INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We Protect Hoosiers and Our Environment.
100 N. Senate Avenue • Indianapolis, IN 46204
(800) 451-6027 • (317) 232-8603 • www.idem.IN.gov

Michael R. Pence
Governor

Thomas W. Easterly
Commissioner

TO: Interested Parties / Applicant

DATE: July 26, 2013

RE: Innovative Casting Technologies, Inc. / 081-33097-00066

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.dot 6/13/13

IDEM

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Michael R. Pence
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Melissa Stevenson
Innovative Casting Technologies, Inc.
401 Blue Chip Court
Franklin, IN 46131

July 26, 2013

Re: 081-33097-00066
First Significant Revision to
M081-30955-00066

Dear Ms. Stevenson

Innovative Casting Technologies, Inc. was issued a Minor Source Operating Permit (MSOP) No. M081-30955-00066 on August 22nd, 2012 for a stationary gray and ductile iron, and clean charge aluminum foundry located at 401 Blue Chip Court, Franklin. On April 17th, 2013, the Office of Air Quality (OAQ) received an application from the source requesting to construct and operate a new natural gas-fired thermal sand reclamation system, which will be equipped with a baghouse for particulate control. The attached Technical Support Document (TSD) provides additional explanation of the changes to the source/permit. Pursuant to the provisions of 326 IAC 2-6.1-6, these changes to the permit are required to be reviewed in accordance with the Significant Permit Revision (SPR) procedures of 326 IAC 2-6.1-6(i). Pursuant to the provisions of 326 IAC 2-6.1-6, a significant permit revision to this permit is hereby approved as described in the attached Technical Support Document (TSD).

The following construction conditions are applicable to the proposed project:

1. General Construction Conditions
   The data and information supplied with the application shall be considered part of this source modification approval. Prior to any proposed change in construction which may affect the potential to emit (PTE) of the proposed project, the change must be approved by the Office of Air Quality (OAQ).

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

3. Effective Date of the Permit
   Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.

4. Pursuant to 326 IAC 2-1.1-9 (Revocation), the Commissioner may revoke this approval if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

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

Pursuant to 326 IAC 2-6.1-6, this permit shall be revised by incorporating the significant permit revision into the permit. All other conditions of the permit shall remain unchanged and in effect. Attached please find the entire revised permit.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter, please contact Brian Williams, of my staff, at 317-234-5375 or 1-800-451-6027, and ask for extension 4-5375.

Sincerely,

Iryn Calilung, Section Chief
Permits Branch
Office of Air Quality

Attachments: Technical Support Document and revised permit

IC/BMW

cc: File - Johnson County
Johnson County Health Department
U.S. EPA, Region V
Compliance and Enforcement Branch
Billing, Licensing and Training Section

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Michael R. Pence
Governor

Thomas W. Easterly
Commissioner

New Source Construction and Minor Source Operating Permit OFFICE OF AIR QUALITY

Innovative Casting Technologies, Inc.
401 Blue Chip Court,
Franklin, Indiana 46131

(herein known as the Permittee) is hereby authorized to construct and 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 2-5.1, 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.: M081-30955-00066	
Issued by: Iryn Calilung, Section Chief Permits Branch Office of Air Quality	Issuance Date: August 22, 2012 Expiration Date: August 22, 2017

First Significant Permit Revision No.: 081-33097-00066	
Issued by: Iryn Calilung, Section Chief Permits Branch Office of Air Quality	Issuance Date: July 26, 2013 Expiration Date: August 22, 2017

TABLE OF CONTENTS

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 gray and ductile iron, and clean charge aluminum foundry.

Source Address:	401 Blue Chip Court,, Franklin, Indiana 46131
General Source Phone Number:	(317) 738-5966
SIC Code:	3321 (Gray and Ductile Iron Foundries), and 3365 (Aluminum Foundries)
County Location:	Johnson
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 1 of 28 Source Categories

A.2 Emission Units and Pollution Control Equipment Summary

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

(a) ***Grey & Ductile Iron Foundry***, consisting of the following:

(1) One (1) manual charge handling operation, identified as CH1, constructed in 2008, with a maximum throughput capacity of 0.523 tons of iron per hour, uncontrolled and exhausting inside the building;

(2) Two (2) Inductotherm electric induction melting furnaces, identified as IND1 and IND2, constructed in 2008, and having a maximum throughput capacity of 0.523 tons of gray iron or 0.48 tons of ductile iron per hour, respectively, with operation limited by a single power supply (only one furnace can operate at any time), uncontrolled and exhausting inside the building;

Under NESHAP ZZZZZ (5Z), the two (2) electric induction melting furnaces, identified as IND1 and IND2, are each considered an affected small foundry.

(3) One (1) magnesium treatment operation for the production of ductile iron, identified as DT1, constructed in 2008, with a maximum throughput capacity of 0.48 tons of iron per hour, uncontrolled and exhausting inside the building. The magnesium treatment is only used to form ductile iron;

(4) One (1) pouring and casting operation, identified as PC1, constructed in 2008, with a maximum throughput capacity of 0.523 tons of iron per hour, uncontrolled and exhausting inside the building;

(5) One (1) castings cooling operation, identified as CC1, constructed in 2008, with a maximum throughput capacity of 0.523 tons of iron castings per hour, uncontrolled and exhausting inside the building;

(6) One (1) castings shakeout operation, identified as CS1, constructed in 2008, with a maximum throughput capacity of 0.523 tons of iron castings per hour, with particulate emissions controlled by the SS1 baghouse, and exhausting to Stack # S3; and

Note: The SS1 Baghouse is a common control to the castings shakeout operation (CS1) and the units in the shared sand system (SS), as follows:

Iron Foundry castings shakeout operation	CS1
Sand System, consisting of:	SS
Outside Sand storage silo	SS2
Inside Sand storage silo	SS4
Outside Sand storage silo	SS5
Outside Sand storage silo	SS6
Outside Sand storage silo	SS7
Sand handling operations	SS3
Mechanical sand reclamation unit	MSR
Sand mixing operation #1	MX1
Sand mixing operation #2	MX2
Core mixing operation	CMX

(7) One (1) core making line, identified as CB1, constructed in 2008, with a maximum throughput capacity of 0.523 tons of iron per hour, and a maximum throughput capacity of 0.15 tons of sand per hour, using an ester phenolic no-bake binder system, uncontrolled and exhausting inside the building. Note: no catalyst gas is utilized in the binder system.

Note: The maximum throughput capacity of the two (2) Inductotherm electric induction melting furnaces is limited by a single power supply such that only one (1) furnace can operate at a time. Additionally, the maximum throughput capacities of the manual charge handling, electric induction melting furnaces, pouring and casting, castings cooling, and core making line are each dependent on the maximum capacity of the grey iron and ductile iron castings shakeout operation (CS1), which is a bottleneck for all of these processes.

(b) ***Clean Charge Aluminum Foundry***, consisting of the following:

(1) One (1) manual charge handling operation, identified as CH2, constructed in 2008, with a maximum throughput capacity of 0.36 tons of clean charge aluminum ingots per hour, uncontrolled and exhausting inside the building;

(2) Two (2) Thermtronix electric induction melting furnaces, identified as TH1 and TH2, constructed in 2008, having a maximum throughput capacity of 0.18 tons of clean charge aluminum (including aluminum t-bar, sow, ingot, and/or internal runarounds) per hour, each, or 0.36 tons per hour combined, uncontrolled and exhausting inside the building. No flux is used in this operation;

(3) One (1) pouring and casting operation, identified as PC2, constructed in 2008, with a maximum throughput capacity of 0.36 tons of clean charge aluminum per hour, uncontrolled and exhausting inside the building;

(4) One (1) castings cooling operation, identified as CC2, constructed in 2008, with a maximum throughput capacity of 0.36 tons of clean charge aluminum castings per hour, uncontrolled and exhausting inside the building; and

(5) One (1) castings shakeout operation, identified as CS2, constructed in 2008, with a maximum throughput capacity of 0.36 tons of clean charge aluminum castings per hour, uncontrolled, and exhausting inside the building; and

(6) One (1) core making line, identified as CB2, constructed in 2008, with a maximum throughput capacity of 0.36 tons of clean charge aluminum castings per hour, and a maximum throughput capacity of 0.265 tons of sand per hour, using an ester phenolic no-bake binder system, uncontrolled and exhausting inside the building. Note: no catalyst gas is utilized in the binder system.

Note: The maximum throughput capacity of the manual charge handling, pouring and casting, castings cooling, castings shakeout operations, and core making line are dependent on the combined maximum metal melt capacity of the two (2) Thermtronix electric induction melting furnaces.

(c) ***Sand System:***

One (1) Sand System, identified as SS, constructed in 2008 and approved for modification in 2013, serving both the Grey & Ductile Iron Foundry and the Clean Charge Aluminum Foundry, and consisting of the following:

(1) Five (5) sand storage silos with a combined maximum throughput of 48,180 tons of sand per year, equipped with one (1) baghouse, identified as SS1, for particulate control, exhausting to Stack #S3 as follows:

(i) One (1) outside sand storage silo, identified as SS2, having a maximum storage capacity of 50 tons.

(ii) One (1) inside sand storage silo, identified as SS4, having a maximum storage capacity of 15 tons.

(iii) One (1) outside sand storage silo, identified as SS5, having a maximum storage capacity of 60 tons.

(iv) One (1) outside sand storage silo, identified as SS6, having a maximum storage capacity of 70 tons.

(v) One (1) outside sand storage silo, identified as SS7, having a maximum storage capacity of 80 tons.

(2) Sand handling operations, identified as SS3, with a maximum throughput capacity of 5.5 tons of sand per hour, equipped with one (1) baghouse, identified as SS1, for particulate control, exhausting to Stack # S3;

(3) One (1) mechanical sand reclamation unit, identified as MSR, with a maximum throughput capacity of 5.5 tons of sand per hour, equipped with one (1) baghouse, identified as SS1, for particulate control, exhausting to Stack # S3;

(4) One (1) natural gas-fired thermal sand reclamation system, identified as TSR1, approved for construction in 2013, with a maximum heat input capacity of 3.0 MMBtu/hr and maximum sand throughput of 2.0 tons per hour, equipped with one (1) baghouse, identified as SS4, for particulate control, and exhausting to stack # S4.

Under 40 CFR 60, Subpart UUU, the natural gas-fired thermal sand reclamation system is an affected facility.

(5) Sand mixing operations #1 and #2, identified as MX1 and MX2, with a maximum throughput capacity of 5.08 tons of sand per hour, combined, and using a maximum of 0.85% ester phenolic no-bake binder, equipped with one (1) baghouse, identified as SS1, for particulate control, exhausting to Stack # S3; and

(6) One (1) core mixing operation, identified as CMX, with a maximum throughput capacity of 0.42 tons of sand per hour and using a maximum of 0.85% ester phenolic no-bake binder, equipped with one (1) baghouse, identified as SS1, for particulate control, exhausting to Stack # S3.

Note: the SS1 Baghouse is a common control to the Grey & Ductile Iron Foundry castings shakeout operation (CS1) and the units in the shared sand system (SS), as follows:

Iron Foundry castings shakeout operation	CS1
Sand System, consisting of:	SS
Outside Sand storage silo	SS2
Inside Sand storage silo	SS4
Outside Sand storage silo	SS5
Outside Sand storage silo	SS6
Outside Sand storage silo	SS7
Sand handling operations	SS3
Mechanical sand reclamation unit	MSR
Sand mixing operation #1	MX1
Sand mixing operation #2	MX2
Core mixing operation	CMX

(d) ***Castings cleaning and finishing operations,*** consisting of the following:

(1) One (1) Gibson steel shot table blast machine for castings cleaning & finishing, identified as TB, constructed in 2008 and approved for modification in 2013, with a maximum throughput capacity of 0.5 tons of iron or aluminum castings per hour, equipped with a Donaldson Torit dust collector, identified as DT, for particulate control, and exhausting inside the building.

(2) One (1) Diso Goff steel shot blast machine for castings cleaning & finishing, identified as SB, constructed in 2008 and approved for modification in 2013, with a maximum throughput capacity of 0.5 tons of iron or aluminum castings per hour, equipped with a Donaldson Torit dust collector, identified as DT, for particulate control, and exhausting inside the building.

(3) One (1) Grinding Room, identified as GD, constructed in 2008 and approved for modification in 2013, with a maximum throughput capacity of 0.25 tons of iron or aluminum castings per hour, equipped with a Donaldson Torit dust collector, identified as DT, for particulate control, exhausting inside the building, and consisting of the following:

(1) Three (3) double wheel 14 inch pedestal grinders; and

(2) Six (6) belt grinders.

(4) One (1) table saw, identified as SW, constructed in 2009, with a maximum capacity of 0.523 tons of iron or aluminum per hour, equipped with a Donaldson Torit dust collector, identified as DT, for particulate control, and exhausting inside the building.

Note: The table blast machine (TB), shot blast machine (SB), grinding room (GD), and table saw (SW) are controlled by the same dust collector and serve both the Grey & Ductile Iron Foundry and the Clean Charge Aluminum Foundry. The maximum throughput capacity of the table blast machine, shot blast machine, and grinding room is dictated by the maximum throughput capacity of the equipment. The maximum throughput capacity of the table saw (SW) is limited by the maximum throughput capacity of the grey iron and ductile iron castings shakeout operation (CS1).

(e) ***Mold Making Operations:***

Molding Making Operations, serving both the Grey & Ductile Iron Foundry and the Clean Charge Aluminum Foundry, consisting of the following:

(1) Two (2) ester phenolic no-bake binder molding lines, identified as ML1 and ML2, constructed in 2008, utilizing an ester phenolic no-bake binder system, with a maximum throughput capacity of 0.523 tons of iron and/or aluminum per hour combined, and a maximum throughput capacity of 5.5 tons of sand per hour combined, uncontrolled and exhausting inside the building;

Note: The combined maximum throughput capacity of the molding lines are limited by the grey iron and ductile iron castings shakeout operation (CS1), which is a bottleneck for these processes.

(f) Two (2) 1.0 MMBtu/hr natural gas-fired heated parts washers, identified as W1 and W2, constructed in 2008, using a maximum of 2,802.51 gallons of HAP-free solvent per year, uncontrolled and exhausting inside the building.

(g) Woodworking activities in the pattern shop include sawing, cutting, routing, and planing, for the construction of forms for use in the casting operations. [326 IAC 6-3-2]

(1) Six (6) CNC vertical mills, collectively identified as VM, with a maximum capacity of 10.0 pounds of wood per hour, uncontrolled and exhausting inside the building;

(2) One (1) table saw, identified as CO Saw, with a maximum capacity of 30.0 pounds of wood per hour, using a vacuum system to remove the chips, and exhausting inside the building.

(h) The following equipment related to maintenance activities and not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, and welding equipment.

(i) Mold release agents using low volatile products (vapor pressure less than or equal to 2 kiloPascals measured at 38 ºC).

(j) Cleaners and solvents characterized as follows:

(1) Having a vapor pressure equal to or less than 2 kiloPascals; 15 millimeters of mercury; or 0.3 pounds per square inch measured at 38 ºC (100 ºF) or;

(2) Having a vapor pressure equal to or less than 0.7 kiloPascals; 5 millimeters of mercury; or 0.1 pounds per square inch measured at 20 ºC (68 ºF); the use of which for all cleaners and solvents combined does not exceed 145 gallons per 12 months.

(k) The following VOC and HAP storage containers:

(1) storage tanks with capacity less than or equal to 1,000 gallons and annual throughputs less than 12,000 gallons;

(2) vessels storing lubricating oil, hydraulic oils, machining oils, and machining fluids.

(l) Application of oils, greases lubricants or other nonvolatile materials applied as temporary protective coatings.

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

(n) Paved and unpaved roads and parking lots with public access. [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 Revocation of Permits [326 IAC 2-1.1-9(5)]

Pursuant to 326 IAC 2-1.1-9(5)(Revocation of Permits), the Commissioner may revoke this permit if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

B.3 Affidavit of Construction [326 IAC 2-5.1-3(h)] [326 IAC 2-5.1-4]

This document shall also become the approval to operate pursuant to 326 IAC 2-5.1-4 when the following requirements are met:

(a) The attached Affidavit of Construction shall be submitted to the Office of Air Quality (OAQ), verifying that the emission units were constructed as described in the application or the permit. The emission units covered in this permit may continue operating on the date the Affidavit of Construction is postmarked or hand delivered to IDEM if constructed as described.

(b) If actual construction of the emission units differs from the construction described in the application, the source may not continue operation until the permit has been revised pursuant to 326 IAC 2 and an Operation Permit Validation Letter is issued.

(c) The Permittee shall attach the Operation Permit Validation Letter received from the Office of Air Quality (OAQ) to this permit.

B.4 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, F081-30955-00066, 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.5 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.6 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.7 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.8 Property Rights or Exclusive Privilege

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

B.9 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. 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.10 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 and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 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.11 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) no later than 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 and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

The Permittee shall implement the PMPs.

(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.

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

B.12 Prior Permits Superseded [326 IAC 2-1.1-9.5]

(a) All terms and conditions of permits established prior to F081-30955-00066 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.13 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.14 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 an affirmation that the statements in the application are true and complete 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
Permit Administration and Support Section, 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, pursuant to 326 IAC 2-6.1-4(b), in writing by IDEM, OAQ any additional information identified as being needed to process the application.

B.15 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
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

(c) The Permittee shall notify the OAQ no later than thirty (30) calendar days of implementing a notice-only change. [326 IAC 2-6.1-6(d)]

B.16 Source Modification Requirement

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

B.17 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.18 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
Permit Administration and Support Section, 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 an affirmation that the statements in the application are true and complete 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.19 Annual Fee Payment [326 IAC 2-1.1-7]

(a) The Permittee shall pay annual fees due no later than thirty (30) calendar days of receipt of a bill from IDEM, OAQ,

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

B.20 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 construct and 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 5-1-1 (Applicability) and 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 except as provided in 326 IAC 4-2 or in this permit. The Permittee shall not operate a refuse incinerator or refuse burning equipment except as provided in 326 IAC 9-1-2 or in this permit.

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

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

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

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

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

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

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

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

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

(A) Asbestos removal or demolitions 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
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 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.

(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) For performance testing required by this permit, a test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, 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.

(b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date.

(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 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. The analog instrument shall be capable of measuring values outside of the normal range.

(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.13 Response to Excursions or Exceedances

Upon detecting an excursion where a response step is required by the D Section or an exceedance of a limitation in this permit:

(a) The Permittee shall take reasonable response steps to 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 excess emissions.

(b) The response shall include minimizing the period of any startup, shutdown, or malfunction. The response may include, but is not limited to, the following:

(1) initial inspection and evaluation;

(2) recording that operations returned or are returning 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 normal or usual manner of operation.

(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 record the reasonable response steps taken.

C.14 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 submit a description of its response actions to IDEM, OAQ, no later than seventy-five (75) days after the date of the test.

(b) A retest to demonstrate compliance shall be performed no later than one hundred eighty (180) days after the date of the test. Should the Permittee demonstrate to IDEM, OAQ that retesting in one hundred eighty (180) 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.

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

C.15 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.16 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, for all record keeping requirements not already legally required, the Permittee shall be allowed up to ninety (90) days from the date of permit issuance or the date of initial start-up, whichever is later, to begin such record keeping.

C.17 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 and Enforcement Branch, 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) 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

Emission Unit Description: Iron Foundry, Table Blast, & Sand System

(a) ***Grey & Ductile Iron Foundry***, consisting of the following:

(1) One (1) manual charge handling operation, identified as CH1, constructed in 2008, with a maximum throughput capacity of 0.523 tons of iron per hour, uncontrolled and exhausting inside the building;

(2) Two (2) Inductotherm electric induction melting furnaces, identified as IND1 and IND2, constructed in 2008, and having a maximum throughput capacity of 0.523 tons of gray iron or 0.48 tons of ductile iron per hour, respectively, with operation limited by a single power supply (only one furnace can operate at any time), uncontrolled and exhausting inside the building;

Under NESHAP ZZZZZ (5Z), the two (2) electric induction melting furnaces, identified as IND1 and IND2, are each considered an affected small foundry.

(3) One (1) magnesium treatment operation for the production of ductile iron, identified as DT1, constructed in 2008, with a maximum throughput capacity of 0.48 tons of iron per hour, uncontrolled and exhausting inside the building. The magnesium treatment is only used to form ductile iron;

(4) One (1) pouring and casting operation, identified as PC1, constructed in 2008, with a maximum throughput capacity of 0.523 tons of iron per hour, uncontrolled and exhausting inside the building;

(5) One (1) castings cooling operation, identified as CC1, constructed in 2008, with a maximum throughput capacity of 0.523 tons of iron castings per hour, uncontrolled and exhausting inside the building;

(6) One (1) castings shakeout operation, identified as CS1, constructed in 2008, with a maximum throughput capacity of 0.523 tons of iron castings per hour, with particulate emissions controlled by the SS1 baghouse, and exhausting to Stack # S3; and

Note: The SS1 Baghouse is a common control to the castings shakeout operation (CS1) and the units in the shared sand system (SS), as follows:

Iron Foundry castings shakeout operation	CS1
Sand System, consisting of:	SS
Outside Sand storage silo	SS2
Inside Sand storage silo	SS4
Outside Sand storage silo	SS5
Outside Sand storage silo	SS6
Outside Sand storage silo	SS7
Sand handling operations	SS3
Mechanical sand reclamation unit	MSR
Sand mixing operation #1	MX1
Sand mixing operation #2	MX2
Core mixing operation	CMX

(7) One (1) core making line, identified as CB1, constructed in 2008, with a maximum throughput capacity of 0.523 tons of iron per hour, and a maximum throughput capacity of 0.15 tons of sand per hour, using an ester phenolic no-bake binder system,

uncontrolled and exhausting inside the building. Note: no catalyst gas is utilized in the binder system.

Note: The maximum throughput capacity of the two (2) Inductotherm electric induction melting furnaces is limited by a single power supply such that only one (1) furnace can operate at a time. Additionally, the maximum throughput capacities of the manual charge handling, electric induction melting furnaces, pouring and casting, castings cooling, and core making line are each dependent on the maximum capacity of the grey iron and ductile iron castings shakeout operation (CS1), which is a bottleneck for all of these processes.

(c) ***Sand System:***

One (1) Sand System, identified as SS, constructed in 2008 and approved for modification in 2013, serving both the Grey & Ductile Iron Foundry and the Clean Charge Aluminum Foundry, and consisting of the following:

(1) Five (5) sand storage silos with a combined maximum throughput of 48,180 tons of sand per year, equipped with one (1) baghouse, identified as SS1, for particulate control, exhausting to Stack #S3 as follows:

(i) One (1) outside sand storage silo, identified as SS2, having a maximum storage capacity of 50 tons.

(ii) One (1) inside sand storage silo, identified as SS4, having a maximum storage capacity of 15 tons.

(iii) One (1) outside sand storage silo, identified as SS5, having a maximum storage capacity of 60 tons.

(iv) One (1) outside sand storage silo, identified as SS6, having a maximum storage capacity of 70 tons.

(v) One (1) outside sand storage silo, identified as SS7, having a maximum storage capacity of 80 tons.

(2) Sand handling operations, identified as SS3, with a maximum throughput capacity of 5.5 tons of sand per hour, equipped with one (1) baghouse, identified as SS1, for particulate control, exhausting to Stack # S3;

(3) One (1) mechanical sand reclamation unit, identified as MSR, with a maximum throughput capacity of 5.5 tons of sand per hour, equipped with one (1) baghouse, identified as SS1, for particulate control, exhausting to Stack # S3;

(4) One (1) natural gas-fired thermal sand reclamation system, identified as TSR1, approved for construction in 2013, with a maximum heat input capacity of 3.0 MMBtu/hr and maximum sand throughput of 2.0 tons per hour, equipped with one (1) baghouse, identified as SS4, for particulate control, and exhausting to stack # S4.

Under 40 CFR 60, Subpart UUU, the natural gas-fired thermal sand reclamation system is an affected facility.

(5) Sand mixing operations #1 and #2, identified as MX1 and MX2, with a maximum throughput capacity of 5.08 tons of sand per hour, combined, and using a maximum of 0.85% ester phenolic no-bake binder, equipped with one (1) baghouse, identified as SS1, for particulate control, exhausting to Stack # S3; and

(6) One (1) core mixing operation, identified as CMX, with a maximum throughput capacity of 042 tons of sand per hour and using a maximum of 0.85% ester phenolic no-bake binder, equipped with one (1) baghouse, identified as SS1, for particulate control, exhausting to Stack # S3.

Note: the SS1 Baghouse is a common control to the Grey & Ductile Iron Foundry castings shakeout operation (CS1) and the units in the shared sand system (SS), as follows:

Iron Foundry castings shakeout operation	CS1
Sand System, consisting of:	SS
Outside Sand storage silo	SS2
Inside Sand storage silo	SS4
Outside Sand storage silo	SS5
Outside Sand storage silo	SS6
Outside Sand storage silo	SS7
Sand handling operations	SS3
Mechanical sand reclamation unit	MSR
Sand mixing operation #1	MX1
Sand mixing operation #2	MX2
Core mixing operation	CMX

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

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

D.1.1 PSD Minor Limits [326 IAC 2-2]

In order to render 326 IAC 2-2 not applicable, PM emissions from the following emission unit(s) shall not exceed the pound per hour (lb/hr) emission limits listed in the table below:

Unit ID	Unit Description	Control Device	PM Emission Limit (lbs/hr)
CS1	Castings shakeout (Iron foundry)	SS1 Baghouse	5.14
SS	Sand System (shared)		
TSR1	Thermal sand reclamation system	SS4 Baghouse	0.73

Compliance with these limits, combined with the potential to emit PM from all other emission units at this source, shall limit the source-wide total potential to emit of PM to less than 100 tons per 12 consecutive month period and shall render 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

D.1.2 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2(e) (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from each of the units in Grey & Ductile Iron Foundry shall not exceed the corresponding pound per hour limitations listed in the table below:

Unit ID	Emission Unit	Process Weight Rate (tons/hr)	326 IAC 6-3 Allowable Emission Rate (lbs/hour)
DT1	Magnesium treatment	0.48	2.51
PC1	Pouring and casting	6.17	13.88
CC1	Castings cooling	6.17	13.88
CS1	Castings shakeout	6.17	13.88
SS	Sand System		
SS2	Outside Sand Silo	5.50	12.85
SS4	Inside Sand Silo	5.50	12.85
SS5	Outside Sand Silo	5.50	12.85
SS6	Outside Sand Silo	5.50	12.85
SS7	Outside Sand Silo	5.50	12.85
SS3	Sand Handling Operations	5.50	12.85
MSR	Mechanical Sand Reclamation Unit	5.50	12.85
MX1	Sand Mixing Operation #1	5.08	12.18
MX2	Sand Mixing Operation #2	5.08	12.18
CMX	Core Mixing Operation	0.42	2.29
TSR1	Thermal sand reclamation system	2.0	6.52

The above-listed limitations were calculated as follows:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour, or thirty (30) tons 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.1.3 Preventive Maintenance Plan [326 IAC 1-6-3]

A Preventive Maintenance Plan is required for the Grey & Ductile Iron Foundry castings shakeout process (CS1), the Sand System (SS), the thermal sand reclamation system (TSR1), and the associated control devices (SS1 and SS4 Baghouses). Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

Compliance Determination Requirements

D.1.4 Particulate Control

(a) In order to comply with Conditions D.1.1, and D.1.2, the SS1 and SS4 baghouses for particulate control shall be in operation and control emissions from the Grey & Ductile Iron Foundry castings shakeout process (CS1), the Sand System (SS), and the thermal reclamation system (TSR1), at all times that any of these processes are in operation.

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

D.1.5 Testing Requirements [326 IAC 2-6.1-5(b)(2)] [326 IAC 2-1.1-11]

(a) In order to demonstrate compliance with Conditions D.1.1 and D.1.2, the Permittee shall perform PM testing of the baghouse (SS1), serving the Grey & Ductile Iron Foundry castings shakeout process (CS1) and the Sand System (SS), not later than 180 days after the issuance of this MSOP, No.: F081-30955-00066, utilizing methods approved by the Commissioner. These tests shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

(b) In order to demonstrate compliance with Conditions D.1.1 and D.1.2, the Permittee shall perform PM testing of the baghouse (SS4), serving the thermal sand reclamation system (TSR1), not later than sixty (60) days after achieving maximum capacity, but not later than one hundred and eighty (180) days after initial startup, utilizing methods approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

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

D.1.6 Visible Emissions Notations

(a) Daily visible emission notations of the baghouse (SS1) stack exhaust (stack # S3) shall be performed during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

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

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

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

(e) If abnormal emissions are observed, the Permittee shall take a reasonable response. Section C – Response to Excursions and Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

D.1.7 Parametric Monitoring

(a) The Permittee shall record the pressure drop across each baghouse (SS1 and SS4) used in conjunction with the Grey & Ductile Iron Foundry castings shakeout process (CS1), the Sand System (SS), and the thermal sand reclamation system (TSR1), at least once per day when the Grey & Ductile Iron Foundry castings shakeout process (CS1), and/or the Sand System (SS), and/or the thermal sand reclamation system is in operation. When, for any one reading, the pressure drop across either baghouse (SS1 and SS4) is outside of the normal range, the Permittee shall take a reasonable response. The normal range for baghouse (SS1) is a pressure drop between 3.0 and 5.0 inches of water, unless a different upper-bound or lower-bound value for this range is determined during the latest stack test. The normal range for baghouse (SS4) is a pressure drop between 2.0 and 8.0 inches of water, unless a different upper-bound or lower-bound value for this range is determined

during the latest stack test. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the above-mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

(b) 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 or replaced at least once every six (6) months.

D.1.8 Broken or Failed Bag Detection

In the event that bag failure has been observed:

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

(b) For a single compartment baghouse/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 emissions unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

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

Record Keeping and Reporting Requirement [326 IAC 2-6.1-5(b)(2)]

D.1.9 Record Keeping Requirements

(a) Pursuant to 326 IAC 2-6.1-5(a), the grey iron throughput of 4,581 tons per year and sand throughput of 48,180 tons per year was determined to be the maximum capacity of the grey and ductile iron foundry. The Permittee shall maintain records of the total amount of grey iron and sand processed through the entire source, per twelve (12) consecutive month period with compliance determined at the end of each month. This information shall be made available to the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) or appointed representative upon request.

(b) To document the compliance status with Condition D.1.6(a), the Permittee shall maintain daily records of the visible emission notations of the SS1 baghouse stack exhaust. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of a visible emission notation, (i.e. the process did not operate that day).

(c) To document the compliance status with Condition D.1.7(a), the Permittee shall maintain daily records of the SS1 and SS4 baghouses pressure drop during normal operation. The Permittee shall include in its daily record when the pressure drop reading is not taken and the reason for the lack of a pressure drop reading (e.g., the process did not operate that day).

(d) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the records required by this condition.

SECTION D.2 EMISSION UNIT OPERATION CONDITIONS

Emission Unit Description: Aluminum Foundry

(b) ***Clean Charge Aluminum Foundry***, consisting of the following:

(1) One (1) manual charge handling operation, identified as CH2, constructed in 2008, with a maximum throughput capacity of 0.55 tons of clean charge aluminum ingots per hour, uncontrolled and exhausting inside the building;

(2) Two (2) Thermtronix electric induction melting furnaces, identified as TH1 and TH2, constructed in 2008, having a maximum throughput capacity of 0.18 tons of clean charge aluminum (including aluminum t-bar, sow, ingot, and/or internal runarounds) per hour, each, or 0.36 tons per hour combined, uncontrolled and exhausting inside the building. No flux is used in this operation;

(3) One (1) pouring and casting operation, identified as PC2, constructed in 2008, with a maximum throughput capacity of 0.36 tons of clean charge aluminum per hour, uncontrolled and exhausting inside the building;

(4) One (1) castings cooling operation, identified as CC2, constructed in 2008, with a maximum throughput capacity of 0.36 tons of clean charge aluminum castings per hour, uncontrolled and exhausting inside the building; and

(5) One (1) castings shakeout operation, identified as CS2, constructed in 2008, with a maximum throughput capacity of 0.36 tons of clean charge aluminum castings per hour, uncontrolled, and exhausting inside the building; and

(6) One (1) core making line, identified as CB2, constructed in 2008, with a maximum throughput capacity of 0.36 tons of clean charge aluminum castings per hour, and a maximum throughput capacity of 0.265 tons of sand per hour, using an ester phenolic no-bake binder system, uncontrolled and exhausting inside the building. Note: no catalyst gas is utilized in the binder system.

Note: The maximum throughput capacity of the manual charge handling, pouring and casting, castings cooling, castings shakeout operations, and core making line are dependent on the combined maximum metal melt capacity of the two (2) Thermtronix electric induction melting furnaces.

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

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

D.2.1 Clean Charge Aluminum [40 CFR 63, Subpart RRR] [326 IAC 20-70] [326 IAC 2-2]

In order to render 40 CFR 63, Subpart RRR (National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Secondary Aluminum Production), incorporated by reference as 326 IAC 20-70, not applicable, the Permittee shall only melt clean charge, or internal scrap, in each of the electric induction furnaces, identified as TH1 and TH2.

Clean charge shall be defined as furnace charge materials, including molten aluminum; T-bar; sow; ingot; billet; pig; aluminum scrap known by the owner or operator to be entirely free of paints, coatings, and lubricants; uncoated/unpainted aluminum chips that have been thermally dried or treated by a centrifugal cleaner; aluminum scrap dried at 343 °C (650°F) or higher; aluminum scrap delacquered/decoated at 482 °C (900 °F) or higher, and runaround scrap.

Compliance with this limit shall render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), 326 IAC 20-70 (Incorporation by Reference of Federal Standards for Secondary Aluminum), and 40 CFR 63, Subpart RRR (National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Secondary Aluminum Production) not applicable.

D.2.2 Aluminum Foundry Limitation [40 CFR 63, Subpart ZZZZZZ] [326 IAC 2-2]

In order to render 40 CFR 63, Subpart ZZZZZZ (6Z) (National Emission Standards for Hazardous Air Pollutants (NESHAPs): Area Source Standards for Aluminum, Copper, and Other Nonferrous Foundries) not applicable, the total combined metal melt throughput of the Clean Charge Aluminum Foundry, including the scrap and charge handling (CH2), the two (2) electric induction furnaces (TH1 and TH2), pouring and casting (PC2), castings cooling (CC2), castings shakeout (CS2), and core making line (CB2), shall be less than 600 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with these limit shall render the requirements of 40 CFR 63, Subpart ZZZZZZ (6Z) (National Emission Standards for Hazardous Air Pollutants (NESHAPs): Area Source Standards for Aluminum, Copper, and Other Nonferrous Foundries), and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), not applicable.

D.2.3 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2(e) (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from each of the units in Clean Charge Aluminum Foundry shall not exceed the corresponding pound per hour limitations listed in the table below:

Unit ID	Emission Unit	Process Weight Rate (tons/hr)	326 IAC 6-3 Allowable Emission Rate (lbs/hour)
PC2	Pouring and casting	6.12	13.81
CS2	Castings shakeout	6.12	13.81

The above-listed limitations were calculated as follows:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour, or thirty (30) tons 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

Compliance Determination Requirements

D.2.4 Aluminum Charge Materials Content

The Permittee shall demonstrate compliance with the clean charge aluminum requirement established in Condition D.2.1, by providing a vendor analysis of each aluminum charge materials delivery, accompanied by a vendor certification.

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

D.2.5 Record Keeping Requirements

(a) To document the compliance status with Condition D.2.1, the Permittee shall maintain records in accordance with (1) through (3) below. Records maintained for (1) through (3) below shall be taken monthly and shall be complete and sufficient to establish compliance with the requirement established in Condition D.2.1.

(1) Calendar dates covered in the compliance determination period;

(2) A certification, signed by the owner or operator, that the records of the aluminum supplier certifications represent all of the aluminum charge materials melted during the period; and

(3) If supplier certification is used to demonstrate compliance, the following as a minimum, shall be maintained:

(i) Aluminum supplier certifications;

(ii) The name of the aluminum supplier; and

(iii) A statement from the aluminum supplier that certifies the content of the aluminum charge materials.

Records that may be used to document the information included in (1) through (3) may include delivery tickets, manufacturer's data, material safety data sheets (MSDS), and other documents necessary to verify the type and amount used.

(b) To document the compliance status with Condition D.2.2, the Permittee shall keep monthly records of the total combined metal melt throughput of the Clean Charge Aluminum Foundry, including the scrap and charge handling (CH2), the two (2) electric induction furnaces (TH1 and TH2), pouring and casting (PC2), castings cooling (CC2), castings shakeout (CS2), and core making line (CB2).

D.2.6 Reporting Requirements

A quarterly summary of the information to document compliance status with Condition D.2.2 shall be submitted using the reporting forms located at the end of this permit, or their equivalent, not later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition.

SECTION D.3 EMISSION UNIT OPERATION CONDITIONS

Emission Unit Description: Castings Cleaning & Finishing Operations

(d) ***Castings cleaning and finishing operations***, consisting of the following:

(1) One (1) Gibson steel shot table blast machine for castings cleaning & finishing, identified as TB, constructed in 2008 and approved for modification in 2013, with a maximum throughput capacity of 0.5 tons of iron or aluminum castings per hour, equipped with a Donaldson Torit dust collector, identified as DT, for particulate control, and exhausting inside the building.

(2) One (1) Diso Goff steel shot blast machine for castings cleaning & finishing, identified as SB, constructed in 2008 and approved for modification in 2013, with a maximum throughput capacity of 0.5 tons of iron or aluminum castings per hour, equipped with a Donaldson Torit dust collector, identified as DT, for particulate control, and exhausting inside the building.

(3) One (1) Grinding Room, identified as GD, constructed in 2008 and approved for modification in 2013, with a maximum throughput capacity of 0.25 tons of iron or aluminum castings per hour, equipped with a Donaldson Torit dust collector, identified as DT, for particulate control, exhausting inside the building, and consisting of the following:

(1) Three (3) double wheel 14 inch pedestal grinders; and

(2) Six (6) belt grinders.

(4) One (1) table saw, identified as SW, constructed in 2009, with a maximum capacity of 0.523 tons of iron or aluminum per hour, equipped with a Donaldson Torit dust collector, identified as DT, for particulate control, and exhausting inside the building.

Note: The table blast machine (TB), shot blast machine (SB), grinding room (GD), and table saw (SW) are controlled by the same dust collector and serve both the Grey & Ductile Iron Foundry and the Clean Charge Aluminum Foundry. The maximum throughput capacity of the table blast machine, shot blast machine, and grinding room is dictated by the maximum throughput capacity of the equipment. The maximum throughput capacity of the table saw (SW) is limited by the maximum throughput capacity of the grey iron and ductile iron castings shakeout operation (CS1).

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

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

D.3.1 PSD Minor Limits [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable, PM emissions from the following emission unit(s) shall not exceed the pound per hour (lb/hr) emission limits listed in the table below:

Unit ID	Unit Description	Control Device	PM Emission Limit (lbs/hr)
TB	Castings cleaning & finishing (Table blasting) (shared)	Donaldson Torit dust collector (DT)	2.15
SB	Castings cleaning & finishing (Shotblasting) (shared)		
GD	Grinding Room (shared)		
SW	Table Saw (shared)		

Compliance with these limits, combined with the potential to emit PM from all other emission units at this source, shall limit the source-wide total potential to emit of PM to less than 100 tons per 12 consecutive month period and shall render 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

D.3.2 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2(e) (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from each of the units in the Castings Cleaning and Finishing Operations shall not exceed the corresponding pound per hour limitations listed in the table below:

Unit ID	Unit Description	Process Weight Rate (tons/hr)	6-3 Allowable Emission Rate (lbs/hour)
TB	Castings Cleaning and Finishing (Table blasting) (shared)	0.50	2.58
SB	Castings cleaning & finishing (Shotblasting) (shared)	0.50	2.58
GD	Grinding Room (shared)	0.25	1.62

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

D.3.3 Preventive Maintenance Plan [326 IAC 1-6-3]

A Preventive Maintenance Plan is required for these facilities and their associated control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

Compliance Determination Requirements

D.3.4 Particulate Control

(a) In order to comply with Conditions D.3.1, and D.3.2, the Donaldson Torit dust collector for particulate control shall be in operation and control emissions from the Gibson steel shot table blast machine, Diso Goff steel shot blast machine, Grinding Room, and Table Saw at all times these processes are in operation.

(b) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be

repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

D.3.5 Testing Requirements [326 IAC 2-6.1-5(b)(2)] [326 IAC 2-1.1-11]

In order to demonstrate compliance with Conditions D.3.1 and D.3.2, the Permittee shall perform PM testing of the Donaldson Torit dust collector (DT) while the table blast machine (TB), shot blast machine (SB), grinding room (GD), and table saw (SW) are in operation at the same time and operating at maximum capacity, utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

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

D.3.6 Parametric Monitoring

(a) The Permittee shall record the pressure drop across the Donaldson Torit dust collector, used in conjunction with the Gibson steel shot table blast machine, Diso Goff steel shot blast machine, Grinding Room, and Table Saw, at least once per day when these processes are in operation. When, for any one reading, the pressure drop across the dust collector is outside of the normal range, the Permittee shall take a reasonable response. The normal range for this unit is a pressure drop between 3.0 and 5.0 inches of water, unless a different upper-bound or lower-bound value for this range is determined during the latest stack test. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the above-mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

(b) 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 or replaced at least once every six (6) months.

D.3.7 Broken or Failed Bag/Filter Detection

In the event that bag/filter failure has been observed:

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

(b) For a single compartment baghouse/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 emissions unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

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

Record Keeping and Reporting Requirement [326 IAC 2-6.1-5(b)(2)]

D.3.8 Record Keeping Requirements

(a) To document the compliance status with Condition D.3.6, the Permittee shall maintain daily records of the Donaldson Torit dust collector pressure drop during normal operation. The Permittee shall include in its daily record when the pressure drop reading is not taken and the reason for the lack of a pressure drop reading (e.g., the process did not operate that day).

(b) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the records required by this condition.

SECTION D.4 EMISSION UNIT OPERATION CONDITIONS

Emission Unit Description: Solvent Cleaning

(f) Two (2) 1.0 MMBtu/hr natural gas-fired heated parts washers, identified as W1 and W2, constructed in 2008, using a maximum of 2,802.51 gallons of HAP-free solvent per year, uncontrolled and exhausting inside the building. [326 IAC 6-2-4 and 326 IAC 8-3-3]

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

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

D.4.1 Particulate Emission Limits [326 IAC 6-2]

Pursuant to 326 IAC 6-2-4, the particulate emissions from the two (2) heated parts washers, identified as W1 and W2, each, shall not exceed six tenths (0.6) pounds of particulate matter per MMBtu heat input.

D.4.2 Volatile Organic Compounds (VOC) [326 IAC 8-3-3]

(a) Pursuant to 326 IAC 8-3-3(a) (Open Top Vapor Degreasing Operation), for open top vapor degreasing operations constructed after January 1, 1980, the Permittee shall ensure the following control equipment and operating requirements are met:

(1) Equip the vapor degreaser with a cover that can be opened and closed easily without disturbing the vapor zone.

(2) Keep the cover closed at all times except when processing workloads through the degreaser.

(3) Minimize solvent carryout by:

(A) racking parts to allow complete drainage;

(B) moving parts in and out of the degreaser at less than three and three-tenths (3.3) meters per minute (eleven (11) feet per minute);

(C) degreasing the workload in the vapor zone at least thirty (30) seconds or until condensation ceases;

(D) tipping out any pools of solvent on the cleaned parts before removal; and

(E) allowing parts to dry within the degreaser for at least fifteen (15) seconds or until visually dry.

(4) Prohibit the entrance into the degreaser of porous or absorbent materials, such as cloth, leather, wood, or rope.

(5) Prohibit occupation of more than one-half (1/2) of the degreaser's open top area with the workload.

(6) Prohibit the loading of the degreaser in a manner that causes the vapor level to drop more than fifty percent (50%) of the vapor depth when the workload is removed.

(7) Prohibit solvent spraying above the vapor level.

(8) Repair solvent leaks immediately, or shut down the degreaser if leaks cannot be repaired immediately.

(9) Store waste solvent only in closed containers.

(10) Prohibit the disposal or transfer of waste solvent in a manner that could allow greater than twenty percent (20%) of the waste solvent (by weight) to evaporate into the atmosphere.

(11) Prohibit the use of workplace fans near the degreaser opening.

(12) Prohibit visually detectable water in the solvent exiting the water separator.

(13) Provide the degreaser with a permanent, conspicuous label that lists the operating requirements in subdivisions (2) through (12).

(b) Pursuant to 326 IAC 8-3-3(b) (Open Top Vapor Degreasing Operation), the Permittee shall ensure the following additional control equipment and operating requirements are met:

(1) Equip the degreaser with the following switches:

(A) A condenser flow switch and thermostat that shuts off sump heat if condenser coolant stops circulating or becomes too warm.

(B) A spray safety switch that shuts off spray pump if the vapor level drops more than ten (10) centimeters (four (4) inches).

(2) Equip the degreaser with one (1) of the following control devices:

(A) A freeboard ratio of seventy-five hundredths (0.75) or greater and a powered cover if the degreaser opening is greater than one (1) square meter (ten and eight-tenths (10.8) square feet).

(B) A refrigerated chiller.

(C) An enclosed design in which the cover opens only when the article is actually entering or exiting the degreaser.

(D) A carbon adsorption system with ventilation that, with the cover open, achieves a ventilation rate of greater than or equal to fifteen (15) cubic meters per minute per square meter (fifty (50) cubic feet per minute per square foot) of air-to-vapor interface area and an average of less than twenty-five (25) parts per million of solvent is exhausted over one (1) complete adsorption cycle.

(E) An alternative system of demonstrated equivalent or better control as those outlined in clauses (A) through (D) that is approved by the department. An alternative system shall be submitted to the U.S. EPA as a SIP revision.

(3) Prohibit the loading of the degreaser to the point where the vapor level would drop more than ten (10) centimeters (four (4) inches) when the workload is removed.

(4) Prohibit the exhaust ventilation rate from exceeding twenty (20) cubic meters per minute per square meter (sixty-five (65) cubic feet per minute per square foot) of degreaser open area unless a greater ventilation rate is necessary to meet Occupational Safety and Health Administration requirements.

(5) Ensure that the label required under subsection (a)(13) includes the additional operating requirements listed in subdivisions (3) and (4).

SECTION E.1 NESHAP REQUIREMENTS

Emissions Unit Description: Gray and Ductile Iron Foundry Operations

(a) ***Grey & Ductile Iron Foundry***, consisting of the following:

(1) One (1) manual charge handling operation, identified as CH1, constructed in 2008, with a maximum throughput capacity of 0.523 tons of iron per hour, uncontrolled and exhausting inside the building;

(2) Two (2) Inductotherm electric induction melting furnaces, identified as IND1 and IND2, constructed in 2008, and having a maximum throughput capacity of 0.523 tons of gray iron or 0.48 tons of ductile iron per hour, respectively, with operation limited by a single power supply (only one furnace can operate at any time), uncontrolled and exhausting inside the building;

Under NESHAP ZZZZZ (5Z), the two (2) electric induction melting furnaces, identified as IND1 and IND2, are each considered an affected small foundry.

(3) One (1) magnesium treatment operation for the production of ductile iron, identified as DT1, constructed in 2008, with a maximum throughput capacity of 0.48 tons of iron per hour, uncontrolled and exhausting inside the building. The magnesium treatment is only used to form ductile iron;

(4) One (1) pouring and casting operation, identified as PC1, constructed in 2008, with a maximum throughput capacity of 0.523 tons of iron per hour, uncontrolled and exhausting inside the building;

(5) One (1) castings cooling operation, identified as CC1, constructed in 2008, with a maximum throughput capacity of 0.523 tons of iron castings per hour, uncontrolled and exhausting inside the building;

(6) One (1) castings shakeout operation, identified as CS1, constructed in 2008, with a maximum throughput capacity of 0.523 tons of iron castings per hour, with particulate emissions controlled by the SS1 baghouse, and exhausting to Stack # S3; and

Note: The SS1 Baghouse is a common control to the castings shakeout operation (CS1) and the units in the shared sand system (SS), as follows:

Iron Foundry castings shakeout operation	CS1
Sand System, consisting of:	SS
Outside Sand storage silo	SS2
Inside Sand storage silo	SS4
Outside Sand storage silo	SS5
Outside Sand storage silo	SS6
Outside Sand storage silo	SS7
Sand handling operations	SS3
Mechanical sand reclamation unit	MSR
Sand mixing operation #1	MX1
Sand mixing operation #2	MX2
Core mixing operation	CMX

(7) One (1) core making line, identified as CB1, constructed in 2008, with a maximum throughput capacity of 0.523 tons of iron per hour, and a maximum throughput capacity of 0.15 tons of sand per hour, using an ester phenolic no-bake binder system,

uncontrolled and exhausting inside the building. Note: no catalyst gas is utilized in the binder system.

Note: The maximum throughput capacity of the two (2) Inductotherm electric induction melting furnaces is limited by a single power supply such that only one (1) furnace can operate at a time. Additionally, the maximum throughput capacities of the manual charge handling, electric induction melting furnaces, pouring and casting, castings cooling, and core making line are each dependent on the maximum capacity of the grey iron and ductile iron castings shakeout operation (CS1), which is a bottleneck for all of these processes.

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

National Emission Standards for Hazardous Air Pollutants (NESHAPs) Requirements [326 IAC 20-1]

E.1.1 General Provisions Relating to National Emission Standards for Hazardous Air Pollutants under 40 CFR Part 63 [326 IAC 20-1] [40 CFR Part 63, Subpart A]

(a) Pursuant to §63.10900, the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 20-1-1, as specified in Table 3 of 40 CFR Part 63, Subpart ZZZZZ.

(b) Pursuant to 40 CFR 63.12, the Permittee shall submit all required notifications and reports to:

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

E.1.2 National Emission Standards for Hazardous Air Pollutants for Iron and Steel Foundries Area Sources [40 CFR 63, Subpart ZZZZZ (5Z)] [326 IAC 20]

The Permittee, that owns or operates a new iron and steel foundry, as defined in 40 CFR 63.10906, that is an area source of hazardous air pollutant (HAP) emissions, as defined in §63.2, shall comply with the following provisions of 40 CFR Part 63, Subpart ZZZZZ (included as Attachment A of this permit), when processing grey and/or ductile iron:

(1) 40 CFR 63.10880(a), (b)(2), (c), (e), and (g)
(2) 40 CFR 63.10881(c) and (e)
(3) 40 CFR 63.10885
(4) 40 CFR 63.10886
(5) 40 CFR 63.10890
(6) 40 CFR 63.10905
(7) 40 CFR 63.10906

SECTION E.2 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(c) ***Sand System****:*

One (1) Sand System, identified as SS, constructed in 2008 and approved for modification in 2013, serving both the Grey & Ductile Iron Foundry and the Clean Charge Aluminum Foundry, and consisting of the following:

(4) One (1) natural gas-fired thermal sand reclamation system, identified as TSR1, approved for construction in 2013, with a maximum heat input capacity of 3.0 MMBtu/hr and maximum sand throughput of 2.0 tons per hour, equipped with one (1) baghouse, identified as SS4, for particulate control, and exhausting to stack # S4

Under 40 CFR 60, Subpart UUU, the natural gas-fired thermal sand reclamation system is an affected facility.

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

New Source Performance Standards (NSPS) Requirements [326 IAC 12-1]

E.2.1 General Provisions Relating to NSPS [326 IAC 12-1] [40 CFR 60, Subpart A]

(a) Pursuant to 40 CFR 60.1, the Permittee shall comply with the applicable provisions of 40 CFR Part 60, Subpart A - General Provisions, which are incorporated by reference as 326 IAC 12-1, except as otherwise specified in 40 CFR 60, Subpart UUU.

(b) Pursuant to 40 CFR 60.10, the Permittee shall submit all required notifications and reports to:

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

E.2.2 New Source Performance Standards (NSPS) for Calciners and Dryers in Mineral Industries [40 CFR Part 60, Subpart UUU] [326 IAC 12]

The Permittee shall comply with the applicable provisions of 40 CFR Part 60, Subpart UUU (included as Attachment B of this permit), which are incorporated by reference as 326 IAC 12, except as otherwise specified in 40 CFR Part 60, Subpart UUU:

(a) 40 CFR 60.730(a) and (c)
(b) 40 CFR 60.731
(c) 40 CFR 60.732
(d) 40 CFR 60.733
(e) 40 CFR 60.734
(f) 40 CFR 60.735(a), (c)(1) and (2), and (d)
(g) 40 CFR 60.736(a) and (b)
(h) 40 CFR 60.737

E.2.3 Testing Requirements [326 IAC 2-6.1-5(b)(2)] [326 IAC 2-1.1-11]

The Permittee shall perform the stack testing required under 40 CFR Part 60, Subpart UUU, utilizing methods as approved by the Commissioner to document compliance with Condition E.2.2. These tests shall be repeated at least once every five (5) years from the date of the last valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT 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:	Innovative Casting Technologies, Inc.
Address:	401 Blue Chip Court,
City:	Franklin, Indiana 46131
Phone #:	(317) 738-5966
MSOP #:	M081-30955-00066

I hereby certify that Innovative Casting Technologies, Inc. is : ☐ still in operation.
☐ no longer in operation.

I hereby certify that Innovative Casting Technologies, Inc. is : ☐ in compliance with the requirements of MSOP M081-30955-00066.
☐ not in compliance with the requirements of MSOP M081-30955-00066.

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
COMPLIANCE AND ENFORCEMENT BRANCH
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
COMPLIANCE AND ENFORCEMENT BRANCH

QUARTERLY REPORT

Source Name: Innovative Casting Technologies, Inc
Source Address: 401 Blue Chip Court, Franklin, Indiana 46131
FESOP Permit No.: M081-30955-00066
Facility: Clean Charge Aluminum Foundry
Parameter: **Total Combined Metal Melt Throughput**
Limit: The total combined metal melt throughput of the Clean Charge Aluminum Foundry, including the scrap and charge handling (CH2), the two (2) electric induction furnaces (TH1 and TH2), pouring and casting (PC2), castings cooling (CC2), castings shakeout (CS2), and core making line (CB2), shall be less than 600 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

QUARTER:_____ YEAR:_____

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

☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.
Deviation has been reported on:_____

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

Mail to: Permit Administration and Support Section
Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

Innovative Casting Technologies, Inc.
401 Blue Chip Court,
Franklin, Indiana 46131

Affidavit of Construction

I, _____, being duly sworn upon my oath, depose and say:
(Name of the Authorized Representative)

1. I live in _____ County, Indiana and being of sound mind and over twenty-one (21) years of age, I am competent to give this affidavit.

2. I hold the position of _____ for _____.
(Title) (Company Name)

3. By virtue of my position with _____, I have personal
(Company Name)
knowledge of the representations contained in this affidavit and am authorized to make these representations on behalf of _____.
(Company Name)

4. I hereby certify that Innovative Casting Technologies, Inc. 401 Blue Chip Court, Franklin, Indiana 46131, has constructed and will operate the gray and ductile iron, and clean charge aluminum foundry in conformity with the requirements and intent of the permit application received by the Office of Air Quality on September 22, 2011 and as permitted pursuant to New Source Construction Permit and Minor Source Operating Permit No. F081-30955-00066, Plant ID No. 081-00066 issued on _____.

5. **Permittee, please cross out the following statement if it does not apply:** Additional (operations/facilities) were constructed/substituted as described in the attachment to this document and were not made in accordance with the construction permit.

Further Affiant said not.

I affirm under penalties of perjury that the representations contained in this affidavit are true, to the best of my information and belief.

Signature_____
Date_____

STATE OF INDIANA)
)SS

COUNTY OF _____)

Subscribed and sworn to me, a notary public in and for _____ County and State of Indiana on this _____ day of _____, 20 _____. My Commission expires: _____.

Signature_____
Name_____ (typed or printed)

New Source Construction and Minor Source Operating Permit

OFFICE OF AIR QUALITY

Innovative Casting Technologies, Inc.
401 Blue Chip Court,
Franklin, IN 46131-8825

Attachment A

Title 40: Protection of Environment

PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES

Subpart ZZZZZ - NESHAPs for Iron and Steel Foundries Area Sources

F081-30955-00066

Subpart ZZZZZ—National Emission Standards for Hazardous Air Pollutants for Iron and Steel Foundries Area Sources

Source: 73 FR 252, Jan. 2, 2008, unless otherwise noted.

Applicability and Compliance Dates

§ 63.10880 Am I subject to this subpart?

(a) You are subject to this subpart if you own or operate an iron and steel foundry that is an area source of hazardous air pollutant (HAP) emissions.

(b) This subpart applies to each new or existing affected source. The affected source is each iron and steel foundry.

(1) An affected source is existing if you commenced construction or reconstruction of the affected source before September 17, 2007.

(2) An affected source is new if you commenced construction or reconstruction of the affected source on or after September 17, 2007. If an affected source is not new pursuant to the preceding sentence, it is not new as a result of a change in its compliance obligations pursuant to §63.10881(d).

(c) On and after January 2, 2008, if your iron and steel foundry becomes a major source as defined in §63.2, you must meet the requirements of 40 CFR part 63, subpart EEEEE.

(d) This subpart does not apply to research and development facilities, as defined in section 112(c)(7) of the Clean Air Act.

(e) You are exempt from the obligation to obtain a permit under 40 CFR part 70 or 40 CFR part 71, provided you are not otherwise required by law to obtain a permit under 40 CFR 70.3(a) or 40 CFR 71.3(a). Notwithstanding the previous sentence, you must continue to comply with the provisions of this subpart.

(f) If you own or operate an existing affected source, you must determine the initial applicability of the requirements of this subpart to a small foundry or a large foundry based on your facility's metal melt production for calendar year 2008. If the metal melt production for calendar year 2008 is 20,000 tons or less, your area source is a small foundry. If your metal melt production for calendar year 2008 is greater than 20,000 tons, your area source is a large foundry. You must submit a written notification to the Administrator that identifies your area source as a small foundry or a large foundry no later than January 2, 2009.

(g) If you own or operate a new affected source, you must determine the initial applicability of the requirements of this subpart to a small foundry or a large foundry based on your facility's annual metal melting capacity at startup. If the annual metal melting capacity is 10,000 tons or less, your area source is a small foundry. If the annual metal melting capacity is greater than 10,000 tons, your area source is a large foundry. You must submit a written notification to the Administrator that identifies your area source as a small foundry or a large foundry no later than 120 days after startup.

§ 63.10881 What are my compliance dates?

(a) If you own or operate an existing affected source, you must achieve compliance with the applicable provisions of this subpart by the dates in paragraphs (a)(1) through (3) of this section.

(1) Not later than January 2, 2009 for the pollution prevention management practices for metallic scrap in §63.10885(a) and binder formulations in §63.10886.

(2) Not later than January 4, 2010 for the pollution prevention management practices for mercury in §63.10885(b).

(3) Except as provided in paragraph (d) of this section, not later than 2 years after the date of your large foundry's notification of the initial determination required in §63.10880(f) for the standards and management practices in §63.10895.

(b) If you have a new affected source for which the initial startup date is on or before January 2, 2008, you must achieve compliance with the provisions of this subpart not later than January 2, 2008.

(c) If you own or operate a new affected source for which the initial startup date is after January 2, 2008, you must achieve compliance with the provisions of this subpart upon startup of your affected source.

(d) Following the initial determination for an existing affected source required in §63.10880(f),

(1) Beginning January 1, 2010, if the annual metal melt production of your small foundry exceeds 20,000 tons during the preceding calendar year, you must submit a notification of foundry reclassification to the Administrator within 30 days and comply with the requirements in paragraphs (d)(1)(i) or (ii) of this section, as applicable.

(i) If your small foundry has never been classified as a large foundry, you must comply with the requirements for a large foundry no later than 2 years after the date of your foundry's notification that the annual metal melt production exceeded 20,000 tons.

(ii) If your small foundry had previously been classified as a large foundry, you must comply with the requirements for a large foundry no later than the date of your foundry's most recent notification that the annual metal melt production exceeded 20,000 tons.

(2) If your facility is initially classified as a large foundry (or your small foundry subsequently becomes a large foundry), you must comply with the requirements for a large foundry for at least 3 years before reclassifying your facility as a small foundry, even if your annual metal melt production falls below 20,000 tons. After 3 years, you may reclassify your facility as a small foundry provided your annual metal melt production for the preceding calendar year was 20,000 tons or less. If you reclassify your large foundry as a small foundry, you must submit a notification of reclassification to the Administrator within 30 days and comply with the requirements for a small foundry no later than the date you notify the Administrator of the reclassification. If the annual metal melt production exceeds 20,000 tons during a subsequent year, you must submit a notification of reclassification to the Administrator within 30 days and comply with the requirements for a large foundry no later than the date you notify the Administrator of the reclassification.

(e) Following the initial determination for a new affected source required in §63.10880(g),

(1) If you increase the annual metal melt capacity of your small foundry to exceed 10,000 tons, you must submit a notification of reclassification to the Administrator within 30 days and comply with the requirements for a large foundry no later than the startup date for the new equipment, if applicable, or the date of issuance for your revised State or Federal operating permit.

(2) If your facility is initially classified as a large foundry (or your small foundry subsequently becomes a large foundry), you must comply with the requirements for a large foundry for at least 3 years before reclassifying your facility as a small foundry. After 3 years, you may reclassify your facility as a small foundry provided your most recent annual metal melt capacity is 10,000 tons or less. If you reclassify

your large foundry as a small foundry, you must notify the Administrator within 30 days and comply with the requirements for a small foundry no later than the date your melting equipment was removed or taken out of service, if applicable, or the date of issuance for your revised State or Federal operating permit.

Pollution Prevention Management Practices for New and Existing Affected Sources

§ 63.10885 What are my management practices for metallic scrap and mercury switches?

(a) *Metallic scrap management program.* For each segregated metallic scrap storage area, bin or pile, you must comply with the materials acquisition requirements in paragraph (a)(1) or (2) of this section. You must keep a copy of the material specifications onsite and readily available to all personnel with material acquisition duties, and provide a copy to each of your scrap providers. You may have certain scrap subject to paragraph (a)(1) of this section and other scrap subject to paragraph (a)(2) of this section at your facility provided the metallic scrap remains segregated until charge make-up.

(1) *Restricted metallic scrap.* You must prepare and operate at all times according to written material specifications for the purchase and use of only metal ingots, pig iron, slitter, or other materials that do not include post-consumer automotive body scrap, post-consumer engine blocks, post-consumer oil filters, oily turnings, lead components, chlorinated plastics, or free liquids. For the purpose of this subpart, "free liquids" is defined as material that fails the paint filter test by EPA Method 9095B, "Paint Filter Liquids Test" (revision 2), November 2004 (incorporated by reference—see §63.14). The requirements for no free liquids do not apply if the owner or operator can demonstrate that the free liquid is water that resulted from scrap exposure to rain.

(2) *General iron and steel scrap.* You must prepare and operate at all times according to written material specifications for the purchase and use of only iron and steel scrap that has been depleted (to the extent practicable) of organics and HAP metals in the charge materials used by the iron and steel foundry. The materials specifications must include at minimum the information specified in paragraph (a)(2)(i) or (ii) of this section.

(i) Except as provided in paragraph (a)(2)(ii) of this section, specifications for metallic scrap materials charged to a scrap preheater or metal melting furnace to be depleted (to the extent practicable) of the presence of used oil filters, chlorinated plastic parts, accessible lead-containing components (such as batteries and wheel weights), and a program to ensure the scrap materials are drained of free liquids.

(ii) For scrap charged to a cupola metal melting furnace that is equipped with an afterburner, specifications for metallic scrap materials to be depleted (to the extent practicable) of the presence of chlorinated plastics, accessible lead-containing components (such as batteries and wheel weights), and a program to ensure the scrap materials are drained of free liquids.

(b) *Mercury requirements.* For scrap containing motor vehicle scrap, you must procure the scrap pursuant to one of the compliance options in paragraphs (b)(1), (2), or (3) of this section for each scrap provider, contract, or shipment. For scrap that does not contain motor vehicle scrap, you must procure the scrap pursuant to the requirements in paragraph (b)(4) of this section for each scrap provider, contract, or shipment. You may have one scrap provider, contract, or shipment subject to one compliance provision and others subject to another compliance provision.

(1) *Site-specific plan for mercury switches.* You must comply with the requirements in paragraphs (b)(1)(i) through (v) of this section.

(i) You must include a requirement in your scrap specifications for removal of mercury switches from vehicle bodies used to make the scrap.

(ii) You must prepare and operate according to a plan demonstrating how your facility will implement the scrap specification in paragraph (b)(1)(i) of this section for removal of mercury switches. You must submit the plan to the Administrator for approval. You must operate according to the plan as submitted during the review and approval process, operate according to the approved plan at all times after approval, and address any deficiency identified by the Administrator or delegated authority within 60 days following disapproval of a plan. You may request approval to revise the plan and may operate according to the revised plan unless and until the revision is disapproved by the Administrator or delegated authority. The Administrator or delegated authority may change the approval status of the plan upon 90-days written notice based upon the semiannual report or other information. The plan must include:

(A) A means of communicating to scrap purchasers and scrap providers the need to obtain or provide motor vehicle scrap from which mercury switches have been removed and the need to ensure the proper management of the mercury switches removed from the scrap as required under the rules implementing subtitle C of the Resource Conservation and Recovery Act (RCRA) (40 CFR parts 261 through 265 and 268). The plan must include documentation of direction to appropriate staff to communicate to suppliers throughout the scrap supply chain the need to promote the removal of mercury switches from end-of-life vehicles. Upon the request of the Administrator or delegated authority, you must provide examples of materials that are used for outreach to suppliers, such as letters, contract language, policies for purchasing agents, and scrap inspection protocols;

(B) Provisions for obtaining assurance from scrap providers motor vehicle scrap provided to the facility meet the scrap specification;

(C) Provisions for periodic inspections or other means of corroboration to ensure that scrap providers and dismantlers are implementing appropriate steps to minimize the presence of mercury switches in motor vehicle scrap and that the mercury switches removed are being properly managed, including the minimum frequency such means of corroboration will be implemented; and

(D) Provisions for taking corrective actions (i.e., actions resulting in scrap providers removing a higher percentage of mercury switches or other mercury-containing components) if needed, based on the results of procedures implemented in paragraph (b)(1)(ii)(C) of this section).

(iii) You must require each motor vehicle scrap provider to provide an estimate of the number of mercury switches removed from motor vehicle scrap sent to the facility during the previous year and the basis for the estimate. The Administrator may request documentation or additional information at any time.

(iv) You must establish a goal for each scrap supplier to remove at least 80 percent of the mercury switches. Although a site-specific plan approved under paragraph (b)(1) of this section may require only the removal of convenience light switch mechanisms, the Administrator will credit all documented and verifiable mercury-containing components removed from motor vehicle scrap (such as sensors in anti-locking brake systems, security systems, active ride control, and other applications) when evaluating progress towards the 80 percent goal.

(v) For each scrap provider, you must submit semiannual progress reports to the Administrator that provide the number of mercury switches removed or the weight of mercury recovered from the switches, the estimated number of vehicles processed, an estimate of the percent of mercury switches removed, and certification that the removed mercury switches were recycled at RCRA-permitted facilities or otherwise properly managed pursuant to RCRA subtitle C regulations referenced in paragraph (b)(1)(ii)(A) of this section. This information can be submitted in aggregate form and does not have to be submitted for each shipment. The Administrator may change the approval status of a site-specific plan following 90-days notice based on the progress reports or other information.

(2) *Option for approved mercury programs.* You must certify in your notification of compliance status that you participate in and purchase motor vehicle scrap only from scrap providers who participate in a

program for removal of mercury switches that has been approved by the Administrator based on the criteria in paragraphs (b)(2)(i) through (iii) of this section. If you purchase motor vehicle scrap from a broker, you must certify that all scrap received from that broker was obtained from other scrap providers who participate in a program for the removal of mercury switches that has been approved by the Administrator based on the criteria in paragraphs (b)(2)(i) through (iii) of this section. The National Mercury Switch Recovery Program and the State of Maine Mercury Switch Removal Program are EPA-approved programs under paragraph (b)(2) of this section unless and until the Administrator disapproves the program (in part or in whole) under paragraph (b)(2)(iii) of this section.

(i) The program includes outreach that informs the dismantlers of the need for removal of mercury switches and provides training and guidance for removing mercury switches;

(ii) The program has a goal to remove at least 80 percent of mercury switches from motor vehicle scrap the scrap provider processes. Although a program approved under paragraph (b)(2) of this section may require only the removal of convenience light switch mechanisms, the Administrator will credit all documented and verifiable mercury-containing components removed from motor vehicle scrap (such as sensors in anti-locking brake systems, security systems, active ride control, and other applications) when evaluating progress towards the 80 percent goal; and

(iii) The program sponsor agrees to submit progress reports to the Administrator no less frequently than once every year that provide the number of mercury switches removed or the weight of mercury recovered from the switches, the estimated number of vehicles processed, an estimate of the percent of mercury switches recovered, and certification that the recovered mercury switches were recycled at facilities with permits as required under the rules implementing subtitle C of RCRA (40 CFR parts 261 through 265 and 268). The progress reports must be based on a database that includes data for each program participant; however, data may be aggregated at the State level for progress reports that will be publicly available. The Administrator may change the approval status of a program or portion of a program (e.g., at the State level) following 90-days notice based on the progress reports or on other information.

(iv) You must develop and maintain onsite a plan demonstrating the manner through which your facility is participating in the EPA-approved program.

(A) The plan must include facility-specific implementation elements, corporate-wide policies, and/or efforts coordinated by a trade association as appropriate for each facility.

(B) You must provide in the plan documentation of direction to appropriate staff to communicate to suppliers throughout the scrap supply chain the need to promote the removal or mercury switches from end-of-life vehicles. Upon the request of the Administrator or delegated authority, you must provide examples of materials that are used for outreach to suppliers, such as letters, contract language, policies for purchasing agents, and scrap inspection protocols.

(C) You must conduct periodic inspections or other means of corroboration to ensure that scrap providers are aware of the need for and are implementing appropriate steps to minimize the presence of mercury in scrap from end-of-life vehicles.

(3) *Option for specialty metal scrap.* You must certify in your notification of compliance status and maintain records of documentation that the only materials from motor vehicles in the scrap are materials recovered for their specialty alloy (including, but not limited to, chromium, nickel, molybdenum, or other alloys) content (such as certain exhaust systems) and, based on the nature of the scrap and purchase specifications, that the type of scrap is not reasonably expected to contain mercury switches.

(4) *Scrap that does not contain motor vehicle scrap.* For scrap not subject to the requirements in paragraphs (b)(1) through (3) of this section, you must certify in your notification of compliance status and maintain records of documentation that this scrap does not contain motor vehicle scrap.

§ 63.10886 What are my management practices for binder formulations?

For each furfuryl alcohol warm box mold or core making line at a new or existing iron and steel foundry, you must use a binder chemical formulation that does not use methanol as a specific ingredient of the catalyst formulation. This requirement does not apply to the resin portion of the binder system.

Requirements for New and Existing Affected Sources Classified as Small Foundries

§ 63.10890 What are my management practices and compliance requirements?

(a) You must comply with the pollution prevention management practices for metallic scrap and mercury switches in §63.10885 and binder formulations in §63.10886.

(b) You must submit an initial notification of applicability according to §63.9(b)(2).

(c) You must submit a notification of compliance status according to §63.9(h)(1)(i). You must send the notification of compliance status before the close of business on the 30th day after the applicable compliance date specified in §63.10881. The notification must include the following compliance certifications, as applicable:

(1) "This facility has prepared, and will operate by, written material specifications for metallic scrap according to §63.10885(a)(1)" and/or "This facility has prepared, and will operate by, written material specifications for general iron and steel scrap according to §63.10885(a)(2)."

(2) "This facility has prepared, and will operate by, written material specifications for the removal of mercury switches and a site-specific plan implementing the material specifications according to §63.10885(b)(1) and/or "This facility participates in and purchases motor vehicle scrap only from scrap providers who participate in a program for removal of mercury switches that has been approved by the Administrator according to §63.10885(b)(2) and has prepared a plan for participation in the EPA-approved program according to §63.10885(b)(2)(iv)" and/or "The only materials from motor vehicles in the scrap charged to a metal melting furnace at this facility are materials recovered for their specialty alloy content in accordance with §63.10885(b)(3) which are not reasonably expected to contain mercury switches" and/or "This facility complies with the requirements for scrap that does not contain motor vehicle scrap in accordance with §63.10885(b)(4)."

(3) "This facility complies with the no methanol requirement for the catalyst portion of each binder chemical formulation for a furfuryl alcohol warm box mold or core making line according to §63.10886."

(d) As required by §63.10(b)(1), you must maintain files of all information (including all reports and notifications) for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. At a minimum, the most recent 2 years of data shall be retained on site. The remaining 3 years of data may be retained off site. Such files may be maintained on microfilm, on a computer, on computer floppy disks, on magnetic tape disks, or on microfiche.

(e) You must maintain records of the information specified in paragraphs (e)(1) through (7) of this section according to the requirements in §63.10(b)(1).

(1) Records supporting your initial notification of applicability and your notification of compliance status according to §63.10(b)(2)(xiv).

(2) Records of your written materials specifications according to §63.10885(a) and records that demonstrate compliance with the requirements for restricted metallic scrap in §63.10885(a)(1) and/or for the use of general scrap in §63.10885(a)(2) and for mercury in §63.10885(b)(1) through (3), as applicable. You must keep records documenting compliance with §63.10885(b)(4) for scrap that does not contain motor vehicle scrap.

(3) If you are subject to the requirements for a site-specific plan for mercury switch removal under §63.10885(b)(1), you must:

(i) Maintain records of the number of mercury switches removed or the weight of mercury recovered from the switches and properly managed, the estimated number of vehicles processed, and an estimate of the percent of mercury switches recovered; and

(ii) Submit semiannual reports of the number of mercury switches removed or the weight of mercury recovered from the switches and properly managed, the estimated number of vehicles processed, an estimate of the percent of mercury switches recovered, and a certification that the recovered mercury switches were recycled at RCRA-permitted facilities. The semiannual reports must include a certification that you have conducted periodic inspections or taken other means of corroboration as required under §63.10885(b)(1)(ii)(C). You must identify which option in paragraph §63.10885(b) applies to each scrap provider, contract, or shipment. You may include this information in the semiannual compliance reports required under paragraph (f) of this section.

(4) If you are subject to the option for approved mercury programs under §63.10885(b)(2), you must maintain records identifying each scrap provider and documenting the scrap provider's participation in an approved mercury switch removal program. If you purchase motor vehicle scrap from a broker, you must maintain records identifying each broker and documentation that all scrap provided by the broker was obtained from other scrap providers who participate in an approved mercury switch removal program.

(5) Records to document use of binder chemical formulation that does not contain methanol as a specific ingredient of the catalyst formulation for each furfuryl alcohol warm box mold or core making line as required by §63.10886. These records must be the Material Safety Data Sheet (provided that it contains appropriate information), a certified product data sheet, or a manufacturer's hazardous air pollutant data sheet.

(6) Records of the annual quantity and composition of each HAP-containing chemical binder or coating material used to make molds and cores. These records must be copies of purchasing records, Material Safety Data Sheets, or other documentation that provides information on the binder or coating materials used.

(7) Records of metal melt production for each calendar year.

(f) You must submit semiannual compliance reports to the Administrator according to the requirements in §63.10(e). The report must clearly identify any deviation from the pollution prevention management practices in §63.10885 or §63.10886 and the corrective action taken.

(g) You must submit a written notification to the Administrator of the initial classification of your facility as a small foundry as required in §63.10880(f) and (g), as applicable, and for any subsequent reclassification as required in §63.10881(d)(1) or (e), as applicable.

(h) Following the initial determination for an existing affected source as a small foundry, if the annual metal melt production exceeds 20,000 tons during the preceding year, you must comply with the requirements for large foundries by the applicable dates in §63.10881(d)(1)(i) or (d)(1)(ii). Following the initial determination for a new affected source as a small foundry, if you increase the annual metal melt

capacity to exceed 10,000 tons, you must comply with the requirements for a large foundry by the applicable dates in §63.10881(e)(1).

(i) You must comply with the following requirements of the General Provisions (40 CFR part 63, subpart A): §§63.1 through 63.5; §63.6(a), (b), (c), and (e)(1); §63.9; §63.10(a), (b)(1), (b)(2)(xiv), (b)(3), (d)(1), (d)(4), and (f); and §§63.13 through 63.16. Requirements of the General Provisions not cited in the preceding sentence do not apply to the owner or operator of a new or existing affected source that is classified as a small foundry.

Requirements for New and Existing Affected Sources Classified as Large Iron and Steel Foundries

§ 63.10895 What are my standards and management practices?

(a) If you own or operate an affected source that is a large foundry as defined in §63.10906, you must comply with the pollution prevention management practices in §§63.10885 and 63.10886, the requirements in paragraphs (b) through (e) of this section, and the requirements in §§63.10896 through 63.10900.

(b) You must operate a capture and collection system for each metal melting furnace at a new or existing iron and steel foundry unless that furnace is specifically uncontrolled as part of an emissions averaging group. Each capture and collection system must meet accepted engineering standards, such as those published by the American Conference of Governmental Industrial Hygienists.

(c) You must not discharge to the atmosphere emissions from any metal melting furnace or group of all metal melting furnaces that exceed the applicable limit in paragraph (c)(1) or (2) of this section. When an alternative emissions limit is provided for a given emissions source, you are not restricted in the selection of which applicable alternative emissions limit is used to demonstrate compliance.

(1) For an existing iron and steel foundry, 0.8 pounds of particulate matter (PM) per ton of metal charged or 0.06 pounds of total metal HAP per ton of metal charged.

(2) For a new iron and steel foundry, 0.1 pounds of PM per ton of metal charged or 0.008 pounds of total metal HAP per ton of metal charged.

(d) If you own or operate a new affected source, you must comply with each control device parameter operating limit in paragraphs (d)(1) and (2) of this section that applies to you.

(1) For each wet scrubber applied to emissions from a metal melting furnace, you must maintain the 3-hour average pressure drop and scrubber water flow rate at or above the minimum levels established during the initial or subsequent performance test.

(2) For each electrostatic precipitator applied to emissions from a metal melting furnace, you must maintain the voltage and secondary current (or total power input) to the control device at or above the level established during the initial or subsequent performance test.

(e) If you own or operate a new or existing iron and steel foundry, you must not discharge to the atmosphere fugitive emissions from foundry operations that exhibit opacity greater than 20 percent (6-minute average), except for one 6-minute average per hour that does not exceed 30 percent.

§ 63.10896 What are my operation and maintenance requirements?

(a) You must prepare and operate at all times according to a written operation and maintenance (O&M) plan for each control device for an emissions source subject to a PM, metal HAP, or opacity emissions

limit in §63.10895. You must maintain a copy of the O&M plan at the facility and make it available for review upon request. At a minimum, each plan must contain the following information:

(1) General facility and contact information;

(2) Positions responsible for inspecting, maintaining, and repairing emissions control devices which are used to comply with this subpart;

(3) Description of items, equipment, and conditions that will be inspected, including an inspection schedule for the items, equipment, and conditions. For baghouses that are equipped with bag leak detection systems, the O&M plan must include the site-specific monitoring plan required in §63.10897(d)(2).

(4) Identity and estimated quantity of the replacement parts that will be maintained in inventory; and

(5) For a new affected source, procedures for operating and maintaining a CPMS in accordance with manufacturer's specifications.

(b) You may use any other O&M, preventative maintenance, or similar plan which addresses the requirements in paragraph (a)(1) through (5) of this section to demonstrate compliance with the requirements for an O&M plan.

§ 63.10897 What are my monitoring requirements?

(a) You must conduct an initial inspection of each PM control device for a metal melting furnace at an existing affected source. You must conduct each initial inspection no later than 60 days after your applicable compliance date for each installed control device which has been operated within 60 days of the compliance date. For an installed control device which has not operated within 60 days of the compliance date, you must conduct an initial inspection prior to startup of the control device. Following the initial inspections, you must perform periodic inspections and maintenance of each PM control device for a metal melting furnace at an existing affected source. You must perform the initial and periodic inspections according to the requirements in paragraphs (a)(1) through (4) of this section. You must record the results of each initial and periodic inspection and any maintenance action in the logbook required in §63.10899(b)(13).

(1) For the initial inspection of each baghouse, you must visually inspect the system ductwork and baghouse units for leaks. You must also inspect the inside of each baghouse for structural integrity and fabric filter condition. Following the initial inspections, you must inspect and maintain each baghouse according to the requirements in paragraphs (a)(1)(i) and (ii) of this section.

(i) You must conduct monthly visual inspections of the system ductwork for leaks.

(ii) You must conduct inspections of the interior of the baghouse for structural integrity and to determine the condition of the fabric filter every 6 months.

(2) For the initial inspection of each dry electrostatic precipitator, you must verify the proper functioning of the electronic controls for corona power and rapper operation, that the corona wires are energized, and that adequate air pressure is present on the rapper manifold. You must also visually inspect the system ductwork and electrostatic housing unit and hopper for leaks and inspect the interior of the electrostatic precipitator to determine the condition and integrity of corona wires, collection plates, hopper, and air diffuser plates. Following the initial inspection, you must inspect and maintain each dry electrostatic precipitator according to the requirements in paragraphs (a)(2)(i) through (iii) of this section.

(i) You must conduct a daily inspection to verify the proper functioning of the electronic controls for corona power and rapper operation, that the corona wires are energized, and that adequate air pressure is present on the rapper manifold.

(ii) You must conduct monthly visual inspections of the system ductwork, housing unit, and hopper for leaks.

(iii) You must conduct inspections of the interior of the electrostatic precipitator to determine the condition and integrity of corona wires, collection plates, plate rappers, hopper, and air diffuser plates every 24 months.

(3) For the initial inspection of each wet electrostatic precipitator, you must verify the proper functioning of the electronic controls for corona power, that the corona wires are energized, and that water flow is present. You must also visually inspect the system ductwork and electrostatic precipitator housing unit and hopper for leaks and inspect the interior of the electrostatic precipitator to determine the condition and integrity of corona wires, collection plates, plate wash spray heads, hopper, and air diffuser plates. Following the initial inspection, you must inspect and maintain each wet electrostatic precipitator according to the requirements in paragraphs (a)(3)(i) through (iii) of this section.

(i) You must conduct a daily inspection to verify the proper functioning of the electronic controls for corona power, that the corona wires are energized, and that water flow is present.

(ii) You must conduct monthly visual inspections of the system ductwork, electrostatic precipitator housing unit, and hopper for leaks.

(iii) You must conduct inspections of the interior of the electrostatic precipitator to determine the condition and integrity of corona wires, collection plates, plate wash spray heads, hopper, and air diffuser plates every 24 months.

(4) For the initial inspection of each wet scrubber, you must verify the presence of water flow to the scrubber. You must also visually inspect the system ductwork and scrubber unit for leaks and inspect the interior of the scrubber for structural integrity and the condition of the demister and spray nozzle. Following the initial inspection, you must inspect and maintain each wet scrubber according to the requirements in paragraphs (a)(4)(i) through (iii) of this section.

(i) You must conduct a daily inspection to verify the presence of water flow to the scrubber.

(ii) You must conduct monthly visual inspections of the system ductwork and scrubber unit for leaks.

(iii) You must conduct inspections of the interior of the scrubber to determine the structural integrity and condition of the demister and spray nozzle every 12 months.

(b) For each wet scrubber applied to emissions from a metal melting furnace at a new affected source, you must use a continuous parameter monitoring system (CPMS) to measure and record the 3-hour average pressure drop and scrubber water flow rate.

(c) For each electrostatic precipitator applied to emissions from a metal melting furnace at a new affected source, you must measure and record the hourly average voltage and secondary current (or total power input) using a CPMS.

(d) If you own or operate an existing affected source, you may install, operate, and maintain a bag leak detection system for each negative pressure baghouse or positive pressure baghouse as an alternative to the baghouse inspection requirements in paragraph (a)(1) of this section. If you own or operate a new

affected source, you must install, operate, and maintain a bag leak detection system for each negative pressure baghouse or positive pressure baghouse. You must install, operate, and maintain each bag leak detection system according to the requirements in paragraphs (d)(1) through (3) of this section.

(1) Each bag leak detection system must meet the requirements in paragraphs (d)(1)(i) through (vii) of this section.

(i) The system must be certified by the manufacturer to be capable of detecting emissions of particulate matter at concentrations of 10 milligrams per actual cubic meter (0.00044 grains per actual cubic foot) or less.

(ii) The bag leak detection system sensor must provide output of relative particulate matter loadings and the owner or operator shall continuously record the output from the bag leak detection system using a strip chart recorder, data logger, or other means.

(iii) The system must be equipped with an alarm that will sound when an increase in relative particulate loadings is detected over the alarm set point established in the operation and maintenance plan, and the alarm must be located such that it can be heard by the appropriate plant personnel.

(iv) The initial adjustment of the system must, at minimum, consist of establishing the baseline output by adjusting the sensitivity (range) and the averaging period of the device, and establishing the alarm set points. If the system is equipped with an alarm delay time feature, you also must adjust the alarm delay time.

(v) Following the initial adjustment, do not adjust the sensitivity or range, averaging period, alarm set point, or alarm delay time. Except, once per quarter, you may adjust the sensitivity of the bag leak detection system to account for seasonable effects including temperature and humidity according to the procedures in the monitoring plan required by paragraph (d)(2) of this section.

(vi) For negative pressure baghouses, induced air baghouses, and positive pressure baghouses that are discharged to the atmosphere through a stack, the bag leak detector sensor must be installed downstream of the baghouse and upstream of any wet scrubber.

(vii) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors.

(2) You must prepare a site-specific monitoring plan for each bag leak detection system to be incorporated in your O&M plan. You must operate and maintain each bag leak detection system according to the plan at all times. Each plan must address all of the items identified in paragraphs (d)(2)(i) through (vi) of this section.

(i) Installation of the bag leak detection system.

(ii) Initial and periodic adjustment of the bag leak detection system including how the alarm set-point will be established.

(iii) Operation of the bag leak detection system including quality assurance procedures.

(iv) Maintenance of the bag leak detection system including a routine maintenance schedule and spare parts inventory list.

(v) How the bag leak detection system output will be recorded and stored.

(vi) Procedures for determining what corrective actions are necessary in the event of a bag leak detection alarm as required in paragraph (d)(3) of this section.

(3) In the event that a bag leak detection system alarm is triggered, you must initiate corrective action to determine the cause of the alarm within 1 hour of the alarm, initiate corrective action to correct the cause of the problem within 24 hours of the alarm, and complete corrective action as soon as practicable, but no later than 10 calendar days from the date of the alarm. You must record the date and time of each valid alarm, the time you initiated corrective action, the correction action taken, and the date on which corrective action was completed. Corrective actions may include, but are not limited to:

(i) Inspecting the bag house for air leaks, torn or broken bags or filter media, or any other condition that may cause an increase in emissions.

(ii) Sealing off defective bags or filter media.

(iii) Replacing defective bags or filter media or otherwise repairing the control device.

(iv) Sealing off a defective baghouse department.

(v) Cleaning the bag leak detection system probe, or otherwise repairing the bag leak detection system.

(vi) Shutting down the process producing the particulate emissions.

(e) You must make monthly inspections of the equipment that is important to the performance of the total capture system (i.e., pressure sensors, dampers, and damper switches). This inspection must include observations of the physical appearance of the equipment (e.g., presence of holes in the ductwork or hoods, flow constrictions caused by dents or accumulated dust in the ductwork, and fan erosion). You must repair any defect or deficiency in the capture system as soon as practicable, but no later than 90 days. You must record the date and results of each inspection and the date of repair of any defect or deficiency.

(f) You must install, operate, and maintain each CPMS or other measurement device according to your O&M plan. You must record all information needed to document conformance with these requirements.

(g) In the event of an exceedance of an established emissions limitation (including an operating limit), you must restore operation of the emissions source (including the control device and associated capture system) to its normal or usual manner or operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. 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 exceedance. You must record the date and time correction action was initiated, the correction action taken, and the date corrective action was completed.

(h) If you choose to comply with an emissions limit in §63.10895(c) using emissions averaging, you must calculate and record for each calendar month the pounds of PM or total metal HAP per ton of metal melted from the group of all metal melting furnaces at your foundry. You must calculate and record the weighted average pounds per ton emissions rate for the group of all metal melting furnaces at the foundry determined from the performance test procedures in §63.10898(d) and (e).

§ 63.10898 What are my performance test requirements?

(a) You must conduct a performance test to demonstrate initial compliance with the applicable emissions limits for each metal melting furnace or group of all metal melting furnaces that is subject to an emissions

limit in §63.10895(c) and for each building or structure housing foundry operations that is subject to the opacity limit for fugitive emissions in §63.10895(e). You must conduct the test within 180 days of your compliance date and report the results in your notification of compliance status.

(1) If you own or operate an existing iron and steel foundry, you may choose to submit the results of a prior performance test for PM or total metal HAP that demonstrates compliance with the applicable emissions limit for a metal melting furnace or group of all metal melting furnaces provided the test was conducted within the last 5 years using the methods and procedures specified in this subpart and either no process changes have been made since the test, or you can demonstrate that the results of the performance test, with or without adjustments, reliably demonstrate compliance with the applicable emissions limit despite such process changes.

(2) If you own or operate an existing iron and steel foundry and you choose to submit the results of a prior performance test according to paragraph (a)(1) of this section, you must submit a written notification to the Administrator of your intent to use the previous test data no later than 60 days after your compliance date. The notification must contain a full copy of the performance test and contain information to demonstrate, if applicable, that either no process changes have been made since the test, or that the results of the performance test, with or without adjustments, reliably demonstrate compliance despite such process changes.

(3) If you have an electric induction furnace equipped with an emissions control device at an existing foundry, you may use the test results from another electric induction furnace to demonstrate compliance with the applicable PM or total metal HAP emissions limit in §63.10895(c) provided the furnaces are similar with respect to the type of emission control device that is used, the composition of the scrap charged, furnace size, and furnace melting temperature.

(4) If you have an uncontrolled electric induction furnace at an existing foundry, you may use the test results from another electric induction furnace to demonstrate compliance with the applicable PM or total metal HAP emissions limit in §63.10895(c) provided the test results are prior to any control device and the electric induction furnaces are similar with respect to the composition of the scrap charged, furnace size, and furnace melting temperature.

(5) For electric induction furnaces that do not have emission capture systems, you may install a temporary enclosure for the purpose of representative sampling of emissions. A permanent enclosure and capture system is not required for the purpose of the performance test.

(b) You must conduct subsequent performance tests to demonstrate compliance with all applicable PM or total metal HAP emissions limits in §63.10895(c) for a metal melting furnace or group of all metal melting furnaces no less frequently than every 5 years and each time you elect to change an operating limit or make a process change likely to increase HAP emissions.

(c) You must conduct each performance test according to the requirements in §63.7(e)(1), Table 1 to this subpart, and paragraphs (d) through (g) of this section.

(d) To determine compliance with the applicable PM or total metal HAP emissions limit in §63.10895(c) for a metal melting furnace in a lb/ton of metal charged format, compute the process-weighted mass emissions (E^p) for each test run using Equation 1 of this section:

$$E_p = \frac{C \times Q \times T}{P \times K} \qquad (Eq\ 1)$$

Where:

E_p= Process-weighted mass emissions rate of PM or total metal HAP, pounds of PM or total metal HAP per ton (lb/ton) of metal charged;

C = Concentration of PM or total metal HAP measured during performance test run, grains per dry standard cubic foot (gr/dscf);

Q = Volumetric flow rate of exhaust gas, dry standard cubic feet per hour (dscf/hr);

T = Total time during a test run that a sample is withdrawn from the stack during melt production cycle, hr;

P = Total amount of metal charged during the test run, tons; and

K = Conversion factor, 7,000 grains per pound.

(e) To determine compliance with the applicable emissions limit in §63.10895(c) for a group of all metal melting furnaces using emissions averaging,

(1) Determine and record the monthly average charge rate for each metal melting furnace at your iron and steel foundry for the previous calendar month; and

(2) Compute the mass-weighted PM or total metal HAP using Equation 2 of this section.

$$E_c = \frac{\sum_{i=1}^{n}(E_{pi} \times T_{ti})}{\sum_{i=1}^{n} T_{ti}} \quad (Eq. 2)$$

Where:

E_C= The mass-weighted PM or total metal HAP emissions for the group of all metal melting furnaces at the foundry, pounds of PM or total metal HAP per ton of metal charged;

E_{pi}= Process-weighted mass emissions of PM or total metal HAP for individual emission unit i as determined from the performance test and calculated using Equation 1 of this section, pounds of PM or total metal HAP per ton of metal charged;

T_{ti}= Total tons of metal charged for individual emission unit i for the calendar month prior to the performance test, tons; and

n = The total number of metal melting furnaces at the iron and steel foundry.

(3) For an uncontrolled electric induction furnace that is not equipped with a capture system and has not been previously tested for PM or total metal HAP, you may assume an emissions factor of 2 pounds per ton of PM or 0.13 pounds of total metal HAP per ton of metal melted in Equation 2 of this section instead of a measured test value. If the uncontrolled electric induction furnace is equipped with a capture system, you must use a measured test value.

(f) To determine compliance with the applicable PM or total metal HAP emissions limit for a metal melting furnace in §63.10895(c) when emissions from one or more regulated furnaces are combined with other non-regulated emissions sources, you may demonstrate compliance using the procedures in paragraphs (f)(1) through (3) of this section.

(1) Determine the PM or total metal HAP process-weighted mass emissions for each of the regulated streams prior to the combination with other exhaust streams or control device.

(2) Measure the flow rate and PM or total metal HAP concentration of the combined exhaust stream both before and after the control device and calculate the mass removal efficiency of the control device using Equation 3 of this section.

$$\%\ \text{reduction} = \frac{E_i - E_o}{E_i} \times 100\% \qquad (\text{Eq. 3})$$

Where:

E_i= Mass emissions rate of PM or total metal HAP at the control device inlet, lb/hr;

E_o= Mass emissions rate of PM or total metal HAP at the control device outlet, lb/hr.

(3) Meet the applicable emissions limit based on the calculated PM or total metal HAP process-weighted mass emissions for the regulated emissions source using Equation 4 of this section:

$$E_{p1\_\_\_} E_{p1} \times \left(1 - \frac{\%\ \text{reduction}}{100}\right) \qquad (\text{Eq. 4})$$

Where:

$E_{p1released}$= Calculated process-weighted mass emissions of PM (or total metal HAP) predicted to be released to the atmosphere from the regulated emissions source, pounds of PM or total metal HAP per ton of metal charged; and

E_{p1i}= Process-weighted mass emissions of PM (or total metal HAP) in the uncontrolled regulated exhaust stream, pounds of PM or total metal HAP per ton of metal charged.

(g) To determine compliance with an emissions limit for situations when multiple sources are controlled by a single control device, but only one source operates at a time or other situations that are not expressly considered in paragraphs (d) through (f) of this section, you must submit a site-specific test plan to the Administrator for approval according to the requirements in §63.7(c)(2) and (3).

(h) You must conduct each opacity test for fugitive emissions according to the requirements in §63.6(h)(5) and Table 1 to this subpart.

(i) You must conduct subsequent performance tests to demonstrate compliance with the opacity limit in §63.10895(e) no less frequently than every 6 months and each time you make a process change likely to increase fugitive emissions.

(j) In your performance test report, you must certify that the capture system operated normally during the performance test.

(k) You must establish operating limits for a new affected source during the initial performance test according to the requirements in Table 2 of this subpart.

(l) You may change the operating limits for a wet scrubber, electrostatic precipitator, or baghouse if you meet the requirements in paragraphs (l)(1) through (3) of this section.

(1) Submit a written notification to the Administrator of your plan to conduct a new performance test to revise the operating limit.

(2) Conduct a performance test to demonstrate compliance with the applicable emissions limitation in §63.10895(c).

(3) Establish revised operating limits according to the applicable procedures in Table 2 to this subpart.

§ 63.10899 What are my recordkeeping and reporting requirements?

(a) As required by §63.10(b)(1), you must maintain files of all information (including all reports and notifications) for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. At a minimum, the most recent 2 years of data shall be retained on site. The remaining 3 years of data may be retained off site. Such files may be maintained on microfilm, on a computer, on computer floppy disks, on magnetic tape disks, or on microfiche.

(b) In addition to the records required by 40 CFR 63.10, you must keep records of the information specified in paragraphs (b)(1) through (13) of this section.

(1) You must keep records of your written materials specifications according to §63.10885(a) and records that demonstrate compliance with the requirements for restricted metallic scrap in §63.10885(a)(1) and/or for the use of general scrap in §63.10885(a)(2) and for mercury in §63.10885(b)(1) through (3), as applicable. You must keep records documenting compliance with §63.10885(b)(4) for scrap that does not contain motor vehicle scrap.

(2) If you are subject to the requirements for a site-specific plan for mercury under §63.10885(b)(1), you must:

(i) Maintain records of the number of mercury switches removed or the weight of mercury recovered from the switches and properly managed, the estimated number of vehicles processed, and an estimate of the percent of mercury switches recovered; and

(ii) Submit semiannual reports of the number of mercury switches removed or the weight of mercury recovered from the switches and properly managed, the estimated number of vehicles processed, an estimate of the percent of mercury switches recovered, and a certification that the recovered mercury switches were recycled at RCRA-permitted facilities. The semiannual reports must include a certification that you have conducted periodic inspections or taken other means of corroboration as required under §63.10885(b)(1)(ii)(C). You must identify which option in §63.10885(b) applies to each scrap provider, contract, or shipment. You may include this information in the semiannual compliance reports required under paragraph (c) of this section.

(3) If you are subject to the option for approved mercury programs under §63.10885(b)(2), you must maintain records identifying each scrap provider and documenting the scrap provider's participation in an approved mercury switch removal program. If your scrap provider is a broker, you must maintain records identifying each of the broker's scrap suppliers and documenting the scrap supplier's participation in an approved mercury switch removal program.

(4) You must keep records to document use of any binder chemical formulation that does not contain methanol as a specific ingredient of the catalyst formulation for each furfuryl alcohol warm box mold or core making line as required by §63.10886. These records must be the Material Safety Data Sheet (provided that it contains appropriate information), a certified product data sheet, or a manufacturer's hazardous air pollutant data sheet.

(5) You must keep records of the annual quantity and composition of each HAP-containing chemical binder or coating material used to make molds and cores. These records must be copies of purchasing records, Material Safety Data Sheets, or other documentation that provide information on the binder or coating materials used.

(6) You must keep records of monthly metal melt production for each calendar year.

(7) You must keep a copy of the operation and maintenance plan as required by §63.10896(a) and records that demonstrate compliance with plan requirements.

(8) If you use emissions averaging, you must keep records of the monthly metal melting rate for each furnace at your iron and steel foundry, and records of the calculated pounds of PM or total metal HAP per ton of metal melted for the group of all metal melting furnaces required by §63.10897(h).

(9) If applicable, you must keep records for bag leak detection systems as follows:

(i) Records of the bag leak detection system output;

(ii) Records of bag leak detection system adjustments, including the date and time of the adjustment, the initial bag leak detection system settings, and the final bag leak detection system settings; and

(iii) The date and time of all bag leak detection system alarms, and for each valid alarm, the time you initiated corrective action, the corrective action taken, and the date on which corrective action was completed.

(10) You must keep records of capture system inspections and repairs as required by §63.10897(e).

(11) You must keep records demonstrating conformance with your specifications for the operation of CPMS as required by §63.10897(f).

(12) You must keep records of corrective action(s) for exceedances and excursions as required by §63.10897(g).

(13) You must record the results of each inspection and maintenance required by §63.10897(a) for PM control devices in a logbook (written or electronic format). You must keep the logbook onsite and make the logbook available to the Administrator upon request. You must keep records of the information specified in paragraphs (b)(13)(i) through (iii) of this section.

(i) The date and time of each recorded action for a fabric filter, the results of each inspection, and the results of any maintenance performed on the bag filters.

(ii) The date and time of each recorded action for a wet or dry electrostatic precipitator (including ductwork), the results of each inspection, and the results of any maintenance performed for the electrostatic precipitator.

(iii) The date and time of each recorded action for a wet scrubber (including ductwork), the results of each inspection, and the results of any maintenance performed on the wet scrubber.

(c) You must submit semiannual compliance reports to the Administrator according to the requirements in §63.10(e). The reports must include, at a minimum, the following information as applicable:

(1) Summary information on the number, duration, and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective action taken;

(2) Summary information on the number, duration, and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other calibration checks, if applicable); and

(3) Summary information on any deviation from the pollution prevention management practices in §§63.10885 and 63.10886 and the operation and maintenance requirements §63.10896 and the corrective action taken.

(d) You must submit written notification to the Administrator of the initial classification of your new or existing affected source as a large iron and steel facility as required in §63.10880(f) and (g), as applicable, and for any subsequent reclassification as required in §63.10881(d) or (e), as applicable.

§ 63.10900 What parts of the General Provisions apply to my large foundry?

(a) If you own or operate a new or existing affected source that is classified as a large foundry, you must comply with the requirements of the General Provisions (40 CFR part 63, subpart A) according to Table 3 of this subpart.

(b) If you own or operator a new or existing affected source that is classified as a large foundry, your notification of compliance status required by §63.9(h) must include each applicable certification of compliance, signed by a responsible official, in Table 4 of this subpart.

Other Requirements and Information

§ 63.10905 Who implements and enforces this subpart?

(a) This subpart can be implemented and enforced by EPA or a delegated authority such as your State, local, or tribal agency. If the EPA Administrator has delegated authority to your State, local, or tribal agency, then that agency has the authority to implement and enforce this subpart. You should contact your EPA Regional Office to find out if implementation and enforcement of this subpart is delegated to your State, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under 40 CFR part 63, subpart E, the authorities contained in paragraph (c) of this section are retained by the EPA Administrator and are not transferred to the State, local, or tribal agency.

(c) The authorities that cannot be delegated to State, local, or tribal agencies are specified in paragraphs (c)(1) through (6) of this section.

(1) Approval of an alternative non-opacity emissions standard under 40 CFR 63.6(g).

(2) Approval of an alternative opacity emissions standard under §63.6(h)(9).

(3) Approval of a major change to test methods under §63.7(e)(2)(ii) and (f). A “major change to test method” is defined in §63.90.

(4) Approval of a major change to monitoring under §63.8(f). A “major change to monitoring” under is defined in §63.90.

(5) Approval of a major change to recordkeeping and reporting under §63.10(f). A "major change to recordkeeping/reporting" is defined in §63.90.

(6) Approval of a local, State, or national mercury switch removal program under §63.10885(b)(2).

§ 63.10906 What definitions apply to this subpart?

Terms used in this subpart are defined in the Clean Air Act, in §63.2, and in this section.

Annual metal melt capacity means the lower of the total metal melting furnace equipment melt rate capacity assuming 8,760 operating hours per year summed for all metal melting furnaces at the foundry or, if applicable, the maximum permitted metal melt production rate for the iron and steel foundry calculated on an annual basis. Unless otherwise specified in the permit, permitted metal melt production rates that are not specified on an annual basis must be annualized assuming 24 hours per day, 365 days per year of operation. If the permit limits the operating hours of the furnace(s) or foundry, then the permitted operating hours are used to annualize the maximum permitted metal melt production rate.

Annual metal melt production means the quantity of metal melted in a metal melting furnace or group of all metal melting furnaces at the iron and steel foundry in a given calendar year. For the purposes of this subpart, metal melt production is determined on the basis on the quantity of metal charged to each metal melting furnace; the sum of the metal melt production for each furnace in a given calendar year is the annual metal melt production of the foundry.

Bag leak detection system means a system that is capable of continuously monitoring relative particulate matter (dust) loadings in the exhaust of a baghouse to detect bag leaks and other upset conditions. A bag leak detection system includes, but is not limited to, an instrument that operates on triboelectric, electrodynamic, light scattering, light transmittance, or other effect to continuously monitor relative particulate matter loadings.

Binder chemical means a component of a system of chemicals used to bind sand together into molds, mold sections, and cores through chemical reaction as opposed to pressure.

Capture system means the collection of components used to capture gases and fumes released from one or more emissions points and then convey the captured gas stream to a control device or to the atmosphere. A capture system may include, but is not limited to, the following components as applicable to a given capture system design: Duct intake devices, hoods, enclosures, ductwork, dampers, manifolds, plenums, and fans.

Chlorinated plastics means solid polymeric materials that contain chlorine in the polymer chain, such as polyvinyl chloride (PVC) and PVC copolymers.

Control device means the air pollution control equipment used to remove particulate matter from the effluent gas stream generated by a metal melting furnace.

Cupola means a vertical cylindrical shaft furnace that uses coke and forms of iron and steel such as scrap and foundry returns as the primary charge components and melts the iron and steel through combustion of the coke by a forced upward flow of heated air.

Deviation means any instance in which an affected source or an owner or operator of such an affected source:

(1) Fails to meet any requirement or obligation established by this subpart including, but not limited to, any emissions limitation (including operating limits), management practice, or operation and maintenance requirement;

(2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any iron and steel foundry required to obtain such a permit; or

(3) Fails to meet any emissions limitation (including operating limits) or management standard in this subpart during startup, shutdown, or malfunction, regardless of whether or not such failure is permitted by this subpart.

Electric arc furnace means a vessel in which forms of iron and steel such as scrap and foundry returns are melted through resistance heating by an electric current flowing through the arcs formed between the electrodes and the surface of the metal and also flowing through the metal between the arc paths.

Electric induction furnace means a vessel in which forms of iron and steel such as scrap and foundry returns are melted though resistance heating by an electric current that is induced in the metal by passing an alternating current through a coil surrounding the metal charge or surrounding a pool of molten metal at the bottom of the vessel.

Exhaust stream means gases emitted from a process through a conveyance as defined in this subpart.

Foundry operations mean all process equipment and practices used to produce metal castings for shipment. *Foundry operations* include: Mold or core making and coating; scrap handling and preheating; metal melting and inoculation; pouring, cooling, and shakeout; shotblasting, grinding, and other metal finishing operations; and sand handling.

Free liquids means material that fails the paint filter liquids test by EPA Method 9095B, Revision 2, November 1994 (incorporated by reference—see §63.14). That is, if any portion of the material passes through and drops from the filter within the 5-minute test period, the material contains *free liquids* .

Fugitive emissions means any pollutant released to the atmosphere that is not discharged through a system of equipment that is specifically designed to capture pollutants at the source, convey them through ductwork, and exhaust them using forced ventilation. *Fugitive emissions* include pollutants released to the atmosphere through windows, doors, vents, or other building openings. *Fugitive emissions* also include pollutants released to the atmosphere through other general building ventilation or exhaust systems not specifically designed to capture pollutants at the source.

Furfuryl alcohol warm box mold or core making line means a mold or core making line in which the binder chemical system used is that system commonly designated as a furfuryl alcohol warm box system by the foundry industry.

Iron and steel foundry means a facility or portion of a facility that melts scrap, ingot, and/or other forms of iron and/or steel and pours the resulting molten metal into molds to produce final or near final shape products for introduction into commerce. Research and development facilities, operations that only produce non-commercial castings, and operations associated with nonferrous metal production are not included in this definition.

Large foundry means, for an existing affected source, an iron and steel foundry with an annual metal melt production greater than 20,000 tons. For a new affected source, *large foundry* means an iron and steel foundry with an annual metal melt capacity greater than 10,000 tons.

Mercury switch means each mercury-containing capsule or switch assembly that is part of a convenience light switch mechanism installed in a vehicle.

Metal charged means the quantity of scrap metal, pig iron, metal returns, alloy materials, and other solid forms of iron and steel placed into a metal melting furnace. Metal charged does not include the quantity of fluxing agents or, in the case of a cupola, the quantity of coke that is placed into the metal melting furnace.

Metal melting furnace means a cupola, electric arc furnace, electric induction furnace, or similar device that converts scrap, foundry returns, and/or other solid forms of iron and/or steel to a liquid state. This definition does not include a holding furnace, an argon oxygen decarburization vessel, or ladle that receives molten metal from a metal melting furnace, to which metal ingots or other material may be added to adjust the metal chemistry.

Mold or core making line means the collection of equipment that is used to mix an aggregate of sand and binder chemicals, form the aggregate into final shape, and harden the formed aggregate. This definition does not include a line for making greensand molds or cores.

Motor vehicle means an automotive vehicle not operated on rails and usually is operated with rubber tires for use on highways.

Motor vehicle scrap means vehicle or automobile bodies, including automobile body hulks, that have been processed through a shredder. *Motor vehicle scrap* does not include automobile manufacturing bundles, or miscellaneous vehicle parts, such as wheels, bumpers, or other components that do not contain mercury switches.

Nonferrous metal means any pure metal other than iron or any metal alloy for which an element other than iron is its major constituent in percent by weight.

On blast means those periods of cupola operation when combustion (blast) air is introduced to the cupola furnace and the furnace is capable of producing molten metal. On blast conditions are characterized by both blast air introduction and molten metal production.

Responsible official means responsible official as defined in §63.2.

Scrap preheater means a vessel or other piece of equipment in which metal scrap that is to be used as melting furnace feed is heated to a temperature high enough to eliminate volatile impurities or other tramp materials by direct flame heating or similar means of heating. Scrap dryers, which solely remove moisture from metal scrap, are not considered to be scrap preheaters for purposes of this subpart.

Scrap provider means the person (including a broker) who contracts directly with an iron and steel foundry to provide motor vehicle scrap. Scrap processors such as shredder operators or vehicle dismantlers that do not sell scrap directly to a foundry are not *scrap providers* .

Scrubber blowdown means liquor or slurry discharged from a wet scrubber that is either removed as a waste stream or processed to remove impurities or adjust its composition or pH.

Small foundry means, for an existing affected source, an iron and steel foundry that has an annual metal melt production of 20,000 tons or less. For a new affected source, *small foundry* means an iron and steel foundry that has an annual metal melt capacity of 10,000 tons or less.

Total metal HAP means, for the purposes of this subpart, the sum of the concentrations of compounds of antimony, arsenic, beryllium, cadmium, chromium, cobalt, lead, manganese, mercury, nickel, and

selenium as measured by EPA Method 29 (40 CFR part 60, appendix A–8). Only the measured concentration of the listed analytes that are present at concentrations exceeding one-half the quantitation limit of the analytical method are to be used in the sum. If any of the analytes are not detected or are detected at concentrations less than one-half the quantitation limit of the analytical method, the concentration of those analytes will be assumed to be zero for the purposes of calculating the total metal HAP for this subpart.

Table 1 to Subpart ZZZZZ of Part 63—Performance Test Requirements for New and Existing Affected Sources Classified as Large Foundries

As required in §63.10898(c) and (h), you must conduct performance tests according to the test methods and procedures in the following table:

For. . .	You must. . .	According to the following requirements. . .
1. Each metal melting furnace subject to a PM or total metal HAP limit in §63.10895(c)	a. Select sampling port locations and the number of traverse points in each stack or duct using EPA Method 1 or 1A (40 CFR part 60, appendix A) b. Determine volumetric flow rate of the stack gas using Method 2, 2A, 2C, 2D, 2F, or 2G (40 CFR part 60, appendix A) c. Determine dry molecular weight of the stack gas using EPA Method 3, 3A, or 3B (40 CFR part 60, appendix A).[1] d. Measure moisture content of the stack gas using EPA Method 4 (40 CFR part 60, A) e. Determine PM concentration using EPA Method 5, 5B, 5D, 5F, or 5I, as applicable or total metal HAP concentration using EPA Method 29 (40 CFR part 60, appendix A)	Sampling sites must be located at the outlet of the control device (or at the outlet of the emissions source if no control device is present) prior to any releases to the atmosphere. i. Collect a minimum sample volume of 60 dscf of gas during each PM sampling run. The PM concentration is determined using only the front-half (probe rinse and filter) of the PM catch. ii. For Method 29, only the measured concentration of the listed metal HAP analytes that are present at concentrations exceeding one-half the quantification limit of the analytical method are to be used in the sum. If any of the analytes are not detected or are detected at concentrations less than one-half the quantification limit of the analytical method, the concentration of those analytes is assumed to be zero for the purposes of calculating the total metal HAP.
		iii. A minimum of three valid test runs are needed to comprise a PM or total metal HAP performance test.
		iv. For cupola metal melting furnaces, sample PM or total metal HAP only during times when the cupola is on blast.
		v. For electric arc and electric induction metal melting furnaces, sample PM or total metal HAP only during normal melt production conditions, which may include, but are not limited to the following operations: Charging, melting, alloying, refining, slagging, and tapping.

For. . .	You must. . .	According to the following requirements. . .
		vi. Determine and record the total combined weight of tons of metal charged during the duration of each test run. You must compute the process-weighted mass emissions of PM according to Equation 1 of §63.10898(d) for an individual furnace or Equation 2 of §63.10898(e) for the group of all metal melting furnaces at the foundry.
2. Fugitive emissions from buildings or structures housing any iron and steel foundry emissions sources subject to opacity limit in §63.10895(e)	a. Using a certified observer, conduct each opacity test according to EPA Method 9 (40 CFR part 60, appendix A–4) and 40 CFR 63.6(h)(5)	i. The certified observer may identify a limited number of openings or vents that appear to have the highest opacities and perform opacity observations on the identified openings or vents in lieu of performing observations for each opening or vent from the building or structure. Alternatively, a single opacity observation for the entire building or structure may be performed, if the fugitive release points afford such an observation.
		ii. During testing intervals when PM or total metal HAP performance tests, if applicable, are being conducted, conduct the opacity test such that the opacity observations are recorded during the PM or total metal HAP performance tests.
	b. As alternative to Method 9 performance test, conduct visible emissions test by Method 22 (40 CFR part 60, appendix A–7). The test is successful if no visible emissions are observed for 90 percent of the readings over 1 hour. If VE is observed greater than 10 percent of the time over 1 hour, then the facility must conduct another performance test as soon as possible, but no later than 15 calendar days after the Method 22 test, using Method 9 (40 CFR part 60, appendix A–4)	i. The observer may identify a limited number of openings or vents that appear to have the highest visible emissions and perform observations on the identified openings or vents in lieu of performing observations for each opening or vent from the building or structure. Alternatively, a single observation for the entire building or structure may be performed, if the fugitive release points afford such an observation. ii. During testing intervals when PM or total metal HAP performance tests, if applicable, are being conducted, conduct the visible emissions test such that the observations are recorded during the PM or total metal HAP performance tests.

[1]You may also use as an alternative to EPA Method 3B (40 CFR part 60, appendix A), the manual method for measuring the oxygen, carbon dioxide, and carbon monoxide content of exhaust gas,

ANSI/ASME PTC 19.10–1981, "Flue and Exhaust Gas Analyses" (incorporated by reference—see §63.14).

Table 2 to Subpart ZZZZZ of Part 63—Procedures for Establishing Operating Limits for New Affected Sources Classified as Large Foundries

As required in §63.10898(k), you must establish operating limits using the procedures in the following table:

For . . .	You must . . .
1. Each wet scrubber subject to the operating limits in §63.10895(d)(1) for pressure drop and scrubber water flow rate.	Using the CPMS required in §63.10897(b), measure and record the pressure drop and scrubber water flow rate in intervals of no more than 15 minutes during each PM or total metal HAP test run. Compute and record the average pressure drop and average scrubber water flow rate for all the valid sampling runs in which the applicable emissions limit is met.
2. Each electrostatic precipitator subject to operating limits in §63.10895(d)(2) for voltage and secondary current (or total power input).	Using the CPMS required in §63.10897(c), measure and record voltage and secondary current (or total power input) in intervals of no more than 15 minutes during each PM or total metal HAP test run. Compute and record the minimum hourly average voltage and secondary current (or total power input) from all the readings for each valid sampling run in which the applicable emissions limit is met.

Table 3 to Subpart ZZZZZ of Part 63—Applicability of General Provisions to New and Existing Affected Sources Classified as Large Foundries

As required in §63.10900(a), you must meet each requirement in the following table that applies to you:

Citation	Subject	Applies to large foundry?	Explanation
63.1	Applicability	Yes.	
63.2	Definitions	Yes.	
63.3	Units and abbreviations	Yes.	
63.4	Prohibited activities	Yes.	
63.5	Construction/reconstruction	Yes.	
63.6(a)–(g)	Compliance with standards and maintenance requirements	Yes.	
63.6(h)	Opacity and visible emissions standards	Yes.	
63.6(i)(i)–(j)	Compliance extension and Presidential compliance exemption	Yes.	
63.7(a)(3), (b)–(h)	Performance testing requirements	Yes.	
63.7(a)(1)–(a)(2)	Applicability and performance test dates	No	Subpart ZZZZZ specifies applicability and

Citation	Subject	Applies to large foundry?	Explanation
			performance test dates.
63.8(a)(1)–(a)(3), (b), (c)(1)–(c)(3), (c)(6)–(c)(8), (d), (e), (f)(1)–(f)(6), (g)(1)–(g)(4)	Monitoring requirements	Yes.	
63.8(a)(4)	Additional monitoring requirements for control devices in §63.11	No.	
63.8(c)(4)	Continuous monitoring system (CMS) requirements	No.	
63.8(c)(5)	Continuous opacity monitoring system (COMS) minimum procedures	No.	
63.8(g)(5)	Data reduction	No.	
63.9	Notification requirements	Yes.	
63.10(a), (b)(1)–(b)(2)(xii) –(b)(2)(xiv), (b)(3), (d)(1)–(2), (e)(1)–(2), (f)	Recordkeeping and reporting requirements	Yes.	
63.10(c)(1)–(6), (c)(9)–(15)	Additional records for continuous monitoring systems	No.	
63.10(c)(7)–(8)	Records of excess emissions and parameter monitoring exceedances for CMS	Yes.	
63.10(d)(3)	Reporting opacity or visible emissions observations	Yes.	
63.10(e)(3)	Excess emissions reports	Yes.	
63.10(e)(4)	Reporting COMS data	No.	
63.11	Control device requirements	No.	
63.12	State authority and delegations	Yes.	
63.13–63.16	Addresses of State air pollution control agencies and EPA regional offices. Incorporation by reference. Availability of information and confidentiality. Performance track provisions	Yes.	

Table 4 to Subpart ZZZZZ of Part 63—Compliance Certifications for New and Existing Affected Sources Classified as Large Iron and Steel Foundries

As required by §63.10900(b), your notification of compliance status must include certifications of compliance according to the following table:

For. . .	Your notification of compliance status required by §63.9(h) must include this certification of compliance, signed by a responsible official:
Each new or existing affected source classified as a large foundry and subject to scrap management requirements in §63.10885(a)(1) and/or (2)	"This facility has prepared, and will operate by, written material specifications for metallic scrap according to §63.10885(a)(1)" and/or "This facility has prepared, and will operate by, written material specifications for general iron and steel scrap according to §63.10885(a)(2)."
Each new or existing affected source classified as a large foundry and subject to mercury switch removal requirements in §63.10885(b)	"This facility has prepared, and will operate by, written material specifications for the removal of mercury switches and a site-specific plan implementing the material specifications according to §63.10885(b)(1)" and/or "This facility participates in and purchases motor vehicles scrap only from scrap providers who participate in a program for removal of mercury switches that has been approved by the EPA Administrator according to §63.10885(b)(2) and have prepared a plan for participation in the EPA approved program according to §63.10885(b)(2)(iv)" and/or "The only materials from motor vehicles in the scrap charged to a metal melting furnace at this facility are materials recovered for their specialty alloy content in accordance with §63.10885(b)(3) which are not reasonably expected to contain mercury switches" and/or "This facility complies with the requirements for scrap that does not contain motor vehicle scrap in accordance with §63.10885(b)(4)."
Each new or existing affected source classified as a large foundry and subject to §63.10886	"This facility complies with the no methanol requirement for the catalyst portion of each binder chemical formulation for a furfuryl alcohol warm box mold or core making line according to §63.10886."
Each new or existing affected source classified as a large foundry and subject to §63.10895(b)	"This facility operates a capture and collection system for each emissions source subject to this subpart according to §63.10895(b)."
Each existing affected source classified as a large foundry and subject to §63.10895(c)(1)	"This facility complies with the PM or total metal HAP emissions limit in §63.10895(c) for each metal melting furnace or group of all metal melting furnaces based on a previous performance test in accordance with §63.10898(a)(1)."
Each new or existing affected source classified as a large foundry and subject to §63.10896(a)	"This facility has prepared and will operate by an operation and maintenance plan according to §63.10896(a)."
Each new or existing (if applicable) affected source classified as a large foundry and subject to §63.10897(d)	"This facility has prepared and will operate by a site-specific monitoring plan for each bag leak detection system and submitted the plan to the Administrator for approval according to §63.10897(d)(2)."

Reference

The US EPA Electronic Code of Federal Regulations - 40 CFR 63, Subpart ZZZZZ—National Emission Standards for Hazardous Air Pollutants for Iron and Steel Foundries Area Sources weblink:
http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&sid=a2e9e9609d0079786200b098e7c924ff&rgn=div6&view=text&node=40:14.0.1.1.1.13&idno=40

New Source Construction and Minor Source Operating Permit

OFFICE OF AIR QUALITY

Innovative Casting Technologies, Inc.
401 Blue Chip Court,
Franklin, IN 46131-8825

Attachment B

Title 40: Protection of Environment

PART 60—Standards of Performance for New Stationary Sources (NSPS)

Subpart UUU - NSPS for Calciners and Dryers in Mineral Industries

F081-30955-00066

Subpart UUU — New Source Performance Standards for Calciners and Dryers in Mineral Industries

SOURCE: 57 FR 44503, Sept. 28, 1992, unless otherwise noted.

§ 60.730 Applicability and designation of affected facility.

(a) The affected facility to which the provisions of this subpart apply is each calciner and dryer at a mineral processing plant. Feed and product conveyors are not considered part of the affected facility. For the brick and related clay products industry, only the calcining and drying of raw materials prior to firing of the brick are covered.

(b) An affected facility that is subject to the provisions of subpart LL, Metallic Mineral Processing Plants, is not subject to the provisions of this subpart. Also, the following processes and process units used at mineral processing plants are not subject to the provisions of this subpart: vertical shaft kilns in the magnesium compounds industry; the chlorination-oxidation process in the titanium dioxide industry; coating kilns, mixers, and aerators in the roofing granules industry; and tunnel kilns, tunnel dryers, apron dryers, and grinding equipment that also dries the process material used in any of the 17 mineral industries (as defined in § 60.731, “Mineral processing plant”).

(c) The owner or operator of any facility under paragraph (a) of this section that commences construction, modification, or reconstruction after April 23, 1986, is subject to the requirements of this subpart.

§ 60.731 Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Clean Air Act and in subpart A of this part.

Calciner means the equipment used to remove combined (chemically bound) water and/or gases from mineral material through direct or indirect heating. This definition includes expansion furnaces and multiple hearth furnaces.

Control device means the air pollution control equipment used to reduce particulate matter emissions released to the atmosphere from one or more affected facilities.

Dryer means the equipment used to remove uncombined (free) water from mineral material through direct or indirect heating.

Installed in series means a calciner and dryer installed such that the exhaust gases from one flow through the other and then the combined exhaust gases are discharged to the atmosphere.

Mineral processing plant means any facility that processes or produces any of the following minerals, their concentrates or any mixture of which the majority (>50 percent) is any of the following minerals or a combination of these minerals: alumina, ball clay, bentonite, diatomite, feldspar, fire clay, fuller's earth, gypsum, industrial sand, kaolin, lightweight aggregate, magnesium compounds, perlite, roofing granules, talc, titanium dioxide, and vermiculite.

§ 60.732 Standards for particulate matter.

Each owner or operator of any affected facility that is subject to the requirements of this subpart shall comply with the emission limitations set forth in this section on and after the date on which the initial performance test required by § 60.8 is completed, but not later than 180 days after the initial startup, whichever date comes first. No emissions shall be discharged into the atmosphere from any affected facility that:

(a) Contains particulate matter in excess of 0.092 gram per dry standard cubic meter (g/dscm) [0.040 grain per dry standard cubic foot (gr/dscf)] for calciners and for calciners and dryers installed in series and in excess of 0.057 g/dscm (0.025 gr/dscf) for dryers; and

(b) Exhibits greater than 10 percent opacity, unless the emissions are discharged from an affected facility using a wet scrubbing control device.

[57 FR 44503, Sept. 28, 1992, as amended at 65 FR 61778, Oct. 17, 2000]

§ 60.733 Reconstruction.

The cost of replacement of equipment subject to high temperatures and abrasion on processing equipment shall not be considered in calculating either the “fixed capital cost of the new components” or the “fixed capital cost that would be required to construct a comparable new facility” under § 60.15. Calciner and dryer equipment subject to high temperatures and abrasion are: end seals, flights, and refractory lining.

§ 60.734 Monitoring of emissions and operations.

(a) With the exception of the process units described in paragraphs (b), (c), and (d) of this section, the owner or operator of an affected facility subject to the provisions of this subpart who uses a dry control device to comply with the mass emission standard shall install, calibrate, maintain, and operate a continuous monitoring system to measure and record the opacity of emissions discharged into the atmosphere from the control device.

(b) In lieu of a continuous opacity monitoring system, the owner or operator of a ball clay vibrating grate dryer, a bentonite rotary dryer, a diatomite flash dryer, a diatomite rotary calciner, a feldspar rotary dryer, a fire clay rotary dryer, an industrial sand fluid bed dryer, a kaolin rotary calciner, a perlite rotary dryer, a roofing granules fluid bed dryer, a roofing granules rotary dryer, a talc rotary calciner, a titanium dioxide spray dryer, a titanium dioxide fluid bed dryer, a vermiculite fluid bed dryer, or a vermiculite rotary dryer who uses a dry control device may have a certified visible emissions observer measure and record three 6-minute averages of the opacity of visible emissions to the atmosphere each day of operation in accordance with Method 9 of appendix A of part 60.

(c) The owner or operator of a ball clay rotary dryer, a diatomite rotary dryer, a feldspar fluid bed dryer, a fuller's earth rotary dryer, a gypsum rotary dryer, a gypsum flash calciner, gypsum kettle calciner, an industrial sand rotary dryer, a kaolin rotary dryer, a kaolin multiple hearth furnace, a perlite expansion furnace, a talc flash dryer, a talc rotary dryer, a titanium dioxide direct or indirect rotary dryer or a vermiculite expansion furnace who uses a dry control device is exempt from the monitoring requirements of this section.

(d) The owner or operator of an affected facility subject to the provisions of this subpart who uses a wet scrubber to comply with the mass emission standard for any affected facility shall install, calibrate, maintain, and operate monitoring devices that continuously measure and record the pressure loss of the gas stream through the scrubber and the scrubbing liquid flow rate to the scrubber. The pressure loss monitoring device must be certified by the manufacturer to be accurate within 5 percent of water column

gauge pressure at the level of operation. The liquid flow rate monitoring device must be certified by the manufacturer to be accurate within 5 percent of design scrubbing liquid flow rate.

§ 60.735 Recordkeeping and reporting requirements.

(a) Records of the measurements required in § 60.734 of this subpart shall be retained for at least 2 years.

(b) Each owner or operator who uses a wet scrubber to comply with § 60.732 shall determine and record once each day, from the recordings of the monitoring devices in § 60.734(d), an arithmetic average over a 2-hour period of both the change in pressure of the gas stream across the scrubber and the flowrate of the scrubbing liquid.

(c) Each owner or operator shall submit written reports semiannually of exceedances of control device operating parameters required to be monitored by § 60.734 of this subpart. For the purpose of these reports, exceedances are defined as follows:

(1) All 6-minute periods during which the average opacity from dry control devices is greater than 10 percent; or

(2) Any daily 2-hour average of the wet scrubber pressure drop determined as described in § 60.735(b) that is less than 90 percent of the average value recorded according to § 60.736(c) during the most recent performance test that demonstrated compliance with the particulate matter standard; or

(3) Each daily wet scrubber liquid flow rate recorded as described in § 60.735(b) that is less than 80 percent or greater than 120 percent of the average value recorded according to § 60.736(c) during the most recent performance test that demonstrated compliance with the particulate matter standard.

(d) The requirements of this section remain in force until and unless the Agency, in delegating enforcement authority to a State under section 111(c) of the Clean Air Act, approves reporting requirements or an alternative means of compliance surveillance adopted by such State. In that event, affected facilities within the State will be relieved of the obligation to comply with this section provided that they comply with the requirements established by the State.

[57 FR 44503, Sept. 28, 1992, as amended at 58 FR 40591, July 29, 1993]

§ 60.736 Test methods and procedures.

(a) In conducting the performance tests required in § 60.8, the owner or operator shall use the test methods in appendix A of this part or other methods and procedures as specified in this section, except as provided in § 60.8(b).

(b) The owner or operator shall determine compliance with the particulate matter standards in § 60.732 as follows:

(1) Method 5 shall be used to determine the particulate matter concentration. The sampling time and volume for each test run shall be at least 2 hours and 1.70 dscm.

(2) Method 9 and the procedures in § 60.11 shall be used to determine opacity from stack emissions.

(c) During the initial performance test of a wet scrubber, the owner or operator shall use the monitoring devices of § 60.734(d) to determine the average change in pressure of the gas stream across

the scrubber and the average flowrate of the scrubber liquid during each of the particulate matter runs. The arithmetic averages of the three runs shall be used as the baseline average values for the purposes of § 60.735(c).

§ 60.737 Delegation of authority.

(a) In delegating implementation and enforcement authority to a State under section 111(c) of the Act, the authorities contained in paragraph (b) of this section shall be retained by the Administrator and not transferred to a State.

(b) Authorities which will not be delegated to States: No restrictions.

Indiana Department of Environmental Management
Office of Air Quality

Addendum to the Technical Support Document (ATSD) for a Significant Permit Revision to a Minor Source Operating Permit (MSOP)

Source Background and Description

Source Name:	**Innovative Casting Technologies, Inc.**
Source Location:	**401 Blue Chip Court, Franklin, Indiana 46131**
County:	**Johnson**
SIC Code:	**3321 (Gray and Ductile Iron Foundries), and 3365 (Aluminum Foundries)**
Operation Permit No.:	**081-30955-00066**
Operation Permit Issuance Date:	**August 22, 2012**
Significant Permit Revision No.:	**081-33097-00066**
Permit Reviewer:	**Brian Williams**

On June 22, 2013, the Office of Air Quality (OAQ) had a notice published in the Daily Journal, Franklin, Indiana, stating that Innovative Casting Technologies, Inc. had applied for a significant permit revision to construct and operate a new natural gas-fired thermal sand reclamation system, which will be equipped with a baghouse for particulate control. The notice also stated that the OAQ proposed to issue a significant permit revision 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

IDEM, OAQ has decided to make additional revisions to the permit as described below, with deleted language as ~~strikeouts~~ and new language **bolded**.

(a) Effective July 11, 2013, Johnson County has been designated as attainment for the PM2.5 standard.

...

A.1 General Information [326 IAC 2-5.1-3(c)][326 IAC 2-6.1-4(a)]

...

Source Location Status: ~~Nonattainment for PM2.5 standard~~
Attainment for all ~~other~~ criteria pollutants

...

(b) IDEM clarified the following condition to indicate that the analog instrument must be capable of measuring the parameters outside the normal range.

...

C.12 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. **The analog instrument shall be capable of measuring values outside of the normal range.**

IDEM Contact

(a) Questions regarding this proposed permit can be directed to Brian Williams 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) 234-5375 or toll free at 1-800-451-6027 extension 4-5375.

(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 Significant Permit Revision to a Minor Source Operating Permit (MSOP)

Source Description and Location

Source Name:	**Innovative Casting Technologies, Inc.**
Source Location:	**401 Blue Chip Court, Franklin, Indiana 46131**
County:	**Johnson**
SIC Code:	**3321 (Gray and Ductile Iron Foundries), and 3365 (Aluminum Foundries)**
Operation Permit No.:	**081-30955-00066**
Operation Permit Issuance Date:	**August 22, 2012**
Significant Permit Revision No.:	**081-33097-00066**
Permit Reviewer:	**Brian Williams**

On April 17th, 2013, the Office of Air Quality (OAQ) received an application from Innovative Casting Technologies, Inc. related to a modification to an existing stationary gray and ductile iron, and clean charge aluminum foundry.

Existing Approvals

The source was issued MSOP No. 081-30955-00066 on August 22nd, 2012.

County Attainment Status

The source is located in Johnson County.

Pollutant	Designation
SO_2	Better than national standards.
CO	Unclassifiable or attainment effective November 15, 1990.
O_3	Attainment effective October 19, 2007, for the 8-hour ozone standard.[1]
PM_{10}	Unclassifiable effective November 15, 1990.
NO_2	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.
Basic nonattainment designation effective federally April 5, 2005, for PM2.5.

(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. Johnson 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) $PM_{2.5}$
U.S. EPA, in the Federal Register Notice 70 FR 943 dated January 5, 2005, has designated Johnson County as nonattainment for $PM_{2.5}$. On March 7, 2005 the Indiana Attorney General's Office, on behalf of IDEM, filed a lawsuit with the Court of Appeals for the District of Columbia Circuit challenging U.S. EPA's designation of nonattainment areas without sufficient data. However, in order to ensure that sources are not potentially liable for a violation of the Clean Air Act, the OAQ is following the U.S. EPA's New Source Review Rule for $PM_{2.5}$ promulgated on May 8, 2008. These rules became effective on July 15, 2008. Therefore, direct $PM_{2.5}$ and SO_2 emissions were reviewed pursuant to the requirements of Nonattainment New Source Review, 326 IAC 2-1.1-5. See the State Rule Applicability – Entire Source section.

(c) Other Criteria Pollutants
Johnson 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, hazardous air pollutants, and greenhouse gases are counted toward the determination of 326 IAC 2-6.1 (Minor Source Operating Permits) applicability.

(b) Since this source is classified as a secondary metal production plant it is considered one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2, 326 IAC 2-3, or 326 IAC 2-7. Therefore, fugitive emissions are counted toward the determination of PSD, Emission Offset, and Part 70 Permit applicability.

Status of the Existing Source

The table below summarizes the potential to emit of the entire source, prior to the proposed revision, after consideration of all enforceable limits established in the effective permits:

This PTE table is from the ATSD of MSOP No. 081-30955-00066, issued on August 22nd, 2012.

Process/ Emission Unit	Potential To Emit of the Entire Source Prior to Revision (tons/year)									
	PM	PM10*	PM2.5	SO_2	NOx	VOC	CO	GHGs as CO_2e**	Total HAPs	Worst Single HAP
Grey & Ductile Iron Foundry										
Scrap & charge handling, heating	1.58	0.95	0.95	0	0	0	0	0	$8.09E^{-03}$	$6.04E^{-03}$ (lead)
Melting	2.37	2.26	2.26	0	0	0	0	0	0.08	0.06 (manganese)
Magnesium Treatment	2.96	2.96	2.96	0	0	$8.21E^{-03}$	0	0	0.07	0.07 (lead)
Pouring and casting	11.04	5.41	5.41	0.05	0.03	0.37	15.77	0	0.06	0.04 (lead)
Castings Cooling	3.68	3.68	3.68	0	0	0	0	0	0	NA
Castings Shakeout	16.43 (1)	5.89	5.89	0	0	3.15	0	0	0.04	0.03 (lead)
Castings Cleaning & Finishing (TB)		11.17	11.17	0	0	0	0	0	0.17	0.07 (nickel)
Sand System		12.71	12.71	0	0	0	0	0	0	NA
Core Making (Ovens)	2.37	2.37	2.37	0	1.31	0.20	0	0	1.39	0.70 (MDI)
Clean Charge Aluminum Foundry										
Scrap & charge handling, heating (2)	0.18	0.11	0.11	0	0	0	0	0	$9.23E^{-04}$	$6.89E^{-04}$ (lead)
Melting (2)	0.27	0.26	0.26	0	0	0	0	0	$9.68E^{-03}$	$6.74E^{-03}$ (manganese)
Pouring and casting (2)	1.26	0.62	0.62	$5.99E^{-03}$	$3.00E^{-03}$	0.04	1.80	0	$6.46E^{-03}$	$4.85E^{-03}$ (lead)
Castings Cooling (2)	0.42	0.42	0.42	0	0	0	0	0	0	NA
Castings Shakeout (2)	0.96	0.67	0.67	0	0	0.36	0	0	$4.92E^{-03}$	$3.69E^{-03}$ (lead)
Core Making (Ovens) (2)	0.27	0.27	0.27	0	0.15	0.20	0	0	1.39	0.70 (MDI)
Mold Making	9.07	9.07	9.07	0	5.04	0	0	0	0	NA
Castings Cleaning & Finishing (SB & GD)	16.64 (1)	12.87	12.87	0	0	0	0	0	0.35	0.15 (nickel)
Solvent Cleaning	0.61	0.61	0.61	0	0	1.22	0	0	0	NA
Woodworking	5.00	5.00	5.00	0	0	0	0	0	0	NA
Natural Gas Combustion	0.02	0.07	0.07	$5.26E^{-03}$	0.88	0.05	0.74	1,057.60	0.02	0.02 (hexane)
Paved Roads	0.30	0.06	0.01	0	0	0	0	0	0	NA
Total PTE of Entire Source	**75.40**	**77.40**	**77.36**	**0.06**	**7.41**	**5.60**	**18.30**	**1,057.60**	**3.60**	**1.40 (MDI)**
Title V Major Source Thresholds**	NA	100	100	100	100	100	100	100,000	25	10
PSD Major Source Thresholds**	100	100	NA	100	100	100	100	100,000	NA	NA
Emission Offset/ Nonattainment NSR Major Source Thresholds	NA	NA	100	NA	NA	NA	NA	NA	NA	NA

negl. = negligible NA = not applicable MDI = Methylene bis(phenylisocyanate)

*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".

**The 100,000 CO_2e threshold represents the Title V and PSD subject to regulation thresholds for GHGs in order to determine whether a source's emissions are a regulated NSR pollutant under Title V and PSD.

(1) Limited PTE based upon a lb/hr emission limitation to comply with 326 IAC 2-2 (PSD)

(2) Limited PTE based on 40 CFR 63, Subpart ZZZZZZ, ton per year avoidance limit.

These emissions are based upon ATSD to MSOP No. 081-30955-00066, issued on August 22nd, 2012.

Description of Proposed Revision

The Office of Air Quality (OAQ) has reviewed an application, submitted by Innovative Casting Technologies, Inc. on April 17th, 2013, requesting the following:

(a) To construct and operate a new natural gas-fired thermal sand reclamation system, identified as TSR1. This system will be equipped with a new baghouse, identified as SS4. The maximum capacity of the system was provided by the manufacturer.

(b) To construct and operate one (1) new pedestal grinder and three (3) new belt grinders to the existing grinding room. The grinding room currently consists of two (2) pedestal grinders and three (3) belt grinders. The addition of the new grinders will not increase the grinding room's maximum throughput capacity. Therefore, the unlimited potential to emit for the grinding room will not increase due to this modification. Finally, this modification will not increase the maximum throughput capacity for any downstream or upstream process.

(c) To notify IDEM that the two (2) existing dust collectors, identified as Geoff and DMI, which controlled emissions from the Diso Goff steel shot blast machine (SB) and grinding room (GD) have been removed from the source and replaced with one (1) Donaldson Torit dust collector. The new dust collector exhausts inside the building to correct the building air balance, which is now slightly less negative. Due to this modification the existing PM emission limits for the Diso Goff steel shot blast machine (SB) and grinding room (GD) will have to be revised.

(d) To notify IDEM that the Gibson steel shot table blast machine (TB) is no longer controlled by the SS1 baghouse. This emission unit is now controlled by the new Donaldson Torit dust collector. Due to this modification the existing PM emission limit for the Gibson steel shot table blast machine (TB) will have to be revised. In addition, the source has requested to increase the PM emission limit for the SS1 baghouse.

(e) To notify IDEM that the source has four (4) additional sand storage silos and one (1) metal cutoff saw that were constructed in 2008 and 2009, but not included in the application for MSOP No. 081-30955-00066.

(f) To revise the maximum capacities for the Grey and Ductile Iron Foundry, Sand System, Castings Cleaning and Finishing Operations, and Mold Making Operations due to the identification of a bottleneck in the process. The maximum capacity of the iron casting shakeout operation (CS1) is 0.523 tons of iron per hour and 5.5 tons of sand per hour. As a result, both the upstream and downstream processes cannot exceed the capacity of the iron casting shakeout operation.

(g) To revise the maximum capacities for the Clean Charge Aluminum Foundry. The two (2) Thermtronix electric induction melting furnaces have a maximum rated capacity of 0.55 tons per hour combined. However, this does not take into account the fact that the source cannot completely empty the furnace without cracking the crucible. Therefore, the revised maximum capacity is 0.36 tons per hour combined. This will also affect the maximum throughput capacities of the manual charge handling, pouring and casting, castings cooling, castings shakeout operations, and the core making line because each process is dependent on the combined maximum metal melt capacity of the two (2) Thermtronix electric induction melting furnaces.

The following is a list of the new and modified emission units and pollution control devices:

(a) ***Sand System:***

One (1) Sand System, identified as SS, constructed in 2008 and approved for modification in 2013, serving both the Grey & Ductile Iron Foundry and the Clean Charge Aluminum Foundry, and consisting of the following:

(1) Four (4) sand storage silos with a combined maximum throughput of 48,180 tons of sand per year, equipped with one (1) baghouse, identified as SS1, for particulate control, exhausting to Stack #S3 as follows:

(i) One (1) inside sand storage silo, identified as SS4, having a maximum storage capacity of 15 tons.

(ii) One (1) outside sand storage silo, identified as SS5, having a maximum storage capacity of 60 tons.

(iii) One (1) outside sand storage silo, identified as SS6, having a maximum storage capacity of 70 tons.

(iv) One (1) outside sand storage silo, identified as SS7, having a maximum storage capacity of 80 tons.

(2) One (1) natural gas-fired thermal sand reclamation system, identified as TSR1, approved for construction in 2013, with a maximum heat input capacity of 3.0 MMBtu/hr and maximum sand throughput of 2.0 tons per hour, equipped with one (1) baghouse, identified as SS4, for particulate control, and exhausting to stack # S4.

(b) ***Castings cleaning and finishing operations,*** consisting of the following:

(1) One (1) Gibson steel shot table blast machine for castings cleaning & finishing, identified as TB, constructed in 2008 and approved for modification in 2013, with a maximum throughput capacity of 0.5 tons of iron or aluminum castings per hour, equipped with a Donaldson Torit dust collector, identified as DT, for particulate control, and exhausting inside the building.

Note: Due to this revision the maximum capacity was reduced from 1.5 tons of iron or aluminum per hour to 0.5 tons of iron or aluminum per hour.

(2) One (1) Diso Goff steel shot blast machine for castings cleaning & finishing, identified as SB, constructed in 2008 and approved for modification in 2013, with a maximum throughput capacity of 0.5 tons of iron or aluminum castings per hour, equipped with a Donaldson Torit dust collector, identified as DT, for particulate control, and exhausting inside the building.

Note: Due to this revision the maximum capacity was reduced from 1.5 tons of iron or aluminum per hour to 0.5 tons of iron or aluminum per hour.

(3) One (1) Grinding Room, identified as GD, constructed in 2008 and approved for modification in 2013, with a maximum throughput capacity of 0.25 tons of iron or aluminum castings per hour, equipped with a Donaldson Torit dust collector, identified as DT, for particulate control, exhausting inside the building, and consisting of the following:

(1) Three (3) double wheel 14 inch pedestal grinders; and

(2) Six (6) belt grinders.

Note: Due to this revision the maximum capacity was reduced from 1.5 tons of iron or aluminum per hour to 0.25 tons of iron or aluminum per hour.

(4) One (1) table saw, identified as SW, constructed in 2009, with a maximum capacity of 0.523 tons of iron or aluminum per hour, equipped with a Donaldson Torit dust collector, identified as DT, for particulate control, and exhausting inside the building.

Note: The table blast machine (TB), shot blast machine (SB), grinding room (GD), and table saw (SW) are controlled by the same dust collector and serve both the Grey & Ductile Iron Foundry and the Clean Charge Aluminum Foundry. The maximum throughput capacity of the table blast machine, shot blast machine, and grinding room is dictated by the maximum throughput capacity of the equipment. The maximum throughput capacity of the table saw (SW) is limited by the maximum throughput capacity of the grey iron and ductile iron castings shakeout operation (CS1).

The following is a list of the existing unmodified emission units with revised maximum capacities:

(a) ***Grey & Ductile Iron Foundry***, consisting of the following:

(1) One (1) manual charge handling operation, identified as CH1, constructed in 2008, with a maximum throughput capacity of 0.523 tons of iron per hour, uncontrolled and exhausting inside the building;

Note: Due to this revision the maximum capacity was reduced from 0.60 tons of iron per hour to 0.523 tons of iron per hour.

(2) Two (2) Inductotherm electric induction melting furnaces, identified as IND1 and IND2, constructed in 2008, and having a maximum throughput capacity of 0.523 tons of gray iron or 0.48 tons of ductile iron per hour, respectively, with operation limited by a single power supply (only one furnace can operate at any time), uncontrolled and exhausting inside the building;

Under NESHAP ZZZZZ (5Z), the two (2) electric induction melting furnaces, identified as IND1 and IND2, are each considered an affected small foundry.

Note: Due to this revision the maximum capacity was reduced from 0.60 tons of gray iron per hour to 0.523 tons of gray iron per hour. In addition, the maximum capacity of ductile iron was increased from 0.375 tons per hour to 0.48 tons per hour.

(3) One (1) magnesium treatment operation for the production of ductile iron, identified as DT1, constructed in 2008, with a maximum throughput capacity of 0.48 tons of iron per hour, uncontrolled and exhausting inside the building. The magnesium treatment is only used to form ductile iron;

Note: Due to this revision the maximum capacity was increased from 0.375 tons of ductile iron per hour to 0.48 tons of ductile iron per hour.

(4) One (1) pouring and casting operation, identified as PC1, constructed in 2008, with a maximum throughput capacity of 0.523 tons of iron per hour, uncontrolled and exhausting inside the building;

Note: Due to this revision the maximum capacity was reduced from 0.60 tons of iron per hour to 0.523 tons of iron per hour.

(5) One (1) castings cooling operation, identified as CC1, constructed in 2008, with a maximum throughput capacity of 0.523 tons of iron castings per hour, uncontrolled and exhausting inside the building;

Note: Due to this revision the maximum capacity was reduced from 0.60 tons of iron per hour to 0.523 tons of iron per hour.

(6) One (1) castings shakeout operation, identified as CS1, constructed in 2008, with a maximum throughput capacity of 0.523 tons of iron castings per hour and 5.5 tons of sand per hour, with particulate emissions controlled by the SS1 baghouse, and exhausting to Stack # S3; and

Note: Due to this revision the maximum capacity was reduced from 0.60 tons of iron per hour to 0.523 tons of iron per hour.

(8) One (1) core making line, identified as CB1, constructed in 2008, with a maximum throughput capacity of 0.523 tons of iron per hour, and a maximum throughput capacity of 0.15 tons of sand per hour, using an ester phenolic no-bake binder system, uncontrolled and exhausting inside the building. Note: no catalyst gas is utilized in the binder system.

Note: Due to this revision the maximum capacity was reduced from 0.60 tons of iron per hour to 0.523 tons of iron per hour and 0.25 tons of sand per hour to 0.15 tons of sand per hour.

Note: The maximum throughput capacity of the two (2) Inductotherm electric induction melting furnaces is limited by a single power supply such that only one (1) furnace can operate at a time. Additionally, the maximum throughput capacities of the manual charge handling, electric induction melting furnaces, pouring and casting, castings cooling, and core making line are each dependent on the maximum capacity of the grey iron and ductile iron castings shakeout operation (CS1), which is a bottleneck for all of these processes.

(b) ***Clean Charge Aluminum Foundry***, consisting of the following:

(1) One (1) manual charge handling operation, identified as CH2, constructed in 2008, with a maximum throughput capacity of 0.36 tons of clean charge aluminum ingots per hour, uncontrolled and exhausting inside the building;

Note: Due to this revision the maximum capacity was reduced from 0.55 tons of aluminum per hour to 0.36 tons of aluminum per hour.

(2) Two (2) Thermtronix electric induction melting furnaces, identified as TH1 and TH2, constructed in 2008, having a maximum throughput capacity of 0.18 tons of clean charge aluminum (including aluminum t-bar, sow, ingot, and/or internal runarounds) per hour, each, or 0.36 tons per hour combined, uncontrolled and exhausting inside the building. No flux is used in this operation;

Note: Due to this revision the maximum capacity was reduced from 0.55 tons of aluminum per hour, combined to 0.36 tons of aluminum per hour, combined.

(3) One (1) pouring and casting operation, identified as PC2, constructed in 2008, with a maximum throughput capacity of 0.36 tons of clean charge aluminum per hour, uncontrolled and exhausting inside the building;

Note: Due to this revision the maximum capacity was reduced from 0.55 tons of aluminum per hour to 0.36 tons of aluminum per hour.

(4) One (1) castings cooling operation, identified as CC2, constructed in 2008, with a maximum throughput capacity of 0.36 tons of clean charge aluminum castings per hour, uncontrolled and exhausting inside the building; and

Note: Due to this revision the maximum capacity was reduced from 0.55 tons of aluminum per hour to 0.36 tons of aluminum per hour.

(5) One (1) castings shakeout operation, identified as CS2, constructed in 2008, with a maximum throughput capacity of 0.36 tons of clean charge aluminum castings per hour, uncontrolled, and exhausting inside the building; and

Note: Due to this revision the maximum capacity was reduced from 0.55 tons of aluminum per hour to 0.36 tons of aluminum per hour.

(6) One (1) core making line, identified as CB2, constructed in 2008, with a maximum throughput capacity of 0.36 tons of clean charge aluminum castings per hour, and a maximum throughput capacity of 0.265 tons of sand per hour, using an ester phenolic no-bake binder system, uncontrolled and exhausting inside the building. Note: no catalyst gas is utilized in the binder system.

Note: Due to this revision the maximum capacity was reduced from 0.55 tons of aluminum per hour to 0.36 tons of aluminum per hour and 0.25 tons of sand per hour to 0.265 tons of sand per hour.

Note: The maximum throughput capacity of the manual charge handling, pouring and casting, castings cooling, castings shakeout operations, and the core making line are dependent on the combined maximum metal melt capacity of the two (2) Thermtronix electric induction melting furnaces.

(c) ***Sand System:***

One (1) Sand System, identified as SS, constructed in 2008 and approved for modification in 2013, serving both the Grey & Ductile Iron Foundry and the Clean Charge Aluminum Foundry, and consisting of the following:

(1) One (1) outside sand storage silo, identified as SS2, having a maximum storage capacity of 50 tons, and a maximum throughput of 47,085 tons of sand per year, equipped with one (1) baghouse, identified as SS1, for particulate control, exhausting to Stack # S3;

Note: Due to this revision the maximum storage capacity was increased from 36 tons of sand to 50 tons of sand. In addition, the maximum sand throughput was increased from 47,085 tons per year to 48,180 tons per year.

(2) Sand handling operations, identified as SS3, with a maximum throughput capacity of 5.5 tons of sand per hour, equipped with one (1) baghouse, identified as SS1, for particulate control, exhausting to Stack # S3;

Note: Due to this revision the maximum capacity was increased from 5.375 tons of sand per hour to 5.5 tons of sand per hour.

(3) One (1) mechanical sand reclamation unit, identified as MSR, with a maximum throughput capacity of 5.5 tons of sand per hour, equipped with one (1) baghouse, identified as SS1, for particulate control, exhausting to Stack # S3;

Note: Due to this revision the maximum capacity was increased from 5.375 tons of sand per hour to 5.5 tons of sand per hour.

(4) Sand mixing operations #1 and #2, identified as MX1 and MX2, with a maximum throughput capacity of 5.08 tons of sand per hour, combined, and using a maximum of 0.85% ester phenolic no-bake binder, equipped with one (1) baghouse, identified as SS1, for particulate control, exhausting to Stack # S3; and

Note: Due to this revision the combined maximum capacity was increased from 4.875 tons of sand per hour to 5.08 tons of sand per hour.

(5) One (1) core mixing operation, identified as CMX, with a maximum throughput capacity of 0.42 tons of sand per hour and using a maximum of 0.85% ester phenolic no-bake binder, equipped with one (1) baghouse, identified as SS1, for particulate control, exhausting to Stack # S3.

Note: Due to this revision the maximum capacity was decreased from 0.5 tons of sand per hour to 0.42 tons of sand per hour.

Note: The total sand handled by the emission units associated with the sand system is limited by the grey iron and ductile iron castings shakeout operation (CS1), which is a bottleneck for these processes.

(d) ***Mold Making Operations:***

Molding Making Operations, serving both the Grey & Ductile Iron Foundry and the Clean Charge Aluminum Foundry, consisting of the following:

(1) Two (2) ester phenolic no-bake binder molding lines, identified as ML1 and ML2, constructed in 2008, utilizing an ester phenolic no-bake binder system, with a maximum throughput capacity of 0.523 tons of iron and/or aluminum per hour combined, and a maximum throughput capacity of 5.5 tons of sand per hour combined, uncontrolled and exhausting inside the building;

Note: The maximum capacity for ML1 was previously 1.15 tons of iron and/or aluminum per hour and 2.93 tons of sand per hour. The maximum capacity for ML2 was previously 1.15 tons of iron and/or aluminum per hour and 1.95 tons of sand per hour. However, the molding lines are limited by the grey iron and ductile iron castings shakeout operation (CS1), which is a bottleneck for these processes. Therefore, the combined metal throughput cannot exceed 0.523 tons per hour and the combined sand throughput cannot exceed 5.5 tons per hour.

Enforcement Issues

There are no pending enforcement actions related to this revision.

Emission Calculations

See Appendix A of this TSD for detailed emission calculations.

Permit Level Determination – MSOP Revision

The following table is used to determine the appropriate permit level under 326 IAC 2-6.1-6. This table reflects the PTE before controls of the proposed revision. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Process/ Emission Unit	PTE of Proposed Revision (tons/year)									
	PM	PM10	PM2.5	SO_2	NOx	VOC	CO	GHGs as CO_2e	Total HAPs	Worst Single HAP
Thermal Sand Reclamation System (TSR1)	31.54	4.73	4.73	0	0	0	0	0	0	0
Grinding Stations	negl.	negl.	negl.	0	0	0	0	0	negl.	negl.
Table Saw	0.38	0.38	0.38	0	0	0	0	0	0	0
Natural Gas Combustion	0.02	0.10	0.10	0.01	1.31	0.07	1.10	1,586	0.02	0.02 Hexane
Total PTE of Proposed Revision	**31.94**	**5.21**	**5.21**	**0.01**	**1.31**	**0.07**	**1.10**	**1,586**	**0.02**	**0.02 Hexane**
negl. = negligible										

Pursuant to 326 IAC 2-6.1-6(i)(1)(E), this MSOP is revised through Significant Permit Revision because the proposed revision is not an Administrative Amendment or Minor Permit Revision and the proposed revision involves the construction of new emission unit with a potential to emit greater than or equal to twenty-five (25) tons of PM per year. Pursuant to 326 IAC 2-6.1-6(d)(8), the construction and operation of the additional grinders is considered an administrative amendment because the permit is amended to incorporate a modification that adds an emissions unit or units of the same type that is already permitted or replaces an existing unit and that will comply with the same applicable requirements and permit terms and conditions as the existing emission unit, and the modification does not result in a potential to emit greater than the thresholds in 326 IAC 2-2 (PSD), 326 IAC 2-3 (Emission Offset), or 326 IAC 2-7 (Part 70 Operating Permit). Therefore, the construction and operation of the additional grinding stations did not require prior approval by IDEM.

PTE of the Entire Source After Issuance of the MSOP Revision

The table below summarizes the potential to emit of the entire source, with updated emissions shown as **bold** values and previous emissions shown as ~~strikethrough~~ values.

Process/ Emission Unit	Potential To Emit of the Entire Source to accommodate the Proposed Revision (tons/year)									
	PM	PM10*	PM2.5	SO_2	NOx	VOC	CO	GHGs as CO_2e**	Total HAPs	Worst Single HAP
Grey & Ductile Iron Foundry										
Scrap & charge handling, heating	~~1.58~~ **1.37**	~~0.95~~ **0.82**	~~0.95~~ **0.82**	0	0	0	0	0	~~$8.09E^{-03}$~~ **$7.06E^{-03}$**	~~$6.04E^{-03}$~~ **$5.27E^{-03}$** (lead)
Melting	~~2.37~~ **2.06**	~~2.26~~ **1.97**	~~2.26~~ **1.97**	0	0	0	0	0	0.0~~8~~**7**	0.0~~6~~**5** (manganese)
Magnesium Treatment	~~2.96~~ **3.78**	~~2.96~~ **3.78**	~~2.96~~ **3.78**	0	0	~~$8.21E^{-03}$~~ **$1.05E^{-02}$**	0	0	0.0~~7~~**9**	0.0~~7~~**9** (lead)
Pouring and casting	~~11.04~~ **9.62**	~~5.41~~ **4.72**	~~5.41~~ **4.72**	0.05	0.0~~3~~**2**	0.3~~7~~**2**	~~15.77~~ **13.74**	0	0.0~~6~~**5**	0.04 (lead)
Castings Cooling	~~3.68~~ **3.21**	~~3.68~~ **3.21**	~~3.68~~ **3.21**	0	0	0	0	0	0	NA

Process/ Emission Unit	Potential To Emit of the Entire Source to accommodate the Proposed Revision (tons/year)									
	PM	PM10*	PM2.5	SO_2	NOx	VOC	CO	GHGs as CO_2e**	Total HAPs	Worst Single HAP
Castings Shakeout **(Baghouse SS1)**	~~16.43~~ (1) **22.51**	~~5.89~~ **5.13**	~~5.89~~ **5.13**	0	0	~~3.15~~ **2.75**	0	0	0.04	0.03 (lead)
~~Castings Cleaning & Finishing (TB)~~		~~11.17~~	~~11.17~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0~~	~~0.17~~	~~0.07 (nickel)~~
Sand System **(Baghouse SS1)**		~~12.71~~ **13.01**	~~12.71~~ **13.01**	0	0	0	0	0	0	NA
Thermal Sand Reclamation System (TSR1) (Baghouse SS4) (3)	**3.20**	**4.73**	**4.73**	**0**	**0**	**0**	**0**	**0**	**0**	**NA**
Core Making (Ovens)	~~2.37~~ **2.06**	~~2.37~~ **2.06**	~~2.37~~ **2.06**	0	1.~~31~~**15**	0.20	0	0	1.~~39~~**42**	0.7~~0~~**2** (MDI)
Clean Charge Aluminum Foundry										
Scrap & charge handling, heating (2)	0.18	0.11	0.11	0	0	0	0	0	$9.23E^{-04}$	$6.89E^{-04}$ (lead)
Melting (2)	0.27	0.26	0.26	0	0	0	0	0	$9.68E^{-03}$	$6.74E^{-03}$ (manganese)
Pouring and casting (2)	1.26	0.62	0.62	$5.99E^{-03}$	$3.00E^{-03}$	0.04	1.80	0	$6.46E^{-03}$	$4.85E^{-03}$ (lead)
Castings Cooling (2)	0.42	0.42	0.42	0	0	0	0	0	0	NA
Castings Shakeout (2)	0.96	0.67	0.67	0	0	0.36	0	0	$4.92E^{-03}$	$3.69E^{-03}$ (lead)
Core Making (Ovens) (2)	0.27	0.27	0.27	0	0.15	0.20	0	0	1.~~39~~**42**	0.7~~0~~**2** (MDI)
Mold Making	~~9.07~~ **2.06**	~~9.07~~ **2.06**	~~9.07~~ **2.06**	0	~~5.04~~ **1.15**	0	0	0	0	NA
Castings Cleaning & Finishing (**TB,** SB**,** ~~&~~ GD**, and SW**) **(Donaldson Torit)(4)**	~~16.64~~ (1) **9.42**	~~12.87~~ **9.15**	~~12.87~~ **9.15**	0	0	0	0	0	~~0.35~~ **0.14**	~~0.15~~ **0.06** (nickel)
Solvent Cleaning	0.61	0.61	0.61	0	0	1.22	0	0	0	NA
Woodworking	5.00	5.00	5.00	0	0	0	0	0	0	NA
Natural Gas Combustion **(Parts Washer & TSR1)**	~~0.02~~ **0.04**	~~0.07~~ **0.17**	~~0.07~~ **0.17**	~~5.26E-03~~ **0.01**	~~0.88~~ **2.19**	~~0.05~~ **0.12**	~~0.74~~ **1.84**	~~1,057.60~~ **2,644**	~~0.02~~ **0.04**	~~0.02~~ **0.04** (hexane)
Paved Roads	0.30	0.06	0.01	0	0	0	0	0	0	NA
Total PTE of Entire Source	~~75.40~~ **68.61**	~~77.40~~ **58.82**	~~77.36~~ **58.78**	0.06	~~7.41~~ **4.66**	~~5.60~~ **5.23**	~~18.30~~ **17.38**	~~1,057.60~~ **2,644**	~~3.60~~ **3.31**	1.4~~0~~**4** (MDI)
Title V Major Source Thresholds**	NA	100	100	100	100	100	100	100,000	25	10
PSD Major Source Thresholds**	100	100	NA	100	100	100	100	100,000	NA	NA
Emission Offset/ Nonattainment NSR Major Source Thresholds	NA	NA	100	NA	NA	NA	NA	NA	NA	NA

negl. = negligible NA = not applicable MDI = Methylene bis(phenylisocyanate)

*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".

**The 100,000 CO_2e threshold represents the Title V and PSD subject to regulation thresholds for GHGs in order to determine whether a source's emissions are a regulated NSR pollutant under Title V and PSD.

(1) Limited PTE based upon a lb/hr emission limitation to comply with 326 IAC 2-2 (PSD)

(2) Limited PTE based on 40 CFR 63, Subpart ZZZZZZ, ton per year avoidance limit.

(3)The thermal sand reclamation system is part of the sand system, which serves both the gray and ductile iron foundry and the aluminum foundry.

(4)The table blast machine (TB), shot blast machine (SB), grinding room (GD), table saw (SW) are controlled by one dust collector. Therefore, the existing PM emission limits for these processes have been revised.

The table below summarizes the potential to emit of the entire source after issuance of this revision, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of this MSOP permit revision, and only to the extent that the effect of the control equipment

is made practically enforceable in the permit. (Note: the table below was generated from the above table, with bold text un-bolded and strikethrough text deleted)

Process/ Emission Unit	Potential To Emit of the Entire Source After Issuance of Revision (tons/year)									
	PM	PM10*	PM2.5	SO_2	NOx	VOC	CO	GHGs as CO_2e**	Total HAPs	Worst Single HAP
Grey & Ductile Iron Foundry										
Scrap & charge handling, heating	1.37	0.82	0.82	0	0	0	0	0	$7.06E^{-03}$	$5.27E^{-03}$ (lead)
Melting	2.06	1.97	1.97	0	0	0	0	0	0.07	0.05 (manganese)
Magnesium Treatment	3.78	3.78	3.78	0	0	$1.05E^{-02}$	0	0	0.09	0.09 (lead)
Pouring and casting	9.63	4.72	4.72	0.05	0.02	0.32	13.74	0	0.05	0.04 (lead)
Castings Cooling	3.21	3.21	3.21	0	0	0	0	0	0	NA
Castings Shakeout (Baghouse SS1)	22.51 (1)	5.13	5.13	0	0	2.75	0	0	0.04	0.03 (lead)
Sand System (Baghouse SS1)		13.01	13.01	0	0	0	0	0	0	NA
Thermal Sand Reclamation System (TSR1) (3)	3.20	4.73	4.73	0	0	0	0	0	0	NA
Core Making (Ovens)	2.06	2.06	2.06	0	1.15	0.20	0	0	1.42	0.72 (MDI)
Clean Charge Aluminum Foundry										
Scrap & charge handling, heating (2)	0.18	0.11	0.11	0	0	0	0	0	$9.23E^{-04}$	$6.89E^{-04}$ (lead)
Melting (2)	0.27	0.26	0.26	0	0	0	0	0	$9.68E^{-03}$	$6.74E^{-03}$ (manganese)
Pouring and casting (2)	1.26	0.62	0.62	$5.99E^{-03}$	$3.00E^{-03}$	0.04	1.80	0	$6.46E^{-03}$	$4.85E^{-03}$ (lead)
Castings Cooling (2)	0.42	0.42	0.42	0	0	0	0	0	0	NA
Castings Shakeout (2)	0.96	0.67	0.67	0	0	0.36	0	0	$4.92E^{-03}$	$3.69E^{-03}$ (lead)
Core Making (Ovens) (2)	0.27	0.27	0.27	0	0.15	0.20	0	0	1.42	0.72 (MDI)
Mold Making	2.06	2.06	2.06	0	1.15	0	0	0	0	NA
Castings Cleaning & Finishing (TB, SB, & GD) (Donaldson Torit) (4)	9.42 (1)	9.15	9.15	0	0	0	0	0	0.14	0.06 (nickel)
Solvent Cleaning	0.61	0.61	0.61	0	0	1.22	0	0	0	NA
Woodworking	5.00	5.00	5.00	0	0	0	0	0	0	NA
Natural Gas Combustion (Parts Washer & TSR1)	0.04	0.17	0.17	0.01	2.19	0.12	1.84	2,644	0.04	0.04 (hexane)
Paved Roads	0.30	0.06	0.01	0	0	0	0	0	0	NA
Total PTE of Entire Source	**68.61**	**58.82**	**58.78**	**0.06**	**4.66**	**5.23**	**17.38**	**2,644**	**3.31**	**1.44 (MDI)**
Title V Major Source Thresholds**	NA	100	100	100	100	100	100	100,000	25	10
PSD Major Source Thresholds**	100	100	NA	100	100	100	100	100,000	NA	NA
Emission Offset/ Nonattainment NSR Major Source Thresholds	NA	NA	100	NA	NA	NA	NA	NA	NA	NA

negl. = negligible NA = not applicable MDI = Methylene bis(phenylisocyanate)
*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".
**The 100,000 CO2e threshold represents the Title V and PSD subject to regulation thresholds for GHGs in order to determine whether a source's emissions are a regulated NSR pollutant under Title V and PSD.
(1) Limited PTE based upon a lb/hr emission limitation to comply with 326 IAC 2-2 (PSD)
(2) Limited PTE based on 40 CFR 63, Subpart ZZZZZZ, ton per year avoidance limit.
(3)The thermal sand reclamation system is part of the sand system, which serves both the gray and ductile iron foundry and the aluminum foundry.
(4)The table blast machine (TB), shot blast machine (SB), grinding room (GD), table saw (SW) are controlled by one dust collector. Therefore, the existing PM emission limits for these processes have been revised.

MSOP Status

(a) This revision to an existing Title V minor stationary source will not change the minor status, because the uncontrolled/unlimited potential to emit criteria pollutants from the entire source will still be limited to less than the Title V major source threshold levels. Therefore, the source will still be subject to the provisions of 326 IAC 2-6.1 (MSOP).

(b) This revision will not change the minor status of the source, because the uncontrolled/unlimited potential to emit of any single HAP will still be less than ten (10) tons per year and the PTE of a combination of HAPs will still be 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.

(c) This revision will not change the minor status of the source, because the uncontrolled/unlimited potential to emit greenhouse gases (GHGs) will still be less than the Title V subject to regulation threshold of one hundred thousand (100,000) tons of CO_2 equivalent emissions (CO_2e) per year. Therefore, the source is not subject to the provisions of 326 IAC 2-7.

PSD Minor Source

(a) This modification to an existing PSD minor stationary source will not change the PSD minor status of the entire source, because the potential to emit of all attainment regulated pollutants from the entire source will continue to be less than the PSD major source threshold levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

In order to render 326 IAC 2-2 not applicable, PM emissions from the following emission unit(s) shall not exceed the pound per hour (lb/hr) emission limits listed in the table below:

Unit ID	Unit Description	Control Device	PM Emission Limit (lbs/hr)
CS1	Castings shakeout (Iron foundry)*	SS1 Baghouse	5.14
SS	Sand System (shared)*		
TSR1	Thermal sand reclamation system**	SS4 Baghouse	0.73
TB	Castings cleaning & finishing (Table blasting) (shared)***	DT Baghouse	2.15
SB	Castings cleaning & finishing (Shotblasting) (shared)***		
GD	Grinding Room (shared)***		
SW	Table Saw (shared)		

*The SS1 baghouse previously controlled emissions from the castings shakeout, sand system, and castings cleaning & finishing (Table blasting). The PM limit has been revised to reflect that the castings cleaning & finishing (Table blasting) is no longer controlled by this baghouse. This is a Title 1 change
**This is a new limit as a result of this revision.
***The castings cleaning & finishing (Shotblasting) and grinding room are no longer equipped with separate control devices. Therefore, a new PM emission limit has been included for the new baghouse, which controls emissions from the table blasting, shotblasting, grinding room, and table saw. This is a Title 1 change.

Compliance with these limits, combined with the limited potential to emit PM from all other emission units at this source, shall limit the source-wide total potential to emit of PM to less than 250 tons per 12 consecutive month period and shall render 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

Nonattainment New Source Review

(a) This modification to an existing minor stationary source under 326 IAC 2-1.1-5 (Nonattainment New Source Review) will not change the minor status of the entire source, because the potential to emit of PM2.5 from the entire source will continue to be less than 100 tons per year. Therefore, pursuant to 326 IAC 2-1.1-5, the Nonattainment New Source Review requirements do not apply.

Federal Rule Applicability Determination

New Source Performance Standards (NSPS)

(a) The requirements of the New Source Performance Standards for Calciners and Dryers in Mineral Industries (40 CFR 60, Subpart UUU) are included in this revision because the source utilizes thermal sand reclaimation. Pursuant to EPA's Applicability Determination Index (ADI) database (http://www.epa.gov/compliance/monitoring/programs/caa/adi.html) posting dated April 29, 2004 (Control Number: 0500056), 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.

The emission unit subject to this rule include the following:

(1) One (1) natural gas-fired thermal sand reclamation system, identified as TSR1, approved for construction in 2013, with a maximum heat input capacity of 3.0 MMBtu/hr and maximum sand throughput of 2.0 tons per hour, equipped with one (1) baghouse, identified as SS4, for particulate control, and exhausting to stack # S4.

Applicable portions of the NSPS are the following:

(1) 40 CFR 60.730(a) and (c)
(2) 40 CFR 60.731
(3) 40 CFR 60.732
(4) 40 CFR 60.733
(5) 40 CFR 60.734
(6) 40 CFR 60.735(a), (c)(1) and (2), and (d)
(7) 40 CFR 60.736(a) and (b)
(8) 40 CFR 60.737

This is a newly applicable requirement due to this revision. This NSPS has applicable testing requirements.

The requirements of 40 CFR Part 60, Subpart A – General Provisions, which are incorporated as 326 IAC 12-1, apply to the thermal sand reclamation system except as otherwise specified in 40 CFR 60, Subpart UUU.

(b) There are no other New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included for this proposed revision.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

(c) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) included for this proposed revision.

Compliance Assurance Monitoring (CAM)

(d) 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 proposed revision:

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

(b) 326 IAC 2-2 (Prevention of Significant Deterioration(PSD))
This modification to an existing PSD minor stationary source will not change the PSD minor status of the entire source, because the potential to emit of all attainment regulated pollutants from the entire source will continue to be less than the PSD major source threshold levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply. See PTE of the Entire Source After Issuance of the MSOP Revision Section above.

(c) 326 IAC 2-1.1-5 (Nonattainment New Source Review)
This modification to an existing minor stationary source under 326 IAC 2-1.1-5 (Nonattainment New Source Review) will not change the minor status of the entire source, because the potential to emit of PM2.5 from the entire source will continue to be less than 100 tons per year. Therefore, pursuant to 326 IAC 2-1.1-5, the Nonattainment New Source Review requirements do not apply. See PTE of the Entire Source After Issuance of the MSOP Revision Section above.

(d) 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))
The proposed revision is not subject to the requirements of 326 IAC 2-4.1, since the unlimited potential to emit of HAPs from the new unit is 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.

(e) 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.

(f) 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.

(g) 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.

Grey & Ductile Iron Foundry

(a) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
Pursuant to 326 IAC 6-3-2(e) (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from each of the units in Grey & Ductile Iron Foundry shall not exceed the corresponding pound per hour limitations listed in the table below:

Unit ID	Emission Unit	Process Weight Rate (tons/hr)	326 IAC 6-3 Allowable Emission Rate (lbs/hour)
DT1	Magnesium treatment	0.48	2.51
PC1	Pouring and casting	6.17	13.88
CC1	Castings cooling	6.17	13.88
CS1	Castings shakeout	6.17	13.88

The pound per hour limitation 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

Based on calculations a control device is not needed to comply with these limits.

(b) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
Pursuant to 326 IAC 6-3-1(b)(14), the scrap and charge handling (CH1), electric induction melting furnaces (IND1 and IND2), and the core making line (CB1) are exempt from the requirements of 326 IAC 6-3-2, because each process has potential particulate emissions less than 0.551 pounds per hour.

Note: Due to the identification of a bottleneck the maximum capacities of the scrap and charge handling (CH1), electric induction furnaces #1 and #2, and the core making line (CB1) were reduced. As a result, these processes are no longer subject to the requirements of 326 IAC 6-3-2.

Clean Charge Aluminum Foundry

(a) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
Pursuant to 326 IAC 6-3-2(e) (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from each of the units in Clean Charge Aluminum Foundry shall not exceed the corresponding pound per hour limitations listed in the table below:

Unit ID	Emission Unit	Process Weight Rate (tons/hr)	326 IAC 6-3 Allowable Emission Rate (lbs/hour)
PC2	Pouring and casting	6.12	13.81
CS2	Castings shakeout	6.12	13.81

The pound per hour limitation 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

Based on calculations a control device is not needed to comply with these limits.

(b) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
Pursuant to 326 IAC 6-3-1(b)(14), the scrap and charge handling (CH2), electric induction furnaces (TH1 and TH2), castings cooling (CC2), and the core making line (CB2) are exempt from the requirements of 326 IAC 6-3-2, because each process has potential particulate emissions less than 0.551 pounds per hour.

Note: Due to an overestimation of the maximum capacity of the electric induction furnaces (TH1 and TH2) the maximum capacities of the scrap and charge handling (CH2), castings cooling (CC2), and the core making line (CB2 were reduced. As a result, these processes are no longer subject to the requirements of 326 IAC 6-3-2.

Sand System

(a) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from the thermal sand reclamation system shall not exceed 6.52 pounds per hour when operating at a process weight rate of 2.0 tons per hour. The pound per hour limitation was calculated with the following equation:

Unit ID	Emission Unit	Process Weight Rate (tons/hr)	326 IAC 6-3 Allowable Emission Rate (lbs/hour)
SS	Sand System		
SS2	Outside Sand Silo	5.50	12.85
SS4	Inside Sand Silo	5.50	12.85
SS5	Outside Sand Silo	5.50	12.85
SS6	Outside Sand Silo	5.50	12.85
SS7	Outside Sand Silo	5.50	12.85
SS3	Sand Handling Operations	5.50	12.85
MSR	Mechanical Sand Reclamation Unit	5.50	12.85
MX1	Sand Mixing Operation #1	5.08	12.18
MX2	Sand Mixing Operation #2	5.08	12.18
CMX	Core Mixing Operation	0.42	2.29
TSR1	Thermal sand reclamation system	2.0	6.52

The pound per hour limitation 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

The combined uncontrolled potential particulate emissions from the units comprising the shared sand system (SS) are greater than the 326 IAC 6-3-2 allowable emissions. Therefore, the SS1 and SS4 baghouses controlling particulate emissions from the shared sand system shall be in operation at all times any of the units in the shared sand system are in operation, in order to comply with these limits.

(b) There are no 326 IAC 8 Rules that are applicable to the thermal sand reclamation system

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

Castings Cleaning and Finishing Operations

(a) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
Pursuant to 326 IAC 6-3-2(e) (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from each of the units in castings cleaning and finishing operations shall not exceed the corresponding pound per hour limitations listed in the table below:

Unit ID	Emission Unit	Process Weight Rate (tons/hr)	326 IAC 6-3 Allowable Emission Rate (lbs/hour)
TB	Castings Cleaning and Finishing (Table blasting) (shared)	0.50	2.58
SB	Castings cleaning & finishing (Shotblasting) (shared)	0.50	2.58
GD	Grinding Room (shared)	0.25	1.62

The pound per hour limitation 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

The Donaldson Torit dust collector (DT) shall be in operation at all times any of the units in the castings cleaning and finishing operations are in operation, in order to comply with these limits.

(b) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
Pursuant to 326 IAC 6-3-1(b)(14), the table saw (SW) is exempt from the requirements of 326 IAC 6-3-2, because this process has potential particulate emissions less than 0.551 pounds per hour. The source is using an alternative emission factor to determine the potential emissions from the table saw. Therefore, in order to ensure that the particulate emissions do not exceed 0.551 pounds per hour the Donaldson Torit dust collector (DT) shall be in operation at all times the table saw is in operation.

Mold Making Operations

(a) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
Pursuant to 326 IAC 6-3-1(b)(14), the mold making lines (ML1 and ML2) are exempt from the requirements of 326 IAC 6-3-2, because each line has potential particulate emissions less than 0.551 pounds per hour.

Note: Due to the identification of a bottleneck the maximum capacities of the mold making lines (ML1 and ML2) were reduced. As a result, these processes are no longer subject to the requirements of 326 IAC 6-3-2.

Parts Washers

(a) 326 IAC 8-3-2 (Open Top Vapor Degreaser Operation)
This source currently has two (2) heated parts washers, identified as W1 and W2, which are subject to 326 IAC 8-3-3. On January 30, 2013, 326 IAC 8-3-3 was revised. As a result, IDEM is revaluating the applicability of 326 IAC 8-3-3. The two (2) heated parts washers were constructed after July 1, 1990 and have an air-to-solvent interface of one (1) square meter (ten and eight-tenths (10.8) square feet) or greater. Therefore, two (2) heated parts washers remain subject to the requirements of 326 IAC 8-3-3.

The owner or operator of an open top vapor degreaser shall ensure the following control equipment and operating requirements are met:

(1) Equip the vapor degreaser with a cover that can be opened and closed easily without disturbing the vapor zone.

(2) Keep the cover closed at all times except when processing workloads through the degreaser.

(3) Minimize solvent carryout by:

(A) racking parts to allow complete drainage;

(B) moving parts in and out of the degreaser at less than three and three-tenths (3.3) meters per minute (eleven (11) feet per minute);

(C) degreasing the workload in the vapor zone at least thirty (30) seconds or until condensation ceases;

(D) tipping out any pools of solvent on the cleaned parts before removal; and
(E) allowing parts to dry within the degreaser for at least fifteen (15) seconds or until visually dry.

(4) Prohibit the entrance into the degreaser of porous or absorbent materials, such as cloth, leather, wood, or rope.

(5) Prohibit occupation of more than one-half (1/2) of the degreaser's open top area with the workload.

(6) Prohibit the loading of the degreaser in a manner that causes the vapor level to drop more than fifty percent (50%) of the vapor depth when the workload is removed.

(7) Prohibit solvent spraying above the vapor level.

(8) Repair solvent leaks immediately, or shut down the degreaser if leaks cannot be repaired immediately.

(9) Store waste solvent only in closed containers.

(10) Prohibit the disposal or transfer of waste solvent in a manner that could allow greater than twenty percent (20%) of the waste solvent (by weight) to evaporate into the atmosphere.

(11) Prohibit the use of workplace fans near the degreaser opening.

(12) Prohibit visually detectable water in the solvent exiting the water separator.

(13) Provide the degreaser with a permanent, conspicuous label that lists the operating requirements in subdivisions (2) through (12).

The owner or operator of an open top vapor degreaser subject to this subsection shall ensure the following additional control equipment and operating requirements are met:

(1) Equip the degreaser with the following switches:

(A) A condenser flow switch and thermostat that shuts off sump heat if condenser coolant stops circulating or becomes too warm.

(B) A spray safety switch that shuts off spray pump if the vapor level drops more than ten (10) centimeters (four (4) inches).

(2) Equip the degreaser with one (1) of the following control devices:

(A) A freeboard ratio of seventy-five hundredths (0.75) or greater and a powered cover if the degreaser opening is greater than one (1) square meter (ten and eight-tenths (10.8) square feet).

(B) A refrigerated chiller.

(C) An enclosed design in which the cover opens only when the article is actually entering or exiting the degreaser.

(D) A carbon adsorption system with ventilation that, with the cover open, achieves a ventilation rate of greater than or equal to fifteen (15) cubic meters per minute per square meter (fifty (50) cubic feet per minute per square foot) of air-to-vapor interface area and an average of less than twenty-five (25) parts per million of solvent is exhausted over one (1) complete adsorption cycle.

(E) An alternative system of demonstrated equivalent or better control as those outlined in clauses (A) through (D) that is approved by the department. An alternative system shall be submitted to the U.S. EPA as a SIP revision.

(3) Prohibit the loading of the degreaser to the point where the vapor level would drop more than ten (10) centimeters (four (4) inches) when the workload is removed.

(4) Prohibit the exhaust ventilation rate from exceeding twenty (20) cubic meters per minute per square meter (sixty-five (65) cubic feet per minute per square foot) of degreaser open area unless a greater ventilation rate is necessary to meet Occupational Safety and Health Administration requirements.

(5) Ensure that the label required under subsection (a)(13) includes the additional operating requirements listed in subdivisions (3) and (4).

(b) 326 IAC 8-3-6 (Open top vapor degreaser operation and control requirements)
The two (2) heated parts washers, identified as W1 and W2, are currently subject to 326 IAC 8-3-6. However, on January 30, 2013, this rule was repealed. Therefore, the two (2) heated parts washers are no longer subject to this rule and the requirements of this rule will be removed from the permit.

(c) 326 IAC 8-3-8 (Material Requirements for cold cleaner degreasers)
326 IAC 8-3-8 applies to any person who sells, offers for sale, uses, or manufacturers solvent for use in cold cleaner degreasers before January 1, 2015, in Clark, Floyd, Lake or Porter Counties or on and after January 1, 205, anywhere in the state. This source is located in a Johnson County and uses solvent in open top vapor degreasers. Therefore, this source is not subject to the requirements of 326 IAC 8-3-8.

Compliance Determination, Monitoring and Testing Requirements

(a) The compliance determination and monitoring requirements applicable to this proposed revision are as follows:

Emission Unit/Control	Operating Parameters	Frequency
Thermal Sand Reclamation System/ SS4 Baghouse	Pressure Drop	Once per day
Castings cleaning & finishing (Table blasting and Shotblasting), Grinding Room, and Table Saw/ Donaldson Torit Dust Collector	Pressure Drop	Once per day

The source is required to monitor these indicators to ensure the control devices are operating properly and to ensure these processes are in compliance with 326 IAC 2-2 (PSD) and 326 IAC 6-3-2 (Particulate Emission Limitations) emission limitations.

(b) The testing requirements applicable to this proposed revision are as follows:

Testing Requirements				
Emission Unit	Control Device	Pollutant	Timeframe for Testing	Frequency of Testing
Thermal Sand Reclamation System (TSR1)	Baghouse (SS4)	PM	Not later than 60 days after achieving maximum capacity but not later than 180 days after initial startup	Once (1) every five (5) years
Castings cleaning & finishing (Table blasting and Shotblasting), and Grinding Room	Donaldson Torit Dust Collector (DT)	PM	At least once every five (5) years from the date of the most recent valid compliance demonstration	Once (1) every five (5) years

These testing requirements are necessary to ensure compliance with 326 IAC 2-2 (PSD) because the baghouse (SS4) must achieve a control efficiency of at least 89.9 percent to comply with the PM emission limit. In addition, these testing requirements are necessary to ensure compliance with 326 IAC 6-3-2 (Particulate Emission Limitations) and 40 CFR Part 60, Subpart UUU.

The source must perform testing of the Donaldson Torit dust collector while the table blast machine (TB), shot blast machine (SB), grinding room (GD), and table saw (SW) are all in operation and operating at maximum capacity to ensure compliance with 326 IAC 2-2 (PSD) and 326 IAC 6-3-2 (Particulate Emission Limitations). Theses emission units cannot be tested separately since they are controlled by the same dust collector. The Donaldson Torit dust collector must achieve a control efficiency of at least 89.9% percent to comply with the PM emission limit. The source last performed testing on these units on February 5, 2013.

The existing compliance requirements for the SS1 baghouse will not change as a result of this revision. The source shall continue to comply with the applicable requirements and permit conditions as contained in MSOP No. 081-30955-00066, issued on August 22nd, 2012.

Proposed Changes

(a) The following changes listed below are due to the proposed revision. Deleted language appears as ~~strikethrough~~ text and new language appears as **bold** text:

(1) Sections A.2, D.1, D.2, D.3, D.4, and E.1 have been revised to include descriptive information for the new and modified emission units.

(2) All references to the table blast machine has been removed from Section D.1 since this unit is no longer controlled by the SS1 baghouse. The applicable requirements for the table blast machine will be moved to Section D.3.

(3) A new PSD minor limit for particulate matter emissions has been included in Condition D.1.1 due to the addition of the new thermal sand reclamation system. In addition, the source requested to revise the existing PSD minor limit for the SS1 baghouse.

(4) The new thermal sand reclamation system and sand storage silos are subject to the requirements of 326 IAC 6-3-2. Therefore, Condition D.1.2 has been revised to include the allowable particulate matter emission rate for these units. In addition, due to the revisions to the maximum capacities, the scrap and charge handling, electric induction furnaces, and core making line are no longer subject to 326 IAC 6-3-2. Therefore, these emission units have been removed from Condition D.1.2.

(5) The new thermal sand reclamation system has a control device and applicable emission limitations. Therefore, Condition D.1.3 has been revised to indicate that this emission unit is required to have a preventive maintenance plan.

(6) The compliance determination, monitoring, and recordkeeping requirements in Section D.1 have been revised because the source must operate the new baghouse and conduct stack testing to ensure compliance with the PM emission limits in Conditions D.1.1 and D.1.2.

(7) The source has determined that the iron castings shakeout operation (CS1) bottlenecks the gray and ductile iron foundry and sand system. Therefore, a new recordkeeping requirement has been included in Condition D.1.9 to document the iron and sand throughput.

(8) Due to the revisions to the maximum capacities, the scrap and charge handling, electric induction furnaces, castings cooling, and core making line are no longer subject to 326 IAC 6-3-2. Therefore, these emission units have been removed from Condition D.2.3.

(9) The emission limitations and standards, compliance determination, compliance monitoring, and record keeping requirements in Section D.3 have been revised due to the replacement of the two (2) existing dust collectors with one (1) new dust collector that controls emissions from the table blast machine, shot blast machine, grinding room, and table saw.

(10) The two (2) molding lines are no longer subject to the requirements of 326 IAC 6-3-2. Therefore, Section D.4 has been removed from the permit. Section D.5 will now be identified as Section D.4.

(11) The thermal sand reclamation system is subject to the requirements of 40 CFR Part 60, Subpart UUU. Therefore, these newly applicable requirements have been included in a new Section E.2.

A.2 Emission Units and Pollution Control Equipment Summary

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

(a) *Grey & Ductile Iron Foundry*, consisting of the following:

(1) One (1) manual charge handling operation, identified as CH1, constructed in 2008, with a maximum throughput capacity of 0.~~60~~**523** tons of iron per hour, uncontrolled and exhausting inside the building;

(2) Two (2) Inductotherm electric induction melting furnaces, identified as IND1 and IND2, constructed in 2008, and having a maximum throughput capacity of 0.~~60~~**523** tons of gray iron or 0.~~375~~**48** tons of ductile iron per hour, respectively, with operation limited by a single power supply (only one furnace can operate at any time), uncontrolled and exhausting inside the building;

Under NESHAP ZZZZZ (5Z), the two (2) electric induction melting furnaces, identified as IND1 and IND2, are each considered an affected small foundry.

(3) One (1) magnesium treatment operation for the production of ductile iron, identified as DT1, constructed in 2008, with a maximum throughput capacity of 0.~~375~~**48** tons of iron per hour, uncontrolled and exhausting inside the building. The magnesium treatment is only used to form ductile iron;

(4) One (1) pouring and casting operation, identified as PC1, constructed in 2008, with a maximum throughput capacity of 0.~~60~~**523** tons of iron per hour, uncontrolled and exhausting inside the building;

(5) One (1) castings cooling operation, identified as CC1, constructed in 2008, with a maximum throughput capacity of 0.~~60~~**523** tons of iron castings per hour, uncontrolled and exhausting inside the building;

(6) One (1) castings shakeout operation, identified as CS1, constructed in 2008, with a maximum throughput capacity of 0.~~60~~**523** tons of iron castings per hour, with particulate emissions controlled by the SS1 baghouse, and exhausting to Stack # S3; and

~~(7) One (1) Gibson steel shot table blast machine for castings cleaning & finishing, identified as TB, constructed in 2008, with a maximum throughput capacity of 1.5 tons of iron or aluminum castings per hour, with particulate emissions controlled by the SS1 baghouse, and exhausting to Stack # S3;~~

~~Note: the table blast machine (TB) serves both the Grey & Ductile Iron Foundry and the Clean Charge Aluminum Foundry. The maximum throughput capacity is dictated by the maximum throughput capacity of the equipment.~~

Note: The SS1 Baghouse is a common control to the castings shakeout operation (CS1)~~, the Gibson steel shot table blast machine (TB),~~ and ~~each of~~ the units in the shared sand system (SS), as follows:

Iron Foundry castings shakeout operation	CS1
~~Castings Cleaning and Finishing (Table blasting)~~	~~TB~~
Sand System, consisting of:	SS
Outside Sand storage silo	SS2
Inside Sand storage silo	**SS4**
Outside Sand storage silo	**SS5**
Outside Sand storage silo	**SS6**
Outside Sand storage silo	**SS7**
…	

(~~8~~**7**) One (1) core making line, identified as CB1, constructed in 2008, with a maximum throughput capacity of 0.~~60~~**523** tons of iron per hour, and a maximum throughput capacity of 0.~~25~~**15** tons of sand per hour, using an ester phenolic no-bake binder system, uncontrolled and exhausting inside the building. Note: no catalyst gas is utilized in the binder system.

Note: The maximum throughput capacity of the two (2) Inductotherm electric induction melting furnaces is limited by a single power supply such that only one (1) furnace can operate at a time. Additionally, the maximum throughput capacities of the manual charge handling, **electric induction melting furnaces,** ~~the~~ pouring and casting, castings cooling, ~~and castings shakeout operations,~~ and ~~the~~ core making line~~, and the magnesium treatment operation~~ are each dependent on the maximum capacity of the grey iron and ductile iron ~~melting operations, accordingly.~~ **castings shakeout operation (CS1), which is a bottleneck for all of these processes.**

(b) *Clean Charge Aluminum Foundry*, consisting of the following:

(1) One (1) manual charge handling operation, identified as CH2, constructed in 2008, with a maximum throughput capacity of 0.~~55~~**36** tons of clean charge aluminum ingots per hour, uncontrolled and exhausting inside the building;

(2) Two (2) Thermtronix electric induction melting furnaces, identified as TH1 and TH2, constructed in 2008, having a maximum throughput capacity of 0.~~275~~**18** tons of clean charge aluminum (including aluminum t-bar, sow, ingot, and/or internal runarounds) per hour, each, or 0.~~55~~**36** tons per hour combined, uncontrolled and exhausting inside the building. No flux is used in this operation;

(3) One (1) pouring and casting operation, identified as PC2, constructed in 2008, with a maximum throughput capacity of 0.~~55~~**36** tons of clean charge aluminum per hour, uncontrolled and exhausting inside the building;

(4) One (1) castings cooling operation, identified as CC2, constructed in 2008, with a maximum throughput capacity of 0.~~55~~**36** tons of clean charge aluminum castings per hour, uncontrolled and exhausting inside the building; and

(5) One (1) castings shakeout operation, identified as CS2, constructed in 2008, with a maximum throughput capacity of 0.5~~55~~**36** tons of clean charge aluminum castings per hour, uncontrolled, and exhausting inside the building; and

(6) One (1) core making line, identified as CB2, constructed in 2008, with a maximum throughput capacity of 0.5~~55~~**36** tons of clean charge aluminum castings per hour, and a maximum throughput capacity of 0.2**6**5 tons of sand per hour, using an ester phenolic no-bake binder system, uncontrolled and exhausting inside the building. Note: no catalyst gas is utilized in the binder system.

Note: The maximum throughput capacity of the manual charge handling, ~~and~~ pouring and casting, castings cooling, ~~and~~ castings shakeout operations, and ~~the~~ core making line ~~is~~ **are** dependent on the combined maximum metal melt capacity of the two (2) Thermtronix electric induction melting furnaces.

(c) *Sand System:*

One (1) Sand System, identified as SS, constructed in 2008 **and approved for modification in 2013**, serving both the Grey & Ductile Iron Foundry and the Clean Charge Aluminum Foundry, ~~equipped with one (1) baghouse, identified as SS1, for particulate control, exhausting to Stack # S3,~~ and consisting of the following:

~~(1) One (1) sand storage silo, identified as SS2, having a maximum storage capacity of 36 tons, and a maximum throughput of 47,085 tons of sand per year;~~

(1) Five (5) sand storage silos with a combined maximum throughput of 48,180 tons of sand per year, equipped with one (1) baghouse, identified as SS1, for particulate control, exhausting to Stack #S3 as follows:

(i) One (1) outside sand storage silo, identified as SS2, having a maximum storage capacity of 50 tons.

(ii) One (1) inside sand storage silo, identified as SS4, having a maximum storage capacity of 15 tons.

(iii) One (1) outside sand storage silo, identified as SS5, having a maximum storage capacity of 60 tons.

(iv) One (1) outside sand storage silo, identified as SS6, having a maximum storage capacity of 70 tons.

(v) One (1) outside sand storage silo, identified as SS7, having a maximum storage capacity of 80 tons.

(2) Sand handling operations, identified as SS3, with a maximum throughput capacity of 5.3~~7~~5 tons of sand per hour**, equipped with one (1) baghouse, identified as SS1, for particulate control, exhausting to Stack # S3**;

(3) One (1) mechanical sand reclamation unit, identified as MSR, with a maximum throughput capacity of 5.3~~7~~5 tons of sand per hour**, equipped with one (1) baghouse, identified as SS1, for particulate control, exhausting to Stack # S3**;

(4) One (1) natural gas-fired thermal sand reclamation system, identified as TSR1, approved for construction in 2013, with a maximum heat input capacity of 3.0 MMBtu/hr and maximum sand throughput of 2.0 tons per

hour, equipped with one (1) baghouse, identified as SS4, for particulate control, and exhausting to stack # S4.

Under 40 CFR 60, Subpart UUU, the natural gas-fired thermal sand reclamation system is an affected facility.

(~~4~~**5**) Sand mixing operation**s** #1 **and #2**, identified as MX1 **and MX2**, with a maximum throughput capacity of ~~2.925~~ **5.08** tons of sand per hour**, combined,** and using a maximum of 0.85% ester phenolic no-bake binder**, equipped with one (1) baghouse, identified as SS1, for particulate control, exhausting to Stack # S3**; **and**

~~(5) Sand mixing operation #2, identified as MX2, with a maximum throughput capacity of 1.95 tons of sand per hour and using a maximum of 0.85% ester phenolic no-bake binder; and~~

(6) One (1) core mixing operation, identified as CMX, with a maximum throughput capacity of ~~0.5~~ **0.42** tons of sand per hour and using a maximum of 0.85% ester phenolic no-bake binder**, equipped with one (1) baghouse, identified as SS1, for particulate control, exhausting to Stack # S3**.

Note: the SS1 Baghouse is a common control to the Grey & Ductile Iron Foundry castings shakeout operation (CS1)~~, the Gibson steel shot table blast machine (TB),~~ and ~~each of~~ the units in the shared sand system (SS), as follows:

Iron Foundry castings shakeout operation	CS1
~~Castings Cleaning and Finishing (Table blasting)~~	~~TB~~
Sand System, consisting of:	SS
Outside Sand storage silo	SS2
Inside Sand storage silo	**SS4**
Outside Sand storage silo	**SS5**
Outside Sand storage silo	**SS6**
Outside Sand storage silo	**SS7**
…	

Note: The total sand handled by the emission units associated with the sand system is limited by the grey iron and ductile iron castings shakeout operation (CS1), which is a bottleneck for these processes.

(d) *Castings cleaning and finishing operations,* consisting of the following:

(1) One (1) Gibson steel shot table blast machine for castings cleaning & finishing, identified as TB, constructed in 2008 and approved for modification in 2013, with a maximum throughput capacity of 0.5 tons of iron or aluminum castings per hour, equipped with a Donaldson Torit dust collector, identified as DT, for particulate control, and exhausting inside the building.

(~~1~~**2**) One (1) Diso Goff steel shot blast machine for castings cleaning & finishing, identified as SB, constructed in 2008 **and approved for modification in 2013**, with a maximum throughput capacity of ~~1.5~~ **0.5** tons of iron or aluminum castings per hour, ~~equipped with a Geoff dust collector for particulate control, and exhausting to Stack # S2.~~ **equipped with a Donaldson Torit dust collector, identified as DT, for particulate control, and exhausting inside the building.**

(~~2~~**3**) One (1) Grinding Room, identified as GD, constructed in 2008 **and approved for**

modification in 2013, with a maximum throughput capacity of ~~1.5~~ **0.25** tons of iron or aluminum castings per hour, ~~using a DMI dust collector for particulate control, exhausting inside the building, and consisting of the following:~~ **equipped with a Donaldson Torit dust collector, identified as DT, for particulate control, exhausting inside the building, and consisting of the following:**

(1) ~~Two~~ **Three** (~~2~~**3**) double wheel 14 inch pedestal grinders; and

(2) ~~Three~~ **Six** (~~3~~**6**) belt grinders.

(4) One (1) table saw, identified as SW, constructed in 2009, with a maximum capacity of 0.523 tons of iron or aluminum per hour, equipped with a Donaldson Torit dust collector, identified as DT, for particulate control, and exhausting inside the building.

Note: ~~the shot blast machine (SB) and grinding room (GD) serve both the Grey & Ductile Iron Foundry and the Clean Charge Aluminum Foundry. The maximum throughput capacity of each is dictated by the maximum throughput capacity of the equipment.~~ **The table blast machine (TB), shot blast machine (SB), grinding room (GD), and table saw (SW) are controlled by the same dust collector and serve both the Grey & Ductile Iron Foundry and the Clean Charge Aluminum Foundry. The maximum throughput capacity of the table blast machine, shot blast machine, and grinding room is dictated by the maximum throughput capacity of the equipment. The maximum throughput capacity of the table saw (SW) is limited by the maximum throughput capacity of the grey iron and ductile iron castings shakeout operation (CS1).**

(e) *Mold Making Operations:*

Molding Making Operations, serving both the Grey & Ductile Iron Foundry and the Clean Charge Aluminum Foundry, consisting of the following:

~~(1) One (1) ester phenolic no-bake binder molding line, identified as ML1, constructed in 2008, utilizing an ester phenolic no-bake binder system, with a maximum throughput capacity of 1.15 tons of iron and/or aluminum per hour, and a maximum throughput capacity of 2.93 tons of sand per hour, uncontrolled and exhausting inside the building;~~

~~(2) One (1) ester phenolic no-bake binder molding line, identified as ML2, constructed in 2008, utilizing an ester phenolic no-bake binder system, with a maximum throughput capacity of 1.15 tons of iron and/or aluminum per hour, and a maximum throughput capacity of 1.95 tons of sand per hour, uncontrolled and exhausting inside the building;~~

(1) Two (2) ester phenolic no-bake binder molding lines, identified as ML1 and ML2, constructed in 2008, utilizing an ester phenolic no-bake binder system, with a maximum throughput capacity of 0.523 tons of iron and/or aluminum per hour combined, and a maximum throughput capacity of 5.5 tons of sand per hour combined, uncontrolled and exhausting inside the building;

Note: The **combined** maximum throughput capacity of ~~each of~~ the molding lines ~~is equal to the combined maximum throughput capacities of the Grey & Ductile Iron Foundry and the Clean Charge Aluminum Foundry.~~ **are limited by the grey iron and ductile iron castings shakeout operation (CS1), which is a bottleneck for these processes.**

...

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Emission Unit Description ~~[326 IAC 2-8-4(10)]~~: Iron Foundry~~, Table Blast,~~ & Sand System

(a) *Grey & Ductile Iron Foundry*, consisting of the following:

(1) One (1) manual charge handling operation, identified as CH1, constructed in 2008, with a maximum throughput capacity of 0.~~60~~**523** tons of iron per hour, uncontrolled and exhausting inside the building;

(2) Two (2) Inductotherm electric induction melting furnaces, identified as IND1 and IND2, constructed in 2008, and having a maximum throughput capacity of 0.~~60~~**523** tons of gray iron or 0.~~375~~**48** tons of ductile iron per hour, respectively, with operation limited by a single power supply (only one furnace can operate at any time), uncontrolled and exhausting inside the building;

Under NESHAP ZZZZZ (5Z), the two (2) electric induction melting furnaces, identified as IND1 and IND2, are each considered an affected small foundry.

(3) One (1) magnesium treatment operation for the production of ductile iron, identified as DT1, constructed in 2008, with a maximum throughput capacity of 0.~~375~~**48** tons of iron per hour, uncontrolled and exhausting inside the building. The magnesium treatment is only used to form ductile iron;

(4) One (1) pouring and casting operation, identified as PC1, constructed in 2008, with a maximum throughput capacity of 0.~~60~~**523** tons of iron per hour, uncontrolled and exhausting inside the building;

(5) One (1) castings cooling operation, identified as CC1, constructed in 2008, with a maximum throughput capacity of 0.~~60~~**523** tons of iron castings per hour, uncontrolled and exhausting inside t building;

(6) One (1) castings shakeout operation, identified as CS1, constructed in 2008, with a maximum throughput capacity of 0.~~60~~**523** tons of iron castings per hour, with particulate emissions controlled by the SS1 baghouse, and exhausting to Stack # S3; and

~~(7) One (1) Gibson steel shot table blast machine for castings cleaning & finishing, identified as TB, constructed in 2008, with a maximum throughput capacity of 1.5 tons of iron or aluminum castings per hour, with particulate emissions controlled by the SS1 baghouse, and exhausting to Stack # S3;~~

~~Note: the table blast machine (TB) serves both the Grey & Ductile Iron Foundry and the Clean Charge Aluminum Foundry. The maximum throughput capacity is dictated by the maximum throughput capacity of the equipment.~~

Note: The SS1 Baghouse is a common control to the castings shakeout operation (CS1)~~, the Gibson steel shot table blast machine (TB),~~ and ~~each of~~ the units in the shared sand system (SS), as follows:

Iron Foundry castings shakeout operation	CS1
~~Castings Cleaning and Finishing (Table blasting)~~	~~TB~~
Sand System, consisting of:	SS
Outside Sand storage silo	SS2
Inside Sand storage silo	**SS4**
Outside Sand storage silo	**SS5**
Outside Sand storage silo	**SS6**

Outside Sand storage silo	**SS7**
…	

(~~8~~7) One (1) core making line, identified as CB1, constructed in 2008, with a maximum throughput capacity of 0.~~60~~**523** tons of iron per hour, and a maximum throughput capacity of 0.~~25~~**15** tons of sand per hour, using an ester phenolic no-bake binder system, uncontrolled and exhausting inside the building. Note: no catalyst gas is utilized in the binder system.

Note: The maximum throughput capacity of the two (2) Inductotherm electric induction melting furnaces is limited by a single power supply such that only one (1) furnace can operate at a time. Additionally, the maximum throughput capacities of the manual charge handling, **electric induction melting furnaces,** ~~the~~ pouring and casting, castings cooling, ~~and castings shakeout operations,~~ and ~~the~~ core making line~~, and the magnesium treatment operation~~ are each dependent on the maximum capacity of the grey iron and ductile iron ~~melting operations, accordingly.~~ **castings shakeout operation (CS1), which is a bottleneck for all of these processes.**

(c) *Sand System:*

One (1) Sand System, identified as SS, constructed in 2008 **and approved for modification in 2013**, serving both the Grey & Ductile Iron Foundry and the Clean Charge Aluminum Foundry, ~~equipped with one (1) baghouse, identified as SS1, for particulate control, exhausting to Stack # S3,~~ and consisting of the following:

~~(1) One (1) sand storage silo, identified as SS2, having a maximum storage capacity of 36 tons, and a maximum throughput of 47,085 tons of sand per year;~~

(1) Five (5) sand storage silos with a combined maximum throughput of 48,180 tons of sand per year, equipped with one (1) baghouse, identified as SS1, for particulate control, exhausting to Stack #S3 as follows:

(i) One (1) outside sand storage silo, identified as SS2, having a maximum storage capacity of 50 tons.

(ii) One (1) inside sand storage silo, identified as SS4, having a maximum storage capacity of 15 tons.

(iii) One (1) outside sand storage silo, identified as SS5, having a maximum storage capacity of 60 tons.

(iv) One (1) outside sand storage silo, identified as SS6, having a maximum storage capacity of 70 tons.

(v) One (1) outside sand storage silo, identified as SS7, having a maximum storage capacity of 80 tons.

(2) Sand handling operations, identified as SS3, with a maximum throughput capacity of 5.~~37~~5 tons of sand per hour**, equipped with one (1) baghouse, identified as SS1, for particulate control, exhausting to Stack # S3**;

(3) One (1) mechanical sand reclamation unit, identified as MSR, with a maximum throughput capacity of 5.~~37~~5 tons of sand per hour**, equipped with one (1) baghouse, identified as SS1, for particulate control, exhausting to Stack # S3**;

(4) One (1) natural gas-fired thermal sand reclamation system, identified as TSR1, approved

for construction in 2013, with a maximum heat input capacity of 3.0 MMBtu/hr and maximum sand throughput of 2.0 tons per hour, equipped with one (1) baghouse, identified as SS4, for particulate control, and exhausting to stack # S4.

Under 40 CFR 60, Subpart UUU, the natural gas-fired thermal sand reclamation system is an affected facility.

(~~4~~**5**) Sand mixing operations #1 **and #2**, identified as MX1 **and MX2**, with a maximum throughput capacity of ~~2.925~~ **5.08** tons of sand per hour, **combined,** and using a maximum of 0.85% ester phenolic no-bake binder**, equipped with one (1) baghouse, identified as SS1, for particulate control, exhausting to Stack # S3**; **and**

~~(5) Sand mixing operation #2, identified as MX2, with a maximum throughput capacity of 1.95 tons of sand per hour and using a maximum of 0.85% ester phenolic no-bake binder; and~~

(6) One (1) core mixing operation, identified as CMX, with a maximum throughput capacity of ~~0.5~~ **0.42** tons of sand per hour and using a maximum of 0.85% ester phenolic no-bake binder**, equipped with one (1) baghouse, identified as SS1, for particulate control, exhausting to Stack # S3**.

Note: the SS1 Baghouse is a common control to the Grey & Ductile Iron Foundry castings shakeout operation (CS1)~~, the Gibson steel shot table blast machine (TB),~~ and ~~each of~~ the units in the shared sand system (SS), as follows:

Iron Foundry castings shakeout operation	CS1
~~Castings Cleaning and Finishing (Table blasting)~~	~~TB~~
Sand System, consisting of:	SS
Outside Sand storage silo	SS2
Inside Sand storage silo	**SS4**
Outside Sand storage silo	**SS5**
Outside Sand storage silo	**SS6**
Outside Sand storage silo	**SS7**

Note: The total sand handled by the emission units associated with the sand system is limited by the grey iron and ductile iron castings shakeout operation (CS1), which is a bottleneck for these processes.

...

Emission Limitations and Standards [326 IAC ~~2-8-4(1)~~**2-6.1-5(a)(1)**]

D.1.1 PSD Minor Limits [326 IAC 2-2]

In order to render 326 IAC 2-2 not applicable, PM emissions from the following emission unit(s) shall not exceed the pound per hour (lb/hr) emission limits listed in the table below:

Unit ID	Unit Description	Control Device	PM Emission Limit (lbs/hr)
CS1	Castings shakeout (Iron foundry)	SS1 Baghouse	~~3.75~~ **5.14**
~~TB~~	~~Castings cleaning & finishing (Table blasting) (shared)~~		
SS	Sand System (shared)		
TSR1	**Thermal sand reclamation system**	**SS4 Baghouse**	**0.73**

...

D.1.2 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2(e) (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from each of the units in Grey & Ductile Iron Foundry shall not exceed the corresponding pound per hour limitations listed in the table below:

Unit ID	Emission Unit	Process Weight Rate (tons/hr)	326 IAC 6-3 Allowable Emission Rate (lbs/hour)
~~CH1~~	~~Scrap and charge handling~~	~~0.60~~	~~2.91~~
~~IND1~~	~~Melting - electric induction furnace #1~~	~~0.60~~	~~2.91~~
~~IND2~~	~~Melting - electric induction furnace #2, ductile iron production~~	~~0.375~~	~~2.13~~
DT1	Magnesium treatment	0.~~375~~**48**	~~2.13~~ **2.51**
PC1	Pouring and casting	~~3.78~~ **6.17**	~~9.99~~ **13.88**
CC1	Castings cooling	~~3.78~~ **6.17**	~~9.99~~ **13.88**
CS1	Castings shakeout	~~3.78~~ **6.17**	~~9.99~~ **13.88**
~~TB~~	~~Gibson steel shot table blast machine~~	~~1.50~~	~~5.38~~
~~CB1~~	~~Core making line~~	~~0.25~~	~~1.62~~
SS	Sand System		
SS2	**Outside** Sand Silo	~~5.375~~ **5.50**	12.~~6~~**8**5
SS4	**Inside Sand Silo**	**5.50**	**12.85**
SS5	**Outside Sand Silo**	**5.50**	**12.85**
SS6	**Outside Sand Silo**	**5.50**	**12.85**
SS7	**Outside Sand Silo**	**5.50**	**12.85**
SS3	Sand Handling Operations	~~5.375~~ **5.50**	12.~~6~~**8**5
MSR	Mechanical Sand Reclamation Unit	~~5.375~~ **5.50**	12.~~6~~**8**5
MX1	Sand Mixing Operation #1	~~2.925~~ **5.08**	~~8.42~~ **12.18**
MX2	Sand Mixing Operation #2	~~1.95~~ **5.08**	~~6.41~~ **12.18**
CMX	Core Mixing Operation	~~0.50~~ **0.42**	~~2.58~~ **2.29**
TSR1	**Thermal sand reclamation system**	**2.0**	**6.52**

...

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

A Preventive Maintenance Plan is required for the Grey & Ductile Iron Foundry castings shakeout process (CS1), ~~the Gibson steel shot table blast machine (TB), and~~ the Sand System (SS), **the thermal sand reclamation system (TSR1),** and the associated control device**s** (SS1 **and SS4** Baghouse**s**). Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

Compliance Determination Requirements

D.1.4 Particulate Control

(a) In order to comply with Conditions D.1.1, and D.1.2, the SS1 **and SS4** baghouse**s** for particulate control shall be in operation and control emissions from the Grey & Ductile Iron Foundry castings shakeout process (CS1), ~~the Gibson steel shot table blast machine (TB), and~~ the Sand System (SS), **and the thermal reclamation system (TSR1),** at all times that any of these processes are in operation.

...

D.1.5 Testing Requirements ~~[326 IAC 2-8-5(a)(1), (4)]~~ **[326 IAC 2-6.1-5(b)(2)]** [326 IAC 2-1.1-11]

(a) In order to demonstrate compliance with Conditions D.1.1 and D.1.2, the Permittee shall perform PM testing of the baghouse (SS1), serving the Grey & Ductile Iron Foundry castings shakeout process (CS1)~~, the Gibson steel shot table blast machine (TB),~~ and the Sand System (SS), not later than 180 days after the issuance of this MSOP, No.: F081-

30955-00066, utilizing methods approved by the Commissioner. These tests shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

(b) In order to demonstrate compliance with Conditions D.1.1 and D.1.2, the Permittee shall perform PM testing of the baghouse (SS4), serving the thermal sand reclamation system (TSR1), not later than sixty (60) days after achieving maximum capacity, but not later than one hundred and eighty (180) days after initial startup, utilizing methods approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

Compliance Monitoring Requirements ~~[326 IAC 2-8-4][326 IAC 2-8-5(a)(1)]~~ **[326 IAC 2-6.1-5(a)(2)]**

...

D.1.7 Parametric Monitoring

(a) The Permittee shall record the pressure drop across ~~the~~ **each** baghouse (SS1 **and SS4**) used in conjunction with the Grey & Ductile Iron Foundry castings shakeout process (CS1), ~~the Gibson steel shot table blast machine (TB), and~~ the Sand System (SS), **and the thermal sand reclamation system (TSR1),** at least once per day when the Grey & Ductile Iron Foundry castings shakeout process (CS1), ~~and/or the Gibson steel shot table blast machine (TB),~~ and/or the Sand System (SS), **and/or the thermal sand reclamation system** is in operation. When, for any one reading, the pressure drop across ~~the~~ **either** baghouse **(SS1 and SS4)** is outside of the normal range, the Permittee shall take a reasonable response. The normal range for ~~this unit~~ **baghouse (SS1)** is a pressure drop between 3.0 and 5.0 inches of water, unless a different upper-bound or lower-bound value for this range is determined during the latest stack test. **The normal range for baghouse (SS4) is a pressure drop between 2.0 and 8.0 inches of water, unless a different upper-bound or lower-bound value for this range is determined during the latest stack test.** Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the above-mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

...

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

D.1.9 Record Keeping Requirements

(a) Pursuant to 326 IAC 2-6.1-5(a), the grey iron throughput of 4,581 tons per year and sand throughput of 48,180 tons per year was determined to be the maximum capacity of the grey and ductile iron foundry. The Permittee shall maintain records of the total amount of grey iron and sand processed through the entire source, per twelve (12) consecutive month period with compliance determined at the end of each month. This information shall be made available to the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) or appointed representative upon request.

(~~a~~**b**) To document the compliance status with Condition D.1.6(a), the Permittee shall maintain daily records of the visible emission notations of the SS1 baghouse stack exhaust. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of a visible emission notation, (i.e. the process did not operate that day).

(~~b~~**c**) To document the compliance status with Condition D.1.7(a), the Permittee shall maintain daily records of the SS1 **and SS4** baghouse pressure drop during normal operation. The Permittee shall include in its daily record when the pressure drop reading is not taken and the reason for the lack of a pressure drop reading (e.g., the process did not operate that day).

(~~c~~**d**) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the records required by this condition.

SECTION D.2 EMISSION UNIT OPERATION CONDITIONS

Emission Unit Description ~~[326 IAC 2-8-4(10)]~~: Aluminum Foundry

(b) *Clean Charge Aluminum Foundry*, consisting of the following:

(1) One (1) manual charge handling operation, identified as CH2, constructed in 2008, with a maximum throughput capacity of 0.~~55~~**36** tons of clean charge aluminum ingots per hour, uncontrolled and exhausting inside the building;

(2) Two (2) Thermtronix electric induction melting furnaces, identified as TH1 and TH2, constructed in 2008, having a maximum throughput capacity of 0.~~275~~**18** tons of clean char aluminum (including aluminum t-bar, sow, ingot, and/or internal runarounds) per hour, each or 0.~~55~~**36** tons per hour combined, uncontrolled and exhausting inside the building. No flux is used in this operation;

(3) One (1) pouring and casting operation, identified as PC2, constructed in 2008, with a maximum throughput capacity of 0.~~55~~**36** tons of clean charge aluminum per hour, uncontrolled and exhausting inside the building;

(4) One (1) castings cooling operation, identified as CC2, constructed in 2008, with a maximum throughput capacity of 0.~~55~~**36** tons of clean charge aluminum castings per hour, uncontrolled and exhausting inside the building; and

(5) One (1) castings shakeout operation, identified as CS2, constructed in 2008, with a maximum throughput capacity of 0.~~55~~**36** tons of clean charge aluminum castings per hour, uncontrolled, and exhausting inside the building; and

(6) One (1) core making line, identified as CB2, constructed in 2008, with a maximum throughput capacity of 0.~~55~~**36** tons of clean charge aluminum castings per hour, and a maximum throughput capacity of 0.2**6**5 tons of sand per hour, using an ester phenolic n bake binder system, uncontrolled and exhausting inside the building. Note: no catalyst gas is utilized in the binder system.

Note: The maximum throughput capacity of the manual charge handling, ~~and~~ pouring and casting, castings cooling, ~~and~~ castings shakeout operations, and ~~the~~ core making line ~~is~~ **are** dependent on the combined maximum metal melt capacity of the two (2) Thermtronix electric induction melting furnaces.

...

Emission Limitations and Standards [326 IAC ~~2-8-4(1)~~**2-6.1-5(a)(1)**]

...

D.2.3 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2(e) (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from each of the units in Clean Charge Aluminum Foundry shall

not exceed the corresponding pound per hour limitations listed in the table below:

Unit ID	Emission Unit	Process Weight Rate (tons/hr)	326 IAC 6-3 Allowable Emission Rate (lbs/hour)
~~CH2~~	~~Scrap and charge handling~~	~~0.55~~	~~2.75~~
~~TH1 / TH2~~	~~Melting - electric induction furnaces~~	~~0.275 (each)~~	~~1.73 (each)~~
PC2	Pouring and casting	~~2.75~~ **6.12**	~~8.07~~ **13.81**
~~CC2~~	~~Castings cooling~~	~~2.75~~	~~8.07~~
CS2	Castings shakeout	~~2.75~~ **6.12**	~~8.07~~ **13.81**
~~CB2~~	~~Core making line~~	~~0.25~~	~~1.62~~

...

SECTION D.3 EMISSION UNIT OPERATION CONDITIONS

Emission Unit Description ~~[326 IAC 2-8-4(10)]~~: Castings Cleaning & Finishing Operations

(d) *Castings cleaning and finishing operations*, consisting of the following:

(1) One (1) Gibson steel shot table blast machine for castings cleaning & finishing, identified as TB, constructed in 2008 and approved for modification in 2013, with a maximum throughput capacity of 0.5 tons of iron or aluminum castings per hour, equipped with a Donaldson Torit dust collector, identified as DT, for particulate control, and exhausting inside the building.

(~~1~~**2**) One (1) Diso Goff steel shot blast machine for castings cleaning & finishing, identified as SB, constructed in 2008 **and approved for modification in 2013**, with a maximum throughput capacity of ~~1.5~~ **0.5** tons of iron or aluminum castings per hour, ~~equipped with a Geoff dust collector for particulate control, and exhausting to Stack # S2.~~ **equipped with a Donaldson Torit dust collector, identified as DT, for particulate control, and exhausting inside the building.**

(~~2~~**3**) One (1) Grinding Room, identified as GD, constructed in 2008 **and approved for modification in 2013**, with a maximum throughput capacity of ~~1.5~~ **0.25** tons of iron or aluminum castings per hour, ~~using a DMI dust collector for particulate control, exhausting inside the building, and consisting of the following:~~ **equipped with a Donaldson Torit dust collector, identified as DT, for particulate control, exhausting inside the building, and consisting of the following:**

(1) ~~Two~~ **Three** (~~2~~**3**) double wheel 14 inch pedestal grinders; and

(2) ~~Three~~ **Six** (~~3~~**6**) belt grinders.

(4) One (1) table saw, identified as SW, constructed in 2009, with a maximum capacity of 0.523 tons of iron or aluminum per hour, equipped with a Donaldson Torit dust collector, identified as DT, for particulate control, and exhausting inside the building.

Note: ~~the shot blast machine (SB) and grinding room (GD) serve both the Grey & Ductile Iron Foundry and the Clean Charge Aluminum Foundry. The maximum throughput capacity of each is dictated by the maximum throughput capacity of the equipment.~~ **The table blast machine (TB), shot blast machine (SB), grinding room (GD), and table saw (SW) are controlled by the same dust collector and serve both the Grey & Ductile Iron Foundry and the Clean Charge Aluminum Foundry. The maximum throughput capacity of the table blast machine, shot blast machine, and grinding**

room is dictated by the maximum throughput capacity of the equipment. The maximum throughput capacity of the table saw (SW) is limited by the maximum throughput capacity of the grey iron and ductile iron castings shakeout operation (CS1).

...

Emission Limitations and Standards [326 IAC ~~2-8-4(1)~~**2-6.1-5(a)(1)**]

D.3.1 PSD Minor Limits [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable, PM emissions from the following emission unit(s) shall not exceed the pound per hour (lb/hr) emission limits listed in the table below:

Unit ID	Unit Description	Control Device	PM Emission Limit (lbs/hr)
TB	**Castings cleaning & finishing (Table blasting) (shared)**	**Donaldson Torit dust collector (DT)**	**2.15**
SB	**Castings cleaning & finishing (Shotblasting) (shared)**		
GD	**Grinding Room (shared)**		
SW	**Table Saw (shared)**		
~~SB~~	~~Castings cleaning & finishing (Shotblasting) (shared)~~	~~Geoff dust collector~~	~~1.90~~
~~GD~~	~~Grinding Room (shared)~~	~~DMI dust collector~~	~~1.90~~

...

D.3.2 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2(e) (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from each of the units in the Castings Cleaning and Finishing Operations shall not exceed the corresponding pound per hour limitations listed in the table below:

Unit ID	Unit Description	Process Weight Rate (tons/hr)	6-3 Allowable Emission Rate (lbs/hour)
TB	**Castings Cleaning and Finishing (Table blasting) (shared)**	**0.50**	**2.58**
SB	Castings cleaning & finishing (Shotblasting) (shared)	~~1.50~~ **0.50**	~~5.38~~ **2.58**
GD	Grinding Room (shared)	~~1.50~~ **0.25**	~~5.38~~ **1.62**

...

D.3.3 Preventive Maintenance Plan [326 IAC ~~2-8-4(9)~~**1-6-3**]

A Preventive Maintenance Plan is required for ~~Diso Goff steel shot blast machine (SB) and the Grinding Room (GD)~~ **these facilities** and their associated control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

Compliance Determination Requirements

D.3.4 Particulate Control

(a) In order to comply with Conditions D.3.1, and D.3.2, the ~~Geoff~~ **Donaldson Torit** dust

collector for particulate control shall be in operation and control emissions from the **Gibson steel shot table blast machine,** Diso Goff steel shot blast machine**, Grinding Room, and Table Saw** at all times the**se** ~~shot blasting~~ process**es** ~~is~~ **are** in operation.

~~(b) In order to comply with Conditions D.3.1, and D.3.2, the DMI dust collector for particulate control shall be in operation and control emissions from the Grinding Room (GD) at all times any of the equipment in the Grinding Room is in operation.~~

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

D.3.5 Testing Requirements ~~[326 IAC 2-8-5(a)(1), (4)]~~ **[326 IAC 2-6.1-5(b)(2)]** [326 IAC 2-1.1-11]

~~(a) In order to demonstrate compliance with Conditions D.3.1 and D.3.2, the Permittee shall perform PM testing of the Geoff dust collector, serving the Diso Goff steel shot blast machine (SB), not later than 180 days after the issuance of this MSOP, No.: 081-30955-00066, utilizing methods approved by the Commissioner. These tests shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.~~

~~(b) In order to demonstrate compliance with Conditions D.3.1 and D.3.2, the Permittee shall perform PM testing of the DMI dust collector, serving the Grinding Room (GD), not later than 180 days after the issuance of this MSOP, No.: 081-30955-00066, utilizing methods approved by the Commissioner. These tests shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.~~

In order to demonstrate compliance with Conditions D.3.1 and D.3.2, the Permittee shall perform PM testing of the Donaldson Torit dust collector (DT) while the table blast machine (TB), shot blast machine (SB), grinding room (GD), and table saw (SW) are in operation at the same time and operating at maximum capacity, utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

Compliance Monitoring Requirements ~~[326 IAC 2-8-4][326 IAC 2-8-5(a)(1)]~~ **[326 IAC 2-6.1-5(a)(2)]**

~~D.3.6 Visible Emissions Notations~~

~~(a) Daily visible emission notations of the Geoff dust collector stack exhaust (stack # S2) shall be performed during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.~~

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

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

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

~~(e) If abnormal emissions are observed, the Permittee shall take a reasonable response. Section C – Response to Excursions and Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.~~

D.3.~~7~~**6** Parametric Monitoring

(a) The Permittee shall record the pressure drop across the ~~Geoff~~ **Donaldson Torit** dust collector, used in conjunction with the **Gibson steel shot table blast machine,** Diso Goff steel shot blast machine, **Grinding Room, and Table Saw,** at least once per day when the**se** ~~shot blasting~~ process**es** ~~is~~ **are** in operation. When, for any one reading, the pressure drop across the dust collector is outside of the normal range, the Permittee shall take a reasonable response. The normal range for this unit is a pressure drop between 3.0 and 5.0 inches of water, unless a different upper-bound or lower-bound value for this range is determined during the latest stack test. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the above-mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

...

~~D.3.8 Control Device Inspections~~

~~An inspection shall be performed each calendar quarter of the DMI dust collector controlling particulate emissions from the Grinding Room (GD) operations. All defective filters shall be replaced.~~

D.3.~~9~~**7** Broken or Failed Bag/Filter Detection

...

Record Keeping and Reporting Requirement [326 IAC ~~2-8-4(3)~~**2-6.1-5(a)(2)**]

D.3.~~10~~**8** Record Keeping Requirements

~~(a) To document the compliance status with Condition D.3.6, the Permittee shall maintain daily records of the visible emission notations of the Geoff dust collector stack exhaust. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of a visible emission notation, (i.e. the process did not operate that day).~~

(~~b~~**a**) To document the compliance status with Condition D.3.~~7~~**6**, the Permittee shall maintain daily records of the ~~Geoff~~ **Donaldson Torit** dust collector pressure drop during normal operation. The Permittee shall include in its daily record when the pressure drop reading is not taken and the reason for the lack of a pressure drop reading (e.g., the process did not operate that day).

~~(c) To document the compliance status with Condition D.3.8, the Permittee shall maintain records of the results of the inspections required under Condition D.3.8.~~

(~~d~~**b**) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the records required by this condition.

~~SECTION D.4 EMISSION UNIT OPERATION CONDITIONS~~

~~Emission Unit Description [326 IAC 2-8-4(10)]: Molding Making Operations~~

~~(e) *Mold Making Operations:*~~

~~Molding Making Operations, serving both the Grey & Ductile Iron Foundry and the Clean Charge Aluminum Foundry, consisting of the following:~~

~~(1) One (1) ester phenolic no-bake binder molding line, identified as ML1, constructed in 2008, utilizing an ester phenolic no-bake binder system, with a maximum throughput capacity of 1.15 tons of iron and/or aluminum per hour, and a maximum throughput capacity of 2.93 tons of sand per hour, uncontrolled and exhausting inside the building;~~

~~(2) One (1) ester phenolic no-bake binder molding line, identified as ML2, constructed in 2008, utilizing an ester phenolic no-bake binder system, with a maximum throughput capacity of 1.15 tons of iron and/or aluminum per hour, and a maximum throughput capacity of 1.95 tons of sand per hour, uncontrolled and exhausting inside the building;~~

~~Note: The maximum throughput capacity of each of the molding lines is equal to the combined maximum throughput capacities of the Grey & Ductile Iron Foundry and the Clean Charge Aluminum Foundry.~~

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

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

~~D.4.1 Particulate [326 IAC 6-3-2]~~

~~Pursuant to 326 IAC 6-3-2(e) (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from each of the units in the Molding Making Operations shall not exceed the corresponding pound per hour limitations listed in the table below:~~

~~Unit ID~~	~~Emission Unit~~	~~Process Weight Rate (tons/hr)~~	~~326 IAC 6-3 Allowable Emission Rate (lbs/hour)~~
~~ML1~~	~~Ester phenolic no-bake binder molding line~~	~~2.93~~	~~8.43~~
~~ML2~~	~~Ester phenolic no-bake binder molding line~~	~~1.95~~	~~6.41~~

~~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, or thirty (30) tons 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~~

SECTION D.5~~4~~ EMISSION UNIT OPERATION CONDITIONS

Emission Unit Description ~~[326 IAC 2-8-4(10)]~~: Solvent Cleaning

(f) Two (2) 1.0 MMBtu/hr natural gas-fired heated parts washers, identified as W1 and W2, constructed in 2008, using a maximum of 2,802.51 gallons of HAP-free solvent per year, uncontrolled and exhausting inside the building. [326 IAC 6-2-4~~,~~ **and** 326 IAC 8-3-3~~, 326 IAC 8-3-6~~]

...

Emission Limitations and Standards [326 IAC ~~2-8-4(1)~~**2-6.1-5(a)(1)**]

D.~~5~~**4**.1 Particulate Emission Limits [326 IAC 6-2]

...

D.~~5~~**4**.2 Volatile Organic Compounds (VOC) [326 IAC 8-3-3]

(a) Pursuant to 326 IAC 8-3-3**(a)** (Open Top Vapor Degreasing Operation), for open top vapor degreasing operations constructed after January 1, 1980, the Permittee shall **ensure the following control equipment and operating requirements are met**:

~~(a) Equip the open top vapor degreaser with a cover that can be opened and closed easily without disturbing the vapor zone;~~

~~(b) Keep the cover closed at all times except when processing workloads through the degreaser;~~

~~(c) Minimize solvent carry-out by:~~

~~(1) Racking parts to allow complete drainage;~~

~~(2) Moving parts in and out of the degreaser at less than eleven (11) feet per minute;~~

~~(3) Degreasing the workload in the vapor zone at least thirty (30) seconds or until condensation ceases;~~

~~(4) Tipping out any pools of solvent on the cleaned parts before removal;~~

~~(5) Allowing parts to dry within the degreaser for at least fifteen (15) seconds or until visually dry;~~

~~(d) Not degrease porous or absorbent materials, such as cloth, leather, wood or rope;~~

~~(e) Not occupy more than half of the degreaser=s open top area with the workload;~~

~~(f) Not load the degreaser such that the vapor level drops more than fifty percent (50%) of the vapor depth when the workload is removed;~~

~~(g) Never spray above the vapor level;~~

~~(h) Repair solvent leaks immediately, or shut down the degreaser;~~

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

~~(j) Not use workplace fans near the degreaser opening;~~

~~(k) Not allow visually detectable water in the solvent exiting the water separator; and~~

~~(l) Provide a permanent, conspicuous label summarizing the operating requirements.~~

(1) Equip the vapor degreaser with a cover that can be opened and closed easily without disturbing the vapor zone.

(2) Keep the cover closed at all times except when processing workloads through the degreaser.

(3) Minimize solvent carryout by:

(A) racking parts to allow complete drainage;

(B) moving parts in and out of the degreaser at less than three and three-tenths (3.3) meters per minute (eleven (11) feet per minute);

(C) degreasing the workload in the vapor zone at least thirty (30) seconds or until condensation ceases;

(D) tipping out any pools of solvent on the cleaned parts before removal; and

(E) allowing parts to dry within the degreaser for at least fifteen (15) seconds or until visually dry.

(4) Prohibit the entrance into the degreaser of porous or absorbent materials, such as cloth, leather, wood, or rope.

(5) Prohibit occupation of more than one-half (1/2) of the degreaser's open top area with the workload.

(6) Prohibit the loading of the degreaser in a manner that causes the vapor level to drop more than fifty percent (50%) of the vapor depth when the workload is removed.

(7) Prohibit solvent spraying above the vapor level.

(8) Repair solvent leaks immediately, or shut down the degreaser if leaks cannot be repaired immediately.

(9) Store waste solvent only in closed containers.

(10) Prohibit the disposal or transfer of waste solvent in a manner that could allow greater than twenty percent (20%) of the waste solvent (by weight) to evaporate into the atmosphere.

(11) Prohibit the use of workplace fans near the degreaser opening.

(12) Prohibit visually detectable water in the solvent exiting the water separator.

(13) Provide the degreaser with a permanent, conspicuous label that lists the operating requirements in subdivisions (2) through (12).

(b) Pursuant to 326 IAC 8-3-3(b) (Open Top Vapor Degreasing Operation), the Permittee shall ensure the following additional control equipment and operating requirements are met:

(1) Equip the degreaser with the following switches:

(A) A condenser flow switch and thermostat that shuts off sump heat if condenser coolant stops circulating or becomes too warm.

(B) A spray safety switch that shuts off spray pump if the vapor level drops more than ten (10) centimeters (four (4) inches).

(2) Equip the degreaser with one (1) of the following control devices:

(A) A freeboard ratio of seventy-five hundredths (0.75) or greater and a powered cover if the degreaser opening is greater than one (1) square meter (ten and eight-tenths (10.8) square feet).

(B) A refrigerated chiller.

(C) An enclosed design in which the cover opens only when the article is actually entering or exiting the degreaser.

(D) A carbon adsorption system with ventilation that, with the cover open, achieves a ventilation rate of greater than or equal to fifteen (15) cubic meters per minute per square meter (fifty (50) cubic feet per minute per square foot) of air-to-vapor interface area and an average of less than twenty-five (25) parts per million of solvent is exhausted over one (1) complete adsorption cycle.

(E) An alternative system of demonstrated equivalent or better control as those outlined in clauses (A) through (D) that is approved by the department. An alternative system shall be submitted to the U.S. EPA as a SIP revision.

(3) Prohibit the loading of the degreaser to the point where the vapor level would drop more than ten (10) centimeters (four (4) inches) when the workload is removed.

(4) Prohibit the exhaust ventilation rate from exceeding twenty (20) cubic meters per minute per square meter (sixty-five (65) cubic feet per minute per square foot) of degreaser open area unless a greater ventilation rate is necessary to meet Occupational Safety and Health Administration requirements.

(5) Ensure that the label required under subsection (a)(13) includes the additional operating requirements listed in subdivisions (3) and (4).

~~D.5.3 Volatile Organic Compounds (VOC) [326 IAC 8-3-6]~~

~~Pursuant to 326 IAC 8-3-6 (Open Top Vapor Degreaser Operation and Control Requirements), for open top vapor degreasing operations with an air to solvent interface of ten and eight-tenths (10.8) square feet or greater, constructed after July 1, 1990:~~

~~(a) The Permittee shall ensure that the following control equipment requirements are met:~~

~~(1) Equip the degreaser with a cover that can be opened and closed easily without disturbing the vapor zone.~~

~~(2) Equip the degreaser with the following switches:~~

~~(A) A condenser flow switch and thermostat which shuts off sump heat if condenser coolant stops circulating or becomes too warm.~~

~~(B) A spray safety switch which shuts off spray pump if the vapor level drops more than four (4) inches.~~

~~(3) Equip the degreaser with a permanent, conspicuous label which lists the operating requirements outlined in subsection (b).~~

~~(4) Equip the degreaser with one (1) of the following control devices:~~

~~(A) A freeboard ratio of seventy-five hundredths (0.75) or greater and a powdered cover if the degreaser opening is greater than ten and eight-tenths (10.8) square feet;~~

~~(B) A refrigerated chiller;~~

~~(C) An enclosed design in which the cover opens only when the article is actually entering or exiting the degreaser;~~

~~(D) A carbon adsorption system with ventilation which, with the cover open, achieves a ventilation rate of greater than or equal to fifty (50) cubic feet per minute per square foot of air to vapor interface area and an average of less than twenty five parts per million of solvent is exhausted over one (1) complete adsorption cycle; or~~

~~(E) Other systems of demonstrated equivalent or better control as those outlined in (A) through (D). Such systems shall be submitted to the U.S.EPA as a SIP revision.~~

~~(b) Pursuant to 326 IAC 8-3-6(b) (Open Top Vapor Degreaser Operation and Control Requirements), the Permittee shall ensure that the following operating requirements are met:~~

~~(1) Keep the cover closed at all times except when processing workloads through the degreaser.~~

~~(2) Minimize solvent carryout emissions by:~~
~~(A) Racking articles to allow complete drainage;~~

~~(B) Moving articles in and out of the degreaser at less than eleven feet per minute;~~

~~(C) Degreasing the workload in the vapor zone at least thirty (30) seconds or until condensation ceases;~~

~~(D) Tipping out any pools of solvent on the cleaned articled before removal; and~~

~~(E) Allowing articles to dry within the degreaser for at least fifteen (15) seconds or until visually dry.~~

~~(3) Prohibit the entrance into the degreaser of porous or absorbent materials such as, but not limited to, cloth, leather, wood or rope.~~

~~(4) Prohibit occupation of more than one half (2) of the degreaser=s open top area with the workload.~~

~~(5) Prohibit the loading of the degreaser to the point where the vapor level would drop more than four (4) inches when the workload is removed.~~

~~(6) Prohibit solvent spraying above the vapor level.~~

~~(7) Repair solvent leaks immediately or shut down the degreaser if leaks cannot be repaired immediately.~~

~~(8) Store waste solvent only in covered containers and prohibit the disposal transfer of waste solvent in any manner in which greater than twenty percent (20%) of the waste~~

~~solvent (by weight) could evaporate.~~

~~(9) Prohibit the exhaust ventilation rate from exceeding sixty-five cubic feet per minute per square foot of degreaser open area unless a greater ventilation rate is necessary to meet Occupational Safety and Health Administration (OSHA) requirements.~~

~~(10) Prohibit the use of workplace fans near the degreaser opening.~~

~~(11) Prohibit visually detectable water in the solvent exiting the water separator.~~

...

SECTION E.1 NESHAP REQUIREMENTS

Emissions Unit Description: Gray and Ductile Iron Foundry Operations

(a) *Grey & Ductile Iron Foundry*, consisting of the following:

(1) One (1) manual charge handling operation, identified as CH1, constructed in 2008, with a maximum throughput capacity of 0.~~60~~**523** tons of iron per hour, uncontrolled and exhausting inside the building;

(2) Two (2) Inductotherm electric induction melting furnaces, identified as IND1 and IND2, constructed in 2008, and having a maximum throughput capacity of 0.~~60~~**523** tons of gray iron or 0.~~375~~**48** tons of ductile iron per hour, respectively, with operation limited by a single power supply (only one furnace can operate at any time), uncontrolled and exhausting inside the building;

Under NESHAP ZZZZZ (5Z), the two (2) electric induction melting furnaces, identified as IND1 and IND2, are each considered an affected small foundry.

(3) One (1) magnesium treatment operation for the production of ductile iron, identified as DT1, constructed in 2008, with a maximum throughput capacity of 0.~~375~~**48** tons of iron per hour, uncontrolled and exhausting inside the building. The magnesium treatment is only used to form ductile iron;

(4) One (1) pouring and casting operation, identified as PC1, constructed in 2008, with a maximum throughput capacity of 0.~~60~~**523** tons of iron per hour, uncontrolled and exhausting inside the building;

(5) One (1) castings cooling operation, identified as CC1, constructed in 2008, with a maximum throughput capacity of 0.~~60~~**523** tons of iron castings per hour, uncontrolled and exhausting inside the building;

(6) One (1) castings shakeout operation, identified as CS1, constructed in 2008, with a maximum \ throughput capacity of 0.~~60~~**523** tons of iron castings per hour, with particulate emissions controlled by the SS1 baghouse, and exhausting to Stack # S3; and

~~(7) One (1) Gibson steel shot table blast machine for castings cleaning & finishing, identified as TB, constructed in 2008, with a maximum throughput capacity of 1.5 tons of iron or aluminum castings per hour, with particulate emissions controlled by the SS1 baghouse, and exhausting to Stack # S3;~~

~~Note: the table blast machine (TB) serves both the Grey & Ductile Iron Foundry and the Clean Charge Aluminum Foundry. The maximum throughput capacity is dictated by the maximum throughput capacity of the equipment.~~

Note: The SS1 Baghouse is a common control to the castings shakeout operation (CS1)~~, the~~

~~Gibson steel shot table blast machine (TB),~~ and ~~each of~~ the units in the shared sand system (SS), as follows:

Iron Foundry castings shakeout operation	CS1
~~Castings Cleaning and Finishing (Table blasting)~~	~~TB~~
Sand System, consisting of:	SS
Outside Sand storage silo	SS2
Inside Sand storage silo	**SS4**
Outside Sand storage silo	**SS5**
Outside Sand storage silo	**SS6**
Outside Sand storage silo	**SS7**
...	

(~~8~~7) One (1) core making line, identified as CB1, constructed in 2008, with a maximum throughput capacity of 0.~~60~~**523** tons of iron per hour, and a maximum throughput capacity of 0.~~25~~**15** tons of sand per hour, using an ester phenolic no-bake binder system, uncontrolled and exhausting inside the building. Note: no catalyst gas is utilized in the binder system.

Note: The maximum throughput capacity of the two (2) Inductotherm electric induction melting furnaces is limited by a single power supply such that only one (1) furnace can operate at a time. Additionally, the maximum throughput capacities of the manual charge handling, **electric induction melting furnaces,** ~~the~~ pouring and casting, castings cooling, ~~and castings shakeout operations,~~ and ~~the~~ core making line~~, and the magnesium treatment operation~~ are each dependent on the maximum capacity of the grey iron and ductile iron ~~melting operations, accordingly.~~ **castings shakeout operation (CS1), which is a bottleneck for all of these processes.**

...

SECTION E.2 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(c) ***Sand System:***

One (1) Sand System, identified as SS, constructed in 2008 and approved for modification in 2013, serving both the Grey & Ductile Iron Foundry and the Clean Charge Aluminum Foundry, and consisting of the following:

(4) One (1) natural gas-fired thermal sand reclamation system, identified as TSR1, approved for construction in 2013, with a maximum heat input capacity of 3.0 MMBtu/hr and maximum sand throughput of 2.0 tons per hour, equipped with one (1) baghouse, identified as SS4, for particulate control, and exhausting to stack # S4

Under 40 CFR 60, Subpart UUU, the natural gas-fired thermal sand reclamation system is an affected facility.

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

New Source Performance Standards (NSPS) Requirements [326 IAC 12-1]

E.2.1 General Provisions Relating to NSPS [326 IAC 12-1] [40 CFR 60, Subpart A]

(a) Pursuant to 40 CFR 60.1, the Permittee shall comply with the applicable provisions of 40 CFR Part 60, Subpart A - General Provisions, which are incorporated by reference as 326 IAC 12-1, except as otherwise specified in 40 CFR 60, Subpart UUU.

(b) Pursuant to 40 CFR 60.10, the Permittee shall submit all required notifications and reports to:

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

E.2.2 New Source Performance Standards (NSPS) for Calciners and Dryers in Mineral Industries [40 CFR Part 60, Subpart UUU] [326 IAC 12]

The Permittee shall comply with the applicable provisions of 40 CFR Part 60, Subpart UUU (included as Attachment B of this permit), which are incorporated by reference as 326 IAC 12, except as otherwise specified in 40 CFR Part 60, Subpart UUU:

(a) 40 CFR 60.730(a) and (c)
(b) 40 CFR 60.731
(c) 40 CFR 60.732
(d) 40 CFR 60.733
(e) 40 CFR 60.734
(f) 40 CFR 60.735(a), (c)(1) and (2), and (d)
(g) 40 CFR 60.736(a) and (b)
(h) 40 CFR 60.737

E.2.3 Testing Requirements [326 IAC 2-6.1-5(b)(2)] [326 IAC 2-1.1-11]

The Permittee shall perform the stack testing required under 40 CFR Part 60, Subpart UUU, utilizing methods as approved by the Commissioner to document compliance with Condition E.2.2. These tests shall be repeated at least once every five (5) years from the date of the last valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

...

(b) Upon further review, IDEM, OAQ has decided to make the following changes to the permit. Deleted language appears as ~~strikethrough~~ text and new language appears as **bold** text:

(1) Sections D.1, D.2, D.3, D.4, and E.1 incorrectly contain rule citations for 326 IAC 2-8 (Federally Enforceable State Operating Permit Program). Sections D.1, D.2, and D.3, and D.4 should cite 326 IAC 2-6.1 (Minor Source Operating Permit Program) and Section E.1 should cite 326 IAC 20 (Hazardous Air Pollutants). Therefore, IDEM has revised the rule citations in these sections. See previous section above for changes to Sections D.1, D.2, D.3, and D.4 (formerly D.5).

(2) IDEM, OAQ has determined that rather than having a Certification condition and various references throughout the permit as to whether a particular report, notice, or correspondence needs to include a certification, the specific conditions that require an affirmation of truth and completeness shall state so. The certification condition has been removed. All statements to whether a certification, pursuant to the former Section B - Certification, is needed or not have been removed. Section B - Credible Evidence and

Section C - Asbestos Abatement Projects still require certification as the underlying rules also require certifications.

(3) On January 30, 2013, IDEM the Indiana Air Pollution Control Board issued revisions to 326 IAC 8-3 (Organic Solvent Degreasing Operations). Therefore, IDEM has reevaluated the applicability of 326 IAC 8-3 (Organic Solvent Degreasing Operations) for the existing parts washers in Section D.4 (formerly Section D.5). See previous section for detailed changes.

(4) IDEM has revised to the MSOP Annual Notification form to correct a typographical error.

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D.2.6 Reporting Requirements

A quarterly summary of the information to document compliance status with Condition D.2.2 shall be submitted using the reporting forms located at the end of this permit, or their equivalent, not later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition. ~~The report submitted by the Permittee does require a certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).~~

...

SECTION E.1 NESHAP REQUIREMENTS

...

National Emission Standards for Hazardous Air Pollutants (NESHAPs) Requirements [326 IAC ~~2-8-4(1)~~**20-1**]

...

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).

...	
MSOP #:	~~F~~**M**081-30955-00066

I hereby certify that Innovative Casting Technologies, Inc. is :

- ☐ in compliance with the requirements of MSOP ~~F~~**M**081-30955-00066.
- ☐ not in compliance with the requirements of MSOP ~~F~~**M**081-30955-00066.

...

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 January 14, 2013.

The construction and operation of this proposed revision shall be subject to the conditions of the attached proposed MSOP Significant Permit Revision No. 081-33097-00066. The staff recommends to the Commissioner that this MSOP Significant Permit Revision be approved.

IDEM Contact

(a) Questions regarding this proposed permit can be directed to Brian Williams 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) 234-5375 or toll free at 1-800-451-6027 extension 4-5375.

(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.in.gov/idem

Appendix A: Emissions Calculations
Emission Summary of Modification

Company Name: Innovative Casting Technologies, Inc.
Address City IN Zip: 401 Blue Chip Court, Franklin, IN 46131-8825
Permit No.: 081-33097-00066
Reviewer: Brian Williams
Date: 4/17/2013

Unlimited Potential to Emit of Modification (tons/year)											
Process	**PM**	**PM10**	**PM2.5**	**SO2**	**NOx**	**VOC**	**CO**	**GHGs as CO2e**	**Total HAP**	**Worst Single HAP**	
Thermal Sand Reclamation System (TSR1)	31.54	4.73	4.73	0	0	0	0	0	0	0	
Grinding Stations*	negl.	negl.	negl.	0	0	0	0	0	negl.	negl.	
Table Saw (SW)	0.38	0.38	0.38	0	0	0	0	0	0	0	
Natural Gas Combustion	0.02	0.10	0.10	0.01	1.31	0.07	1.10	1,586	0.02	0.02	Hexane
Total	**31.94**	**5.21**	**5.21**	**0.01**	**1.31**	**0.07**	**1.10**	**1,586**	**0.02**	**0.02**	**Hexane**

* The new grinding stations will be located in the existing grinding room. The addition of these stations will not increase the maximum throughput capacity or the potential emissions. See page 10 for detailed emission calculations for the grinding room.

Appendix A: Emissions Calculations
Emission Summary

Company Name: Innovative Casting Technologies, Inc.
Address City IN Zip: 401 Blue Chip Court, Franklin, IN 46131-8825
Permit No.: 081-33097-00066
Reviewer: Brian Williams
Date: 4/17/2013

Unlimited/Uncontrolled Potential to Emit of the Entire Source (tons/year)

Emission Unit	PM	PM10	PM2.5	SO2	NOx	VOC	CO	GHGs as CO2e	Total HAPs	Worst Single HAP	
Iron Foundry											
Scrap & charge handling, heating	1.37	0.82	0.82	0	0	0	0	0	7.06E-03	5.27E-03	(lead)
Melting	2.06	1.97	1.97	0	0	0	0	0	0.07	0.05	(manganese)
Magnesium Treatment	3.78	3.78	3.78	0	0	0.01	0	0	0.09	0.09	(lead)
Pouring/Casting	9.62	4.72	4.72	0.05	0.02	0.32	13.74	0	0.05	0.04	(lead)
Castings Cooling	3.21	3.21	3.21	0	0	0	0	0	0	NA	
Castings Shakeout	7.33	5.13	5.13	0	0	2.75	0	0	0.04	0.03	(lead)
Sand System (shared)	86.72	13.01	13.01	0	0	0	0	0	0	NA	
Thermal Sand Reclamation System (TSR1)	31.54	4.73	4.73	0	0	0	0	0	0	NA	
Core Making (Ovens)	2.06	2.06	2.06	0	1.15	0.20	0	0	1.42	0.72	(MDI)
Aluminum Foundry											
Scrap & charge handling, heating	0.95	0.57	0.57	0	0	0	0	0	4.86E-03	3.63E-03	(lead)
Melting	1.42	1.36	1.36	0	0	0	0	0	0.05	0.04	(manganese)
Pouring/Casting	6.62	3.25	3.25	0.03	0.02	0.22	9.46	0	0.03	0.03	(lead)
Castings Cooling	2.21	2.21	2.21	0	0	0	0	0	0	NA	
Castings Shakeout	5.05	3.53	3.53	0	0	1.89	0	0	0.03	0.02	(lead)
Core Making (Ovens)	1.42	1.42	1.42	0	0.79	0.20	0	0	1.42	0.72	(MDI)
Mold Making	2.06	2.06	2.06	0	1.15	0	0	0	0	NA	
Castings Cleaning & Finishing (TB, SB, & GD)	93.08	9.15	9.15	0	0	0	0	0	0.14	0.06	(nickel)
Solvent Cleaning	0.61	0.61	0.61	0	0	1.22	0	0	0	NA	
Woodworking*	5.00	5.00	5.00	0	0	0	0	0	0	NA	
Natural Gas Combustion (Parts Washers and TSR1)	0.04	0.17	0.17	0.01	2.19	0.12	1.84	2,644	0.04	0.04	(hexane)
Paved Roads	0.30	0.06	0.01	0	0	0	0	0	0	NA	
Total	**266.45**	**68.81**	**68.76**	**0.09**	**5.31**	**6.94**	**25.04**	**2,644**	**3.40**	**1.44**	**(MDI)**

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

* Woodworking activities in the pattern shop include sawing, cutting, routing, and planing, for the construction of forms for use in the casting operation. Based on information submitted by the source, potential emissions are estimated at 5.0 tons of PM per year. To form a conservative estimate, it is assumed that PM10 and PM2.5 emissions are equal to PM emissions.

Potential To Emit of the Entire Source after Issuance of the MSOP (tons/year)

Emission Unit	PM	PM10	PM2.5	SO2	NOx	VOC	CO	GHGs as CO2e	Total HAPs	Worst Single HAP	
Grey & Ductile Iron Foundry											
Scrap & charge handling, heating	1.37	0.82	0.82	0	0	0	0	0	7.06E-03	5.27E-03	(lead)
Melting	2.06	1.97	1.97	0	0	0	0	0	0.07	0.05	(manganese)
Magnesium Treatment	3.78	3.78	3.78	0	0	1.05E-02	0	0	0.09	0.09	(lead)
Pouring/Casting	9.62	4.72	4.72	0.05	0.02	0.32	13.74	0	0.05	0.04	(lead)
Castings Cooling	3.21	3.21	3.21	0	0	0	0	0	0	NA	
Castings Shakeout [1]	22.51	5.13	5.13	0	0	2.75	0	0	0.04	0.03	(lead)
Sand System (shared) [1]		13.01	13.01	0	0	0	0	0	0	NA	
Thermal Sand Reclamation System (TSR1) [1]	3.20	4.73	4.73	0	0	0	0	0	0	NA	
Core Making (Ovens)	2.06	2.06	2.06	0	1.15	0.20	0	0	1.42	0.72	(MDI)
Aluminum Foundry											
Scrap & charge handling, heating [2]	0.18	0.11	0.11	0	0	0	0	0	9.23E-04	6.89E-04	(lead)
Melting [2]	0.27	0.26	0.26	0	0	0	0	0	9.68E-03	6.74E-03	(manganese)
Pouring/Casting [2]	1.26	0.62	0.62	5.99E-03	3.00E-03	0.04	1.80	0	6.46E-03	4.85E-03	(lead)
Castings Cooling [2]	0.42	0.42	0.42	0	0	0	0	0	0	NA	
Castings Shakeout [2]	0.96	0.67	0.67	0	0	0.36	0	0	4.92E-03	3.69E-03	(lead)
Core Making (Ovens) [2]	0.27	0.27	0.27	0	0.15	0.20	0	0	1.42	0.72	(MDI)
Mold Making	2.06	2.06	2.06	0	1.15	0	0	0	0	NA	
Castings Cleaning & Finishing (TB, SB, GD, and SW) [1]	9.42	9.15	9.15	0	0	0	0	0	0.14	0.06	(nickel)
Solvent Cleaning	0.61	0.61	0.61	0	0	1.22	0	0	0	NA	
Woodworking [3]	5.00	5.00	5.00	0	0	0	0	0	0	NA	
Natural Gas Combustion (Parts Washers and TSR1)	0.04	0.17	0.17	0.01	2.19	0.12	1.84	2,644	0.04	0.04	(hexane)
Paved Roads	0.30	0.06	0.01	0	0	0	0	0	0	NA	
Total	**68.61**	**58.82**	**58.78**	**0.06**	**4.66**	**5.23**	**17.38**	**2,644**	**3.31**	**1.44**	**(MDI)**

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

(1) Limited PM PTE based on lb/hr emission limitations to comply with 326 IAC 2-2 (PSD) (see page 5 and 11 of this appendix for more details). All other emission units reflect the unlimited/uncontrolled potential to emit.

(2) Limited PTE based on 40 CFR 63, Subpart ZZZZZZ, ton per year avoidance limit.

(3) Woodworking activities in the pattern shop include sawing, cutting, routing, and planing, for the construction of forms for use in the casting operation. Based on information submitted by the source, potential emissions are estimated at 5.0 tons of PM per year. To form a conservative estimate, it is assumed that PM10 and PM2.5 emissions are equal to PM emissions.

Appendix A: Emission Calculations
Grey Iron Foundry Process Emissions from the
Grey & Ductile Iron Foundry

Company Name: Innovative Casting Technologies, Inc.
Address City IN Zip: 401 Blue Chip Court, Franklin, IN 46131-8825
Permit No.: 081-33097-00066
Reviewer: Brian Williams
Date: 4/17/2013

							Maximum Annual Melt Throughput (ton/yr) 4,581
Process: **CH1** (Inductotherm 1 & 2)	Rate (tons iron/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Type of control	Control Efficiency (%)	Eac (ton/yr)
Scrap and charge handling, heating	0.523	PM	0.60	1.37	none	n/a	1.37
Source of Criteria Pollutant Factors:		PM-10	0.36	0.82	none	n/a	0.82
SCC# 3-04-003-15	*Bottlenecked by Iron Casting Shakeout capacity.*	SO2	0	0	none	n/a	0
FIRE 6.01		NOx	0	0	none	n/a	0
AP-42 Ch. 12.10		VOC	0	0	none	n/a	0
Fifth edition 1995		CO	0	0	none	n/a	0
		arsenic	8.0E-05	1.83E-04	none	n/a	1.83E-04
		cadmium	4.0E-05	9.16E-05	none	n/a	9.16E-05
		chromium	2.3E-04	5.27E-04	none	n/a	5.27E-04
		cobalt	2.0E-05	4.58E-05	none	n/a	4.58E-05
		lead	2.3E-03	5.27E-03	none	n/a	5.27E-03
		manganese	negl.	negl.	none	n/a	negl.
		nickel	4.0E-04	9.16E-04	none	n/a	9.16E-04
		selenium	1.0E-05	2.29E-05	none	n/a	2.29E-05

Process: **IND1 & IND2** (Inductotherm 1 & 2)	Rate (tons iron/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Type of control	Control Efficiency (%)	Eac (ton/yr)
Melting - Electric Induction Furnace	0.523	PM	0.90	2.06	none	n/a	2.06
Source of Criteria Pollutant Factors:		PM-10	0.86	1.97	none	n/a	1.97
EPA SCC# 3-04-003-03	*Bottlenecked by Iron Casting Shakeout capacity.*	SO2	0	0	none	n/a	0
FIRE 6.01		NOx	0	0	none	n/a	0
AP-42 Ch. 12.10		VOC	0	0	none	n/a	0
Fifth edition 1995		CO	0	0	none	n/a	0
		arsenic	8.00E-05	1.83E-04	none	n/a	1.83E-04
		cadmium	4.00E-05	9.16E-05	none	n/a	9.16E-05
		chromium	2.30E-04	5.27E-04	none	n/a	5.27E-04
		cobalt	2.00E-05	4.58E-05	none	n/a	4.58E-05
		lead	9.00E-03	0.02	none	n/a	0.02
	FIRE 6.01	manganese	2.25E-02	0.05	none	n/a	0.05
		nickel	4.00E-04	9.16E-04	none	n/a	9.16E-04
	FIRE 6.01	selenium	1.00E-05	2.29E-05	none	n/a	2.29E-05

Process: **DT1** (Inductotherm 1 & 2)	Rate (tons iron/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Type of control	Control Efficiency (%)	Eac (ton/yr)
Magnesium Treatment	0.480	PM	1.80	3.78	none	n/a	3.78
Source of Criteria Pollutant Factors:		PM-10	1.80	3.78	none	n/a	3.78
FIRE 6.01	*Dependent on max furnace capacity for ductile iron*	SO2	0	0	none	n/a	0
SCC# 3-04-003-21		NOx	0	0	none	n/a	0
AP-42 Ch 12.10		VOC	5.00E-03	0.01	none	n/a	0.01
Fifth edition 1995		CO	0	0	none	n/a	0
		lead	0.04	0.09	none	n/a	0.09

Allowable Emissions:
The following calculations determine PM compliance with 326 IAC 6-3-2 for process weight rates less than 30 tons per hour:

P= 0.48 tons/hr
limit = 4.1 x (0.48 ^0.67) = 2.51 lb/hr (allowable)

with potential:
3.78 tons/yr x 2000 lb/ton / 8760 hr/yr = 0.86 lb/hr (will comply)

Process: **PC1**	Rate (tons iron/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Type of control	Control Efficiency (%)	Eac (ton/yr)
Pouring/Casting	0.523	PM	4.20	9.62	none	n/a	9.62
Source of Criteria Pollutant Factors:		PM-10	2.06	4.72	none	n/a	4.72
FIRE 6.01	FIRE 5.0	SO2	0.02	0.05	none	n/a	0.05
SCC# 3-04-003-18	FIRE 5.0	NOx	0.01	0.02	none	n/a	0.02
(except as noted)		VOC	0.14	0.32	none	n/a	0.32
		CO**	6.00	13.74	none	n/a	13.74
	Bottlenecked by Iron Casting Shakeout capacity.	arsenic	5.50E-04	0.00	none	n/a	1.26E-03
		cadmium	2.50E-04	0.00	none	n/a	5.73E-04
		chromium	1.60E-03	0.00	none	n/a	3.67E-03
		cobalt	1.30E-04	2.98E-04	none	n/a	2.98E-04
		lead	1.62E-02	0.04	none	n/a	0.04
		manganese	negl.	negl.	none	n/a	negl.
		nickel	2.81E-03	0.01	none	n/a	0.01
		selenium	4.00E-05	9.16E-05	none	n/a	9.16E-05

** The August 11, 2006 Indiana Cast Metals Association memo contained the CO emission factor of 6.0 lbs/ton of metal poured for the combined pouring, cooling, and shakeout processes.

Allowable Emissions:
The following calculations determine PM compliance with 326 IAC 6-3-2 for process weight rates less than 30 tons per hour:

P= 6.17 tons/hr
limit = 4.1 x (6.17 ^0.67) = 13.88 lb/hr (allowable)

with potential:
9.62 tons/yr x 2000 lb/ton / 8760 hr/yr = 2.20 lb/hr (will comply)

Innovative Casting Technologies, Inc.
401 Blue Chip Court, Franklin, IN 46131-8825

Grey & Ductile Iron Foundry

Reviewer: Brian Williams
Date: 4/17/2013

Process: **CC1**	Rate (tons iron/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Type of control	Control Efficiency (%)	Eac (ton/yr)
Castings Cooling	0.523	PM	1.40	3.21	none	n/a	3.21
Source of Criteria		PM-10	1.40	3.21	none	n/a	3.21
Pollutant Factors:	**Bottlenecked by*	SO2	0	0	none	n/a	0
FIRE 6.01	*Iron Casting*	NOx	0	0	none	n/a	0
SCC# 3-04-003-25	*Shakeout capacity.*	VOC	0	0	none	n/a	0
		CO**	---	0	none	n/a	0
		Lead	---	0	none	n/a	0

** See Pouring and Casting for CO emissions

Allowable Emissions:

The following calculations determine PM compliance with 326 IAC 6-3-2 for process weight rates less than 30 tons per hour:

P= 6.17 tons/hr

limit = 4.1 x (6.17 ^0.67) = 13.88 lb/hr (allowable)

with potential:

3.21 tons/yr x 2000 lb/ton / 8760 hr/yr = 0.73 lb/hr (will comply)

Process: **CS1**	Rate (tons iron/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Type of control	Control Efficiency (%)	Eac (ton/yr)
Castings Shakeout	0.523	PM	3.20	7.33	baghouse	99%	0.07
Source of Criteria		PM-10	2.24	5.13	baghouse	99%	0.05
Pollutant Factors:	**This process*	SO2	0	0	none	n/a	0
FIRE 6.01	*bottlenecks all*	NOx	0	0	none	n/a	0
SCC# 3-04-003-31	*up and downstream*	VOC	1.20	2.75	none	n/a	2.75
AP-42 Ch. 12.10	processes	CO**	---	0	none	n/a	0
Fifth edition 1995		arsenic	4.20E-04	0.00	baghouse	99%	9.62E-06
		cadmium	1.90E-04	4.35E-04	baghouse	99%	4.35E-06
		chromium	1.22E-03	0.00	baghouse	99%	2.79E-05
		cobalt	1.00E-04	2.29E-04	baghouse	99%	2.29E-06
		lead	1.23E-02	0.03	baghouse	99%	2.82E-04
		manganese	negl.	negl.	baghouse	99%	negl.
		nickel	2.14E-03	0.00	baghouse	99%	4.90E-05
		selenium	3.00E-05	6.87E-05	baghouse	99%	6.87E-07

*Note: See the MSOP and PSD Limitations Section below.

** See Pouring and Casting for CO emissions

Allowable Emissions:

The following calculations determine PM compliance with 326 IAC 6-3-2 for process weight rates less than 30 tons per hour:

P= 6.17 tons/hr

limit = 4.1 x (6.17 ^0.67) = 13.88 lb/hr (allowable)

with potential:

7.33 tons/yr x 2000 lb/ton / 8760 hr/yr = 1.67 lb/hr (will comply)

Process: **CB1**	Rate (tons iron/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Type of control	Control Efficiency (%)	Eac (ton/yr)
Core Making (ovens)	0.523	PM	0.90	2.06	none	n/a	2.06
Source of Criteria		PM-10	0.90	2.06	none	n/a	2.06
Pollutant Factors:	**Bottlenecked by*	SO2	0	0	none	n/a	0
FIRE 6.01	*Iron Casting*	NOx	0.50	1.15	none	n/a	1.15
SCC# 3-04-003-53	*Shakeout capacity.*	VOC	---	---	none	n/a	---
		CO	---	---	none	n/a	---
		lead	---	---	none	n/a	---

Notes:

*This line is capable of processing either gray and/or ductile iron. Therefore, since this line is limited by a single power supply, for operational flexibility purposes the emissions from this line are based on the worst-case scenario where only gray iron is processed.
Ef = Emission factor
1 ton = 2000 lbs
In the absence of valid AP 42 emission factors, it is assumed that PM2.5 emissions = PM10 emissions.

Methodology:

Maximum Annual Melt Throughput (ton/yr) = [Rate (tons grey iron/hr) * 8760 hrs/yr]
Ebc = Potential Emissions before controls = Rate (units/hr) x Ef(lbs/unit) x 8760 hrs/yr / 2000 lbs/hr
Eac = Potential Emissions after controls = (1-efficiency/100) x Ebc

Innovative Casting Technologies, Inc.
401 Blue Chip Court, Franklin, IN 46131-8825

Grey & Ductile Iron Foundry

Reviewer: Brian Williams
Date: 4/17/2013

Maximum Annual Sand Throughput (ton/yr)
48,180

Process: **SS** (Sand System)	Rate (tons sand/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Type of control	Control Efficiency (%)	Eac (ton/yr)
Sand Handling	5.50	PM	3.6	86.72	baghouse	99%	0.87
Source of Criteria		PM-10	0.54	13.01	baghouse	99%	0.13
Pollutant Factors:	*Bottlenecked by	SO2	---	---	none	n/a	---
FIRE 6.01	Iron Casting	NOx	---	---	none	n/a	---
	Shakeout capacity.*	VOC	---	---	none	n/a	---
EPA SCC# 3-04-003-50		CO	---	---	none	n/a	---

*Note: See the PSD Limitations Section below.

The sand system is comprised of the sand handling, mechanical sand reclamation, and sand mixing (including both core and mold mixing) operations, and is common to both foundry lines.

Allowable Emissions:

The following calculations determine PM compliance with 326 IAC 6-3-2 for process weight rates less than 30 tons per hour:

P= 5.50 tons/hr

limit = 4.1 x (5.5 ^0.67) = 12.85 lb/hr (allowable)

with potential:

86.72 tons/yr x 2000 lb/ton / 8760 hr/yr = 19.80 lb/hr (will not comply)

with controlled:

0.87 tons/yr x 2000 lb/ton / 8760 hr/yr = 0.20 lb/hr (will comply)

Notes:

Ef = Emission factor
1 ton = 2000 lbs
In the absence of valid AP 42 emission factors, it is assumed that PM2.5 emissions = PM10 emissions.

Methodology:

Maximum Annual Sand Throughput (ton/yr) = [Rate (tons sand/hr) * 8760 hrs/yr]
Ebc = Potential Emissions before controls = Rate (units/hr) x Ef(lbs/unit) x 8760 hrs/yr / 2000 lbs/hr
Eac = Potential Emissions after controls = (1-efficiency/100) x Ebc

Process: **TSR1** (Sand System)	Rate (tons sand/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Type of control	Control Efficiency (%)	Eac (ton/yr)
Thermal Sand Reclamation System	2.00	PM	3.6	31.54	baghouse	90%	3.15
Source of Criteria		PM-10	0.54	4.73	baghouse	90%	0.47
Pollutant Factors:		SO2	---	---	none	n/a	---
FIRE 6.01		NOx	---	---	none	n/a	---
		VOC	---	---	none	n/a	---
EPA SCC# 3-04-003-50		CO	---	---	none	n/a	---

*Note: See the PSD Limitations Section below.

Allowable Emissions:

The following calculations determine PM compliance with 326 IAC 6-3-2 for process weight rates less than 30 tons per hour:

P= 2.00 tons/hr

limit = 4.1 x (2 ^0.67) = 6.52 lb/hr (allowable)

with potential:

31.54 tons/yr x 2000 lb/ton / 8760 hr/yr = 7.20 lb/hr (will not comply)

with controlled:

3.15 tons/yr x 2000 lb/ton / 8760 hr/yr = 0.72 lb/hr (will comply)

Notes:

Ef = Emission factor
1 ton = 2000 lbs
In the absence of valid AP 42 emission factors, it is assumed that PM2.5 emissions = PM10 emissions.
Rate provided by manufacturer

Methodology:

Maximum Annual Sand Throughput (ton/yr) = [Rate (tons sand/hr) * 8760 hrs/yr]
Ebc = Potential Emissions before controls = Rate (units/hr) x Ef(lbs/unit) x 8760 hrs/yr / 2000 lbs/hr
Eac = Potential Emissions after controls = (1-efficiency/100) x Ebc

PSD Limitations

Process:	Control Device	Stack	Limited PM Emission Rate (lb/hr)	Limited PM Emissions (ton/yr)	Minimum Control Efficiency required for compliance (%)	Controlled PM Emissions (ton/yr)
Line 1 Castings Shakeout (CS1)*	Baghouse (SS1)	S3	5.14	**22.51**	76.1%	0.94
Sand System (SS)*						
Thermal Sand Reclamation System (TSR1)**	Baghouse (SS4)	S4	0.73	**3.20**	89.9%	3.15

Notes:

*A control efficiency of at least 76.1% is required for the source to comply with the PSD limitation. Therefore, testing is required to confirm proper operation of the device and to ensure compliance with the limit.

*A control efficiency of at least 89.9% is required for the source to comply with the PSD limitation. Therefore, testing is required to confirm proper operation of the device and to ensure compliance with the limit.

Methodology:

Limited Emission Rate (lbs/hr) provided by the source.
Limited Emissions = Σ (Limited Emission Rate (lb/hr) x 8760 hrs/yr / 2000 lbs/ton)
Controlled Emissions = Σ [(Unlimited Emission Rate (lb/hr) x 8760 hrs/yr / 2000 lbs/ton) * (1 - Control Efficiency (%))]

Appendix A: Emission Calculations
Grey Iron Foundry Process Emissions from the
Clean Charge Aluminum Foundry

Company Name: **Innovative Casting Technologies, Inc.**
Address City IN Zip: **401 Blue Chip Court, Franklin, IN 46131-8825**
Permit No.: **081-33097-00066**
Reviewer: **Brian Williams**
Date: **4/17/2013**

							Maximum Annual Melt Throughput (ton/yr) 3,154	Limited Annual Melt Throughput for Subpart ZZZZZZ Avoidance (ton/yr) 599
Process: **CH2** (Thermtronix 1 & 2)	Rate (tons iron/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Type of control	Control Efficiency (%)	Eac (ton/yr)	Limited Emissions (ton/yr)
Scrap and charge handling, heating	0.36	PM	0.60	0.95	none	n/a	0.95	0.18
Source of Criteria Pollutant Factors:	*Dependent on max furnace capacity*	PM-10	0.36	0.57	none	n/a	0.57	0.11
SCC# 3-04-003-15		SO2	0	0	none	n/a	0	0
FIRE 6.01		NOx	0	0	none	n/a	0	0
AP-42 Ch. 12.10		VOC	0	0	none	n/a	0	0
Fifth edition 1995		CO	0	0	none	n/a	0	0
		arsenic	8.0E-05	1.26E-04	none	n/a	1.26E-04	2.40E-05
		cadmium	4.0E-05	6.31E-05	none	n/a	6.31E-05	1.20E-05
		chromium	2.3E-04	3.63E-04	none	n/a	3.63E-04	6.89E-05
		cobalt	2.0E-05	3.15E-05	none	n/a	3.15E-05	5.99E-06
		lead	2.3E-03	3.63E-03	none	n/a	3.63E-03	6.89E-04
		manganese	negl.	negl.	none	n/a	negl.	0
		nickel	4.0E-04	6.31E-04	none	n/a	6.31E-04	1.20E-04
		selenium	1.0E-05	1.58E-05	none	n/a	1.58E-05	3.00E-06

Process: **TH1 & TH2** (Thermtronix 1 & 2)	Rate (tons iron/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Type of control	Control Efficiency (%)	Eac (ton/yr)	Limited Emissions (ton/yr)
Melting - Electric Induction Furnace	0.36	`	0.90	1.42	none	n/a	1.42	0.27
Source of Criteria Pollutant Factors:	*2 ovens @ 0.18 tph each*	PM-10	0.86	1.36	none	n/a	1.36	0.26
EPA SCC# 3-04-003-03		SO2	0	0	none	n/a	0	0
FIRE 6.01		NOx	0	0	none	n/a	0	0
AP-42 Ch. 12.10		VOC	0	0	none	n/a	0	0
Fifth edition 1995		CO	0	0	none	n/a	0	0
		arsenic	8.0E-05	1.26E-04	none	n/a	1.26E-04	2.40E-05
		cadmium	4.0E-05	6.31E-05	none	n/a	6.31E-05	1.20E-05
		chromium	2.3E-04	3.63E-04	none	n/a	3.63E-04	6.89E-05
		cobalt	2.0E-05	3.15E-05	none	n/a	3.15E-05	5.99E-06
		lead	9.0E-03	0.01	none	n/a	0.01	2.70E-03
	FIRE 6.01	manganese	2.3E-02	0.04	none	n/a	0.04	6.74E-03
		nickel	4.0E-04	6.31E-04	none	n/a	6.31E-04	1.20E-04
	FIRE 6.01	selenium	1.0E-05	1.58E-05	none	n/a	1.58E-05	3.00E-06

Process: **PC2**	Rate (tons iron/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Type of control	Control Efficiency (%)	Eac (ton/yr)	Limited Emissions (ton/yr)
Pouring/Casting	0.36	PM	4.20	6.62	none	n/a	6.62	1.26
Source of Criteria		PM-10	2.06	3.25	none	n/a	3.25	0.62
Pollutant Factors:	FIRE 5.0	SO2	0.02	0.03	none	n/a	0.03	5.99E-03
FIRE 6.01	FIRE 5.0	NOx	0.01	0.02	none	n/a	0.02	3.00E-03
SCC# 3-04-003-18	FIRE 5.0	VOC	0.14	0.22	none	n/a	0.22	0.04
(except as noted)		CO**	6.00	9.46	none	n/a	9.46	1.80
	Dependent on max furnace capacity	arsenic	5.50E-04	8.67E-04	none	n/a	8.67E-04	1.65E-04
		cadmium	2.50E-04	3.94E-04	none	n/a	3.94E-04	7.49E-05
		chromium	1.60E-03	2.52E-03	none	n/a	2.52E-03	4.80E-04
		cobalt	1.30E-04	2.05E-04	none	n/a	2.05E-04	3.90E-05
		lead	1.62E-02	0.03	none	n/a	0.03	4.85E-03
		manganese	negl.	negl.	none	n/a	negl.	0
		nickel	2.81E-03	4.43E-03	none	n/a	4.43E-03	8.42E-04
		selenium	4.00E-05	6.31E-05	none	n/a	6.31E-05	1.20E-05

** The August 11, 2006 Indiana Cast Metals Association memo contained the CO emission factor of 6.0 lbs/ton of metal poured for the combined pouring, cooling, and shakeout processes.

Allowable Emissions:

The following calculations determine PM compliance with 326 IAC 6-3-2 for process weight rates less than 30 tons per hour:

P= 6.12 tons/hr

limit = 4.1 x (6.1246 ^0.67) = 13.81 lb/hr (allowable)

with potential:

6.62 tons/yr x 2000 lb/ton / 8760 hr/yr = 1.51 lb/hr (will comply)

Innovative Casting Technologies, Inc.
401 Blue Chip Court, Franklin, IN 46131-8825

Clean Charge Aluminum Foundry

Reviewer: Brian Williams
Date: 4/17/2013

Process: **CC2**	Rate (tons iron/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Type of control	Control Efficiency (%)	Eac (ton/yr)	Limited Emissions (ton/yr)
Castings Cooling	0.36	PM	1.40	2.21	none	n/a	2.21	0.42
Source of Criteria		PM-10	1.40	2.21	none	n/a	2.21	0.42
Pollutant Factors:	*Dependent on*	SO2	0	0	none	n/a	0	0
FIRE 6.01	*max furnace*	NOx	0	0	none	n/a	0	0
SCC# 3-04-003-25	*capacity*	VOC	0	0	none	n/a	0	0
		CO**	---	0	none	n/a	0	0
		lead	---	0	none	n/a	0	0

** See Pouring and Casting for CO emissions

Process: **CS2**	Rate (tons iron/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Type of control	Control Efficiency (%)	Eac (ton/yr)	Limited Emissions (ton/yr)
Castings Shakeout	0.36	PM	3.20	5.05	none	n/a	5.05	0.96
Source of Criteria		PM-10	2.24	3.53	none	n/a	3.53	0.67
Pollutant Factors:	*Dependent on*	SO2	0	0	none	n/a	0	0
FIRE 6.01	*max furnace*	NOx	0	0	none	n/a	0	0
SCC# 3-04-003-31	*capacity*	VOC	1.20	1.89	none	n/a	1.89	0.36
AP-42 Ch. 12.10		CO**	---	0	none	n/a	0	0
Fifth edition 1995		arsenic	4.20E-04	6.62E-04	none	n/a	6.62E-04	1.26E-04
		cadmium	1.90E-04	3.00E-04	none	n/a	3.00E-04	5.70E-05
		chromium	1.22E-03	1.92E-03	none	n/a	1.92E-03	3.66E-04
		cobalt	1.00E-04	1.58E-04	none	n/a	1.58E-04	3.00E-05
		lead	1.23E-02	0.02	none	n/a	0.02	3.69E-03
		manganese	negl.	negl.	none	n/a	negl.	0
		nickel	2.14E-03	3.37E-03	none	n/a	3.37E-03	6.41E-04
		selenium	3.00E-05	4.73E-05	none	n/a	4.73E-05	8.99E-06

** See Pouring and Casting for CO emissions

Allowable Emissions:

The following calculations determine PM compliance with 326 IAC 6-3-2 for process weight rates less than 30 tons per hour:

P= 6.12 tons/hr

limit = 4.1 x (6.1246 ^0.67) = 13.81 lb/hr (allowable)

with potential:

5.05 tons/yr x 2000 lb/ton / 8760 hr/yr = 1.15 lb/hr (will comply)

Process: **CB2**	Rate (tons iron/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Type of control	Control Efficiency (%)	Eac (ton/yr)	Limited Emissions (ton/yr)
Core Making (ovens)	0.36	PM	0.90	1.42	none	n/a	1.42	0.27
Source of Criteria		PM-10	0.90	1.42	none	n/a	1.42	0.27
Pollutant Factors:		SO2	0	0	none	n/a	0	0
FIRE 6.01		NOx	0.50	0.79	none	n/a	0.79	0.15
SCC# 3-04-003-53		VOC	---	---	none	n/a	---	---
		CO	---	---	none	n/a	---	---
		lead	---	---	none	n/a	---	---

Notes:

This line only processes clean charge aluminum.
Ef = Emission factor
1 ton = 2000 lbs
In the absence of valid AP 42 emission factors, it is assumed that PM2.5 emissions = PM10 emissions.

Methodology:

Maximum Annual Melt Throughput (ton/yr) = [Rate (tons sand/hr) * 8760 hrs/yr]
Ebc = Potential Emissions before controls = Rate (units/hr) x Ef(lbs/unit) x 8760 hrs/yr / 2000 lbs/hr
Eac = Potential Emissions after controls = (1-efficiency/100) x Ebc

Appendix A: Emission Calculations
Grey Iron Foundry Emissions from the
No-Bake Mold Making Processes

Company Name: **Innovative Casting Technologies, Inc.**
Address City IN Zip: **401 Blue Chip Court, Franklin, IN 46131-8825**
Permit No.: **081-33097-00066**
Reviewer: **Brian Williams**
Date: **4/17/2013**

Process: **ML1 and ML2** (molding line 1 and 2)	Rate (tons iron/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Type of control	Control Efficiency (%)	Eac (ton/yr)
Mold Making	0.523	PM	0.90	2.06	none	n/a	2.06
Source of Criteria		PM-10	0.90	2.06	none	n/a	2.06
Pollutant Factors:	**Bottlenecked by*	SO2	0	0	none	n/a	0
FIRE 6.01	*Iron Casting*	NOx	0.50	1.15	none	n/a	1.15
SCC# 3-04-003-53	*Shakeout capacity.*	VOC	---	---	none	n/a	---
		CO	---	---	none	n/a	---
		lead	---	---	none	n/a	---

Allowable Emissions:

The following calculations determine PM compliance with 326 IAC 6-3-2 for process weight rates less than 30 tons per hour:

P= 5.08 tons/hr

limit = 4.1 x (5.1 ^0.67) = 12.18 lb/hr (allowable)

with potential:

2.06 tons/yr x 2000 lb/ton / 8760 hr/yr = 0.47 lb/hr (will comply)

Notes:

*The mold making operation serves both the gray and ductile iron foundry and the aluminum foundry.
Ef = Emission factor
1 ton = 2000 lbs
In the absence of valid AP 42 emission factors, it is assumed that PM2.5 emissions = PM10 emissions.

Methodology:

Maximum Annual Melt Throughput (ton/yr) = [Rate (tons grey iron/hr + tons aluminum/hr) * 8760 hrs/yr]
Ebc = Potential Emissions before controls = Rate (units/hr) x Ef(lbs/unit) x 8760 hrs/yr / 2000 lbs/hr
Eac = Potential Emissions after controls = (1-efficiency/100) x Ebc

Appendix A: Emission Calculations
Grey Iron Foundry Emissions
Volatile Organic Compound (VOC) and Hazardous Air Pollutant (HAP) Emissions
for the Iron and Aluminum Foundries, Combined, from the
No-Bake Mold and Core Making Processes

Company Name: **Innovative Casting Technologies, Inc.**
Address City IN Zip: **401 Blue Chip Court, Franklin, IN 46131-8825**
Permit No.: **081-33097-00066**
Reviewer: **Brian Williams**
Date: **4/17/2013**

Volatile Organic Compound (VOC)

Material	Density (lbs/gal)	Potential Usage (gal/yr)	Weight % VOC	Maximum VOC (lb/yr)	Potential VOC (tons/yr)
Phenolic Resin	10.02	409.5	99.3%	406.46	0.20

Notes:
The phenolic resin binder usage is 0.85% of the sand usage, or 0.0085 lbs of binder per lb of sand.
To form a conservative estimate, the weight % VOC is assumed to be the SUM(Weight % HAPS) plus the Weight % solvents in the resin.

Methodology:
Potential Usage (gal/yr) = [Potential Sand Throughput Rate (tons/hr) * 8760 hrs/yr * ratio of binder to sand (0.85/100)]
Potential VOC (lb/yr) = [Lbs VOC/Gal of coating * Potential Usage (Gal/yr)]
Potential VOC (tons/yr) = [Lbs VOC/Gal of coating * Potential Usage (Gal/yr) * 1 ton/ 2000 lbs]

Hazardous Air Pollutant (HAP) Emissions

Material	Density (lbs/gal)	Potential Usage (gal/yr)	Weight % Cumene	Weight % MDI	Weight % Napthalene	Weight % Phenol	Weight % Xylenes	Cumene Emissions (tons/yr)	MDI Emissions (tons/yr)	Napthalene Emissions (tons/yr)	Phenol Emissions (tons/yr)	Xylene Emissions (tons/yr)
Phenolic Resin	10.02	409.5	5.0%	35.0%	16.0%	6.5%	6.8%	0.10	0.72	0.33	0.13	0.14

Total HAPs	1.42	tons/yr

Notes:
MDI = Methylene bis(phenylisocyanate)
The phenolic resin binder usage is 0.85% of the sand usage, or 0.0085 lbs of binder per lb of sand.
The data listed here is a composite of the worst-case characteristics of all the resins used at the source, and was taken from MSDSs provided by the source.
According to 40 CFR 63, Table 1. Default Organic HAP Mass Fraction for Solvents and Solvent Blends, the aromatic petroleum distillate (CAS 64742-94-5) contains 10% Napthalene.
According to 40 CFR 63, Table 1. Default Organic HAP Mass Fraction for Solvents and Solvent Blends, the aromatic petroleum distillate (CAS 64742-95-6) contains 5% Xylenes.

Methodology:
Potential Usage (gal/yr) = [Potential Sand Throughput Rate (tons/hr) * 8760 hrs/yr * ratio of binder to sand (0.85/100)]
HAP Emissions (tons/yr) = [Density (Lb/Gal) * Potential Usage (Gal/yr) * Weight % HAP]

Appendix A: Emission Calculations
Process Emissions from the Castings Cleaning and Finishing Operations
common to the Iron and Aluminum Foundries, combined.

Company Name: Innovative Casting Technologies, Inc.
Address City IN Zip: 401 Blue Chip Court, Franklin, IN 46131-8825
Permit No.: 081-33097-00066
Reviewer: Brian Williams
Date: 4/17/2013

Process: TB (Tableblasting)	Rate (tons iron/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Type of control	Control Efficiency (%)	Eac (ton/yr)
Castings Cleaning	0.50	PM	17.00	37.23	baghouse	90.0%	3.72
and Finishing		PM-10	1.70	3.72	baghouse	90.0%	0.37
Source of Criteria		SO2	0	0.00	none	n/a	0
Pollutant Factors:		NOx	0	0.00	none	n/a	0
FIRE 6.01		VOC	0	0.00	none	n/a	0
SCC# 3-04-003-40		CO	0	0.00	none	n/a	0
AP-42 Ch. 12.10		arsenic	2.21E-03	0.00	baghouse	90.0%	4.84E-04
Fifth edition 1995		cadmium	1.02E-03	0.00	baghouse	90.0%	2.23E-04
		chromium	6.46E-03	0.01	baghouse	90.0%	1.41E-03
		cobalt	5.10E-04	1.12E-03	baghouse	90.0%	1.12E-04
		lead	4.50E-03	0.01	baghouse	90.0%	9.86E-04
		manganese	negl.	negl.	baghouse	90.0%	negl.
		nickel	1.14E-02	0.02	baghouse	90.0%	2.49E-03
		selenium	1.70E-04	3.72E-04	baghouse	90.0%	3.72E-05

*Note: See the PSD Limitations Section below.

Allowable Emissions:
The following calculations determine PM compliance with 326 IAC 6-3-2 for process weight rates less than 30 tons per hour:

0.50 tons/hr
4.1 x (0.50 ^0.67) = 2.58 lb/hr (allowable)

with potential:
37.23 tons/yr x 2000 lb/ton / 8760 hr/yr = 8.50 lb/hr (will not comply)

with controlled:
3.72 tons/yr x 2000 lb/ton / 8760 hr/yr = 0.85 lb/hr (will comply)

Process: SB (Shotblast)	Rate (tons iron/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Type of control	Control Efficiency (%)	Eac (ton/yr)
Castings Cleaning	0.50	PM	17.00	37.23	baghouse	90.0%	3.72
and Finishing		PM-10	1.70	3.72	baghouse	90.0%	0.37
Source of Criteria		SO2	0	0	none	n/a	0
Pollutant Factors:		NOx	0	0	none	n/a	0
FIRE 6.01		VOC	0	0	none	n/a	0
SCC# 3-04-003-40		CO	0	0	none	n/a	0
AP-42 Ch. 12.10		arsenic	2.21E-03	0.00	baghouse	90.0%	4.84E-04
Fifth edition 1995		cadmium	1.02E-03	0.00	baghouse	90.0%	2.23E-04
		chromium	6.46E-03	0.01	baghouse	90.0%	1.41E-03
		cobalt	5.10E-04	1.12E-03	baghouse	90.0%	1.12E-04
		lead	4.50E-03	0.01	baghouse	90.0%	9.86E-04
		manganese	negl.	negl.	baghouse	90.0%	negl.
		nickel	1.14E-02	0.02	baghouse	90.0%	2.49E-03
		selenium	1.70E-04	3.72E-04	baghouse	90.0%	3.72E-05

*Note: See the PSD Limitations Section below.

Allowable Emissions:
The following calculations determine PM compliance with 326 IAC 6-3-2 for process weight rates less than 30 tons per hour:

0.50 tons/hr
4.1 x (0.5 ^0.67) = 2.58 lb/hr (allowable)

with potential:
37.23 tons/yr x 2000 lb/ton / 8760 hr/yr = 8.50 lb/hr (will not comply)

with controlled:
3.72 tons/yr x 2000 lb/ton / 8760 hr/yr = 0.85 lb/hr (will comply)

Innovative Casting Technologies, Inc.
401 Blue Chip Court, Franklin, IN 46131-8825

Castings Cleaning and Finishing Operations

Reviewer: Brian Williams
Date: 4/17/2013

Process: **GD** (Grinding Room)	Rate (tons iron/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Type of control	Control Efficiency (%)	Eac (ton/yr)
Castings Cleaning	0.25	PM	17.00	18.62	baghouse	90.0%	1.86
and Finishing		PM-10	1.70	1.86	baghouse	90.0%	0.19
Source of Criteria		SO2	0	0	none	n/a	0
Pollutant Factors:		NOx	0	0	none	n/a	0
FIRE 6.01		VOC	0	0	none	n/a	0
SCC# 3-04-003-40		CO	0	0	none	n/a	0
AP-42 Ch. 12.10		arsenic	2.21E-03	0.00	baghouse	90.0%	2.42E-04
Fifth edition 1995		cadmium	1.02E-03	0.00	baghouse	90.0%	1.12E-04
		chromium	6.46E-03	0.01	baghouse	90.0%	7.07E-04
		cobalt	5.10E-04	5.58E-04	baghouse	90.0%	5.58E-05
		lead	4.50E-03	0.00	baghouse	90.0%	4.93E-04
		manganese	negl.	negl.	baghouse	90.0%	negl.
		nickel	1.14E-02	0.01	baghouse	90.0%	1.25E-03
		selenium	1.70E-04	1.86E-04	baghouse	90.0%	1.86E-05

*Note: See the PSD Limitations Section below.

Allowable Emissions:

The following calculations determine PM compliance with 326 IAC 6-3-2 for process weight rates less than 30 tons per hour:

0.25 tons/hr

4.1 x (0.25 ^0.67) = 1.62 lb/hr (allowable)

with potential:

18.62 tons/yr x 2000 lb/ton / 8760 hr/yr = 4.25 lb/hr (will not comply)

with controlled:

1.86 tons/yr x 2000 lb/ton / 8760 hr/yr = 0.43 lb/hr (will comply)

Process: **SW** (Table Saw)	Rate (tons iron/hr)	Pollutant	Ef (lb/ton produced)	Ebc (ton/yr)	Type of control	Control Efficiency (%)	Eac (ton/yr)
Castings Finishing	0.523	PM	0.35	0.38	baghouse	90.0%	0.04
		PM-10	0.35	0.38	baghouse	90.0%	0.04
Source of Criteria	*Bottlenecked by	SO2	0	0	none	n/a	0
Pollutant Factors:	*Iron Casting	NOx	0	0	none	n/a	0
FIRE 6.01	*Shakeout capacity.*	VOC	0	0	none	n/a	0
SCC# 3-07-008-02		CO	0	0	none	n/a	0
		arsenic	0	0	baghouse	n/a	0
		cadmium	0	0	baghouse	n/a	0
		chromium	0	0	baghouse	n/a	0
		cobalt	0	0	baghouse	n/a	0
		lead	0	0	baghouse	n/a	0
		manganese	0	0	baghouse	n/a	0
		nickel	0	0	baghouse	n/a	0
		selenium	0	0	baghouse	n/a	0

*Note: See the PSD Limitations Section below.

**No emission factors are available for metal sawing. SCC 3-07-008-02 (WebFire) for log sawing was used to approximate emissions from this activity.

Allowable Emissions:

The following calculations determine PM compliance with 326 IAC 6-3-2 for process weight rates less than 30 tons per hour:

0.52 tons/hr

4.1 x (0.52 ^0.67) = 2.66 lb/hr (allowable)

with potential:

0.38 tons/yr x 2000 lb/ton / 8760 hr/yr = 0.09 lb/hr (will comply)

with controlled:

0.04 tons/yr x 2000 lb/ton / 8760 hr/yr = 0.01 lb/hr (will comply)

Notes:

The table blast machine (TB), shot blast machine (SB), grinding room (GD), and table saw (SW) are controlled by one donaldson torit dust collector, which exhausts inside the building.
Ef = Emission factor
1 ton = 2000 lbs

In the absence of valid AP 42 emission factors, it is assumed that PM2.5 emissions = PM10 emissions.

Methodology:

Maximum Annual Throughput (ton/yr) = [Rate (tons iron/hr) * 8760 hrs/yr]
Ebc = Potential Emissions before controls = Rate (units/hr) x Ef(lbs/unit) x 8760 hrs/yr / 2000 lbs/hr
Eac = Potential Emissions after controls = (1-efficiency/100) x Ebc

PSD Limitations

Process:	Control Device	Limited PM Emission Rate (lb/hr)	Limited PM Emissions (ton/yr)	Minimum Control Efficiency required for compliance (%)	Controlled PM Emissions (ton/yr)
Table blasting (TB)	Donaldson Torit Dust Collector	2.15	9.42	89.9%	9.31
Shotblasting (SB)					
Grinding Room (GD)					
Cutoff Saw (SW)					
		Total:	**9.42**		**9.31**

Notes:

The table blast machine (TB), shot blast machine (SB), grinding room (GD), and table saw (SW) are controlled by one donaldson torit dust collector, which exhausts inside the building.
A control efficiency of at least 89.9% is required for the source to comply with the PSD limitations. Therefore, testing is required to confirm proper operation of each device and to ensure compliance with the limit.

Methodology:

Limited Emission Rate (lbs/hr) = provided by the source.
Limited Emissions = Limited Emission Rate (lb/hr) x 8760 hrs/yr / 2000 lbs/ton

Appendix A: Emission Calculations
Grey Iron Foundry Emissions
Volatile Organic Compound (VOC) and Hazardous Air Pollutant (HAP) Emissions
from the production related use of surface coatings and solvents

Company Name: Innovative Casting Technologies, Inc.
Address City IN Zip: 401 Blue Chip Court, Franklin, IN 46131-8825
Permit No.: 081-33097-00066
Reviewer: Brian Williams
Date: 4/17/2013

Material	Unit ID	Density (Lb/Gal)	Weight % Organics	Lbs VOC/Gal of coating	Potential Usage (Gal/yr)	Potential VOC (lb/yr)	Potential VOC (tons/yr)	Potential Particulate (tons/yr)
Kleen-Eze 115	W1 & W2	8.68	10%	0.87	2,802.51	2,438.18	1.22	0.61
						TOTAL	**1.22**	**0.61**

Notes:
PM = PM10 = PM2.5
The transfer efficiency is assumed 75%.
Potential Usage (Gal/yr) provided by the source.
According to the MSDS submitted by the source, the Kleen-Eze is HAP-free.

Methodology:
Potential VOC (lb/yr) = [Lbs VOC/Gal of coating * Potential Usage (Gal/yr)]
Potential VOC (tons/yr) = [Lbs VOC/Gal of coating * Potential Usage (Gal/yr) * 1 ton/ 2000 lbs]
Potential Particulate (tons/yr) = [Density (lbs/gal) * Potential Usage (gal/yr) * (1- Weight % Volatiles) * (1-Transfer efficiency) * (1 ton/2000 lbs)]

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
for the two (2) heated wash units

Company Name: Innovative Casting Technologies, Inc.
Address City IN Zip: 401 Blue Chip Court, Franklin, IN 46131-8825
Permit No.: 081-33097-00066
Reviewer: Brian Williams
Date: 4/17/2013

Heat Input Capacity MMBtu/hr *(2 @ 1.0 MMBtu/hr each)*	HHV* mmBtu / mmscf	Potential Throughput MMCF/yr
2.0	1000	17.5

	Pollutant						
	PM*	PM10*	PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	7.6	0.6	100 **see below	5.5	84
Potential Emission in tons/yr	0.017	0.067	0.067	0.005	0.88	0.048	0.74

Notes:
* HHV = default high heat value of the fuel.
**PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
PM2.5 emission factor is filterable and condensable PM2.5 combined.
***Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

	HAPs - Organics				
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	1.840E-05	1.051E-05	6.570E-04	0.016	2.978E-05

	HAPs - Metals				
	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	4.380E-06	9.636E-06	1.226E-05	3.329E-06	1.840E-05

Total HAPs	0.017	tons/yr

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

Methodology:
All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
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
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

	Greenhouse Gas		
	CO2	CH4	N2O
Emission Factor in lb/MMcf	120,000	2.3	2.2
Potential Emission in tons/yr	1,051	0.0	0.0
Summed Potential Emissions in tons/yr	1,051		
CO2e Total in tons/yr	**1,058**		

Methodology:
The N2O Emission Factor for uncontrolled is 2.2. The N2O Emission Factor for low Nox burner is 0.64.
Emission Factors are from AP 42, Table 1.4-2 SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03.
Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
for the thermal sand reclamation system (TSR1)

Company Name: Innovative Casting Technologies, Inc.
Address City IN Zip: 401 Blue Chip Court, Franklin, IN 46131-8825
Permit No.: 081-33097-00066
Reviewer: Brian Williams
Date: 4/17/2013

Heat Input Capacity MMBtu/hr	HHV* mmBtu/mmscf	Potential Throughput MMCF/yr
3.0	1000	26.3

	Pollutant						
	PM*	PM10*	PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	7.6	0.6	100 **see below	5.5	84
Potential Emission in tons/yr	0.025	0.100	0.100	0.008	1.31	0.072	1.10

Notes:
* HHV = default high heat value of the fuel.
**PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
PM2.5 emission factor is filterable and condensable PM2.5 combined.
***Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

	HAPs - Organics				
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	2.759E-05	1.577E-05	9.855E-04	0.024	4.468E-05

	HAPs - Metals				
	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	6.570E-06	1.445E-05	1.840E-05	4.993E-06	2.759E-05

Total HAPs	0.025	tons/yr

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

Methodology:
All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
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
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

	Greenhouse Gas		
	CO2	CH4	N2O
Emission Factor in lb/MMcf	120,000	2.3	2.2
Potential Emission in tons/yr	1,577	0.0	0.0
Summed Potential Emissions in tons/yr	1,577		
CO2e Total in tons/yr	**1,586**		

Methodology:
The N2O Emission Factor for uncontrolled is 2.2. The N2O Emission Factor for low Nox burner is 0.64.
Emission Factors are from AP 42, Table 1.4-2 SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03.
Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

Appendix A: Emission Calculations
Fugitive Dust Emissions from Paved Roads

Company Name: Innovative Casting Technologies, Inc.
Address City IN Zip: 401 Blue Chip Court, Franklin, IN 46131-8825
Permit No.: 081-33097-00066
Reviewer: Brian Williams
Date: 4/17/2013

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 (1/2011).

Vehicle Informtation (provided by source)

Type	Maximum number of vehicles per day	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)	10.0	1.0	10.0	16.0	160.0	500	0.095	0.9	345.6
Vehicle (leaving plant) (one-way trip)	10.0	1.0	10.0	5.0	50.0	500	0.095	0.9	345.6
		Totals	**20.0**		**210.0**			**1.9**	**691.3**

Average Vehicle Weight Per Trip = 10.5 tons/trip
Average Miles Per Trip = 0.09 miles/trip

Unmitigated Emission Factor, Ef = [k * (sL)^0.91 * (W)^1.02] (Equation 1 from AP-42 13.2.1)

	PM	PM10	PM2.5	
where k =	0.011	0.0022	0.00054	lb/VMT = particle size multiplier (AP-42 Table 13.2.1-1)
W =	10.5	10.5	10.5	tons = average vehicle weight (provided by source)
sL =	9.7	9.7	9.7	g/m^2 = silt loading value for paved roads at iron and steel production facilities - Table 13.2.1-3)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, Eext = E * [1 - (p/4N)] (Equation 2 from AP-42 13.2.1)
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	PM2.5	
Unmitigated Emission Factor, Ef =	0.957	0.191	0.0470	lb/mile
Mitigated Emission Factor, Eext =	0.875	0.175	0.0430	lb/mile

Process	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)
Vehicle (entering plant) (one-way trip)	0.17	0.03	8.12E-03	0.15	0.03	7.43E-03
Vehicle (leaving plant) (one-way trip)	0.17	0.03	8.12E-03	0.15	0.03	7.43E-03
Totals	**0.33**	**0.07**	**0.02**	**0.30**	**0.06**	**0.01**

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)

Abbreviations:
PM = Particulate Matter
PM10 = Particulate Matter (<10 um)
PM2.5 = Particle Matter (<2.5 um)
PTE = Potential to Emit

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We Protect Hoosiers and Our Environment.
100 N. Senate Avenue • Indianapolis, IN 46204
(800) 451-6027 • (317) 232-8603 • www.idem.IN.gov

Michael R. Pence
Governor

Thomas W. Easterly
Commissioner

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

TO: Melissa Stevenson
Innovative Casting Technologies, Inc.
401 Blue Chip Court
Franklin, IN 46131

DATE: July 26, 2013

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

SUBJECT: Final Decision
Significant Permit Revision
081-33097-00066

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:
Jack Laugle - Owner
Julie Delp – Wilcox Environmental Engineering
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.

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Michael R. Pence
Governor

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Commissioner

July 26, 2013

TO: Johnson county Library

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

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

Applicant Name: **Innovative Casting Technologies, Inc.**
Permit Number: **081-33097-00066**

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 6/13/2013

Mail Code 61-53

IDEM Staff	GHOTOPP 7/26/2013 Innovative Casting Technologies, Inc 081-33097-00066 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		Melissa Stevenson Innovative Casting Technologies, Inc 401 Blue Chip Ct Franklin IN 46131 (Source CAATS) via confirmed delivery									
2		Jack Laugle Owner Innovative Casting Technologies, Inc 401 Blue Chip Ct Franklin IN 46131 *(RO CAATS)*									
3		Johnson County Commissioners 5 East Jefferson Franklin IN 46131 *(Local Official)*									
4		Johnson County Health Department 86 W. Court St, Courthouse Annex Franklin IN 46131-2345 *(Health Department)*									
5		Frederick & Iva Moore 6019 W 650 N Ligonier IN 46767 *(Affected Party)*									
6		Larry and Becky Bischoff 10979 North Smokey Row Road Mooresville IN 46158 *(Affected Party)*									
7		Greenwood City Council and Mayors Office 2 N. Madison Ave. Greenwood IN 46142 *(Local Official)*									
8		Julie Delp Wilcox Environmental Engineering 5757 West 74th Street Indianapolis IN 46278 *(Consultant)*									
9		Johnson County Library 49 East Monroe Street Franklin IN 46131 *(Library)*									
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