission calculations.

Permit Level Determination – MSOP

The following table reflects the unlimited potential to emit (PTE) of the entire source before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Pollutant	Potential To Emit (tons/year)
PM	160.52
PM10*	52.09
PM2.5	51.86
SO_2	1.03
NO_x	12.21
VOC	18.07
CO	52.80

* Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant". US EPA has directed states to regulate PM10 emissions as surrogate for PM2.5 emissions.

(b) The potential to emit (PTE) (as defined in 326 IAC 2-1.1-1(16)) of regulated criteria pollutant PM10 is less than one hundred (100) tons per year, but greater than or equal to twenty-five (25) tons per year. The PTE of all other regulated criteria pollutants are less than twenty-five (25) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-6.1. A Minor Source Operating Permit (MSOP) will be issued.

(a) The potential to emit (PTE) (as defined in 326 IAC 2-7-1(29)) of PM is greater than two hundred fifty (250) tons per year. However, the PTE of PM after control is less than 250 tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-6.1. A Minor Source Operating Permit (MSOP) (326 IAC 2-6.1) will be issued.

HAPs	Potential To Emit (tons/year)
Total Hydrocarbons	4.51
Hydrogen Cyanide	2.12
Benzene	1.34
Ammonia	0.78
Toluene	0.68
Phenol	0.49
Total Aromatic Amines	0.47
Hexane	0.22
Nitrogen Oxides	0.20

HAPs	Potential To Emit (tons/year)
M-Xylene	0.12
Total C2 to C5 Aldehydes	0.12
Hydrogen Chloride (HCL)	0.04
O-Xylene	0.02
Hydrogen Sulfide	0.02
Formaldehyde	0.02
Napthalene	0.01
Acrolein	0.01
TOTAL HAPs	**11.15**

(c) The potential to emit (PTE) (as defined in 326 IAC 2-1.1-1(16)) of any single HAP is less than ten (10) tons per year and the PTE of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA) and not subject to the provisions of 326 IAC 2-7.

PTE of the Entire Source After Issuance of the MSOP

The table below summarizes the potential to emit of the entire source after issuance of this MSOP, reflecting all limits, of the emission units.

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Process/ Emission Unit	Potential To Emit of the Entire Source After Issuance of MSOP (tons/year)								
	PM	PM10	PM2.5	SO_2	NOx	VOC	CO	Total HAPs	Worst Single HAP
Die Cast Crucible Melt	6.11	6.11	6.11	0	0	0	0	0.01 HCL	0.01 HCL
Perm Mold Crucible Melt	1.97	1.97	1.97	0	0	0	0	0.003 HCL	0.003 HCL
Crucible Melt	0.79	0.79	0.79	0	0	0	0	0.001 HCL	0.001 HCL
Reverb Furnace Melt	9.86	9.86	9.86	0	0	0	0	0.02 HCL	0.02 HCL
Die Casting	0.06	0.06	0.06	0.08	0.04	0.57	0	0	0
Perm Mold Casting	0.02	0.02	0.02	0.03	0.01	0.18	0	0	0
Cope & Drag Pouring & Cooling	0.01	0.01	0.01	0.01	0.01	0.07	3.15	0	0
Hunter Pouring & Cooling & Liftout	0.01	0.01	0.01	0.13	0.07	0.92	39.42	0	0
Knockout	2.84	2.84	2.84	0	0	7.88	0	0	0
Cope & Drag Muller Sand System	11.35	1.70	1.70	0	0	0	0	0	0
Hunter Sand System	62.28	21.29	21.29	0	0	0	0	0	0
Shell Core	0	0	0	0.71	0	0.30	0.07	10.77	4.51 Total Hydrocarbons
Shotblast **	22.46	6.05	6.05	0	0	0	0	0	0
Cut-off Saws & Sanding	4.20	0.42	0.42	0	0	0	0	0	0
Reverb Furnace Combustion	0.06	0.25	0.19	0.02	3.29	0.18	2.76	0.06	0.059 Hexane
Shell Core Natural Gas Combustion	0.02	0.07	0.06	0.01	0.99	0.054	0.83	0.02	0.018 Hexane
Insignificant Natural Gas Combustion Units	0.15	0.59	0.45	0.05	7.82	0.43	6.57	0.15	0.14 Hexane
Insignificant Solvent Usage	0	0	0	0	0	7.47	0	0	0.12 Toluene
Maintenance Welding	0.003	0.003	0.003	0	0	0	0	2.67E-4	2.62E-4 Manganese
Fugitive Emissions Paved Roads	0.26	0.05	0	0	0	0	0	0	0
Total PTE of Entire Source	**160.52**	**52.09**	**51.86**	**1.03**	**12.21**	**18.07**	**52.80**	**11.15**	**4.51 Total Hydrocarbons**
Title V Major Source Thresholds	NA	100	100	100	100	100	100	25	10
PSD Major Source Thresholds	250	250	250	250	250	250	250	NA	NA

negl. = negligible

* Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant". US EPA has directed states to regulate PM10 emissions as surrogate for PM2.5 emissions.

** The PTE PM specified are based on the allowable PM emissions rate under 326 IAC 6-3-2 (Process Weight Rate Rule). See State Rule applicability for details.

(a) <u>PSD Minor Source</u>

(1) This existing source is not a major stationary source, under PSD (326 IAC 2-2), because no attainment regulated pollutant is emitted at a rate of 250 tons per year or more, and it is not one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(gg)(1).

(2) This existing source is not a major source of HAPs, as defined in 40 CFR 63.41, because the unlimited potential to emit HAPs are less than ten (10) tons per year for any single HAP and less than twenty-five (25) tons per year of a combination of HAPs. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA).

Federal Rule Applicability Determination

New Source Performance Standards (NSPS)

(a) The requirements of the New Source Performance Standard for Primary Aluminum Reduction Plants, 40 CFR Part 60, Subpart S (326 IAC 12), are not included in the permit because this source is not a primary aluminum reduction plant.

(b) The requirements of the New Source Performance Standard for Ferroalloy Production Facilities, 40 CFR 60, Subpart Z (326 IAC 12), are not included in the permit because this source does not operate an electric submerged arc furnace.

(c) There are no other New Source Performance Standards (NSPS)(40 CFR Part 60 and 326 IAC 12) included in the permit.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

(a) The requirements of the New Source Performance Standard for National Emission Standards for Hazardous Air Pollutants for Secondary Aluminum Production, 40 CFR 63, Subpart RRR (326 IAC 20), are not included in the permit, since this source melts only clean charge, internal scrap, or customer returns and does not operate a sweat furnace, thermal chip dryer or scrap dryer/delacquering kiln/decoating kiln.

(b) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Primary Aluminum Reduction Plants, 40 CFR 63, Subpart LL (326 IAC 20), are not included in the permit because this source is not a primary aluminum reduction plant.

(c) The requirements of the National Emission Standard for Hazardous Air Pollutants (NESHAPs) for Halogenated Solvent Cleaning, 40 CFR 63, Subpart T (326 IAC 20-6), are not included in this permit for the degreasing operations because this source does not use halogenated solvents.

(d) There are no other National Emission Standards for Hazardous Air Pollutants (NESHAPs) (40 CFR Part 63, 326 IAC 14, and 326 IAC 20) included in the permit.

Compliance Assurance Monitoring (CAM)

(a) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is not included in the permit, because the unlimited potential to emit of the source is less than the Title V major source thresholds and the source is not required to obtain a Part 70 or Part 71 permit.

State Rule Applicability Determination

The following state rules are applicable to the source:

(a) 326 IAC 2-2 (Prevention of Significant Deterioration(PSD))
PSD applicability is discussed under the Permit Level Determination – MSOP section above.

(b) 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))
The potential to emit of any single HAP is less than ten (10) tons per year and the potential to emit of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, this source is an area

source under Section 112 of the Clean Air Act (CAA) and not subject to the provisions of 326 IAC 2-4.1.

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

(d) 326 IAC 2-6.1 (Minor Source Operating Permits (MSOP))
MSOP applicability is discussed under the Permit Level Determination – MSOP section above.

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

(1) 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.

(2) 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.

(f) 326 IAC 6-4 (Fugitive Dust Emissions Limitations)
Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions Limitations), the source 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.

(g) 326 IAC 8-1-6 (New facilities; General reduction requirements)
The potential VOC emissions from each of the emission units at this source are less than twenty-five (25) tons per year. Therefore, the requirements of 326 IAC 8-1-6 do not apply to any of the emission units at this source and are not included in the permit.

(h) 326 IAC 8-6 (Organic Solvent Emission Limitations)
Operation of this source commenced prior to October 7, 1974. Therefore, the requirements of 326 IAC 8-6 do not apply to this source and are not included in the permit.

(i) 326 IAC 9-1 (Carbon Monoxide Emission Rules)
There is no CO emission limitation established by 326 IAC 9-2 for this source. Therefore, pursuant to 326 IAC 9-1-1, the requirements of 326 IAC 9-1 do not apply to this source and are not included in the permit.

(j) 326 IAC 11-1 (Existing Foundries)
This source does not have a cupola. Therefore, the requirements of 326 IAC 11-1 do not apply to this source and are not included in the permit.

(k) 326 IAC 12 (New Source Performance Standards)
See Federal Rule Applicability Section of this TSD.

(l) 326 IAC 20 (Hazardous Air Pollutants)
See Federal Rule Applicability Section of this TSD.

"Clean Charge" Aluminum Melt - Crucible & Reverberatory Furnaces

(m) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from each of the aluminum melting operations shall not exceed the following:

Unit ID	Process Weight Rate (lbs/hr)	Process Weight Rate (tons/hr)	Allowable PM Emissions (lbs/hr)
Die cast Crucible Melt, combined (Furnace #1, #2 & #5 Die Cast)	1,860	0.93	**3.91**
Perm Mold Crucible Melt, combined (Perm Mold Casting Machines #1 and #2)	600	0.30	**1.83**
Crucible Melt (Crucibles #1-#4, combined)	240	0.12	**0.99**
Reverb Furnace Melt (Reverberatory Furnace #2)	3,000	1.50	**5.38**

Note: All the furnaces use small amounts of flux to reduce the formation of oxides during the melting process and for cleaning purposes. Emission factors for metal melt include emissions generated from the use of cover, wall, and cleaning fluxes. Therefore, flux usage has been incorporated into the PWR for each melting operation.

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

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

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

Based on the calculations provided in Appendix A, the potential uncontrolled PM emission rate for each of the aluminum melting operations are as follows:

Unit ID	Uncontrolled Potential to Emit (tons/year)	*Potential PM Emissions (lbs/hr)
Die Cast Crucible Melt, combined (Furnace #1, #2 & #5 Die Cast)	6.11	**1.39**
Perm Mold Crucible Melt, combined (Perm Mold Casting Machines #1 and #2)	1.97	**0.45**
Crucible Melt, combined (Crucibles #1-#4)	0.79	**0.18**
Reverb Furnace Melt (Reverberatory Furnace #2)	9.86	**2.25**

* Potential PM Emissions (lbs/hr) = Potential PM Emissions (tons/yr) × (2000 lbs/ton / 8760 hrs/yr)

The potential uncontrolled PM emissions from each of the aluminum melting operations are less than their allowable PM emissions, respectively. Therefore, each of the aluminum melting operations is in compliance with this rule and a control device is not needed for any of these emission units.

Pouring, Casting, Cooling & Liftout Operations

(n) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
The pouring, casting, cooling & liftout operations, combined, have potential particulate emissions of less than five hundred fifty-one thousandths (0.551) pound per hour. Therefore, pursuant to 326 IAC 6-3-1(b)(14), the pouring, casting, cooling & liftout operations, combined, are specifically exempted from the requirements of 326 IAC 6-3.

Consequently, 326 IAC 6-3 does not apply to the pouring, casting, cooling & liftout operations, and the requirements are not included in the permit.

Knockout

(o) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from the combined knockout operations shall not exceed five and sixty-six hundredths (5.66) pounds per hour when operating at a process weight rate of three thousand two hundred forty (3,240) pounds (one and sixty-two hundredths (1.62) tons) per hour. The pound per hour limitation was calculated as follows:

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

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

Based on the calculations provided in Appendix A, the potential uncontrolled PM emission rate for the combined knockout operations, is:

2.84 tons/yr × (2000 lbs/ton / 8760 hrs/yr) = 0.65 lbs/hr

The potential uncontrolled PM emissions from the combined knockout operations are sixty-five hundredths (0.65) pounds of PM per hour, which is less than the allowable rate of five and sixty-six hundredths (5.66) pounds of PM per hour. Therefore, the combined knockout operations are in compliance with this rule and a control device is not needed for these emission units.

Sand Systems

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

(1) Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from the Cope & Drag Muller Sand System shall not exceed three and twenty-nine hundredths (3.29) pounds per hour when operating at a process weight rate of one thousand four hundred forty (1,440) pounds (seventy-two hundredths (0.72) tons) per hour. The pound per hour limitation was calculated as follows:

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

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

Based on the calculations provided in Appendix A, the potential uncontrolled PM emission rate for the Cope & Drag Muller Sand System is:

11.35 tons/yr × (2000 lbs/ton / 8760 hrs/yr) = 2.59 lbs/hr

The potential, uncontrolled PM emissions from the Cope & Drag Muller Sand System are two and fifty-nine hundredths (2.59) pounds of PM per hour, which is less than the allowable rate of three and twenty-nine hundredths (3.29) pounds of PM per hour. Therefore, the Cope & Drag Muller Sand System is in compliance with this rule and a control device is not needed for this emission unit.

(2) Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from the Hunter Sand System #2 shall not exceed seventeen and eighty-seven hundredths (17.87) pounds per hour when operating at a process weight rate of eighteen thousand (18,000) pounds (nine (9.0) tons) per hour.

The pound per hour limitation was calculated as follows:

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

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

Based on the calculations provided in Appendix A, the potential uncontrolled PM emission rate for the Hunter Sand System #2 is:

62.28 tons/yr × (2000 lbs/ton / 8760 hrs/yr) = 14.22 lbs/hr

The potential uncontrolled PM emission rate from the Hunter Sand System #2 is fourteen and twenty-two hundredths (14.22) pounds per hour, which is less than the allowable rate of seventeen and eighty-seven hundredths (17.87) pounds of PM per hour. Although the potential uncontrolled PM emission rate is less than the allowable PM limit of seventeen and eighty-seven hundredths (17.87) pounds per hour, IDEM has determined that Baghouse #4 shall be in operation and controlling emissions at all times that the Hunter Sand System #2 is in operation.

Note: The alternative emission factor, used to calculate the uncontrolled potential PM emissions from this unit, is based on assumptions formed from a mass balance study performed by the source. IDEM has determined that since the unit exhausts inside the building and because the study data indicate that the uncontrolled potential PM emissions are less than the 326 IAC 6-3 allowable emissions for this unit, the alternative emission factor be allowed. However, IDEM does not have adequate information to conclude that the uncontrolled sand handling process actually operates in compliance with 326 IAC 6-3-2. Therefore, IDEM will require the source to operate the control device at all times that the emission unit is in operation.

Shell Core

(q) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
The shell core operations have potential particulate emissions of less than five hundred fifty-one thousandths (0.551) pound per hour. Therefore, pursuant to 326 IAC 6-3-1(b)(14), the shell core operations are specifically exempted from the requirements of 326 IAC 6-3.

Consequently, 326 IAC 6-3 does not apply to the shell core operations and the requirements are not included in the permit.

Shotblast

(r) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from the shotblast operations, including the Wheelabrator shotblast machine (SB-3, serving the perm mold casting line), the Spinner Hanger shotblast machine (SB-4, serving the perm mold casting line) and Wheelabrator shotblast machine (SB-5, serving the Hunter casting line), shall not exceed one and seventy-one hundredths (1.71) pounds per hour, each, when operating at a process weight rate of five hundred forty-two (542) pounds (two hundred seventy-one thousandths (0.271) tons) per hour, each. The pound per hour limitation was calculated as follows:

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

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

Based on the calculations provided in Appendix A, the potential uncontrolled PM emission rate for each of the shotblast operations is:

20.18 tons/yr × (2000 lbs/ton / 8760 hrs/yr) = 4.61 lbs/hr

The potential uncontrolled PM emission rate from the shotblast operations are four and sixty-one hundredths (4.61) pounds per hour, each, which is greater than the allowable rate of one and seventy-one hundredths (1.71) pounds of PM per hour, each. In order to comply with the allowable PM limit of one and seventy-one hundredths (1.71) pounds per hour, each, baghouses #3, #1, and #5, respectively, shall be in operation and controlling emissions at all times that shotblast units SB-3, SB-4, and SB-5 are in operation.

Compliance with these limitations, combined with the limits and emissions from all other emission units at this source, will satisfy 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), and will render 326 IAC 2-2, PSD, not applicable.

Finishing Operations - cut-off saws and sanding

(s) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from the Finishing Operations, including the cut-off saws and sanding equipment, shall not exceed three and twenty-nine hundredths (3.29) pounds per hour when operating at a process weight rate of one thousand four hundred forty (1,440) pounds (seventy-two hundredths (0.72) tons) per hour, combined. The pound per hour limitation was calculated as follows:

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

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

Based on the calculations provided in Appendix A, the potential, uncontrolled PM emission rate for the cut-off saws and sanding equipment is:

4.20 tons/yr × (2000 lbs/ton / 8760 hrs/yr) = 0.96 lbs/hr

The potential uncontrolled PM emission rate from the cut-off saws and sanding equipment is ninety-six hundredths (0.96) pounds per hour, which is less than the allowable rate of three and twenty-nine hundredths (3.29) pounds of PM per hour. Therefore, the cut-off saws and sanding equipment are in compliance with this rule and a control device is not needed for these emission units.

Compliance with these limitations, combined with the limits and emissions from all other emission units at this source, will satisfy 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), and will render 326 IAC 2-2, PSD, not applicable.

Natural Gas Combustion

(t) 326 IAC 4-2-2 (Incinerators)
The one (1) reverberatory furnace, nine (9) shell core machines, two (2) heat treat furnaces, one (1) age oven, fourteen (14) tube heaters, and nine (9) crucible heaters, are each not incinerators, as defined by 326 IAC 1-2-34, since they do not burn waste substances. Therefore, 326 IAC 4-2-2 does not apply to the two (2) burners, three (3) drying ovens, forty-two (42) radiant heaters, and one (1) air make-up unit, and the requirements are not included in the permit.

(u) 326 IAC 6-2 (Particulate Emissions from Indirect Heating Units)
The one (1) reverberatory furnace, nine (9) shell core machines, two (2) heat treat furnaces, one (1) age oven, fourteen (14) tube heaters, and nine (9) crucible heaters, are each not sources of indirect heating, as defined in 326 IAC 1-2-19 "Combustion for indirect heating". Therefore, 326 IAC 6-2-2 does not apply to the one (1) reverberatory furnace, nine (9) shell core machines, two (2) heat treat furnaces, one (1) age oven, fourteen (14) tube heaters, and nine (9) crucible heaters, and the requirements are not included in the permit.

(v) 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes)
The one (1) reverberatory furnace, nine (9) shell core machines, two (2) heat treat furnaces, one (1) age oven, fourteen (14) tube heaters, and nine (9) crucible heaters, each, do not meet the definition of a "manufacturing process", as defined in 326 IAC 6-3-1.5(2), and are therefore each exempt from the requirements of 326 IAC 6-3. Consequently, the requirements of 326 IAC 6-3 are not included in the permit for these units.

(w) 326 IAC 7-1.1 (Sulfur Dioxide Emissions Limitations)
The potential, and actual, emissions emissions from the one (1) reverberatory furnace, nine (9) shell core machines, two (2) heat treat furnaces, one (1) age oven, fourteen (14) tube heaters, and nine (9) crucible heaters, each, are less than twenty-five (25) tons per year and ten (10) pounds per hour respectively. Therefore, 326 IAC 7-1.1-2 does not apply to the two (2) burners, three (3) drying ovens, forty-two (42) radiant heaters, and one (1) air make-up unit, and the requirements are not included in the permit.

(x) 326 IAC 9-1 (Carbon Monoxide Emission Limits)
There are no applicable emission limits listed in 326 IAC 9-1-2 for any of the facilities at this source. Therefore, the requirements of 326 IAC 9-1 are not included in the permit.

(y) 326 IAC 10-1-1 (Nitrogen Oxides Control)
This source is not located in Clark or Floyd County. Therefore, the requirements of 326 IAC 10-1 are not included in the proposed permit.

Solvent Usage

(z) 326 IAC 8-3-2 (Cold Cleaner Operations)
The one (1) insignificant maintenance parts washer is subject to the provisions of 326 IAC 8-3-2 (Organic solvent degreasing operations: cold cleaner operations). Therefore, pursuant to 326 IAC 8-3-2 (Cold Cleaner Operations), for cold cleaning operations constructed after January 1, 1980, the Permittee shall:

(1) equip the cleaner with a cover;

(2) equip the cleaner with a facility for draining cleaned parts;

(3) close the degreaser cover whenever parts are not being handled in the cleaner;

(4) drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;

(5) provide a permanent, conspicuous label summarizing the operating requirements;

(6) store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere.

(aa) 326 IAC 8-3-5 (Organic Solvent Degreasing Operations)
The one (1) insignificant maintenance parts washer is also subject to the provisions of 326 IAC 8-3-5 (Organic solvent degreasing operations: cold cleaner degreaser operation and control) because it was

constructed in 2000 and does not have a remote solvent reservoir. Therefore, pursuant to 326 IAC 8-3-5, the Permittee shall continue to:

(1) Pursuant to 326 IAC 8-3-5(a) (Cold Cleaner Degreaser Operation and Control), for cold cleaner degreaser operations without remote solvent reservoirs constructed after July 1, 1990, the Permittee shall continue to ensure that the following control equipment requirements are met:

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

(i) The solvent volatility is greater than two (2) kiloPascals (fifteen (15) millimeters of mercury or three-tenths (0.3) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F));

(ii) The solvent is agitated; or

(iii) The solvent is heated.

(B) Equip the degreaser with a facility for draining cleaned articles. If the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F)), then the drainage facility must be internal such that articles are enclosed under the cover while draining. The drainage facility may be external for applications where an internal type cannot fit into the cleaning system.

(C) Provide a permanent, conspicuous label which lists the operating requirements outlined in subsection (b).

(D) The solvent spray, if used, must be a solid, fluid stream and shall be applied at a pressure which does not cause excessive splashing.

(E) Equip the degreaser with one (1) of the following control devices if the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38°C) (one hundred degrees Fahrenheit (100°F)), or if the solvent is heated to a temperature greater than forty-eight and nine-tenths degrees Celsius (48.9°C) (one hundred twenty degrees Fahrenheit (120°F)):

(i) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.

(ii) A water cover when solvent is used is insoluble in, and heavier than, water.

(iii) Other systems of demonstrated equivalent control such as a refrigerated chiller of carbon adsorption. Such systems shall be submitted to the U.S. EPA as a SIP revision.

(2) Pursuant to 326 IAC 8-3-5(b) (Cold Cleaner Degreaser Operation and Control), the owner or operator of a cold cleaning facility construction of which commenced after July 1, 1990, shall continue to ensure that the following operating requirements are met:

(A) Close the cover whenever articles are not being handled in the degreaser.

(B) Drain cleaned articles for at least fifteen (15) seconds or until dripping ceases.

(C) Store waste solvent only in covered containers and prohibit the disposal or transfer of waste solvent in any manner in which greater than twenty percent (20%) of the waste solvent by weight could evaporate.

(bb) There are no other 326 IAC 8 Rules that apply to solvent usage at this source

Maintenance Welding

(cc) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
The maintenance welding operations, conducted at the source, consume less than six hundred twenty-five (625) pounds of rod or wire per day. Therefore, since pursuant to 326 IAC 6-3-1(b)(9), welding operations that consume less than six hundred twenty-five (625) pounds of rod or wire per day are specifically exempted, the requirements of 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes) do not apply to the maintenance welding operations at this source, and are not included in the permit.

Compliance Determination, Monitoring and Testing Requirements

Compliance Determination Requirements

(a) Baghouse #1 shall be in operation and controlling emissions at all times that shotblast unit SB-4 is in operation.

(b) Baghouse #3 shall be in operation and controlling emissions at all times that shotblast unit SB-3 is in operation.

(c) Baghouse #4 shall be in operation and controlling emissions at all times that the Hunter Sand System #2 is in operation.

(d) Baghouse #5 shall be in operation and controlling emissions at all times that shotblast unit SB-5 is in operation.

Compliance Monitoring Requirements

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

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Emission Unit	Control Device	Parameter	Frequency	Range	Excursions and Exceedances
Spinner Hanger Shotblast Unit SB-4	Baghouse # 1 (< 4000 cfm), exhausting to the outside	Water Pressure Drop	once per day	1.0 to 8.0 inches	Response Steps
		Visible Emissions	once per day	< 40% for any (1) 6min avg period < 60% for more than 15 minutes	Response Steps
		Bags in Baghouse	as needed	normal/ abnormal	Response Steps
Wheelabrator Shotblast Unit SB-3	Baghouse #3 < 4000 cfm, exhausting to the outside	Water Pressure Drop	once per day	1.0 to 8.0 inches	Response Steps
		Visible Emissions	once per day	< 40% for any (1) 6min avg period < 60% for more than 15 minutes	Response Steps
		Bags in Baghouse	as needed	normal/ abnormal	Response Steps
Hunter Sand System #2	Baghouse #4 (< 4000 cfm), exhausting to the inside of the building	Water Pressure Drop	once per week	1.0 to 8.0 inches	Response Steps
		Bags in Baghouse	as needed	normal/ abnormal	Response Steps
Wheelabrator Shotblast Unit SB-5	Baghouse #5 (< 4000 cfm) exhausting to the inside of the building	Water Pressure Drop	once per day	1.0 to 8.0 inches	Response Steps
		Bags in Baghouse	as needed	normal/ abnormal	Response Steps

These monitoring conditions are necessary because the above listed control devices must operate properly to ensure compliance with 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), and 326 IAC 2-6.1 (MSOP).

(b) There are no specific compliance monitoring requirements for any of the other emission units at this source.

Testing requirements

There are no specific testing requirements associated with any of the emission units at this source.

(a) The applicant conducted tests to support the use of alternate emission factors for the particulate emissions from the knockout operations on September 13 and 14 1995, and for the reverberatory furnaces and pouring, cooling, and shakeout operations on November 20, 2000. No additional testing is required for those units at this time.

(b) FESOP permit #135-8065-00024 contained an initial test requirement for the Hunter Sand System #2. The condition was included because the Hunter Sand System #2 was constructed and operated prior to the receipt of FESOP #135-8065-00024, and because AP-42 emission factors for sand handling at grey iron foundries were used to calculate the potential to emit PM, since emission factors did not exist for sand handling processes at aluminum foundries. IDEM, OAQ, determined that adequate information was unavailable to determine that the sand handling processes had been operating, or would be capable of operating, in compliance with 326 IAC 6-3-2.

However, during this review period, the source performed a mass balance study of the Hunter Sand System #2 processes and developed an alternative emission factor based on assumptions made during the study. The source then submitted a revised potential to emit PM using the alternative emission factor, showing that the uncontrolled potential PM emissions are less than the 326 IAC 6-3 allowable emissions for this unit. IDEM has reviewed the alternative emission factor, mass balance study, and revised PM emission calculations and determined that since the unit exhausts inside the building and because the study data indicate that the uncontrolled potential PM emissions are less

than the 326 IAC 6-3 allowable emissions for this unit, the alternative emission factor be allowed. Additionally, IDEM has determined that testing will not be required to confirm the validity of the alternate emission factor. Nonetheless, without a valid test, IDEM does not have adequate information to conclude that the uncontrolled sand handling processes actually operate in compliance with 326 IAC 6-3-2. Therefore, IDEM will require the source to operate the control device at all times that the emission unit is in operation.

(c) FESOP permit #135-8065-00024 contained an initial test requirement for the one (1) Wheelabrator shotblaster, identified as SB-5. The condition was included because SB-5 was constructed and operated prior to the receipt of FESOP #135-8065-00024, and because AP-42 emission factors for cleaning/finishing at grey iron foundries were used to calculate the potential to emit PM, since emission factors did not exist for cleaning/finishing processes at aluminum foundries. IDEM, OAQ, determined that adequate information was unavailable to determine that the sand handling processes had been operating, or would be capable of operating, in compliance with 326 IAC 6-3-2.

However, during this review period, the source requested that IDEM re-review the need for the initial test requirement. IDEM has reviewed the uncontrolled potential PM emissions from SB-5 and determined that since the source is minor for PSD, would only require a 65% control efficiency to meet the 326 IAC 6-3 allowable emissions for the unit, and because the unit exhausts inside the building, that the initial test requirement will be removed from the permit.

Air Quality Impacts from Minor Sources

Modeling Overview
Pursuant to 326 IAC 2-1.1-5, IDEM, OAQ, has conducted a modeling analysis of the Limited Potential to Emit (PTE) criteria pollutants from this proposed source to estimate whether the Limited PTE criteria pollutants will cause or contribute to a violation of any National Ambient Air Quality Standard (NAAQS).

Modeling Results
The modeling results, included as Appendix B to this TSD, indicate that the Limited PTE criteria pollutants from this source will not exceed the National Ambient Air Quality Standards (NAAQS).

Conclusion and Recommendation

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant. An application for the purposes of this review was received on September 15, 2008.

The operation of this source shall be subject to the conditions of the attached proposed MSOP, No. F135-26992-00024. The staff recommends to the Commissioner that this MSOP be approved.

IDEM Contact

(a) Questions regarding this proposed permit can be directed to Ms. Hannah Desrosiers at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) 234-5374 or toll free at 1-800-451-6027, extension 45374.

(b) A copy of the findings is available on the Internet at: http://www.in.gov/ai/appfiles/idem-caats/

(c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: www.idem.in.gov

Appendix A: Emissions Calculations
Emission Summary

Company Name: Cast Metals Technologies
Address City IN Zip: 1036 Old Highway 27, Winchester, IN 47394
Permit Number: F 135-26992-00024
Reviewer: Hannah L. Desrosiers
Submittal Date: September 15, 2008

		Unlimited/Uncontrolled Potential Emissions (tons/year)																				
		Emissions Generating Activity																				
																Natural Gas Combustion						
Category	Pollutant	Die Cast Crucible Melt	Perm Mold Crucible Melt	Crucible Melt	Reverb Furnace Melt	Die Casting	Perm Mold Casting	Cope & Drag Pouring & Cooling	Hunter Pouring & Cooling & Liftout	Knockout	Cope & Drag Muller Sand System	Hunter Sand System	Shell Core	Shotblast	Finishing Operations (cut-off saws & sanding)	Reverb Furnace	Shell Core	Insignificant Units	Insignificant Solvent Usage	Maintenance Welding	Paved Roads	TOTAL
Criteria Pollutants	PM	6.11	1.97	0.79	9.86	0.06	0.02	0.01	0.01	2.84	11.35	62.28	0	60.54	4.20	0.06	0.02	0.15	0	0.003	0.26	160.52
	PM10	6.11	1.97	0.79	9.86	0.06	0.02	0.01	0.01	2.84	1.70	21.29	0	6.05	0.42	0.25	0.07	0.59	0	0.003	0.05	52.09
	PM2.5	6.11	1.97	0.79	9.86	0.06	0.02	0.01	0.01	2.84	1.70	21.29	0	6.05	0.42	0.19	0.06	0.45	0	0.003	0.05	51.86
	SO2	0	0	0	0	0.08	0.03	0.01	0.13	0	0	0	0.71	0	0	0.02	0.01	0.05	0	0	0	1.03
	NOx	0	0	0	0	0.04	0.01	0.01	0.07	0	0	0	0	0	0	3.29	0.99	7.82	0	0	0	12.21
	VOC	0	0	0	0	0.57	0.18	0.07	0.92	7.88	0	0	0.30	0	0	0.18	0.05	0.43	7.47	0	0	18.07
	CO	0	0	0	0	0	0	3.15	39.42	0	0	0	0.07	0	0	2.76	0.83	6.57	0	0	0	52.80
Hazardous Air Pollutants	Acrolein	0	0	0	0	0	0	0	0	0	0	0	0.01	0	0	0	0	0	0	0	0	0.01
	Ammonia	0	0	0	0	0	0	0	0	0	0	0	0.78	0	0	0	0	0	0	0	0	0.78
	Benzene	0	0	0	0	0	0	0	0	0	0	0	1.34	0	0	6.90E-05	2.07E-05	1.64E-04	0	0	0	1.34
	Dichlorobenzene	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3.94E-05	1.18E-05	9.38E-05	0	0	0	1.45E-04
	Formaldehyde	0	0	0	0	0	0	0	0	0	0	0	0.01	0	0	0.002	7.39E-04	0.01	0	0	0	0.02
	Hexane	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.06	0.02	0.14	0	0	0	0.22
	Hydrogen Chloride (HCL)	0.01	0.003	0.001	0.02	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.03
	Hydrogen Cyanide	0	0	0	0	0	0	0	0	0	0	0	2.12	0	0	0	0	0	0	0	0	2.12
	Hydrogen Sulfide	0	0	0	0	0	0	0	0	0	0	0	0.02	0	0	0	0	0	0	0	0	0.02
	M-Xylene	0	0	0	0	0	0	0	0	0	0	0	0.12	0	0	0	0	0	0	0	0	0.12
	Napthalene	0	0	0	0	0	0	0	0	0	0	0	0.01	0	0	0	0	0	0	0	0	0.01
	Nitrogen Oxides	0	0	0	0	0	0	0	0	0	0	0	0.20	0	0	0	0	0	0	0	0	0.20
	O-Xylene	0	0	0	0	0	0	0	0	0	0	0	0.02	0	0	0	0	0	0	0	0	0.02
	Phenol	0	0	0	0	0	0	0	0	0	0	0	0.49	0	0	0	0	0	0	0	0	0.49
	Toluene	0	0	0	0	0	0	0	0	0	0	0	0.56	0	0	1.12E-04	3.35E-05	2.66E-04	0.12	0	0	0.68
	Total Aromatic Amines	0	0	0	0	0	0	0	0	0	0	0	0.47	0	0	0	0	0	0	0	0	0.47
	Total C2 to C5 Aldehydes	0	0	0	0	0	0	0	0	0	0	0	0.12	0	0	0	0	0	0	0	0	0.12
	Total Hydrocarbons	0	0	0	0	0	0	0	0	0	0	0	4.51	0	0	0	0	0	0	0	0	4.51
	Cadmium	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3.61E-05	1.08E-05	8.60E-05	0	0	0	1.33E-04
	Chromium	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4.60E-05	1.38E-05	1.09E-04	0	5.23E-06	0	1.74E-04
	Lead	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.64E-05	4.93E-06	3.91E-05	0	0	0	6.04E-05
	Manganese	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.25E-05	3.74E-06	2.97E-05	0	2.62E-04	0	3.08E-04
	Nickel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6.90E-05	2.07E-05	1.64E-04	0	0	0	2.54E-04
	Totals	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**10.77**	**0**	**0**	**0.06**	**0.02**	**0.15**	**0.12**	**2.67E-04**	**0**	**11.15**
																					"Worst" Single HAP:	**4.51**

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

Appendix A: Emissions Calculations
Emission Summary

Company Name: Cast Metals Technologies
Address City IN Zip: 1036 Old Highway 27, Winchester, IN 47394
Permit Number: F 135-26992-00024
Reviewer: Hannah L. Desrosiers
Submittal Date: September 15, 2008

		Limited/Uncontrolled Potential Emissions (tons/year)																				
		Emissions Generating Activity																				
Category	Pollutant	Die Cast Crucible Melt	Perm Mold Crucible Melt	Crucible Melt	Reverb Furnace Melt	Die Casting	Perm Mold Casting	Cope & Drag Pouring & Cooling	Hunter Pouring & Cooling & Liftout	Knockout	Cope & Drag Muller Sand System	Hunter Sand System #2	Shell Core	Shotblast	Cutof Saws & Sanding	Reverb Furnace Combustion	Shell Core Natural Gas Combustion	Insignificant Natural Gas Combustion Units	Insignificant Solvent Usage	Maintenance Welding	Paved Roads	**TOTAL**
Criteria Pollutants	PM	6.11	1.97	0.79	9.86	0.06	0.02	0.01	0.01	2.84	11.35	62.28	0	22.46	4.20	0.06	0.02	0.15	0	0.003	0.26	122.45
	PM10	6.11	1.97	0.79	9.86	0.06	0.02	0.01	0.01	2.84	1.70	21.29	0	6.05	0.42	0.25	0.07	0.59	0	0.003	0.05	52.09
	PM2.5	6.11	1.97	0.79	9.86	0.06	0.02	0.01	0.01	2.84	1.70	21.29	0	6.05	0.42	0.19	0.06	0.45	0	0.003	0.05	51.86
	SO2	0	0	0	0	0.08	0.03	0.01	0.13	0	0	0	0.71	0	0	0.02	0.01	0.05	0	0	0	1.03
	NOx	0	0	0	0	0.04	0.01	0.01	0.07	0	0	0	0	0	0	3.29	0.99	7.82	0	0	0	12.21
	VOC	0	0	0	0	0.57	0.18	0.07	0.92	7.88	0	0	0.30	0	0	0.18	0.05	0.43	7.47	0	0	18.07
	CO	0	0	0	0	0	0	3.15	39.42	0	0	0	0.07	0	0	2.76	0.83	6.57	0	0	0	52.80
Hazardous Air Pollutants	Acrolein	0	0	0	0	0	0	0	0	0	0	0	0.01	0	0	0	0	0	0	0	0	0.01
	Ammonia	0	0	0	0	0	0	0	0	0	0	0	0.78	0	0	0	0	0	0	0	0	0.78
	Benzene	0	0	0	0	0	0	0	0	0	0	0	1.34	0	0	6.90E-05	2.07E-05	1.64E-04	0	0	0	1.34
	Dichlorobenzene	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3.94E-05	1.18E-05	9.38E-05	0	0	0	1.45E-04
	Formaldehyde	0	0	0	0	0	0	0	0	0	0	0	0.01	0	0	0.002	7.39E-04	0.01	0	0	0	0.02
	Hexane	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.06	0.02	0.14	0	0	0	0.22
	Hydrogen Chloride (HCL)	0.01	0.003	0.001	0.02	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.03
	Hydrogen Cyanide	0	0	0	0	0	0	0	0	0	0	0	2.12	0	0	0	0	0	0	0	0	2.12
	Hydrogen Sulfide	0	0	0	0	0	0	0	0	0	0	0	0.02	0	0	0	0	0	0	0	0	0.02
	M-Xylene	0	0	0	0	0	0	0	0	0	0	0	0.12	0	0	0	0	0	0	0	0	0.12
	Napthalene	0	0	0	0	0	0	0	0	0	0	0	0.01	0	0	0	0	0	0	0	0	0.01
	Nitrogen Oxides	0	0	0	0	0	0	0	0	0	0	0	0.20	0	0	0	0	0	0	0	0	0.20
	O-Xylene	0	0	0	0	0	0	0	0	0	0	0	0.02	0	0	0	0	0	0	0	0	0.02
	Phenol	0	0	0	0	0	0	0	0	0	0	0	0.49	0	0	0	0	0	0	0	0	0.49
	Toluene	0	0	0	0	0	0	0	0	0	0	0	0.56	0	0	1.12E-04	3.35E-05	2.66E-04	0.12	0	0	0.68
	Total Aromatic Amines	0	0	0	0	0	0	0	0	0	0	0	0.47	0	0	0	0	0	0	0	0	0.47
	Total C2 to C5 Aldehydes	0	0	0	0	0	0	0	0	0	0	0	0.12	0	0	0	0	0	0	0	0	0.12
	Total Hydrocarbons	0	0	0	0	0	0	0	0	0	0	0	4.51	0	0	0	0	0	0	0	0	4.51
	Cadmium	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3.61E-05	1.08E-05	8.60E-05	0	0	0	1.33E-04
	Chromium	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4.60E-05	1.38E-05	1.09E-04	0	5.23E-06	0	1.74E-04
	Lead	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.64E-05	4.93E-06	3.91E-05	0	0	0	6.04E-05
	Manganese	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.25E-05	3.74E-06	2.97E-05	0	2.62E-04	0	3.08E-04
	Nickel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6.90E-05	2.07E-05	1.64E-04	0	0	0	2.54E-04
	Totals	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**10.77**	**0**	**0**	**0.06**	**0.02**	**0.15**	**0.12**	**2.67E-04**	**0**	**11.15**
																					"Worst" Single HAP:	**4.51**

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

* PM limits originate from State Rule 326 IAC 6-3-2(e): Particulate Emission Limitations for Manufacturing Processes (a.k.a. Process Weight Rate Rule).

Appendix A: Emissions Calculations
Unlimited/Uncontrolled Potential Emissions from
Secondary Aluminum (clean charge) Processing

Company Name: Cast Metals Technologies
Address City IN Zip: 1036 Old Highway 27, Winchester, IN 47394
Permit Number: F 135-26992-00024
Reviewer: Hannah L. Desrosiers
Submittal Date: September 15, 2008

Process	Max Hourly Capacity (per hour)	Potential Annual Capacity (per year)	Units
Melting			
3 Die Cast Crucible Furnaces #1, #2 & #5	0.93	8,147	Tons Metal
2 Perm Mold Furnaces #1 & #2	0.30	2,628	Tons Metal
Crucible Furnaces #1, #2, #3 & #4	0.12	1,051	Tons Metal
Reverberatory Furnace #1 & #2	1.50	13,140	Tons Metal
Casting			
Die Casting	0.93	8,147	Tons Metal
Permanent Mold Casting	0.30	2,628	Tons Metal
Cope & Drag Pouring	0.12	1,051	Tons Metal
Cope & Drag Knockout #5	0.12	1,051	Tons Metal
Hunter Pouring, Cooling & Casting Removal	1.50	13,140	Tons Metal
Hunter Knockout #2, #3, & #4	1.50	13,140	Tons Metal

Process	Max Hourly Capacity (per hour)	Potential Annual Capacity (per year)	Units
Mold & Core Production			
Cope and Drag Muller Sand System	0.720	6,307	Tons Sand
Hunter Sand System	9	78,840	Tons Sand
Shell Core Machines	0.128	1,117	Tons Cores
Finishing			
Shotblast SB-3	0.271	2,374	Tons Metal
Shotblast SB-4	0.271	2,374	Tons Metal
Shotblast SB-5	0.271	2,374	Tons Metal
Cutoff Saws and Grinding (Hunter Line)	0.720	6,307	Tons Metal

	Emission Factors								
Emission Unit	**PM**	**PM10**	**SO2**	**Nox**	**VOC**	**CO [4]**	**HF**	**HCl [2]**	**Units**
Die cast Crucible Melt [1]	1.5	1.5	0	0	0	0	0	0.0026	lbs/tm & lbs/tf
Perm Mold Crucible Melt [1]	1.5	1.5	0	0	0	0	0	0.0026	lbs/tm & lbs/tf
Crucible Melt [1]	1.5	1.5	0	0	0	0	0	0.0026	lbs/tm & lbs/tf
Reverb Furnace Melt [1]	1.5	1.5	0	0	0	0	0	0.0026	lbs/tm & lbs/tf
Die Casting [3]	0.015	0.015	0.02	0.01	0.14	0	0	0	lbs/tm
Perm Mold Casting [3]	0.015	0.015	0.02	0.01	0.14	0	0	0	lbs/tm
Cope & Drag Pouring, Casting & Cooling [3]	0.015	0.015	0.02	0.01	0.14	6.0	0	0	lbs/tm
Hunter Pouring, Casting, Cooling & Liftout [3]	0.015	0.015	0.02	0.01	0.14	6.0	0	0	lbs/tm
Knockout #1-#4 [5]	0.4	0.4	0	0	1.2	0	0	0	lbs/tm
Cope & Drag Muller Sand System [6]	3.60	0.54	0	0	0	0	0	0	lbs/tm
Hunter Sand System [6] [7]	1.58	0.54	0	0	0	0	0	0	lbs/ts
Shell Core [8]	0	0	0	0	0.534	0.126	0	0	lbs/tc
Shotblast [9]	17	1.7	0	0	0	0	0	0	lbs/tm

Abbreviations
CERP = Casting Emission Reduction Program tm = tons of metal tf = tons of flux ts = tons of sand tc = tons of cores

Emission Factors
(1) Onsite Source Test Data - obtained 11/20/00. Emission factors for metal melt include emissions generated from the use of cover, wall and cleaning fluxes.
(2) Emission factor for HCL from other similar IDEM permits, such as #177-20368-00050 and 151-15211-00018. Units are in pounds/ton flux.
(3) Emission factors for SO2, NOx and VOC are from FIRE 6.25: Secondary Aluminum Production, Pouring/Casting (SCC 3-04-001-14); and Grey Iron Foundries, Casting shakeout (SCC 3-04-003-31); Emission factors for PM/PM10 are from FIRE version 6.24 for zinc casting (3-04-008-73), which is the only available emission factor in FIRE for a pure metal of similar atomic weight.
(4) Emission factor for CO based on an IDEM letter titled "Notice of limited self-disclosure opportunity for CO emissions from PCS operations within the foundry sector".
(5) Emission factor for VOC is from FIRE 6.25 SCC# 3-04-003-31, AP-42 Ch. 12.10, Fifth edition 1995, for Grey Iron Foundries.
(6) Emission factors for PM/PM-10 are from AP-42, Ch. 12.10, Fifth edition 1995, Grey Iron Foundries, Sand handling (SCC 3-04-003-50)
(7) Emission factor for PM is based on assumptions formed from a mass balance study performed by the source. IDEM has determined that a control device shall be required at all times the unit is in operation, due to the lack of test data verifying the alternate emission factor for this unit.
(8) CERP Report - "Emissions from Shell Core Making and Storage", September 2007, Publication # 1413-122 HN
(9) Emission factors for PM and PM-10 are from AP-42, Ch. 12.10, Fifth edition 1995, Grey Iron Foundries, Cleaning, finishing (SCC 3-04-003-40)

	Uncontrolled Potential to Emit (tons/year)							
Emission Unit	**PM**	**PM10**	**SO2**	**Nox**	**VOC**	**CO**	**HF**	**HCl**
Die cast Crucible Melt	6.11	6.11	0	0	0	0	0	0.01
Perm Mold Crucible Melt	1.97	1.97	0	0	0	0	0	0.003
Crucible Melt	0.79	0.79	0	0	0	0	0	0.001
Reverb Furnace Melt	9.86	9.86	0	0	0	0	0	0.02
Die Casting	0.06	0.06	0.08	0.04	0.57	0	0	0
Perm Mold Casting	0.02	0.02	0.03	0.01	0.18	0	0	0
Cope & Drag Pouring, Casting & Cooling	0.01	0.01	0.01	0.01	0.07	3.15	0	0
Hunter Pouring, Casting, Cooling & Liftout	0.01	0.01	0.13	0.07	0.92	39.42	0	0
Knockout #1-#4	2.84	2.84	0	0	7.88	0	0	0
Cope & Drag Muller Sand System	11.35	1.70	0	0	0	0	0	0
Hunter Sand System #2	62.28	21.29	0	0	0	0	0	0
Shell Core	0	0	0	0	0.30	0.07	0	0
Shotblast SB-3	20.18	2.02	0	0	0	0	0	0
Shotblast SB-4	20.18	2.02	0	0	0	0	0	0
Shotblast SB-5	20.18	2.02	0	0	0	0	0	0
Total Plant Wide Uncontrolled PTE (tons/year)	**155.83**	**50.70**	**0.25**	**0.12**	**9.93**	**42.64**	**0**	**0.03**

Methodology
Uncontrolled Potential to Emit (tons/year) = (Potential Annual Capacity (tons/year) * Emission Factor)* 1ton/2000lbs

NOTES
All the furnaces melt "clean charge" as defined in the Secondary Aluminum NESHAP in 40 CFR 63 Subpart RRR.
All the furnaces use small amounts of flux to reduce the formation of oxides during the melting process, and for cleaning purposes. Emission factors for metal melt include emissions generated from the use of cover, wall and cleaning fluxes.
Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant". US EPA has directed states to regulate PM10 emissions as surrogate for PM2.5 emissions.
The allowable emissions (i.e., process weight rate limit) (lbs/hr) are calculated on page 5 of 13, of this Appendix.

Appendix A: Emissions Calculations
Limited/Uncontrolled Potential to Emit from
Secondary Aluminum (clean charge) Processing

Company Name: Cast Metals Technologies
Address City IN Zip: 1036 Old Highway 27, Winchester, IN 47394
Permit Number: F 135-26992-00024
Reviewer: Hannah L. Desrosiers
Submittal Date: September 15, 2008

Process	Max Hourly Capacity (per hour)	Potential Annual Capacity (per year)	Units
Melting			
3 Die Cast Crucible Furnaces #1, #2 & #5	0.93	8,147	Tons Metal
2 Perm Mold Furnaces #1 & #2	0.30	2,628	Tons Metal
Crucible Furnaces #1, #2, #3 & #4	0.12	1,051	Tons Metal
Reverberatory Furnace #1 & #2	1.50	13,140	Tons Metal
Casting			
Die Casting	0.93	8,147	Tons Metal
Permanent Mold Casting	0.30	2,628	Tons Metal
Cope & Drag Pouring	0.12	1,051	Tons Metal
Cope & Drag Knockout #5	0.12	1,051	Tons Metal
Hunter Pouring, Cooling & Casting Removal	1.50	13,140	Tons Metal
Hunter Knockout #2, #3, & #4	1.50	13,140	Tons Metal

Process	Max Hourly Capacity (per hour)	Potential Annual Capacity (per year)	Units
Mold & Core Production			
Cope and Drag Muller Sand System	0.720	6,307	Tons Sand
Hunter Sand System	9	78,840	Tons Sand
Shell Core Machines	0.128	1,117	Tons Cores
Finishing			
Shotblast SB-3	0.271	2,374	Tons Metal
Shotblast SB-4	0.271	2,374	Tons Metal
Shotblast SB-5	0.271	2,374	Tons Metal
Cutoff Saws and Grinding (Hunter Line)	0.720	6,307	Tons Metal

	Emission Factors								
Emission Unit	**PM**	**PM10**	**SO2**	**Nox**	**VOC**	**CO [4]**	**HF**	**HCl [2]**	**Units**
Die cast Crucible Melt [1]	1.5	1.5	0	0	0	0	0	0.0026	lbs/tm & lbs/tf
Perm Mold Crucible Melt [1]	1.5	1.5	0	0	0	0	0	0.0026	lbs/tm & lbs/tf
Crucible Melt [1]	1.5	1.5	0	0	0	0	0	0.0026	lbs/tm & lbs/tf
Reverb Furnace Melt [1]	1.5	1.5	0	0	0	0	0	0.0026	lbs/tm & lbs/tf
Die Casting [3]	0.015	0.015	0.02	0.01	0.14	0	0	0	lbs/tm
Perm Mold Casting [3]	0.015	0.015	0.02	0.01	0.14	0	0	0	lbs/tm
Cope & Drag Pouring, Casting & Cooling [3]	0.015	0.015	0.02	0.01	0.14	6.0	0	0	lbs/tm
Hunter Pouring, Casting, Cooling & Liftout [3]	0.015	0.015	0.02	0.01	0.14	6.0	0	0	lbs/tm
Knockout #1-#4 [5]	0.4	0.4	0	0	1.2	0	0	0	lbs/tm
Cope & Drag Muller Sand System [6]	3.60	0.54	0	0	0	0	0	0	lbs/tm
Hunter Sand System [6] [7]	1.58	0.54	0	0	0	0	0	0	lbs/ts
Shell Core [8]	0	0	0	0	0.534	0.126	0	0	lbs/tc
Shotblast [9]	17	1.7	0	0	0	0	0	0	lbs/tm

Abbreviations
CERP = Casting Emission Reduction Program tm = tons of metal tf = tons of flux ts = tons of sand tc = tons of cores

Emission Factors
(1) Onsite Source Test Data - obtained 11/20/00. Emission factors for metal melt include emissions generated from the use of cover, wall and cleaning fluxes.
(2) Emission factor for HCL from other similar IDEM permits, such as #177-20368-00050, #069-19499-00048 and # 151-15211-00018. Units are in pounds/ton flux.
(3) Emission factors for SO2, NOx and VOC are from FIRE 6.25: Secondary Aluminum Production, Pouring/Casting (SCC 3-04-001-14); and Grey Iron Foundries, Casting shakeout (SCC 3-04-003-31); Emission factors for PM/PM10 are from FIRE version 6.24 for zinc casting (3-04-008-73), which is the only available emission factor in FIRE for a pure metal of similar atomic weight.
(4) Emission factor for CO based on an IDEM letter titled "Notice of limited self-disclosure opportunity for CO emissions from PCS operations within the foundry sector".
(5) Emission factor for VOC is from FIRE 6.25 SCC# 3-04-003-31, AP-42 Ch. 12.10, Fifth edition 1995, for Grey Iron Foundries.
(6) Emission factors for PM/PM-10 are from AP-42, Ch. 12.10, Fifth edition 1995, Grey Iron Foundries, Sand handling (SCC 3-04-003-50)
(7) Emission factor for PM is based on assumptions formed from a mass balance study performed by the source. IDEM has determined that a control device shall be required at all times the unit is in operation, due to the lack of test data verifying the alternate emission factor for this unit.
(8) CERP Report - "Emissions from Shell Core Making and Storage", September 2007, Publication # 1413-122 HN
(9) Emission factors for PM and PM-10 are from AP-42, Ch. 12.10, Fifth edition 1995, Grey Iron Foundries, Cleaning, finishing (SCC 3-04-003-40)

	Limited Potential to Emit (tons/year)							
Emission Unit	**PM**	**PM10**	**SO2**	**Nox**	**VOC**	**CO**	**HF**	**HCl**
Die cast Crucible Melt	6.11	6.11	0	0	0	0	0	0.01
Perm Mold Crucible Melt	1.97	1.97	0	0	0	0	0	0.003
Crucible Melt	0.79	0.79	0	0	0	0	0	0.001
Reverb Furnace Melt	9.86	9.86	0	0	0	0	0	0.02
Die Casting	0.06	0.06	0.08	0.04	0.57	0	0	0
Perm Mold Casting	0.02	0.02	0.03	0.01	0.18	0	0	0
Cope & Drag Pouring, Casting & Cooling	0.01	0.01	0.01	0.01	0.07	3.15	0	0
Hunter Pouring, Casting, Cooling & Liftout	0.01	0.01	0.13	0.07	0.92	39.42	0	0
Knockout #1-#4	2.84	2.84	0	0	7.88	0	0	0
Cope & Drag Muller Sand System	11.35	1.70	0	0	0	0	0	0
Hunter Sand System #2	62.28	21.29	0	0	0	0	0	0
Shell Core	0	0	0	0	0.30	0.07	0	0
Shotblast SB-3**	7.49	2.02	0	0	0	0	0	0
Shotblast SB-4**	7.49	2.02	0	0	0	0	0	0
Shotblast SB-5**	7.49	2.02	0	0	0	0	0	0
Total Uncontrolled PTE, tons/year	**117.76**	**50.70**	**0.25**	**0.12**	**9.93**	**42.64**	**0**	**0.03**

Methodology
Uncontrolled Potential to Emit (tons/year) = (Potential Annual Capacity (tons/year) * Emission Factor)* 1ton/2000lbs
** 326 IAC 6-3-2 Allowable Emissions based on the Process Weight Rate
Process weight rate = Total weight of all materials introduced into any source operation (326 IAC 1-2-59(a)).
Allowable Emissions (tons/yr) = (4.10*(Process Weight Rate (lb/hr))^0.67)*8760hrs/yr)/2000lbs/ton

NOTES
All the furnaces melt "clean charge" as defined in the Secondary Aluminum NESHAP in 40 CFR 63 Subpart RRR.
All the furnaces use small amounts of flux to reduce the formation of oxides during the melting process, and for cleaning purposes. Emission factors for metal melt include emissions generated from the use of cover, wall and cleaning fluxes.
The allowable emissions (i.e., process weight rate limit) (lbs/hr) is calculated on page 5 of 13, of this Appendix.
Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant". US EPA has directed states to regulate PM10 emissions as surrogate for PM2.5 emissions.

Appendix A: Emissions Calculations
326 IAC 6-3-2(e) Allowable Rate of Emissions

Company Name: Cast Metals Technologies
Address City IN Zip: 1036 Old Highway 27, Winchester, IN 47394
Permit Number: F 135-26992-00024
Reviewer: Hannah L. Desrosiers
Submittal Date: September 15, 2008

Unit ID	* Process Weight Rate (lbs/hr)	Process Weight Rate (tons/hr)	Allowable PM Emissions (lbs/hr)	Allowable PM Emissions (tons/yr)
Die cast Crucible Melt, combined (Furnace #1, #2 & #5 Die Cast)	1,860	0.93	**3.91**	17.11
Perm Mold Crucible Melt, combined (Perm Mold Casting Machines #1 and #2)	600	0.30	**1.83**	8.02
Crucible Melt, combined (Crucibles #1-#4)	240	0.12	**0.99**	4.34
Reverb Furnace Melt (Reverberatory Furnace #2)	3,000	1.50	**5.38**	23.56
Knockout, combined (Knockout-2, Knockout-3, Knockout-4 & Knockout-5)	3,240	1.62	**5.66**	24.81
Cope & Drag Muller Sand System	1,440	0.72	**3.29**	14.41
Hunter Sand System #2	18,000	9.00	**17.87**	78.27
Shotblast, each (SB-3, SB-4 & SB-5)	542	0.271	**1.71**	7.49
Cutoff Saws & Sanding	1,440	0.72	**3.29**	14.41
				192.41
				< 250 tpy

Methodology
*Process weight; weight rate (PWR): Total weight of all materials introduced into any source operation (326 IAC 1-2-59(a)).
Allowable Emissions (lb/hr) = 4.10(PWR(lb/hr))^0.67
Allowable Emissions (tons/yr) = (Allowable Emissions (lb/hr)*8760)/2000

NOTES
All the furnaces melt "clean charge" as defined in the Secondary Aluminum NESHAP in 40 CFR 63 Subpart RRR.
All the furnaces use small amounts of flux to reduce the formation of oxides during the melting process, and for cleaning purposes. Emission factors for metal melt include emissions generated from the use of cover, wall and cleaning fluxes. Therefore, flux usage has been incorporated into the PWR for each melting operation.

Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant". US EPA has directed states to regulate PM10 emissions as surrogate for PM2.5 emissions.

HAP Emission Calculations
Pouring-Cooling-Shakeout Binder Systems

Company Name: Cast Metals Technologies
Address City IN Zip: 1036 Old Highway 27, Winchester, IN 47394
Permit Number: F 135-26992-00024
Reviewer: Hannah L. Desrosiers
Submittal Date: September 15, 2008

Shell Core Machines

Machine	Date of Construction	Capacity (tons cores/hr)	Maximum Resin Content (%)	VOC Emission Factor from Resin Evaporation (lb/ton cores)	Potential VOC Emissions from resin evap (tons/yr)
#1-9	Varies	0.1275	0.06%	0.5	**0.30**

Pouring, Cooling and Shakeout

Annual Usage of Index Material (lbs/yr)
402084

Binder System
shell

	Binder System Type Emission Factors => Lbs. of Chemical Released to Air per Lbs. of Index		
Pollutant	Shell (Resin)	Pollutant Emissions (lbs/yr)	Pollutant Emissions (tons/yr)
Acrolein	0.000047	18.898	0.009
Ammonia	0.003860	1552.044	0.776
Benzene	0.006667	2680.694	1.34
Formaldehyde	0.000035	14.073	0.007
Hydrogen Cyanide	0.010526	4232.336	2.12
Hydrogen Sulfide	0.000094	37.796	0.019
M-Xylene	0.000585	235.219	0.118
Napthalene	0.000058	23.321	0.012
Nitrogen Oxides	0.000994	399.671	0.200
O-Xylene	0.000117	47.044	0.024
Phenol	0.002456	987.518	0.494
Sulfer Dioxide	0.003509	1410.913	0.705
Toluene	0.002807	1128.650	0.564
Total Aromatic Amines	0.002339	940.474	0.470
Total C2 to C5 Aldehydes	0.000585	235.219	0.118
Total Hydrocarbons	0.022421	9015.125	4.51
Total HAPs	0.0571	22,959.00	**11.48**

METHODOLOGY

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

Appendix A: Emissions Calculations
Natural Gas Combustion Only
Reverberatory Furnace #2
MM BTU/HR <100

Company Name: Cast Metals Technologies
Address City IN Zip: 1036 Old Highway 27, Winchester, IN 47394
Permit Number: F 135-26992-00024
Reviewer: Hannah L. Desrosiers
Submittal Date: September 15, 2008

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
7.50	65.70

Criteria Pollutant Emissions

	Pollutant						
	PM*	PM10*	PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.90	7.60	5.70	0.600	100 **see below	5.50	84.0
Potential Emission in tons/yr	0.062	0.250	0.187	0.020	3.285	0.181	2.759

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined. PM2.5 emission factor is condensable PM2.5 only.
**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Hazardous Air Pollutant Emissions

	Organic HAPs				
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.10E-03	1.20E-03	7.50E-02	1.80	3.40E-03
Potential Emission in tons/yr	6.90E-05	3.94E-05	2.46E-03	0.0591	1.12E-04

	Metal HAPs				
	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.00E-04	1.10E-03	1.40E-03	3.80E-04	2.10E-03
Potential Emission in tons/yr	1.64E-05	3.61E-05	4.60E-05	1.25E-05	6.90E-05

Total HAPs	**0.0620**	**tons/yr**

Methodology
All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
Shell Core Machines (#1-9)
MM BTU/HR <100

Company Name: Cast Metals Technologies
Address City IN Zip: 1036 Old Highway 27, Winchester, IN 47394
Permit Number: F 135-26992-00024
Reviewer: Hannah L. Desrosiers
Submittal Date: September 15, 2008

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
2.25	19.71

Criteria Pollutant Emissions

	Pollutant						
	PM*	PM10*	PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.90	7.60	5.70	0.600	100 **see below	5.50	84.0
Potential Emission in tons/yr	0.019	0.075	0.056	0.006	0.986	0.054	0.828

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined. PM2.5 emission factor is condensable PM2.5 only.
**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Hazardous Air Pollutant Emissions

	Organic HAPs				
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.10E-03	1.20E-03	7.50E-02	1.80	3.40E-03
Potential Emission in tons/yr	2.07E-05	1.18E-05	7.39E-04	0.0177	3.35E-05

	Metal HAPs				
	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.00E-04	1.10E-03	1.40E-03	3.80E-04	2.10E-03
Potential Emission in tons/yr	4.93E-06	1.08E-05	1.38E-05	3.74E-06	2.07E-05

Total HAPs	**0.0186**	**tons/yr**

Methodology
All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
Insignificant Sources
<10 MMBtu/hr, each

Company Name: Cast Metals Technologies
Address City IN Zip: 1036 Old Highway 27, Winchester, IN 47394
Permit Number: F 135-26992-00024
Reviewer: Hannah L. Desrosiers
Submittal Date: September 15, 2008

Heat Treat Furnace	1.5	MMBtu/hr	2 heat treat furnaces @ 0.75 MMBtu/hr each.
Age Oven	0.75	MMBtu/hr	
Space Heating	2.1	MMBtu/hr	14 tube heaters @ 0.15 MMBtu/hr each.
Crucible Heaters	13.5	MMBtu/hr	9 crucible heaters @ 1.5 MMBtu/hr each, including;
	17.85	**MMBtu/hr**	

3 Diecast Crucible Furnaces - #1, #2 & #5;
2 Perm Mold Crucible Furnaces - #1 & #2; and
4 Cope and Drag Crucible Furnaces - #1, #2, #3 & #4

Total Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
17.85	156.37

Criteria Pollutant Emissions

	Pollutant						
	PM*	PM10*	PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	5.7	0.6	100.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.149	0.594	0.446	0.047	7.818	0.430	6.567

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined. PM2.5 emission factor is condensable PM2.5 only.
**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Hazardous Air Pollutant Emissions

	Organic HAPs				
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.10E-03	1.20E-03	0.08	1.80	3.40E-03
Potential Emission in tons/yr	1.64E-04	9.38E-05	5.86E-03	**0.141**	2.66E-04

	Metal HAPs				
	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.00E-04	1.10E-03	1.40E-03	3.80E-04	2.10E-03
Potential Emission in tons/yr	3.91E-05	8.60E-05	1.09E-04	2.97E-05	1.64E-04

Total HAPs = 0.148 tons/yr

Methodology
All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98).
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Appendix A: Emission Calculations
Insignificant Solvent Use

Company Name: Cast Metals Technologies
Address City IN Zip: 1036 Old Highway 27, Winchester, IN 47394
Permit Number: F 135-26992-00024
Reviewer: Hannah L. Desrosiers
Submittal Date: September 15, 2008

VOC Emissions

Type	Density, lbs/gallon	Lbs VOC/gal	Actual Usage (gal/yr)	*Actual Usage (lbs/yr)	Annual Hrs of operation (hrs/yr)	Actual VOC emitted (tons/yr)	Potential VOC Emissions (tons/yr)	
Cold Cleaner	6.51	6.51	35	227.8	2000	0.11	0.50	Stoddard Solvent , 100% VOC
IF Slip Pattern Spray	7.587	6.83	35	240	2000	0.11	0.47	90% VOC, 87% toluene; 3% mineral spirits
Y5-260 Liquid Parting	6.744	6.74	440	2,967	2000	1.48	6.50	Petroleum Distillate Boils at T > 500oF

* Based on records for October 2007 to September 2008

Total: 7.47

Methodology
Actual VOC Emissions (tons/yr) = *Actual pounds/year / Annual Hours of Operation
Potential VOC Emissions (tons/yr) = [Actual VOC emitted (tons/yr) * 8760 (hours/yr)] / Annual Hours of Operation

HAP Emissions

Type	Density (Lb/Gal)	Actual Usage (gal/yr)	Weight % Toluene	Toluene Emissions (ton/yr)
Cold Cleaner	6.51	35	0.0%	0.00
IF Slip Pattern Spray	7.587	35	87.0%	0.12
Y5-260 Liquid Parting	6.744	440	0.0%	0.0000

Total HAPs = 0.12

Methodology
HAPS emission rate (tons/yr) = Density (lb/gal) * Actual Usage (gal/yr) * Weight % HAP * 1 ton/2000 lbs

Appendix A: Emissions Calculations
Maintenance Welding

Company Name: Cast Metals Technologies
Address City IN Zip: 1036 Old Highway 27, Winchester, IN 47394
Permit Number: F 135-26992-00024
Reviewer: Hannah L. Desrosiers
Submittal Date: September 15, 2008

PROCESS	Max. electrode consumption per	EMISSION FACTORS** (lb pollutant/lb electrode)				EMISSIONS (lbs/hr)				HAPS
WELDING	station (lbs/hr)*	PM = PM10	Mn	Ni	Cr	PM = PM10 = PM2.5	Mn	Ni	Cr	(lbs/hr)
Aluminum Rods	0.0475									
Nickel Rods	0.005									
Flux coated wire	0.001									
Mig Welding Wire Steel	0.066									
Total Welding Rod	0.1195	0.0055	0.0005	0	0.00001	6.57E-04	5.98E-05	0	1.20E-06	6.09E-05

		EMISSIONS (lbs/hr)				HAPS
EMISSION TOTALS		PM = PM10 = PM2.5	Mn	Ni	Cr	(lbs/hr)
Potential Emissions lbs/hr		0.0007	5.98E-05	0	1.20E-06	6.09E-05
Potential Emissions lbs/day		0.0158	1.43E-03	0	2.87E-05	1.46E-03
Potential Emissions tons/year		0.0029	2.62E-04	0	5.23E-06	2.67E-04

METHODOLOGY
*Actual material usage at 2000 hours of operation per year
**Emission Factors are default values for carbon steel unless a specific electrode type is noted in the Process column.
Welding emissions, lb/hr: (# of stations)(max. lbs of electrode used/hr/station)(emission factor, lb. pollutant/lb. of electrode used)
Emissions, lbs/day = emissions, lbs/hr x 24 hrs/day
Emissions, tons/yr = emissions, lb/hr x 8,760 hrs/year x 1 ton/2,00(

NOTES
Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant". US EPA has directed states to regulate PM10 emissions as surrogate for PM2.5 emissions.

Maximum electrode consumption per day

PROCESS WELDING	Maximum electrode consumption per station (lbs/hr)	Total maximum electrode consumption (lbs/day)
Total Welding Rod	0.1195	**2.87**

326 IAC 6-3-2(e) Allowable Rate of Emissions

Welding is exempt from this rule, provided that less than six hundred twenty-five (625) pounds of rod or wire is consumed per day.

Methodology
Combined maximum electrode consumption (lbs/hr) = Number of Stations * Maximum electrode consumption per station (lb/hr)
Combined maximum electrode consumption (lbs/day) = Combined maximum electrode consumption (lbs/hr) * 24 hrs/day

Appendix A: Emissions Calculations
Uncontrolled Particulate Emissions from
the Finishing Operations

Company Name: Cast Metals Technologies
Address City IN Zip: 1036 Old Highway 27, Winchester, IN 47394
Permit Number: F 135-26992-00024
Reviewer: Hannah L. Desrosiers
Submittal Date: September 15, 2008

Cut-Off Saw Uncontrolled Potential to Emit

Part weight (lbs)	Cross sectional area of two (2) cuts (in2)	Kerf width (in.)	Volume of material removed (in3)	Density of material (lbs/in3)	Weight of material removed (lbs)	Weight of Loss (%)	Weight of loss (lbs/ton)	Potential to Emit (lbs/hr)	PM Potential to Emit (tons/yr)	PM10 Potential to Emit (tons/yr)
27	2	0.03	0.06	0.098	0.00588	0.022%	0.44	0.31	**3.71**	**0.37**
5	1	0.03	0.03	0.098	0.00294	0.059%	1.18	0.85		

Pedestal Sander Uncontrolled Potential to Emit

Part weight (lbs)	*Cross sectional area of parting line (in2)	Parting line length (in.)	Volume material removed (in3)	Density of material (lbs/in3)	Weight of material removed (lbs)	Weight of Loss (%)	Weight of loss (lbs/ton)	Potential to Emit (lbs/hr)	PM Potential to Emit, tons/year	PM10 Potential to Emit, tons/year
27	0.0004	40	0.016	0.098	0.001568	0.006%	0.12	0.08	**0.49**	**0.05**
5	0.0004	10	0.004	0.098	0.000392	0.008%	0.16	0.11		

Methodology
Potential to emit based on rated capacity at 8,760 hours/year.
* The cross sectional area of the parting line is based on a measured width of 0.02 in and height of 0.02 inches
Volume of material removed (in3) = Cross sectional area (in2) * Size of cut or of material removed (in)
Weight of material removed (lbs) = Volume of material removed (in3) * Density of material removed (lbs/in3)
Weight of Loss (%) = (Weight of material removed (lbs) / Part weight (lbs)) * 100%
Weight of loss (lbs/ton) = (Weight of material removed (lbs) / Part weight (lbs)) * 2000 (lbs/ton)
PM Potential to Emit (lbs/hr) = (Weight of loss (lbs/ton) * Maximum throughput (lbs/hr)) * (1 ton/2000 lbs)
PM Potential to Emit (tons/yr) = Potential to Emit (lbs/hr) * 8760 (hrs/yr) * (1 ton / 2000lbs)
PM10 emissions are assumed to be 10% of PM emissions based on the PM10/PM ratio of the emissions factors for grey iron foundries finishing operations as found in AP-42, Ch. 12.10, Fifth edition 1995, Grey Iron Foundries, Cleaning, finishing (SCC 3-04-003-40) (i.e. 1.7/17).

Notes
Maximum throughput (lbs/hr) = Process weight rate = 1440 lbs/hr
The allowable emissions (i.e., process weight rate limit) (lbs/hr) are calculated on page 5 of 13, of this Appendix.
** Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nomina 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant". US EPA has directed states to regulate PM10 emissions as surrogate for PM2.5 emissions.

Appendix A: Emission Calculations
Fugitive Dust Emissions - Paved Roads

Company Name: Cast Metals Technologies
Address City IN Zip: 1036 Old Highway 27, Winchester, IN 47394
Permit Number: F 135-26992-00024
Reviewer: Hannah L. Desrosiers
Submittal Date: September 15, 2008

Paved Roads at Industrial Site

The following calculations determine the amount of emissions created by paved roads, based on 8,760 hours of use and AP-42, Ch 13.2.1 (12/2003).

Vehicle Informtation (provided by source)

Type	Maximum number of vehicles	Number of one-way trips per day per vehicle	Maximum trips per day (trip/day)	Maximum Weight Loaded (tons/trip)	Total Weight driven per day (ton/day)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/day)	Maximum one-way miles (miles/yr)
Vehicle (entering plant) (one-way trip)	5.0	1.0	5.0	22.5	112.5	1056	0.200	1.0	365.0
Vehicle (leaving plant) (one-way trip)	5.0	1.0	5.0	22.5	112.5	1056	0.200	1.0	365.0
		Total	**10.0**		**225.0**			**2.0**	**730.0**

Average Vehicle Weight Per Trip =	22.5	tons/trip
Average Miles Per Trip =	0.20	miles/trip

Unmitigated Emission Factor, Ef = [k * (sL/2)^0.65 * (W/3)^1.5 - C] (Equation 1 from AP-42 13.2.1)

	PM	PM10	
where k =	0.082	0.016	lb/mi = particle size multiplier (AP-42 Table 13.2.1-1)
W =	22.5	22.5	tons = average vehicle weight (provided by source)
C =	0.00047	0.00047	lb/mi = emission factor for vehicle exhaust, brake wear, and tire wear (AP-42 Table 13.2.1-2)
sL =	0.6	0.6	g/m^2 = Ubitiguous Baseline Silt Loading Values of paved roads (Table 13.2.1-3 for summer months)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, Eext = E * [1 - (p/4N)]
Mitigated Emission Factor, Eext = Ef * [1 - (p/4N)]

where p =	125	days of rain greater than or equal to 0.01 inches (see Fig. 13.2.1-2)
N =	365	days per year

	PM	PM10	
Unmitigated Emission Factor, Ef =	0.77	0.15	lb/mile
Mitigated Emission Factor, Eext =	0.70	0.14	lb/mile
Dust Control Efficiency =	0%	0%	(pursuant to control measures outlined in fugitive dust control plan)

Process	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)
Vehicle (entering plant) (one-way trip)	0.140	0.027	0.128	0.025	0.128	0.025
Vehicle (leaving plant) (one-way trip)	0.140	0.027	0.128	0.025	0.128	0.025
	0.28	**0.05**	**0.26**	**0.05**	**0.26**	**0.05**

Methodology
Total Weight driven per day (ton/day) = [Maximum Weight Loaded (tons/trip)] * [Maximum trips per day (trip/day)]
Maximum one-way distance (mi/trip) = [Maximum one-way distance (feet/trip) / [5280 ft/mile]
Maximum one-way miles (miles/day) = [Maximum trips per year (trip/day)] * [Maximum one-way distance (mi/trip)
Average Vehicle Weight Per Trip (ton/trip) = SUM[Total Weight driven per day (ton/day)] / SUM[Maximum trips per day (trip/day)
Average Miles Per Trip (miles/trip) = SUM[Maximum one-way miles (miles/day)] / SUM[Maximum trips per year (trip/day)
Unmitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Unmitigated Emission Factor (lb/mile)) * (ton/2000 lbs)
Mitigated PTE (tons/yr) = (Maximum one-way miles (miles/yr)) * (Mitigated Emission Factor (lb/mile)) * (ton/2000 lbs)
Controlled PTE (tons/yr) = (Mitigated PTE (tons/yr)) * (1 - Dust Control Efficiency)

Abbreviations
PM = Particulate Matter
PM10 = Particulate Matter (<10 um)
PTE = Potential to Emit

Appendix B: PSD NSR Applicability Determination

Company Name: Cast Metals Technologies
Address City IN Zip: 1036 Old Highway 27, Winchester, IN 47394
Permit Number: F 135-26992-00024
Reviewer: Hannah L. Desrosiers
Submittal Date: September 15, 2008

Die cast Crucible Melt	PM10	SO2	NOx	CO	Pb
Uncontrolled Emissions (tons/yr)	6.11	0	0	0	0
Uncontrolled Emissions Rate (lbs/hr)	1.40	0	0	0	0
PSD Significant threshold	**3.42**	**9.13**	**9.13**	**22.83**	**0.137**
Threshold exceeded?	No	No	No	No	No

Perm Mold Crucible Melt	PM10	SO2	NOx	CO	Pb
Uncontrolled Emissions (tons/yr)	1.97	0	0	0	0
Uncontrolled Emissions Rate (lbs/hr)	0.45	0	0	0	0
PSD Significant threshold	**3.42**	**9.13**	**9.13**	**22.83**	**0.137**
Threshold exceeded?	No	No	No	No	No

Crucible Melt	PM10	SO2	NOx	Co	Pb
Uncontrolled Emissions (tons/yr)	0.79	0	0	0	0
Uncontrolled Emissions Rate (lbs/hr)	0.18	0	0	0	0
PSD Significant threshold	**3.42**	**9.13**	**9.13**	**22.83**	**0.137**
Threshold exceeded?	No	No	No	No	No

Reverb Furnace Melt	PM10	SO2	NOx	Co	Pb
Uncontrolled Emissions (tons/yr)	9.86	0	0	0	0
Uncontrolled Emissions Rate (lbs/hr)	2.25	0	0	0	0
PSD Significant threshold	**3.42**	**9.13**	**9.13**	**22.83**	**0.137**
Threshold exceeded?	No	No	No	No	No

Flux Usage/Fluxing	PM10	SO2	NOx	CO	Pb
Uncontrolled Emissions (tons/yr)	0.06	0	0	0	0
Uncontrolled Emissions Rate (lbs/hr)	0.01	0	0	0	0
PSD Significant threshold	**3.42**	**9.13**	**9.13**	**22.83**	**0.137**
Threshold exceeded?	No	No	No	No	No

Die Casting	PM10	SO2	NOx	CO	Pb
Uncontrolled Emissions (tons/yr)	0	0.03	0.01	0	0
Uncontrolled Emissions Rate (lbs/hr)	0	6.00E-03	3.00E-03	0	0
PSD Significant threshold	**3.42**	**9.13**	**9.13**	**22.83**	**0.137**
Threshold exceeded?	No	No	No	No	No

Perm Mold Casting	PM10	SO2	NOx	CO	Pb
Uncontrolled Emissions (tons/yr)	0	0.01	0.01	0	0
Uncontrolled Emissions Rate (lbs/hr)	0	2.40E-03	1.20E-03	0	0
PSD Significant threshold	**3.42**	**9.13**	**9.13**	**22.83**	**0.137**
Threshold exceeded?	No	No	No	No	No

Cope & Drag Pouring, Casting & Cooling	PM10	SO2	NOx	CO	Pb
Uncontrolled Emissions (tons/yr)	0	0.13	0.07	0	0
Uncontrolled Emissions Rate (lbs/hr)	0	0.03	0.02	0	0
PSD Significant threshold	**3.42**	**9.13**	**9.13**	**22.83**	**0.137**
Threshold exceeded?	No	No	No	No	No

Hunter Pouring, Casting, Cooling & Liftout	PM10	SO2	NOx	CO	Pb
Uncontrolled Emissions (tons/yr)	0	0	0	0	0
Uncontrolled Emissions Rate (lbs/hr)	0	0	0	0	0
PSD Significant threshold	**3.42**	**9.13**	**9.13**	**22.83**	**0.137**
Threshold exceeded?	No	No	No	No	No

Knockout	PM10	SO2	NOx	CO	Pb
Uncontrolled Emissions (tons/yr)	1.70	0	0	0	0
Uncontrolled Emissions Rate (lbs/hr)	0.39	0	0	0	0
PSD Significant threshold	**3.42**	**9.13**	**9.13**	**22.83**	**0.137**
Threshold exceeded?	No	No	No	No	No

Cope & Drag Sand System w/ Muller*	PM10	SO2	NOx	CO	Pb
Uncontrolled Emissions (tons/yr)	1.06	0	0	0	0
Uncontrolled Emissions Rate (lbs/hr)	0.24	0	0	0	0
PSD Significant threshold	**3.42**	**9.13**	**9.13**	**22.83**	**0.137**
Threshold exceeded?	No	No	No	No	No

Hunter Sand System #2 w/ Muller*	PM10	SO2	NOx	CO	Pb
Controlled Emissions (tons/yr)	0.31	0	0	0	0
Controlled Emissions Rate (lbs/hr)	0.07	0	0	0	0
PSD Significant threshold	**3.42**	**9.13**	**9.13**	**22.83**	**0.137**
Threshold exceeded?	No	No	No	No	No

Shell Core	PM10	SO2	NOx	CO	Pb
Uncontrolled Emissions (tons/yr)	0	0	0	0	0
Uncontrolled Emissions Rate (lbs/hr)	0	0	0	0	0
PSD Significant threshold	**3.42**	**9.13**	**9.13**	**22.83**	**0.137**
Threshold exceeded?	No	No	No	No	No

Shotblast SB-3**	PM10	SO2	NOx	CO	Pb
Controlled Emissions (tons/yr)	0.04	0	0	0	0
Controlled Emissions Rate (lbs/hr)	0.01	0	0	0	0
PSD Significant threshold	**3.42**	**9.13**	**9.13**	**22.83**	**0.137**
Threshold exceeded?	No	No	No	No	No

Shotblast SB-4**	PM10	SO2	NOx	CO	Pb
Controlled Emissions (tons/yr)	0.49	0	0	0	0
Controlled Emissions Rate (lbs/hr)	0.11	0	0	0	0
PSD Significant threshold	**3.42**	**9.13**	**9.13**	**22.83**	**0.137**
Threshold exceeded?	No	No	No	No	No

Shotblast SB-5**	PM10	SO2	NOx	CO	Pb
Controlled Emissions (tons/yr)	3.06E-03	0	0	0	0
Controlled Emissions Rate (lbs/hr)	6.98E-04	0	0	0	0
PSD Significant threshold	**3.42**	**9.13**	**9.13**	**22.83**	**0.137**
Threshold exceeded?	No	No	No	No	No

Cutoff Saws & Grinding**	PM10	SO2	NOx	Co	Pb
Controlled Emissions (tons/yr)	0.25	0	0	0	0
Controlled Emissions Rate (lbs/hr)	0.06	0	0	0	0
PSD Significant threshold	**3.42**	**9.13**	**9.13**	**22.83**	**0.137**
Threshold exceeded?	No	No	No	No	No

Natural Gas Combustion Units	PM10	SO2	NOx	CO	Pb
Uncontrolled Emissions (tons/yr)	0.67	0.05	8.80	7.40	4.40E-05
Uncontrolled Emissions Rate (lbs/hr)	0.15	0.01	2.01	1.69	1.01E-05
PSD Significant threshold	**3.42**	**9.13**	**9.13**	**22.83**	**0.137**
Threshold exceeded?	No	No	No	No	No

Insignificant Solvent Usage	PM10	SO2	NOx	CO	Pb
Uncontrolled Emissions (tons/yr)	0	0	0	0	0
Uncontrolled Emissions Rate (lbs/hr)	0	0	0	0	0
PSD Significant threshold	**3.42**	**9.13**	**9.13**	**22.83**	**0.137**
Threshold exceeded?	No	No	No	No	No

Maintenance Welding	PM10	SO2	NOx	CO	Pb
Uncontrolled Emissions (tons/yr)	0.05	0	0	0	0
Uncontrolled Emissions Rate (lbs/hr)	0.01	0	0	0	0
PSD Significant threshold	**3.42**	**9.13**	**9.13**	**22.83**	**0.137**
Threshold exceeded?	No	No	No	No	No

* Controlled emissions based on control efficiency of 95%
** 326 IAC 6-3-2 Allowable Emissions based on the Process Weight Rate

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

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

SENT VIA U.S. MAIL: CONFIRMED DELIVERY AND SIGNATURE REQUESTED

TO: Ryan Olney
Cast Metals Technologies
1036 N Old Hwy 27
Winchester, IN 47394

DATE: June 1, 2009

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

SUBJECT: Final Decision
Minor Source Operating Permit
135-26992-00024

Enclosed is the final decision and supporting materials for the air permit application referenced above. Please note that this packet contains the original, signed, permit documents.

The final decision is being sent to you because our records indicate that you are the contact person for this application. However, if you are not the appropriate person within your company to receive this document, please forward it to the correct person.

A copy of the final decision and supporting materials has also been sent via standard mail to:
Tom Rarick - Environmental Resources Management (ERM)
OAQ Permits Branch Interested Parties List

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178, or toll-free at 1-800-451-6027 (ext. 3-0178), and ask to speak to the permit reviewer who prepared the permit. If you think you have received this document in error, please contact Joanne Smiddie-Brush of my staff at 1-800-451-6027 (ext 3-0185), or via e-mail at jbrush@idem.IN.gov.

Final Applicant Cover letter.dot 11/30/07

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
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June 1, 2009

TO: Wincester Public Library

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

Subject: **Important Information for Display Regarding a Final Determination**

Applicant Name: Cast Metals Technologies
Permit Number: 135-26992-00024

You previously received information to make available to the public during the public comment period of a draft permit. Enclosed is a copy of the final decision and supporting materials for the same project. Please place the enclosed information along with the information you previously received. To ensure that your patrons have ample opportunity to review the enclosed permit, **we ask that you retain this document for at least 60 days.**

The applicant is responsible for placing a copy of the application in your library. If the permit application is not on file, or if you have any questions concerning this public review process, please contact Joanne Smiddie-Brush, OAQ Permits Administration Section at 1-800-451-6027, extension 3-0185.

Enclosures
Final Library.dot 11/30/07

Mail Code 61-53

IDEM Staff	GHOTOPP 6/1/2009 Cast Metals Technologies 135-26992-00024 Final			AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING
Name and address of Sender	▶	Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204	Type of Mail: **CERTIFICATE OF MAILING ONLY**	

Line	Article Number	Name, Address, Street and Post Office Address	Postage	Handing Charges	Act. Value (If Registered)	Insured Value	Due Send if COD	R.R. Fee	S.D. Fee	S.H. Fee	Rest. Del. Fee Remarks
1		Ryan Olney Cast Metals Technologies 1036 N Old Hwy 27 Winchester IN 47394 (Source CAATS) via confirmed delivery									
2		Mr. Charles L. Berger Attorney Berger & Berger, Attorneys at Law 313 Main Street Evansville IN 47700 *(Affected Party)*									
3		Randolph County Commissioners 100 South Main Street Winchester IN 47394 *(Local Official)*									
4		Winchester City Council and Mayors Office 113 E. Wahington Street Winchester IN 47394 *(Local Official)*									
5		Winchester Public Library 125 N. East st Winchester IN 47394-1698 *(Library)*									
6		Randolph County Health Department 211 S. Main St Winchester IN 47394-1824 *(Health Department)*									
7		Tom Rarick Environmental Resources Management (ERM) 11350 N Meridian Suite 220 Indianapolis IN 46032 *(Consultant)*									
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