



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

Carol S. Comer
Commissioner

NOTICE OF 30-DAY PERIOD FOR PUBLIC COMMENT

Preliminary Findings Regarding a
Significant Modification to a
Part 70 Operating Permit

for INTAT Precision, Inc. in Rush County

Significant Source Modification No.: 139-36453-00011

Significant Permit Modification No.: 139-36470-00011

The Indiana Department of Environmental Management (IDEM) has received an application from INTAT Precision, Inc., located at 2148 State Road 3 North, Rushville, Indiana, for a significant modification of its Part 70 Operating Permit issued on October 8, 2014. If approved by IDEM's Office of Air Quality (OAQ), this proposed modification would allow INTAT Precision, Inc. to make certain changes at its existing source. INTAT Precision, Inc. has applied to revise the existing 326 IAC 2-2-3 (PSD BACT) and 326 IAC 8-1-6 (VOC BACT) VOC requirements for the existing pouring, cooling, and shakeout process associated with Line 2 in Plant 1.

This draft significant modification does not contain any new equipment that would emit air pollutants; however, some conditions from previously issued permits/approvals have been corrected, changed, or removed. These corrections, changes, and removals may include Title I changes (e.g., changes that add or modify synthetic minor emission limits). This notice fulfills the public notice procedures to which those conditions are subject. IDEM has reviewed this application and has developed preliminary findings, consisting of a draft permit and several supporting documents, which would allow for these changes.

A copy of the permit application and IDEM's preliminary findings are available at:

Rushville Public Library
130 West Third Street
Rushville, IN 46173

A copy of the preliminary findings is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>.

How can you participate in this process?

The date that this notice is published in a newspaper marks the beginning of a 30-day public comment period. If the 30th day of the comment period falls on a day when IDEM offices are closed for business, all comments must be postmarked or delivered in person on the next business day that IDEM is open.

You may request that IDEM hold a public hearing about this draft permit. If adverse comments concerning the **air pollution impact** of this draft permit are received, with a request for a public hearing, IDEM will decide whether or not to hold a public hearing. IDEM could also decide to hold a public meeting instead of, or in addition to, a public hearing. If a public hearing or meeting is held, IDEM will make a separate announcement of the date, time, and location of that hearing or meeting. At a hearing, you would have an opportunity to submit written comments and make verbal comments. At a meeting, you would have an opportunity to submit written comments, ask questions, and discuss any air pollution concerns with IDEM staff.

Comments and supporting documentation, or a request for a public hearing should be sent in writing to IDEM at the address below. If you comment via e-mail, please include your full U.S. mailing address so that you can be added to IDEM's mailing list to receive notice of future action related to this permit. If you do not want to comment at this time, but would like to receive notice of future action related to this permit application, please contact IDEM at the address below. Please refer to permit number SSM 139-36453-00011 and SPM 139-36470-00011 in all correspondence.

Comments should be sent to:

Brian Williams
IDEM, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
(800) 451-6027, ask for extension 4-5375
Or dial directly: (317) 234-5375
Fax: (317) 232-6749 attn: Brian Williams
E-mail: bwilliam@idem.IN.gov

All comments will be considered by IDEM when we make a decision to issue or deny the permit. Comments that are most likely to affect final permit decisions are those based on the rules and laws governing this permitting process (326 IAC 2), air quality issues, and technical issues. IDEM does not have legal authority to regulate zoning, odor, or noise. For such issues, please contact your local officials.

For additional information about air permits and how the public and interested parties can participate, refer to the IDEM Permit Guide on the Internet at: <http://www.in.gov/idem/5881.htm>; and the Citizens' Guide to IDEM on the Internet at: <http://www.in.gov/idem/6900.htm>.

What will happen after IDEM makes a decision?

Following the end of the public comment period, IDEM will issue a Notice of Decision stating whether the permit has been issued or denied. If the permit is issued, it may be different than the draft permit because of comments that were received during the public comment period. If comments are received during the public notice period, the final decision will include a document that summarizes the comments and IDEM's response to those comments. If you have submitted comments or have asked to be added to the mailing list, you will receive a Notice of the Decision. The notice will provide details on how you may appeal IDEM's decision, if you disagree with that decision. The final decision will also be available on the Internet at the address indicated above, at the local library indicated above, and the IDEM public file room on the 12th floor of the Indiana Government Center North, 100 N. Senate Avenue, Indianapolis, Indiana 46204-2251.

If you have any questions, please contact Brian Williams of my staff at the above address.



Matthew Stuckey, Chief
Permits Branch
Office of Air Quality



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DRAFT

Mr. Brad Rist
INTAT Precision, Inc.
P.O. Box 488
Rushville, IN 46173

Re: 139-36470-00011
Significant Permit Modification to
Part 70 Renewal No.: T139-34150-00011

Dear Mr. Rist:

INTAT Precision, Inc. was issued Part 70 Operating Permit Renewal No. T139-34150-00011 on October 8, 2014 for a stationary gray and ductile iron foundry located at 2148 State Road 3 North, Rushville, Indiana. An application requesting changes to this permit was received on November 4, 2015. Pursuant to the provisions of 326 IAC 2-7-12, a Significant Permit Modification to this permit is hereby approved as described in the attached Technical Support Document.

Please find attached the entire Part 70 Operating Permit as modified. The permit references the below listed attachment(s). Since these attachments have been provided in previously issued approvals for this source, IDEM OAQ has not included a copy of these attachments with this modification:

- Attachment A: 40 CFR 63, Subpart EEEEE, NESHAP for Iron and Steel Foundries
- Attachment B: 40 CFR 63, Subpart IIII, NSPS for Stationary Compression Ignition Internal Combustion Engines
- Attachment C: 40 CFR 63, Subpart ZZZZ, NESHAP for Stationary Reciprocating Internal Combustion Engines

Previously issued approvals for this source containing these attachments are available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>.

Federal rules under Title 40 of United States Code of Federal Regulations may also be found on the U.S. Government Printing Office's Electronic Code of Federal Regulations (eCFR) website, located on the Internet at: http://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title40/40tab_02.tpl.

A copy of the permit is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>. For additional information about air permits and how the public and interested parties can participate, refer to the IDEM Permit Guide on the Internet at: <http://www.in.gov/idem/5881.htm>; and the Citizens' Guide to IDEM on the Internet at: <http://www.in.gov/idem/6900.htm>.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5.

DRAFT

If you have any questions on this matter, please contact Brian Williams, of my staff, OAQ, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana, 46204-2251 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: Modified Permit and Technical Support Document

cc: File - Rush County
Rush County Health Department
U.S. EPA, Region 5
Compliance and Enforcement Branch



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Part 70 Operating Permit Renewal OFFICE OF AIR QUALITY

**INTAT Precision, Inc.
2148 State Road 3 North
Rushville, Indiana 46173**

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

The Permittee must comply with all conditions of this permit. Noncompliance with any provisions of this permit is grounds for enforcement action; permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. Noncompliance with any provision of this permit, except any provision specifically designated as not federally enforceable, constitutes a violation of the Clean Air Act. It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. An emergency does constitute an affirmative defense in an enforcement action provided the Permittee complies with the applicable requirements set forth in Section B, Emergency Provisions.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Operation Permit No.: T139-34150-00011	
Issued by: Original Signed Iryn Calilung, Section Chief Permits Branch, Office of Air Quality	Issuance Date: October 8, 2014 Expiration Date: October 8, 2019

Significant Permit Modification No.: 139-34923-00011, issued on January 5, 2015
Significant Permit Modification No.: 139-35965-00011, issued on October 27, 2015
Significant Permit Modification No.: 139-36382-00011, issued on January 15, 2016

Significant Permit Modification No.: 139-36470-00011	
Issued by: Iryn Calilung, Section Chief, Permits Branch Office of Air Quality	Issuance Date: Expiration Date: October 8, 2019



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Attachment A: NESHAP for Iron and Steel Foundries [40 CFR Part 63, Subpart EEEEE (5E)][326 IAC 20-92]

Attachment B: NSPS for Stationary Compression Ignition Internal Combustion Engines [40 CFR Part 60, Subpart IIII (4I)][36 IAC 12-1]

Attachment C: NESHAP for Stationary Reciprocating Internal Combustion Engines [40 CFR Part 63, Subpart ZZZZ (4Z)][326 IAC 20-82]

SECTION A

SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-7-4(c)][326 IAC 2-7-5(14)][326 IAC 2-7-1(22)]

The Permittee owns and operates a stationary gray and ductile iron foundry.

Source Address:	2148 State Road 3 North, Rushville, Indiana 46173
General Source Phone Number:	(765) 932-5323
SIC Code:	3321 (Gray and Ductile Iron Foundries)
County Location:	Rush
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Operating Permit Program Major Source, under PSD Rules Major Source, Section 112 of the Clean Air Act 1 of 28 Source Categories

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)][326 IAC 2-7-5(14)]

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

- (a) Core production facilities, for producing cores for all three ductile iron foundry lines (Plant 1, Plant 2, Plant 2, and Line 4), consisting of:
- (1) Three (3) Core Sand Bins, constructed in 1988, and using a dust collector for particulate control, identified as DC-9, and exhausting to stack No. 9;
 - (2) Four (4) Isocure Cold Box Core Machines, identified as P4, P5, P6, constructed in 1988, and P7, constructed in 1994, each with a maximum capacity of processing 0.5 ton of core sand per hour, 8.0 pounds of resin per ton of core sand per hour, and 1.12 pounds of DMIPA catalyst per ton of core sand, using no control, and exhausting to stacks No. 10A and 10B.

Plant 2 Ductile Iron Foundry Line 4 (Year 2013 modification) will also utilize the cores produced by these bins and machines.

Under 40 CFR 63, Subpart EEEEE (5E), the core production facilities are considered an affected source.

Plant 1

- (b) One (1) Ductile Iron Foundry Line, identified as Plant 1, consisting of the following:
- (1) Melting and Finishing operations, all units constructed in 1988 (unless otherwise specified), consisting of:
 - (A) One (1) Indoor Charge Handling System, with a total maximum capacity of 20 tons of metal per hour;

The maximum throughput of metal for the Charge Handling System is limited to 20 tons per hour by the Power Control System.

- (B) One (1) Melting System, identified as P8, with a total maximum capacity of 20 tons of metal per hour, consisting of three (3) Electric Induction Furnaces, identified as P1, P2, and P3, each with a maximum throughput capacity of 10 tons of metal per hour, using two (2) baghouses for particulate control, identified as DC-3A and DC-3B, and exhausting to common stack No. 3;

The maximum throughput of metal for the Melting System is limited to 20 tons per hour by the maximum throughput from the Indoor Charge Handling system.

- (C) One (1) Holding system consisting of the following equipment:
- (i) Two (2) Electric Holding Furnaces, identified as P9, each with a holding capacity of 50 tons and a total maximum throughput capacity of 100 tons of metal per hour, using no control, and exhausting indoors;
 - (ii) Four (4) natural gas-fired Ladle Heaters, collectively identified as P10, all constructed in 2004, using no control, and exhausting indoors:
 - (a) Two (2) of which are metal treatment ladle heaters, each with a maximum heat input capacity of 1.0 MMBtu/hr, and
 - (b) Two (2) of which are pouring ladle heaters, each with a maximum heat input capacity of 0.4 MMBtu/hr,

- (D) One (1) Inoculation system, identified as P11, replaced in 2004, consisting of two (2) metal treatment ladles, each with a maximum throughput capacity of 10 tons of metal per hour, each ladle is using a baghouse (DC-3A and DC-3B) for particulate control, and exhausting to a common stack No. 3; and

Baghouse DC-3A is a common control for the Melting System and Inoculation system.

- (E) Seven (7) grinders, identified as Grinders 3 and 4, constructed in 1988, and Grinders 5 through 9, constructed in 2009, with a total maximum capacity of 12 tons of metal per hour, using four (4) dust collectors for particulate control, and exhausting inside the building.

Grinders 3, 4, and 5 share a common dust collector, while Grinders 6 to 9 each has its own dust collector.

- (2) One (1) Casting Line, identified as Casting Line 2, constructed in 2004 and approved in 2016 for modification to remove the advanced oxidation system, consisting of the following equipment:
- (A) One (1) Sand System, consisting of seven (7) units, identified as P32B, P33B, P34B, P35B, P36B, P37B and P39B, with a total maximum capacity of 70 tons of sand per hour, using baghouse BH6400 for particulate control, and exhausting to stack No. 6400;

- (B) One (1) Pouring station, identified as P13B, with a maximum capacity of 15 tons of metal poured per hour, using baghouse DC-3B for particulate control and a mold vent ignition system for VOC control, and exhausting to stack No. 3;

Baghouse DC-3B is a common control for the Melting System, Inoculation system, and Pouring Station.

- (C) One (1) Cooling line, identified as P14B, with a maximum capacity of 15 tons of metal per hour, using baghouse BH6200 for particulate control, and exhausting to stack No. 6200;

- (D) One (1) Shakeout unit, identified as P16B, with a maximum capacity of 15 tons of metal per hour, using baghouse BH6200 for particulate control, and exhausting to stack No. 6200;

- (E) One (1) Bad Heat Shakeout unit controlled by baghouse DC-5, and exhausting to stack No. 5;

- (F) Casting Conveyors and Desprue operations, identified as P17B, P18B, P19B, P20B, P21B and P22B, with a maximum capacity of 15 tons of metal per hour, using three (3) baghouses for particulate control, DC-7 and DC-8B, both exhausting inside the building, and BH6200, exhausting to stack No. 6200; and

Baghouse BH6200 is common control for the Cooling line, Shakeout unit, Casting Conveyors, and Desprue operations.

- (G) Three (3) Shotblast units, identified as P40, P41 and P42, each with a maximum capacity of 5.3 tons of metal per hour and a total maximum capacity of 9.0 tons of metal per hour, all shotblasting units using baghouse DC-8B for particulate control, and exhausting inside the building.

Baghouse DC-8B is common control for the Casting Conveyors, Desprue operations, and Shotblast units.

- (3) One (1) Shotblast unit, identified as Wheelabrator MeshBelt Blast, constructed in 2001, with a maximum capacity of 11.0 tons of metal per hour, using baghouse DC-13 for particulate control, and exhausting internally.

Under 40 CFR 63, Subpart EEEEE (5E), Plant 1 is considered an affected source.

Plant 2

- (c) One (1) Ductile Iron Foundry Line, all units constructed in 1997 (unless otherwise specified), identified as Plant 2, consisting of the following:

- (1) One (1) Indoor Charge Handling system, identified as 1000A, modified in 2013, with a nominal capacity of 20 tons of metal per hour, using no control, and exhausting indoors;

This Indoor Charge Handling system (1000A) is common for the Ductile Iron Foundry Lines, identified as Plant 2 and Line 4.

- (2) One (1) Ductile Iron Conversion Station, identified as 1150, modified in 2013, with a nominal capacity of 25 tons of metal per hour, using baghouse BH6010 for particulate control, and exhausting to stack No. 6010;

This Ductile Iron Conversion Station (1150) is common for the Ductile Iron Foundry Lines identified as Plant 2 and Line 4.

- (3) One (1) Melting System, identified as 1110, modified in 2013, consisting of two (2) Electric Induction Furnaces, each with a nominal capacity of 10 tons of metal per hour, using baghouse BH6010 for particulate control, and exhausting to stack No. 6010;

These electric induction furnaces (1110) are common for the Ductile Iron Foundry Lines, identified as Plant 2 and Line 4.

- (4) One (1) Electric Holding Furnace, with a maximum capacity of 10 tons of metal per hour, using no control, and exhausting indoors
- (5) Two (2) natural gas-fired Ladle Heaters, identified as 6600 and 6610, each with a maximum heat input rate of 2.0 MMBtu per hour, using no control, and exhausting indoors;
- (6) One (1) Pouring Station, identified as 2000, modified in 2013 to increase maximum throughput, with a nominal capacity of 20 tons of metal per hour, using baghouse BH6010 for particulate control, and exhausting to stack No. 6010;
- (7) One (1) Mold Machine, identified as 2010, with a maximum capacity of 10 tons of metal per hour and 70 tons of sand per hour, using baghouse BH6010 for particulate control, and exhausting to stack No. 6010;

Baghouse BH6010 is a common control for the Ductile Iron Conversion Station (1150), Electric Induction Furnaces (1110), Pouring Station (2000), and Mold Machine (2010)

- (8) One (1) Casting Conveyor System and one (1) Cooling Conveyor System, identified as 2015 and 2020, respectively, modified in 2009, with a maximum capacity of 10 tons of metal per hour and 70 tons of sand per hour, using baghouse BH6020 and BH6030 for particulate control, and exhausting to stack No. 6020, 6030A and 6030B;
- (9) One (1) Casting Shakeout System, identified as 3010, replaced in 2009, with a maximum capacity of 10 tons of metal per hour and 70 tons of sand per hour, using baghouse BH6030 for particulate control, and exhausting to stack No. 6030A and 6030B;
- (10) One (1) Sand and Waste Sand Handling System, identified as 4000, 4140 and 5000, with a maximum capacity of 70 tons of sand per hour, using baghouses BH6020 and BH6040 for particulate control, and exhausting to stack No. 6020 and 6040;

Baghouse BH6020 is a common control for Casting Conveyor System (2015) Cooling Conveyor System (2020), and Sand and Waste Sand Handling System (4000, 4140, 5000).

- (11) One (1) Shotblast unit, identified as Final Blast 3090, with a maximum capacity of 10 tons of metal per hour, using baghouse BH6030, and exhausting to stack No. 6030A and 6030B; and

Baghouse BH6030 is a common control for Casting Conveyor System (2015) Cooling Conveyor System (2020), Casting Shakeout System (3010), and Final Blast 3090.

- (12) One (1) Finishing operation consisting of trim presses, identified as 8000, with a maximum capacity of 5.5 tons of metal per hour, using no control, and exhausting indoors.
- (13) Six (6) Bench Grinders, modified in 2013, with a total nominal capacity of 5.5 tons of metal per hour, exhausting inside/outside the building, and consisting of the following:
 - (A) Cells 1 and 2, using fabric filter AAF for particulate control;
 - (B) Cell 3, using fabric filter DC#3 for particulate control;
 - (C) Cell 4, controlled by fabric filter DC#4 for particulate control;
 - (D) Cell 11, controlled by fabric filter DC#1 for particulate control; and
 - (E) Cell 12 controlled by Aercology #1.

Under 40 CFR 63, Subpart EEEEE (5E), Plant 2 is considered an affected source.

Line 4 in Plant 2

- (d) One (1) Ductile Iron Foundry Line, all units constructed in 2013 (unless otherwise specified), identified as Plant 2, Line 4, consisting of the following:
 - (1) One (1) Electric Induction Furnace, identified as EU-N1, with a nominal capacity of 10 tons of metal per hour, using Baghouse DC-N1A for particulate control, and exhausting to Stack S-N1.
 - (2) One (1) Sand Handling System, identified as EU-N2A, and one (1) Return Sand Handling System, identified as EU-N2B, with a nominal capacity of 75 tons of sand per hour, both systems using Baghouse DC-N1B for particulate control, exhausting to Stack S-N1.
 - (3) One (1) Pouring Station, identified as EU-N3, with a nominal capacity of 15 tons of metal per hour, using Baghouse DC-N2 for particulate control and mold vent ignition system for VOC control, and exhausting to Stack S-N2.
 - (4) One (1) Cooling Line, identified as EU-N4, with a nominal capacity of 15 tons of metal per hour, using Baghouse DC-N2 for particulate control, and exhausting to Stack S-N2.
 - (5) One (1) Casting Shakeout System, identified as EU-N5, with a nominal capacity of 15 tons of metal per hour, using Baghouse DC-N2 for particulate control, and exhausting to Stack S-N2.
 - (6) One (1) Bad Heat Shakeout System, identified as EU-N5A, with a nominal capacity of 10 tons of metal per hour, using Baghouse DC-N2 for particulate control, and exhausting to Stack S-N2.

- (7) One (1) Shot Blast Unit, identified as EU-N6, with a nominal capacity of 15 tons of metal per hour, using Baghouse DC-N2 for particulate control and exhausting to Stack S-N2.

Baghouse DC-N2 is common control for the Pouring Station (EU-N3), Cooling Line (EU-N4), Casting Shakeout system (EU-N5), Bad Heat Shakeout system (EU-N5A) and Shot Blast unit (EU-N6).

Under 40 CFR 63, Subpart EEEEE (5E), Plant 2, Line 4 is considered an affected source.

Miscellaneous

- (e) One (1) shot blast operation associated with Plant 2, identified as Sprue Blast, approved in 2014 for construction, with a maximum throughput of 25 tons of metal per hour and 625 pounds of abrasive (steel shot) per hour, controlled by a baghouse, and exhausting to stack SB-1;
- (f) One (1) Die Quench Operation, identified as Die Quench, approved in 2014 for construction, and consisting of the following:
- (1) One (1) shot blast operation, with a maximum throughput of 336 pounds of metal per hour and 625 pounds of abrasive (steel shot) per hour, controlled by a baghouse, and exhausting to stack DQ-1;
 - (2) One (1) spot welding operation;
 - (3) Four (4) electric chillers;
 - (4) One (1) electric IR oven for heat treatment; and
 - (5) One (1) 500-gallon rust proofing dip tank, utilizing a water-based rust inhibitor containing no solvents or petroleum products.
- (g) One (1) dual grinding unit, identified as EUG-20, approved in 2015 for construction, with a maximum capacity of 0.77 tons of metal per hour, using a baghouse (BH-20) as control and exhausting inside.

A.3 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)][326 IAC 2-7-4(c)][326 IAC 2-7-5(14)]

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

- (a) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) British thermal units per hour:
- (1) Two (2) natural gas-fired boilers, identified as P40 and P41, constructed in 1988, with a maximum heat capacity of 0.2 and 1.1 million Btu per hour, respectively.

The two (2) boilers meet the definition of hot water heater as defined in §63.7575 of Subpart DDDDD:

Hot water heater means a closed vessel with a capacity of no more than 120 U.S. gallons in which water is heated by combustion of gaseous, liquid, or biomass/bio-based solid fuel and is withdrawn for use external to the vessel. Hot water boilers (i.e., not generating steam) combusting gaseous, liquid, or biomass fuel with a heat input capacity of less than 1.6 million Btu per hour are included in this definition. The 120 U.S. gallon capacity threshold to be considered a hot

water heater is independent of the 1.6 MMBtu/hr heat input capacity threshold for hot water boilers. Hot water heater also means a tankless unit that provides on demand hot water.

- (b) Degreasing operations that do not exceed one hundred forty-five (145) gallons per twelve (12) months, except if subject to 326 IAC 20-6: maintenance parts cleaner using mineral spirits solvent that is 100% recycled, with a maximum throughput of 120 gallons per 12 months;
- (c) Six (6) Scrap Bays, identified as P47 through P52, each with PM emissions of approximately 0.16 pound per hour;
- (d) Maintenance shop operations, identified as P58 and P59, each with PM emissions of approximately 0.1 pounds per hour;
- (e) Two (2) Collector Penthouses, identified as P53 and P54, each with PM emissions of approximately 0.16 pounds per hour;
- (f) One (1) Material Separator (baghouse fallout collection), with PM emissions approximately 0.6 pounds per hour;
- (g) One (1) 429 hp diesel-fired emergency generator located in Plant 1, identified as EG1, and installed in 1989;

Under 40 CFR 63, Subpart ZZZZ, EG1 is considered an existing stationary RICE.

- (h) One (1) 469 hp diesel-fired emergency generator located in Plant 2, identified as EG2, and installed in 1998; and

Under 40 CFR 63, Subpart ZZZZ, EG2 is considered an existing stationary RICE.

- (i) One (1) 469 hp diesel-fired emergency generator located in Plant 2, Line 4, identified as EG3, and approved for construction in 2013.

Under 40 CFR 63, Subpart ZZZZ, EG3 is considered a new stationary RICE.

Under 40 CFR 60, Subpart IIII, EG3 is considered an affected source.

A.4 Insignificant Activities [326 IAC 2-7-1(21)][326 IAC 2-7-4(c)]

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

- (a) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) British thermal units per hour:
 - (1) One (1) natural gas-fired heater to dry scrap metal in Plant 1, rated at 1.0 MMBtu per hour.
 - (2) One (1) natural gas-fired heater, identified as P50, located in Plant 1, rated at 2.5 MMBtu per hour.
- (b) Combustion source flame safety purging on startup;
- (c) Vessels storing the following: lubricating oils, hydraulic oils, machining oils, and machining fluids.
- (d) Refractory storage not requiring air pollution control equipment;

- (e) Application of oils, greases, lubricants, and nonvolatile materials as temporary protective coatings.
- (f) Replacement or repair of electrostatic precipitators, bags in baghouses, and filters in other air filtration equipment;
- (g) Paved and unpaved roads and parking lots with public access;
- (h) Filter or coalescer media changeout.
- (i) Two (2) Sand Towers for the gray and ductile iron foundry line, identified as P55 and P56, constructed in 1988 (emissions are included in sand handling calculations);
- (j) Other activities:
 - (1) One (1) scrap yard; and
 - (2) Two (2) fixed roof resin storage tanks, each with a maximum storage capacity of 2,000 gallons.

A.5 Part 70 Permit Applicability [326 IAC 2-7-2]

This stationary source is required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because:

- (a) It is a major source, as defined in 326 IAC 2-7-1(22);
- (b) It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).

SECTION B GENERAL CONDITIONS

B.1 Definitions [326 IAC 2-7-1]

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

B.2 Permit Term [326 IAC 2-7-5(2)][326 IAC 2-1.1-9.5][326 IAC 2-7-4(a)(1)(D)][IC 13-15-3-6(a)]

- (a) This permit, T139-34150-00011, 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, including any permit shield provided in 326 IAC 2-7-15, until the renewal permit has been issued or denied.

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

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

- (a) the condition is modified in a subsequent permit action pursuant to Title I of the Clean Air Act; or
- (b) the emission unit to which the condition pertains permanently ceases operation.

B.4 Enforceability [326 IAC 2-7-7][IC 13-17-12]

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

B.5 Severability [326 IAC 2-7-5(5)]

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

B.6 Property Rights or Exclusive Privilege [326 IAC 2-7-5(6)(D)]

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

B.7 Duty to Provide Information [326 IAC 2-7-5(6)(E)]

- (a) The Permittee shall furnish to IDEM, OAQ, within a reasonable time, any information that IDEM, OAQ may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. Upon request, the Permittee shall also furnish to IDEM, OAQ copies of records required to be kept by this permit.
- (b) For information furnished by the Permittee to IDEM, OAQ, the Permittee may include a claim of confidentiality in accordance with 326 IAC 17.1. When furnishing copies of requested records directly to U. S. EPA, the Permittee may assert a claim of confidentiality in accordance with 40 CFR 2, Subpart B.

B.8 Certification [326 IAC 2-7-4(f)][326 IAC 2-7-6(1)][326 IAC 2-7-5(3)(C)]

- (a) A certification required by this permit meets the requirements of 326 IAC 2-7-6(1) if:
- (1) it contains a certification by a "responsible official" as defined by 326 IAC 2-7-1(35), and
 - (2) the certification states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
- (b) The Permittee may use the attached Certification Form, or its equivalent with each submittal requiring certification. One (1) certification may cover multiple forms in one (1) submittal.
- (c) A "responsible official" is defined at 326 IAC 2-7-1(35).

B.9 Annual Compliance Certification [326 IAC 2-7-6(5)]

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

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

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Air Enforcement Branch - Indiana (AE-17J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

- (b) The annual compliance certification report required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.
- (c) The annual compliance certification report shall include the following:
- (1) The appropriate identification of each term or condition of this permit that is the basis of the certification;
 - (2) The compliance status;
 - (3) Whether compliance was continuous or intermittent;
 - (4) The methods used for determining the compliance status of the source, currently and over the reporting period consistent with 326 IAC 2-7-5(3); and

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

The submittal by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

B.10 Preventive Maintenance Plan [326 IAC 2-7-5(12)][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 PMP extension notification does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

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. The PMPs and their submittal do not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).
- (c) To the extent the Permittee is required by 40 CFR Part 60/63 to have an Operation Maintenance, and Monitoring (OMM) Plan for a unit, such Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

B.11 Emergency Provisions [326 IAC 2-7-16]

- (a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for noncompliance with a federal or state health-based emission limitation.
- (b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that describe the following:

- (1) An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;
- (2) The permitted facility was at the time being properly operated;
- (3) During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit;
- (4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

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

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

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

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

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

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

The notification which shall be submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

- (6) The Permittee immediately took all reasonable steps to correct the emergency.
- (c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.
 - (d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.
 - (e) The Permittee seeking to establish the occurrence of an emergency shall make records available upon request to ensure that failure to implement a PMP did not cause or

contribute to an exceedance of any limitations on emissions. However, IDEM, OAQ may require that the Preventive Maintenance Plans required under 326 IAC 2-7-4(c)(8) be revised in response to an emergency.

- (f) Failure to notify IDEM, OAQ by telephone or facsimile of an emergency lasting more than one (1) hour in accordance with (b)(4) and (5) of this condition shall constitute a violation of 326 IAC 2-7 and any other applicable rules.
- (g) If the emergency situation causes a deviation from a technology-based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.

B.12 Permit Shield [326 IAC 2-7-15][326 IAC 2-7-20][326 IAC 2-7-12]

- (a) Pursuant to 326 IAC 2-7-15, the Permittee has been granted a permit shield. The permit shield provides that compliance with the conditions of this permit shall be deemed compliance with any applicable requirements as of the date of permit issuance, provided that either the applicable requirements are included and specifically identified in this permit or the permit contains an explicit determination or concise summary of a determination that other specifically identified requirements are not applicable. The Indiana statutes from IC 13 and rules from 326 IAC, referenced 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 Part 70 permit under 326 IAC 2-7 or for applicable requirements for which a permit shield has been granted.

This permit shield does not extend to applicable requirements which are promulgated after the date of issuance of this permit unless this permit has been modified to reflect such new requirements.

- (b) If, after issuance of this permit, it is determined that the permit is in nonconformance with an applicable requirement that applied to the source on the date of permit issuance, IDEM, OAQ shall immediately take steps to reopen and revise this permit and issue a compliance order to the Permittee to ensure expeditious compliance with the applicable requirement until the permit is reissued. The permit shield shall continue in effect so long as the Permittee is in compliance with the compliance order.
- (c) No permit shield shall apply to any permit term or condition that is determined after issuance of this permit to have been based on erroneous information supplied in the permit application. Erroneous information means information that the Permittee knew to be false, or in the exercise of reasonable care should have been known to be false, at the time the information was submitted.
- (d) Nothing in 326 IAC 2-7-15 or in this permit shall alter or affect the following:
 - (1) The provisions of Section 303 of the Clean Air Act (emergency orders), including the authority of the U.S. EPA under Section 303 of the Clean Air Act;
 - (2) The liability of the Permittee for any violation of applicable requirements prior to or at the time of this permit's issuance;
 - (3) The applicable requirements of the acid rain program, consistent with Section 408(a) of the Clean Air Act; and
 - (4) The ability of U.S. EPA to obtain information from the Permittee under Section 114 of the Clean Air Act.

- (e) This permit shield is not applicable to any change made under 326 IAC 2-7-20(b)(2) (Sections 502(b)(10) of the Clean Air Act changes) and 326 IAC 2-7-20(c)(2) (trading based on State Implementation Plan (SIP) provisions).
- (f) This permit shield is not applicable to modifications eligible for group processing until after IDEM, OAQ, has issued the modifications. [326 IAC 2-7-12(c)(7)]
- (g) This permit shield is not applicable to minor Part 70 permit modifications until after IDEM, OAQ, has issued the modification. [326 IAC 2-7-12(b)(8)]

B.13 Prior Permits Superseded [326 IAC 2-1.1-9.5][326 IAC 2-7-10.5]

- (a) All terms and conditions of permits established prior to T139-34150-00011 and issued pursuant to permitting programs approved into the state implementation plan have been either:
 - (1) incorporated as originally stated,
 - (2) revised under 326 IAC 2-7-10.5, or
 - (3) deleted under 326 IAC 2-7-10.5.
- (b) Provided that all terms and conditions are accurately reflected in this permit, all previous registrations and permits are superseded by this Part 70 operating permit.

B.14 Termination of Right to Operate [326 IAC 2-7-10][326 IAC 2-7-4(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 nine (9) months prior to the date of expiration of the source's existing permit, consistent with 326 IAC 2-7-3 and 326 IAC 2-7-4(a).

B.15 Permit Modification, Reopening, Revocation and Reissuance, or Termination [326 IAC 2-7-5(6)(C)][326 IAC 2-7-8(a)][326 IAC 2-7-9]

- (a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a Part 70 Operating Permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any condition of this permit. [326 IAC 2-7-5(6)(C)] The notification by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).
- (b) This permit shall be reopened and revised under any of the circumstances listed in IC 13-15-7-2 or if IDEM, OAQ determines any of the following:
 - (1) That this permit contains a material mistake.
 - (2) That inaccurate statements were made in establishing the emissions standards or other terms or conditions.
 - (3) That this permit must be revised or revoked to assure compliance with an applicable requirement. [326 IAC 2-7-9(a)(3)]
- (c) Proceedings by IDEM, OAQ to reopen and revise this permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of this permit for which cause to reopen exists. Such reopening and revision shall be made as expeditiously as practicable. [326 IAC 2-7-9(b)]

- (d) The reopening and revision of this permit, under 326 IAC 2-7-9(a), shall not be initiated before notice of such intent is provided to the Permittee by IDEM, OAQ at least thirty (30) days in advance of the date this permit is to be reopened, except that IDEM, OAQ may provide a shorter time period in the case of an emergency. [326 IAC 2-7-9(c)]

B.16 Permit Renewal [326 IAC 2-7-3][326 IAC 2-7-4][326 IAC 2-7-8(e)]

- (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 2-7-4. Such information shall be included in the application for each emission unit at this source, except those emission units included on the trivial or insignificant activities list contained in 326 IAC 2-7-1(21) and 326 IAC 2-7-1(42). The renewal application does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

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 nine (9) months prior to the date of the expiration of this permit; and
 - (2) If the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.
- (c) If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-7 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 2-7-4(a)(2)(D), in writing by IDEM, OAQ any additional information identified as being needed to process the application.

B.17 Permit Amendment or Modification [326 IAC 2-7-11][326 IAC 2-7-12]

- (a) Permit amendments and modifications are governed by the requirements of 326 IAC 2-7-11 or 326 IAC 2-7-12 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

Any such application does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

- (c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]

B.18 Permit Revision Under Economic Incentives and Other Programs [326 IAC 2-7-5(8)][326 IAC 2-7-12(b)(2)]

- (a) No Part 70 permit revision or notice shall be required under any approved economic incentives, marketable Part 70 permits, emissions trading, and other similar programs or processes for changes that are provided for in a Part 70 permit.
- (b) Notwithstanding 326 IAC 2-7-12(b)(1) and 326 IAC 2-7-12(c)(1), minor Part 70 permit modification procedures may be used for Part 70 modifications involving the use of economic incentives, marketable Part 70 permits, emissions trading, and other similar approaches to the extent that such minor Part 70 permit modification procedures are explicitly provided for in the applicable State Implementation Plan (SIP) or in applicable requirements promulgated or approved by the U.S. EPA.

B.19 Operational Flexibility [326 IAC 2-7-20][326 IAC 2-7-10.5]

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

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

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

and

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

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

- (5) The Permittee maintains records on-site, on a rolling five (5) year basis, which document all such changes and emission trades that are subject to 326 IAC 2-7-20(b)(1) and (c)(1). The Permittee shall make such records available, upon reasonable request, for public review.

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

(b) The Permittee may make Section 502(b)(10) of the Clean Air Act changes (this term is defined at 326 IAC 2-7-1(37)) without a permit revision, subject to the constraint of 326 IAC 2-7-20(a). For each such Section 502(b)(10) of the Clean Air Act change, the required written notification shall include the following:

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

The notification which shall be submitted is not considered an application form, report or compliance certification. Therefore, the notification by the Permittee does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

(c) Emission Trades [326 IAC 2-7-20(c)]

The Permittee may trade emissions increases and decreases at the source, where the applicable SIP provides for such emission trades without requiring a permit revision, subject to the constraints of Section (a) of this condition and those in 326 IAC 2-7-20(c).

(d) Alternative Operating Scenarios [326 IAC 2-7-20(d)]

The Permittee may make changes at the source within the range of alternative operating scenarios that are described in the terms and conditions of this permit in accordance with 326 IAC 2-7-5(9). No prior notification of IDEM, OAQ or U.S. EPA is required.

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

B.20 Source Modification Requirement [326 IAC 2-7-10.5]

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

B.21 Inspection and Entry [326 IAC 2-7-6][IC 13-14-2-2][IC 13-30-3-1][IC 13-17-3-2]

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 Part 70 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 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 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 substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and

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

B.22 Transfer of Ownership or Operational Control [326 IAC 2-7-11]

- (a) The Permittee must comply with the requirements of 326 IAC 2-7-11 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

Any such application does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

- (c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]

B.23 Annual Fee Payment [326 IAC 2-7-19][326 IAC 2-7-5(7)][326 IAC 2-1.1-7]

- (a) The Permittee shall pay annual fees to IDEM, OAQ within thirty (30) calendar days of receipt of a billing. Pursuant to 326 IAC 2-7-19(b), if the Permittee does not receive a bill from IDEM, OAQ the applicable fee is due April 1 of each year.
- (b) Except as provided in 326 IAC 2-7-19(e), failure to pay may result in administrative enforcement action or revocation of this permit.
- (c) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-4230 (ask for OAQ, Billing, Licensing, and Training Section), to determine the appropriate permit fee.

B.24 Credible Evidence [326 IAC 2-7-5(3)][326 IAC 2-7-6][62 FR 8314][326 IAC 1-1-6]

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

SECTION C

SOURCE OPERATION CONDITIONS

Entire Source

Emission Limitations and Standards [326 IAC 2-7-5(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 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.3 Open Burning [326 IAC 4-1][IC 13-17-9]

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

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

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

C.6 Asbestos Abatement Projects [326 IAC 14-10][326 IAC 18][40 CFR 61, Subpart M]

- (a) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is at least 260 linear feet on pipes or 160 square feet on other facility components, or at least thirty-five (35) cubic feet on all facility components, then the notification requirements of 326 IAC 14-10-3 are mandatory. All demolition projects require notification whether or not asbestos is present.
- (b) The Permittee shall ensure that a written notification is sent on a form provided by the Commissioner at least ten (10) working days before asbestos stripping or removal work or before demolition begins, per 326 IAC 14-10-3, and shall update such notice as necessary, including, but not limited to the following:

- (1) When the amount of affected asbestos containing material increases or decreases by at least twenty percent (20%); or
- (2) If there is a change in the following:
 - (A) Asbestos removal or demolition start date;
 - (B) Removal or demolition contractor; or
 - (C) Waste disposal site.
- (c) The Permittee shall ensure that the notice is postmarked or delivered according to the guidelines set forth in 326 IAC 14-10-3(2).
- (d) The notice to be submitted shall include the information enumerated in 326 IAC 14-10-3(3).

All required notifications shall be submitted to:

Indiana Department of Environmental Management
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. The notifications do not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

- (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 2-7-6(1)]

C.7 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. The protocol submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

- (b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).
- (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.8 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 2-7-5(1)][326 IAC 2-7-6(1)]

C.9 Compliance Monitoring [326 IAC 2-7-5(3)][326 IAC 2-7-6(1)][40 CFR 64][326 IAC 3-8]

- (a) For new units:
Unless otherwise specified in the approval for the new emission unit(s), compliance monitoring for new emission units shall be implemented on and after the date of initial start-up.
- (b) For existing units:
Unless otherwise specified in this permit, for all monitoring requirements not already legally required, the Permittee shall be allowed up to ninety (90) days from the date of permit issuance to begin such monitoring. If, due to circumstances beyond the Permittee's control, any monitoring equipment required by this permit cannot be installed and operated no later than ninety (90) days after permit issuance, the Permittee may extend the compliance schedule related to the equipment for an additional ninety (90) days provided the Permittee notifies:

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

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

The notification which shall be submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

- (c) For monitoring required by CAM, at all times, the Permittee shall maintain the monitoring, including but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment.
- (d) For monitoring required by CAM, except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the Permittee shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of this part, including data averages and calculations, or fulfilling a minimum data availability requirement, if applicable. The owner or operator shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

C.10 Instrument Specifications [326 IAC 2-1.1-11][326 IAC 2-7-5(3)][326 IAC 2-7-6(1)]

- (a) When required by any condition of this permit, an analog instrument used to measure a parameter related to the operation of an air pollution control device shall have a scale such that the expected maximum reading for the normal range shall be no less than twenty percent (20%) of full scale. 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 [326 IAC 2-7-5][326 IAC 2-7-6]

C.11 Emergency Reduction Plans [326 IAC 1-5-2][326 IAC 1-5-3]

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

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

C.12 Risk Management Plan [326 IAC 2-7-5(12)][40 CFR 68]

If a regulated substance, as defined in 40 CFR 68, is present at a source in more than a threshold quantity, the Permittee must comply with the applicable requirements of 40 CFR 68.

C.13 Response to Excursions or Exceedances [40 CFR 64][326 IAC 3-8][326 IAC 2-7-5][326 IAC 2-7-6]

- (I) Upon detecting an excursion where a response step is required by the D Section, or an exceedance of a limitation, not subject to CAM, 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.
- (II)
 - (a) *CAM Response to excursions or exceedances.*
 - (1) Upon detecting an excursion or exceedance, subject to CAM, the Permittee shall restore operation of the pollutant-specific emissions unit (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as through response by a computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.

- (2) 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, monitoring results, review of operation and maintenance procedures and records, and inspection of the control device, associated capture system, and the process.
- (b) If the Permittee identifies a failure to achieve compliance with an emission limitation, subject to CAM, or standard, subject to CAM, for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the Permittee shall promptly notify the IDEM, OAQ and, if necessary, submit a proposed significant permit modification to this permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.
- (c) Based on the results of a determination made under paragraph (II)(a)(2) of this condition, the EPA or IDEM, OAQ may require the Permittee to develop and implement a QIP. The Permittee shall develop and implement a QIP if notified to in writing by the EPA or IDEM, OAQ.
- (d) Elements of a QIP:

The Permittee shall maintain a written QIP, if required, and have it available for inspection. The plan shall conform to 40 CFR 64.8 b (2).
- (e) If a QIP is required, the Permittee shall develop and implement a QIP as expeditiously as practicable and shall notify the IDEM, OAQ if the period for completing the improvements contained in the QIP exceeds 180 days from the date on which the need to implement the QIP was determined.
- (f) Following implementation of a QIP, upon any subsequent determination pursuant to paragraph (II)(a)(2) of this condition the EPA or the IDEM, OAQ may require that the Permittee make reasonable changes to the QIP if the QIP is found to have:
 - (1) Failed to address the cause of the control device performance problems;
or
 - (2) Failed to provide adequate procedures for correcting control device performance problems as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions.
- (g) Implementation of a QIP shall not excuse the Permittee from compliance with any existing emission limitation or standard, or any existing monitoring, testing, reporting or recordkeeping requirement that may apply under federal, state, or local law, or any other applicable requirements under the Act.
- (h) *CAM recordkeeping requirements.*
 - (1) The Permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan required pursuant to paragraph (II)(a)(2) of this condition and any activities undertaken to implement a quality improvement plan, and other supporting information required to be

maintained under this condition (such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions). Section C - General Record Keeping Requirements of this permit contains the Permittee's obligations with regard to the records required by this condition.

- (2) Instead of paper records, the owner or operator may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements

C.14 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5][326 IAC 2-7-6]

- (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.

The response action documents submitted pursuant to this condition do require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

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

C.15 Emission Statement [326 IAC 2-7-5(3)(C)(iii)][326 IAC 2-7-5(7)][326 IAC 2-7-19(c)][326 IAC 2-6]

Pursuant to 326 IAC 2-6-3(b)(2), starting in 2005 and every three (3) years thereafter, the Permittee shall submit by July 1 an emission statement covering the previous calendar year. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4(c) and shall meet the following requirements:

- (1) Indicate estimated actual emissions of all pollutants listed in 326 IAC 2-6-4(a);
- (2) Indicate estimated actual emissions of regulated pollutants as defined by 326 IAC 2-7-1(33) ("Regulated pollutant, which is used only for purposes of Section 19 of this rule") from the source, for purpose of fee assessment.

The statement must be submitted to:

Indiana Department of Environmental Management
Technical Support and Modeling Section, Office of Air Quality
100 North Senate Avenue
MC 61-50 IGCN 1003
Indianapolis, Indiana 46204-2251

The emission statement does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

C.16 General Record Keeping Requirements [326 IAC 2-7-5(3)][326 IAC 2-7-6][326 IAC 2-2][326 IAC 2-3]

- (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. Support information includes the following, where applicable:

- (AA) All calibration and maintenance records.
- (BB) All original strip chart recordings for continuous monitoring instrumentation.
- (CC) Copies of all reports required by the Part 70 permit.

Records of required monitoring information include the following, where applicable:

- (AA) The date, place, as defined in this permit, and time of sampling or measurements.
- (BB) The dates analyses were performed.
- (CC) The company or entity that performed the analyses.
- (DD) The analytical techniques or methods used.
- (EE) The results of such analyses.
- (FF) The operating conditions as existing at the time of sampling or measurement.

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) If there is a reasonable possibility (as defined in 326 IAC 2-2-8 (b)(6)(A), 326 IAC 2-2-8 (b)(6)(B), 326 IAC 2-3-2 (l)(6)(A), and/or 326 IAC 2-3-2 (l)(6)(B)) that a "project" (as defined in 326 IAC 2-2-1(oo) and/or 326 IAC 2-3-1(jj)) at an existing emissions unit, other than projects at a source with a Plantwide Applicability Limitation (PAL), which is not part of a "major modification" (as defined in 326 IAC 2-2-1(dd) and/or 326 IAC 2-3-1(y)) may result in significant emissions increase and the Permittee elects to utilize the "projected actual emissions" (as defined in 326 IAC 2-2-1(pp) and/or 326 IAC 2-3-1(kk)), the Permittee shall comply with following:

- (1) Before beginning actual construction of the "project" (as defined in 326 IAC 2-2-1(oo) and/or 326 IAC 2-3-1(jj)) at an existing emissions unit, document and maintain the following records:

- (A) A description of the project.
- (B) Identification of any emissions unit whose emissions of a regulated new source review pollutant could be affected by the project.
- (C) A description of the applicability test used to determine that the project is not a major modification for any regulated NSR pollutant, including:
 - (i) Baseline actual emissions;
 - (ii) Projected actual emissions;
 - (iii) Amount of emissions excluded under section

326 IAC 2-2-1(pp)(2)(A)(iii) and/or 326 IAC 2-3-1 (kk)(2)(A)(iii);
and

(iv) An explanation for why the amount was excluded, and any netting calculations, if applicable.

(d) If there is a reasonable possibility (as defined in 326 IAC 2-2-8 (b)(6)(A) and/or 326 IAC 2-3-2 (l)(6)(A)) that a "project" (as defined in 326 IAC 2-2-1(o) and/or 326 IAC 2-3-1(j)) at an existing emissions unit, other than projects at a source with a Plantwide Applicability Limitation (PAL), which is not part of a "major modification" (as defined in 326 IAC 2-2-1(dd) and/or 326 IAC 2-3-1(y)) may result in significant emissions increase and the Permittee elects to utilize the "projected actual emissions" (as defined in 326 IAC 2-2-1(pp) and/or 326 IAC 2-3-1(kk)), the Permittee shall comply with following:

- (1) Monitor the emissions of any regulated NSR pollutant that could increase as a result of the project and that is emitted by any existing emissions unit identified in (1)(B) above; and
- (2) Calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of five (5) years following resumption of regular operations after the change, or for a period of ten (10) years following resumption of regular operations after the change if the project increases the design capacity of or the potential to emit that regulated NSR pollutant at the emissions unit.

C.17 General Reporting Requirements [326 IAC 2-7-5(3)(C)][326 IAC 2-1.1-11][326 IAC 2-2][326 IAC 2-3][40 CFR 64][326 IAC 3-8]

(a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Proper notice submittal under Section B -Emergency Provisions satisfies the reporting requirements of this paragraph. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported except that a deviation required to be reported pursuant to an applicable requirement that exists independent of this permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. This report shall be submitted not later than thirty (30) days after the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35). A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.

On and after the date by which the Permittee must use monitoring that meets the requirements of 40 CFR Part 64 and 326 IAC 3-8, the Permittee shall submit CAM reports to the IDEM, OAQ.

A report for monitoring under 40 CFR Part 64 and 326 IAC 3-8 shall include, at a minimum, the information required under paragraph (a) of this condition and 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 actions 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 daily calibration checks, if applicable);
and

- (3) A description of the actions taken to implement a QIP during the reporting period as specified in Section C-Response to Excursions or Exceedances. Upon completion of a QIP, the owner or operator shall include in the next summary report documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances occurring.

The Permittee may combine the Quarterly Deviation and Compliance Monitoring Report and a report pursuant to 40 CFR 64 and 326 IAC 3-8.

- (b) The address for report submittal is:

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

- (d) 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.

- (e) If the Permittee is required to comply with the recordkeeping provisions of (d) in Section C - General Record Keeping Requirements for any "project" (as defined in 326 IAC 2-2-1 (oo) and/or 326 IAC 2-3-1 (jj)) at an existing emissions unit, and the project meets the following criteria, then the Permittee shall submit a report to IDEM, OAQ:

- (1) The annual emissions, in tons per year, from the project identified in (c)(1) in Section C- General Record Keeping Requirements exceed the baseline actual emissions, as documented and maintained under Section C- General Record Keeping Requirements (c)(1)(C)(i), by a significant amount, as defined in 326 IAC 2-2-1 (ww) and/or 326 IAC 2-3-1 (pp), for that regulated NSR pollutant, and
- (2) The emissions differ from the preconstruction projection as documented and maintained under Section C - General Record Keeping Requirements (c)(1)(C)(ii).

- (f) The report for project at an existing emissions unit shall be submitted no later than sixty (60) days after the end of the year and contain the following:

- (1) The name, address, and telephone number of the major stationary source.
- (2) The annual emissions calculated in accordance with (d)(1) and (2) in Section C - General Record Keeping Requirements.
- (3) The emissions calculated under the actual-to-projected actual test stated in 326 IAC 2-2-2(d)(3) and/or 326 IAC 2-3-2(c)(3).

- (4) Any other information that the Permittee wishes to include in this report such as an explanation as to why the emissions differ from the preconstruction projection.

Reports required in this part 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

- (g) The Permittee shall make the information required to be documented and maintained in accordance with (c) in Section C- General Record Keeping Requirements available for review upon a request for inspection by IDEM, OAQ. The general public may request this information from the IDEM, OAQ under 326 IAC 17.1.

Stratospheric Ozone Protection

C.18 Compliance with 40 CFR 82 and 326 IAC 22-1

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

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description: Core production

- (a) Core production facilities, for producing cores for all three ductile iron foundry lines (Plant 1, Plant 2, Plant 2, and Line 4), consisting of:
- (1) Three (3) Core Sand Bins, constructed in 1988, and using a dust collector for particulate control, identified as DC-9, and exhausting to stack No. 9;
 - (2) Four (4) Isocure Cold Box Core Machines, identified as P4, P5, P6, constructed in 1988, and P7, constructed in 1994, each with a maximum capacity of processing 0.5 ton of core sand per hour, 8.0 pounds of resin per ton of core sand per hour, and 1.12 pounds of DMIPA catalyst per ton of core sand, using no control, and exhausting to stacks No. 10A and 10B.

Under 40 CFR 63, Subpart EEEEE (5E), the core production facilities are considered an affected source.

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

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

D.1.1 PSD Minor Limit - PM and PM₁₀ [326 IAC 2-2]

In order to render 326 IAC 2-2 not applicable:

- (a) Total PM emissions from the three (3) Core Sand Bins (Stack 9), except the emissions associated with Plant 2, Line 4, shall not exceed 0.82 pound per hour; and
- (b) Total PM₁₀ emissions from the three (3) Core Sand Bins (Stack 9), except the emissions associated with Plant 2, Line 4, shall not exceed 0.82 pound per hour.

Compliance with these emission limits, in addition to the limits listed in condition D.2.3 and unlimited emissions from insignificant activities, limits PM and PM₁₀ emissions from the units constructed in 1988 to less than 100 tons per year each. Therefore, the requirements of 326 IAC 2-2 (PSD) are not applicable to these units.

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

Pursuant to 326 IAC 6-3-2(e)(3), the allowable particulate emission rate from the three (3) Core Sand Bins shall not exceed 6.54 pounds per hour when operating at a process weight rate 2.01 tons per hour.

The pounds per hour limitations were calculated by the following:

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

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

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

D.1.3 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities and their control devices.

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

D.1.4 Particulate Control [326 IAC 2-7-6(6)]

In order to comply with Conditions D.1.1 and D.1.2, the dust collector for particulate control shall be in operation and control emissions at all times the core sand bins and isocure sand box core machines are in operation.

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

D.1.5 Visible Emissions Notations

- (a) Visible emission notations of the stack exhaust (Stack 9) for the dust collector used in conjunction with the core sand bins and isocure sand box core machines shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) If abnormal emissions are observed, the Permittee shall take a reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take reasonable response steps shall be considered a deviation from this permit.

D.1.6 Parametric Monitoring

The Permittee shall record the pressure drop across the dust collector used in conjunction with the core sand bins and isocure sand box core machines, at least once per day when the units are in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range, the Permittee shall take a reasonable response. The normal range for this unit is a pressure drop between 0.5 to 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 reasonable response steps shall be considered a deviation from this permit.

The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated or replaced at least once every six (6) months or other time period specified by the manufacturer. The Permittee shall maintain records of the manufacturer specifications, if used.

D.1.7 Broken or Failed Baghouse Detection

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

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

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

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

D.1.8 Record Keeping Requirements

- (a) To document the compliance status with Condition D.1.5, the Permittee shall maintain a daily record of visible emission notations of the stack exhaust for the dust collector used in conjunction with the core sand bins and isocure sand box core machines. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).
- (b) To document the compliance status with Condition D.1.6, the Permittee shall maintain a daily record of the pressure drop across the dust collector used in conjunction with the core sand bins and isocure sand box core machines. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading (e.g. the process did not operate that day).
- (c) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the records required by this condition.

SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description: Plant 1

- (b) One (1) Ductile Iron Foundry Line, identified as Plant 1, consisting of the following:
- (1) Melting and Finishing operations, all units constructed in 1988 (unless otherwise specified), consisting of:
- (A) One (1) Indoor Charge Handling System, with a total maximum capacity of 20 tons of metal per hour;
- The maximum throughput of metal for the Charge Handling System is limited to 20 tons per hour by the Power Control System.
- (B) One (1) Melting System, identified as P8, with a total maximum capacity of 20 tons of metal per hour, consisting of three (3) Electric Induction Furnaces, identified as P1, P2, and P3, each with a maximum throughput capacity of 10 tons of metal per hour, using two (2) baghouses for particulate control, identified as DC-3A and DC-3B, and exhausting to common stack No. 3;
- The maximum throughput of metal for the Melting System is limited to 20 tons per hour by the maximum throughput from the Indoor Charge Handling system.
- (C) One (1) Holding system consisting of the following equipment:
- (i) Two (2) Electric Holding Furnaces, identified as P9, each with a holding capacity of 50 tons and a total maximum throughput capacity of 100 tons of metal per hour, using no control, and exhausting indoors;
- (ii) Four (4) natural gas-fired Ladle Heaters, collectively identified as P10, all constructed in 2004, using no control, and exhausting indoors:
- (a) Two (2) of which are metal treatment ladle heaters, each with a maximum heat input capacity of 1.0 MMBtu/hr, and
- (b) Two (2) of which are pouring ladle heaters, each with a maximum heat input capacity of 0.4 MMBtu/hr,
- (D) One (1) Inoculation system, identified as P11, replaced in 2004, consisting of two (2) metal treatment ladles, each with a maximum throughput capacity of 10 tons of metal per hour, each ladle is using a baghouse (DC-3A and DC-3B) for particulate control, and exhausting to a common stack No. 3; and
- Baghouse DC-3A is a common control for the Melting System and Inoculation system.

- (E) Seven (7) grinders, identified as Grinders 3 and 4, constructed in 1988, and Grinders 5 through 9, constructed in 2009, with a total maximum capacity of 12 tons of metal per hour, using four (4) dust collectors for particulate control, and exhausting inside the building.

Grinders 3, 4, and 5 share a common dust collector, while Grinders 6 to 9 each has its own dust collector.

- (2) One (1) Casting Line, identified as Casting Line 2, constructed in 2004 and approved in 2016 for modification to remove the advanced oxidation system, consisting of the following equipment:

- (A) One (1) Sand System, consisting of seven (7) units, identified as P32B, P33B, P34B, P35B, P36B, P37B and P39B, with a total maximum capacity of 70 tons of sand per hour, using baghouse BH6400 for particulate control, and exhausting to stack No. 6400;

- (B) One (1) Pouring station, identified as P13B, with a maximum capacity of 15 tons of metal poured per hour, using baghouse DC-3B for particulate control and a mold vent ignition system for VOC control, and exhausting to stack No. 3;

Baghouse DC-3B is a common control for the Melting System, Inoculation system, and Pouring Station.

- (C) One (1) Cooling line, identified as P14B, with a maximum capacity of 15 tons of metal per hour, using baghouse BH6200 for particulate control, and exhausting to stack No. 6200;

- (D) One (1) Shakeout unit, identified as P16B, with a maximum capacity of 15 tons of metal per hour, using baghouse BH6200 for particulate control, and exhausting to stack No. 6200;

- (E) One (1) Bad Heat Shakeout unit controlled by baghouse DC-5, and exhausting to stack No. 5;

- (F) Casting Conveyors and Desprue operations, identified as P17B, P18B, P19B, P20B, P21B and P22B, with a maximum capacity of 15 tons of metal per hour, using three (3) baghouses for particulate control, DC-7 and DC-8B, both exhausting inside the building, and BH6200, exhausting to stack No. 6200; and

Baghouse BH6200 is common control for the Cooling line, Shakeout unit, Casting Conveyors, and Desprue operations.

- (G) Three (3) Shotblast units, identified as P40, P41 and P42, each with a maximum capacity of 5.3 tons of metal per hour and a total maximum capacity of 9.0 tons of metal per hour, all shotblasting units using baghouse DC-8B for particulate control, and exhausting inside the building.

Baghouse DC-8B is common control for the Casting Conveyors, Desprue operations, and Shotblast units.

(3) One (1) Shotblast unit, identified as Wheelabrator MeshBelt Blast, constructed in 2001, with a maximum capacity of 11.0 tons of metal per hour, using baghouse DC-13 for particulate control, and exhausting internally.

Under 40 CFR 63, Subpart EEEEE (5E), Plant 1 is considered an affected source.

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

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

D.2.1 PSD BACT Limit - PM₁₀ [326 IAC 2-2]

Pursuant to 326 IAC 2-2-3:

- (a) Opacity for stack No. DC-3A, DC-3B, BH6200, BH6400, and DC-5 shall not exceed ten percent (10%) for more than three (3) consecutive six (6) minute averaging periods.
- (b) The Ladle Heaters are exclusively natural gas fired and are therefore considered to meet the requirements for BACT.
- (c) The Permittee shall comply with the following BACT required emission limits for PM₁₀ from the Plant 1, Casting Line 2 processes (PM₁₀ limits include both filterable and condensable):

Control Device	Process	Filterable PM ₁₀ Emission Limitation		Total PM ₁₀ Emission Limitation (lb/ton) (Filterable & Condensable)
		(gr/dscf)	(lb/hr)	
DC-3A	Melting (P8) & Inoculation (P11)	0.003	1.7	0.633 lb/ton metal
DC-3B	Melting (P8), Inoculation (P11) & Pouring (P13B),	0.003	1.7	
BH6400	Sand Handling (P32B, P33B, P34B, P35B, P36B, P37B, P39B)	0.003	1.13	0.02 lb/ton sand
BH6200	Cooling (P14B), Shakeout (P16B), Casting Conveyors & Desprue operations (P17B, P18B, P19B, P20B, P21B, P22B)	0.003	2.85	1.045 lb/ton metal
DC-8B (exhausts inside)	Shotblast (P40, P41, P42), Casting Conveyors & Desprue operations (P17B, P18B, P19B, P20B, P21B, P22B)	0.003	1.03	0.085 lb/ton metal
DC-7 (exhausts inside)	Casting Conveyors & Desprue operations (P17B, P18B, P19B, P20B, P21B, P22B)	0.003	0.55	0.085 lb/ton metal
DC-5	Bad Heat Shakeout	0.003	0.45	0.03 lb/ton metal

D.2.2 PSD BACT Limit - VOC [326 IAC 2-2][326 IAC 8-1-6]

Pursuant to 326 IAC 2-2-3, 326 IAC 8-1-6, SSM 139-22702-00011, issued on December 4, 2007, and as revised in SSM No. 139-36453-00011, the following conditions shall apply to the Pouring station (P13B), Cooling line (P14B), Shakeout (P16B) and Bad Heat Shakeout processes of Plant 1, Casting Line 2:

- (a) Material Substitution and Lower-Emitting Processes/Practices shall be used to limit VOC emissions.
- (b) VOC emissions shall not exceed 1.4 pounds per ton of metal throughput to the Pouring station (P13B), Cooling line (P14B), and Shakeout operations (P16B) and Bad Heat Shakeout operations combined.
- (c) The throughput of metal to the Pouring, Cooling and Shakeout operations (P13B, P14B, and P16B) and Bad Heat Shakeout operations shall not exceed 79,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (d) The VOC emissions from the Pouring Station (P13B) shall be controlled by a mold vent off-gas ignition system.

D.2.3 PSD Minor Limit - PM and PM₁₀ [326 IAC 2-2]

In order to render 326 IAC 2-2 not applicable, PM and PM₁₀ emissions and material throughput of the following units shall not exceed the following limits:

Process	PM Emission Limitation (lb/ton material)	PM₁₀ Emission Limitation (lb/ton material)	Material throughput (ton/12 consecutive months)
Charge Handling Operations	0.24 lbs/ton metal	0.24 lbs/ton metal	79,000 tons of metal
Melting System (P8)	0.20 lbs/ton metal	0.20 lbs/ton metal	
Holding Furnace (P9)	0.10 lbs/ton metal	0.10 lbs/ton metal	

Compliance with these throughput and emission limits, in addition to the limits listed in Condition D.1.1 for the core production facilities and in Condition D.2.6 for Grinders 3 and 4, and unlimited emissions from insignificant activities, limits PM and PM₁₀ emissions from the units constructed in 1988 to less than 100 tons per year each. Therefore, the requirements of 326 IAC 2-2 (PSD) are not applicable to these units.

D.2.4 PSD Minor Limit - PM and PM₁₀ [326 IAC 2-2]

In order to render 326 IAC 2-2 not applicable:

- (a) PM emissions from the Wheelabrator MeshBelt blast unit shall each not exceed 5.7 pounds per hour.
- (b) PM₁₀ emissions from the Wheelabrator MeshBelt blast unit shall each not exceed 3.4 pounds per hour.

Compliance with these emission limits, limits PM and PM₁₀ emissions from this unit constructed in 2001 to less than 25 and 15 tons per year, respectively. Therefore, the requirements of 326 IAC 2-2 (PSD) are not applicable to these units.

D.2.5 PSD Minor Limit - PM and CO [326 IAC 2-2]

In order to render 326 IAC 2-2 not applicable:

- (a) PM emissions and material throughput from the following units shall not exceed the following limits:

Baghouse	Process	PM Emission Limitation (lb/ton material)	Material throughput (ton/12 consecutive months)
DC-3A / DC-3B	Melting (P8), Inoculation (P11), & Pouring (P13B)	0.17 lbs/ton metal poured	79,000 tons of metal
BH6200	Cooling (P14B), Shakeout (P16B), Casting Conveyors & Desprue operations (P17B, P18B, P19B, P20B, P21B, P22B)	0.19 lbs/ton metal poured	
DC-8B	Shotblast (P40, P41, P42), Casting Conveyors & Desprue operations (P17B, P18B, P19B, P20B, P21B, P22B)	0.11 lbs/ton metal poured	
DC-7	Casting Conveyors & Desprue operations (P17B, P18B, P19B, P20B, P21B, P22B)	0.037 lbs/ton metal poured	
DC-5	Bad Heat Shakeout	0.03 lbs/ton metal poured	
BH6400	Sand System (P32B, P33B, P34B, P35B, P36B, P37B, P39B)	0.016 lbs/ton sand	368,667 tons of sand

- (b) CO emissions from Pouring station (P13B), Cooling line (P14B), Shakeout unit (P16B), Bad Heat Shakeout unit combined shall not exceed 98.75 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with these emission limits, limits PM and CO emissions from these units constructed or modified in 2004 to less than 25 and 100 tons per year, respectively. Therefore, the requirements of 326 IAC 2-2 (PSD) are not applicable to these units.

D.2.6 PSD Minor Limit - PM and PM₁₀ [326 IAC 2-2]

In order to render 326 IAC 2-2 not applicable:

- (a) The combined throughput of metal for Grinders 3, 4, 5, 6, 7, 8, and 9 shall be less than 79,000 tons per 12 consecutive month period with compliance determined at the end of each month.
- (b) PM emissions from Grinders 3, 4, 5, 6, 7, 8, and 9 combined shall not exceed 0.2 pound per ton of metal throughput.
- (c) PM₁₀ emissions from Grinders 3, 4, 5, 6, 7, 8, and 9 combined shall not exceed 0.2 pound per ton of metal throughput.
- (d) Emissions of PM and PM₁₀ from the grinding process shall not exceed the following

Process	PM Emission Limitation (lb/hour)	PM ₁₀ Emission Limitation (lb/hour)
Grinders 3,4,5	0.53	0.53
Grinder 6	0.28	0.28
Grinder 7	0.28	0.28

Process	PM Emission Limitation (lb/hour)	PM ₁₀ Emission Limitation (lb/hour)
Grinder 8	0.53	0.53
Grinder 9	0.18	0.18

Compliance with these emission limits, limits PM and PM10 emissions from these units constructed in 2009 to less than 25 and 15 tons per year, respectively. This also renders 326 IAC 2-2 not applicable to Grinders 3 and 4 (1988) Therefore, the requirements of 326 IAC 2-2 (PSD) are not applicable to these units.

D.2.7 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2(e)(3), the allowable particulate emission rate from the facilities listed below shall be limited as specified when operating at the respective process weight rate:

Emission unit/process (Unit ID)	Dust collector/ Baghouse	Process Weight Rate (ton/hr)	Allowable emissions (lb/hr)
Indoor charge handling	No control	20	30.51
Melting system - 3 electric induction furnaces (P8)	DC-3A and DC-3B	20	30.51
Holding system - electric holding furnace (P9)	No control	20	30.51
Inoculation - metal treatment ladles (P11)	DC-3A and DC-3B	20	30.51
Grinder 3	Dust collector	1.25	4.76
Grinder 4	Dust collector	1.25	4.76
Grinder 5	Dust collector	1.25	4.76
Grinder 6	Dust collector	1.25	4.76
Grinder 7	Dust collector	1.25	4.76
Grinder 8	Dust collector	3.75	9.96
Grinder 9	Dust collector	1.25	4.76
Sand System (P32B, P33B, P34B, P35B, P36B, P37B, P39B)	BH6400	70*	47.77
Pouring Station (P13B)	DC-3B	85*	49.66
Cooling line (P14B)	BH6200	85*	49.66
Shakeout unit (P16B)	BH6200	85*	49.66
Bad heat shakeout unit	DC-5	85*	49.66
Casting conveyors and desprue operations (P17B, P18B, P19B, P20B, P21B)	BH6200 DC-8B, DC-7	15	25.16
Shotblast (P40, P41, P42)	DC-8B	9	17.87
Wheelabrator blast unit	DC-13	11	20.44

* Process weight includes metal and sand throughput

The pounds per hour limitations were calculated by the following:

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

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

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

OR

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

$$E = 55.0 * P^{0.11} - 40$$

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

D.2.8 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities and their control devices.

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

D.2.9 Particulate Control [326 IAC 2-7-6(6)]

In order to comply with Conditions D.2.1(c); D.2.3; D.2.4; D.2.5(a); D.2.6(b),(c),(d); and D.2.7, the dust collectors and baghouses for particulate control shall be in operation and control emissions at all times the respective emission units are in operation.

D.2.10 Testing Requirements [326 IAC 2-1.1-11]

- (a) In order to comply with Conditions D.2.1(c), D.2.3, D.2.5(a), and D.2.7, the Permittee shall perform PM and PM₁₀ testing for the following facilities utilizing methods as approved by the Commissioner:
- (1) Baghouse DC-3A used in conjunction with the Melting System (P8) and Inoculation station (P11);
 - (2) Baghouse DC-3B used in conjunction with the Melting System (P8), Inoculation station (P11), and Pouring station (P13B)
 - (3) Baghouse BH6400 used in conjunction with the Sand System (P32B, P33B, P34B, P35B, P36B, P37B, P39B)
 - (4) Baghouse BH6200 used in conjunction with the Cooling line (P14B), Shakeout unit (P16B), and Casting conveyors and desprue operations (P17B, P18B, P19B, P20B, P21B)
 - (5) Baghouse DC-8B used in conjunction with the Shotblast units (P40, P41, P42) and Casting conveyors and desprue operations (P17B, P18B, P19B, P20B, P21B);
 - (6) Baghouse DC-7 used in conjunction with the Casting conveyors and desprue operations (P17B, P18B, P19B, P20B, P21B);
- (b) In order to comply with Condition D.2.2(b), the Permittee shall perform VOC testing for the Pouring station (P13B), Cooling line (P14B), and Shakeout operations (P16B) no later than one hundred-eighty (180) days after removal of the advanced oxidation system or no later than five (5) years from the date of the most recent valid compliance demonstration, whichever occurs first, utilizing methods as approved by the Commissioner.
- (c) In order to comply with Condition D.2.5(b), the Permittee shall perform CO testing for the Pouring station (P13B), Cooling line (P14B), and Shakeout operations (P16B) utilizing methods as approved by the Commissioner.

The tests required in (a), (b), and (c) above shall be repeated 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.

D.2.11 Mold Vent Ignition

In order to comply with Condition D.2.2, the Permittee shall comply with the following mold vent off gas ignition requirements for the Pouring Station (P13b):

- (a) The Permittee shall operate the mold vent off gas ignition system for the Pouring Station (P13b) according to the mold vent ignition operation and maintenance plan submitted to IDEM, OAQ.
- (b) The Permittee shall prepare and submit the mold vent ignition operation and maintenance plan to the IDEM, OAQ.

The operation and maintenance plan must include procedures for igniting gases from mold vents in pouring areas and pouring stations that use a sand mold system. The plan must contain the elements below:

Procedures for providing an ignition source to mold vents of sand mold systems in each pouring area and pouring station unless the Permittee determine the mold vent gases either are not ignitable, ignite automatically, or cannot be ignited due to accessibility or safety issues. The Permittee shall document and maintain records of this determination. The determination of ignitability, accessibility, and safety may encompass multiple casting patterns provided the castings utilize similar sand-to-metal ratios, binder formulations, and coating materials. The determination of ignitability must be based on observations of the mold vents within 5 minutes of pouring, and the flame must be present for at least 15 seconds for the mold vent to be considered ignited. For the purpose of this determination:

- (i) Mold vents that ignite more than 75 percent of the time without the presence of an auxiliary ignition source are considered to ignite automatically; and
 - (ii) Mold vents that do not ignite automatically and cannot be ignited in the presence of an auxiliary ignition source more than 25 percent of the time are considered to be not ignitable.
- (C) The Permittee shall maintain a current copy of the mold vent ignition operation and maintenance plan onsite and make available for inspection upon request.

D.2.12 Emission Calculations [326 IAC2-7-6(1),(6)][326 IAC 2-1.1-11]

In order to demonstrate compliance with Condition D.2.5(b), the Permittee shall determine CO emissions for each month as follows:

$$CO = P_2 \times EF_{2CO} / 2000 \text{ lbs/ton}$$

Where: CO = CO emissions from Pouring station (P13B), Cooling line (P14B), Shakeout unit (P16B) in tons per month

P_2 = tons of metal poured on Pouring station (P13B), Cooling line (P14B), Shakeout unit (P16B) during the month

EF_{2CO} = The CO emission factor for Pouring station (P13B), Cooling line (P14B) and Shakeout unit (P16B), in pounds per ton, as determined by the latest stack test.

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

D.2.13 Visible Emissions Notations [40 CFR 64]

- (a) Visible emission notations of the indoor charge handling system and the stack exhausts for Baghouses DC-3A and DC-3B (Stack 3), Baghouse BH6400 (Stack 6400), Baghouse BH6200 (Stack 6200), and Baghouse DC-5 (Stack 5) shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

The above monitoring conditions satisfy the Compliance Assurance Monitoring (CAM) for PM and/or PM₁₀ for the Inoculation station (P11), Sand System (P32B, P33B, P34B, P35B, P36B, P37B, P39B), Pouring station (P13B), and Shakeout operations (P16B).

- (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 or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take reasonable response steps shall be considered a deviation from this permit.

D.2.14 Parametric Monitoring [40 CFR 64]

The Permittee shall record the pressure drop across baghouses DC-3A, DC-3B, BH6400, BH6200, DC-7, DC-8B, DC-5, and DC-13, at least once per day when the units are in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range, the Permittee shall take a reasonable response. The normal range for this unit is a pressure drop between 0.5 to 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 reasonable response steps shall be considered a deviation from this permit.

The instruments 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 or other time period specified by the manufacturer. The Permittee shall maintain records of the manufacturer specifications, if used.

The above monitoring conditions satisfy the Compliance Assurance Monitoring (CAM) for PM and/or PM₁₀ for the Inoculation station (P11), Sand System (P32B, P33B, P34B, P35B, P36B, P37B, P39B), Pouring station (P13B), Shakeout operations (P16B), Shotblast (P40, P41, P42), and Wheelabrator.

D.2.15 Broken or Failed Baghouse Detection

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

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

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

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

D.2.16 Record Keeping Requirements

- (a) To document the compliance status with Conditions D.2.2(c), D.2.3, D.2.5(a) and D.2.5(b), the Permittee shall maintain records of the tons of metal throughput in Plant 1 Melting, Finishing, and Casting operations per month;
- (b) To document the compliance status with Conditions D.2.5(a) the Permittee shall maintain records of the tons of sand throughput in the Sand System (P32B, P33B, P34B, P35B, P36B, P37B, P39B) per month;
- (c) To document the compliance status with Condition D.2.6(a), the Permittee shall maintain records of the tons of metal throughput in Grinders 3, 4, 5, 6, 7, 8, and 9.
- (d) To document the compliance status with Conditions D.2.11, the Permittee shall maintain a current copy of the mold vent ignition operation and maintenance plan onsite and make available for inspection upon request.
- (e) To document the compliance status with Condition D.2.13, the Permittee shall maintain a daily record of visible emission notations of the indoor charge handling system and stack exhaust from Stacks No. 3, 6400, 6200, and 5. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).
- (f) To document the compliance status with Condition D.2.14, the Permittee shall maintain a daily record of the pressure drop across each of the baghouses. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading (e.g. the process did not operate that day);
- (g) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the records required by this condition.

D.2.17 Reporting Requirements

A quarterly summary of the information to document the compliance status with Conditions 2.2(c), D.2.3, D.2.5(a), D.2.5(b) and D.2.6(a) 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 that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

SECTION D.3 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description: Plant 2

- (c) One (1) Ductile Iron Foundry Line, all units constructed in 1997 (unless otherwise specified), identified as Plant 2, consisting of the following:
- (1) One (1) Indoor Charge Handling system, identified as 1000A, modified in 2013, with a nominal capacity of 20 tons of metal per hour, using no control, and exhausting indoors;

This Indoor Charge Handling system (1000A) is common for the Ductile Iron Foundry Lines, identified as Plant 2 and Line 4.
 - (2) One (1) Ductile Iron Conversion Station, identified as 1150, modified in 2013, with a nominal capacity of 25 tons of metal per hour, using baghouse BH6010 for particulate control, and exhausting to stack No. 6010;

This Ductile Iron Conversion Station (1150) is common for the Ductile Iron Foundry Lines identified as Plant 2 and Line 4.
 - (3) One (1) Melting System, identified as 1110, modified in 2013, consisting of two (2) Electric Induction Furnaces, each with a nominal capacity of 10 tons of metal per hour, using baghouse BH6010 for particulate control, and exhausting to stack No. 6010;

These electric induction furnaces (1110) are common for the Ductile Iron Foundry Lines, identified as Plant 2 and Line 4.
 - (4) One (1) Electric Holding Furnace, with a maximum capacity of 10 tons of metal per hour, using no control, and exhausting indoors
 - (5) Two (2) natural gas-fired Ladle Heaters, identified as 6600 and 6610, each with a maximum heat input rate of 2.0 MMBtu per hour, using no control, and exhausting indoors;
 - (6) One (1) Pouring Station, identified as 2000, modified in 2013 to increase maximum throughput, with a nominal capacity of 20 tons of metal per hour, using baghouse BH6010 for particulate control, and exhausting to stack No. 6010;
 - (7) One (1) Mold Machine, identified as 2010, with a maximum capacity of 10 tons of metal per hour and 70 tons of sand per hour, using baghouse BH6010 for particulate control, and exhausting to stack No. 6010;

Baghouse BH6010 is a common control for the Ductile Iron Conversion Station (1150), Electric Induction Furnaces (1110), Pouring Station (2000), and Mold Machine (2010)
 - (8) One (1) Casting Conveyor System and one (1) Cooling Conveyor System, identified as 2015 and 2020, respectively, modified in 2009, with a maximum capacity of 10 tons of metal per hour and 70 tons of sand per hour, using baghouse BH6020 and BH6030 for particulate control, and exhausting to stack No. 6020, 6030A and 6030B;

(9) One (1) Casting Shakeout System, identified as 3010, replaced in 2009, with a maximum capacity of 10 tons of metal per hour and 70 tons of sand per hour, using baghouse BH6030 for particulate control, and exhausting to stack No. 6030A and 6030B;

(10) One (1) Sand and Waste Sand Handling System, identified as 4000, 4140 and 5000, with a maximum capacity of 70 tons of sand per hour, using baghouses BH6020 and BH6040 for particulate control, and exhausting to stack No. 6020 and 6040;

Baghouse BH6020 is a common control for Casting Conveyor System (2015) Cooling Conveyor System (2020), and Sand and Waste Sand Handling System (4000, 4140, 5000).

(11) One (1) Shotblast unit, identified as Final Blast 3090, with a maximum capacity of 10 tons of metal per hour, using baghouse BH6030, and exhausting to stack No. 6030A and 6030B; and

Baghouse BH6030 is a common control for Casting Conveyor System (2015) Cooling Conveyor System (2020), Casting Shakeout System (3010), and Final Blast 3090.

(12) One (1) Finishing operation consisting of trim presses, identified as 8000, with a maximum capacity of 5.5 tons of metal per hour, using no control, and exhausting indoors.

(13) Six (6) Bench Grinders, modified in 2013, with a total nominal capacity of 5.5 tons of metal per hour, exhausting inside/outside the building, and consisting of the following:

(A) Cells 1 and 2, using fabric filter AAF for particulate control;

(B) Cell 3, using fabric filter DC#3 for particulate control;

(C) Cell 4, controlled by fabric filter DC#4 for particulate control;

(D) Cell 11, controlled by fabric filter DC#1 for particulate control; and

(E) Cell 12 controlled by Aercology #1.

Under 40 CFR 63, Subpart EEEEE (5E), Plant 2 is considered an affected source.

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

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

D.3.1 PSD Minor Limit - PM and PM₁₀, VOC, and CO [326 IAC 2-2]

In order to render 326 IAC 2-2 not applicable:

- (a) PM emissions from the charge handling operation (1000A) shall not exceed 0.12 pound per hour.
- (b) PM₁₀ emissions from the charge handling operation (1000A) shall not exceed 0.12 pound per hour.

- (c) PM and PM₁₀ emissions and material throughput for the following units shall not exceed the following limits:

Control Device(s)	Emission Units (ID)	PM/ PM ₁₀ Emission Limitation (lb/ton material)	Material throughput (ton/12 consecutive months)
BH6010	Conversion station (1150), Induction furnaces (1110), Pouring station (2000), Mold machine (2010)	0.50 lbs/ton metal	61,500 tons of metal
N/A	Electric holding furnace	0.10 lbs/ton metal	
BH6030	Casting and cooling conveyors (2015, 2020), Casting shakeout (3010), Final blast shotblast unit (3090)	1.45 lbs/ton metal	
BH6020	Casting and cooling conveyors (2015, 2020), Sand and waste sand handling (4000, 4140, 5000)	0.11 lbs/ton sand	430,500 tons of sand
BH6040	Sand and waste sand handling (4000, 4140, 5000)	0.05 lbs/ton sand	
Fabric filters (AAF, DC#3, DC#4, DC#1, and Aerocology #1)	Finish trim presses (8000), 6 grinders (Cells 1,2,3,4,11,12)	0.06 lbs/ton metal	48,180 tons of metal

- (d) VOC emissions from Melting (1110), Inoculation (1150), Pouring (2000), the Casting conveyor & Cooling Conveyor system (2015 and 2020), and the Casting Shakeout system (3010) combined shall not exceed 0.8 pound per ton of metal throughput.
- (e) CO emissions from Pouring station (2000), Casting and cooling conveyors (2015, 2020), and Casting shakeout (3010) combined shall not exceed 3.2 pounds per ton of metal throughput.

Compliance with these throughput and emission limits, in addition to unlimited emissions from insignificant activities, limits PM, PM₁₀, VOC, and CO emissions from the units constructed in 1997 to less than 100 tons per year each. Therefore, the requirements of 326 IAC 2-2 (PSD) are not applicable to these units.

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

Pursuant to 326 IAC 6-3-2(e)(3), the allowable particulate emission rate from the facilities listed below shall be limited as specified when operating at the respective process weight rate:

Emission unit/process (Unit ID)	Control Device ID	Process Weight Rate (ton/hr)	Allowable emissions (lb/hr)
Indoor charge handling (1000A)	No control	20	30.51
Conversion Station (1150)	BH6010	25	35.43
Melting - Induction furnaces (1110)	BH6010	20	30.51
Electric holding furnace	No control	10	19.18
Pouring station (2000)	BH6010	20	30.51
Mold machine (2010)	BH6010	80*	49.06

Emission unit/process (Unit ID)	Control Device ID	Process Weight Rate (ton/hr)	Allowable emissions (lb/hr)
Casting conveyor system (2015)	BH6020 and BH6030	80*	49.06
Cooling conveyor system (2020)	BH6020 and BH6030		
Casting shakeout system (3010)	BH6030	80*	49.06
Sand waste and sand handling (4000,4140, 5000)	BH6020 and BH6040	70*	47.77
Shotblast unit (Final blast 3090)	BH6030	10	19.18
Finish trim presses (8000)	-	5.5	12.85
Bench grinders (Cells 1,2,3,4,11,12)	Fabric filters (AAF, DC#3, DC#4, DC#1, Aercology#1)	5.5	12.85

* Process weight includes metal and sand throughput

The pounds per hour limitations were calculated by the following:

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

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

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

OR

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

$$E = 55.0 * P^{0.11} - 40$$

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

D.3.3 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities and their control devices.

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

D.3.4 Particulate Control [326 IAC 2-7-6(6)]

In order to comply with Conditions D.3.1(a),(b),(f) and D.3.2 the dust collectors, baghouses, and fabric filters for particulate control shall be in operation and control emissions at all times the respective emission units are in operation.

D.3.5 Testing Requirements [326 IAC 2-1.1-11]

(a) In order to comply with Conditions D.3.1(c) and D.3.2, the Permittee shall perform PM and PM₁₀ testing for the following facilities utilizing methods as approved by the Commissioner:

- (1) Baghouse BH6010 used in conjunction with the Conversion station (1150), Induction furnaces (1110), Pouring station (2000) and Mold machine (2010);

- (2) Baghouse BH6020 used in conjunction with the Casting and cooling conveyors (2015, 2020) and Sand and waste sand handling (4000, 4140, 5000)
 - (3) Baghouse BH6030 used in conjunction with the Casting and cooling conveyors (2015, 2020), Casting shakeout (3010), and Final blast shotblast unit (3090)
 - (4) Baghouse BH6040 used in conjunction with the Sand and waste sand handling (4000, 4140, 5000)
 - (5) Fabric Filter AAF used in conjunction with the Grinder Cells #1 and 2
- (b) In order to comply with Conditions D.3.1(e), the Permittee shall perform VOC testing for Melting (1110), Inoculation (1150), Pouring (2000), the Casting conveyor & Cooling Conveyor system (2015 and 2020), and the Casting Shakeout system (3010) utilizing methods as approved by the Commissioner.
- (c) In order to comply with Conditions D.3.1(f), the Permittee shall perform CO testing for Pouring station (2000), Casting and cooling conveyors (2015, 2020), and Casting shakeout (3010) utilizing methods as approved by the Commissioner.

The tests required in (a), (b), and (c) above 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 2-7-5(1)][326 IAC 2-7-6(1)]

D.3.6 Visible Emissions Notations [40 CFR 64]

- (a) Visible emission notations of the indoor charge handling system (1000A) and the stack exhausts for Baghouse BH6010 (Stack 6010), Baghouse BH6020 (Stack 6020), Baghouse BH6030 (Stacks 6030A and 6030B), Baghouse BH6040 (Stack 6040), and Fabric filters AAF, DC#3, DC#4, DC#1, and Aercology #1 (when exhausting outside) shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

The above monitoring conditions satisfy the Compliance Assurance Monitoring (CAM) for PM, PM₁₀, and/or PM_{2.5} for the Conversion station (1150), Pouring station (2000), Sand waste and sand handling (4000, 4140, 5000), Shotblast unit (Final blast 3090), and Bench grinders (Cells 1, 2, 3, 4, 11, 12).

- (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 or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take reasonable response steps shall be considered a deviation from this permit.

D.3.7 Parametric Monitoring [40 CFR 64]

The Permittee shall record the pressure drop across baghouses BH6010, BH6020, BH6030, and BH6040, and fabric filters AAF, DC#3, DC#4, DC#1, and Aercology #1 at least once per day when the units are in operation. When for any one reading, the pressure drop across the baghouse or filter is outside the normal range, the Permittee shall take a reasonable response. The normal range for this unit is a pressure drop between 0.5 to 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 reasonable response steps shall be considered a deviation from this permit.

The instruments 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 or other time period specified by the manufacturer. The Permittee shall maintain records of the manufacturer specifications, if used.

The above monitoring conditions satisfy the Compliance Assurance Monitoring (CAM) for PM, PM₁₀, and/or PM_{2.5} for the Conversion station (1150), Pouring station (2000), Sand waste and sand handling (4000, 4140, 5000), Shotblast unit (Final blast 3090), and Bench grinders (Cells 1, 2, 3, 4, 11, 12).

D.3.8 Broken or Failed Baghouse Detection

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

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

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

D.3.9 Record Keeping Requirements

- (a) To document the compliance status with Condition D.3.1(c), the Permittee shall maintain records of the following:
 - (1) Tons of metal throughput in Plant 2 Ductile Iron Foundry Line per month;
 - (2) Tons of sand throughput in the Sand and Waste Sand Handling System (4000, 4140 and 5000) per month; and
 - (3) Tons of metal throughput in the Finishing operation (8000) and six (6) bench grinders (Cells, 1, 2, 3, 4, 11, and 12) per month.
- (b) To document the compliance status with Condition D.3.6, the Permittee shall maintain a daily record of visible emission notations of the indoor charge handling system (1000A)

and the stack exhausts from Stacks No. 6010, 6020, 6030, 6040 and the stack exhaust for fabric filters AAF, DC#3, DC#4, DC#1, and Aercology #1 (when exhausting outdoors). The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).

- (c) To document the compliance status with Condition D.3.7, the Permittee shall maintain a daily record of the pressure drop across each of the baghouses and fabric filters. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading (e.g. the process did not operate that day);
- (d) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the records required by this condition.

D.3.10 Reporting Requirements

A quarterly summary of the information to document the compliance status with Condition D.3.1(c) 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 that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

SECTION D.4 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description: Plant 2, Line 4

- (d) One (1) Ductile Iron Foundry Line, all units constructed in 2013 (unless otherwise specified), identified as Plant 2, Line 4, consisting of the following:
- (1) One (1) Electric Induction Furnace, identified as EU-N1, with a nominal capacity of 10 tons of metal per hour, using Baghouse DC-N1A for particulate control, and exhausting to Stack S-N1.
 - (2) One (1) Sand Handling System, identified as EU-N2A, and one (1) Return Sand Handling System, identified as EU-N2B, with a nominal capacity of 75 tons of sand per hour, both systems using Baghouse DC-N1B for particulate control, exhausting to Stack S-N1.
 - (3) One (1) Pouring Station, identified as EU-N3, with a nominal capacity of 15 tons of metal per hour, using Baghouse DC-N2 for particulate control and mold vent ignition system for VOC control, and exhausting to Stack S-N2.
 - (4) One (1) Cooling Line, identified as EU-N4, with a nominal capacity of 15 tons of metal per hour, using Baghouse DC-N2 for particulate control, and exhausting to Stack S-N2.
 - (5) One (1) Casting Shakeout System, identified as EU-N5, with a nominal capacity of 15 tons of metal per hour, using Baghouse DC-N2 for particulate control, and exhausting to Stack S-N2.
 - (6) One (1) Bad Heat Shakeout System, identified as EU-N5A, with a nominal capacity of 10 tons of metal per hour, using Baghouse DC-N2 for particulate control, and exhausting to Stack S-N2.
 - (7) One (1) Shot Blast Unit, identified as EU-N6, with a nominal capacity of 15 tons of metal per hour, using Baghouse DC-N2 for particulate control and exhausting to Stack S-N2.

Baghouse DC-N2 is common control for the Pouring Station (EU-N3), Cooling Line (EU-N4), Casting Shakeout system (EU-N5), Bad Heat Shakeout system (EU-N5A) and Shot Blast unit (EU-N6).

Under 40 CFR 63, Subpart EEEEE (5E), Plant 2, Line 4 is considered an affected source.

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

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

D.4.1 PSD BACT Limit - VOC [326 IAC 2-2][326 IAC 8-1-6]

The combined VOC emissions from the EU-N3, EU-N4, and EU-N5 shall not exceed 0.8 pounds per ton of iron and the VOC emissions from EU-N3 shall be controlled by a mold vent off gas ignition system.

D.4.2 PSD Minor Limit - PM and PM₁₀, VOC, and CO [326 IAC 2-2]

In order to render 326 IAC 2-2 not applicable:

The following emission units constructed in 2013 or portion of emission units modified in 2013 shall be limited as follows:

Line(s)	Emission Unit (ID)	Portion of throughput subject to limit
Plant 2, Line 4 (New units)	Electric induction furnace (EU-N1)	Entire unit
	Sand handling system (EU-N2A)	Entire unit
	Return sand handling system (EU-N2B)	Entire unit
	Pouring station (EU-N3)	Entire unit
	Cooling line (EU-N4)	Entire unit
	Casting shakeout system (EU-N5)	Entire unit
	Bad heat shakeout system (EU-N5A)	Entire unit
	Shot blast unit (EU-N6)	Entire unit
Plant 2 and Plant 2, Line 4 (Modified units)	Core sand bins and isocure cold box core machines (P4, P5, P6, P7)	Portion sent to Line 4
	Indoor change handling (1000A)	Portion sent to Line 4
	Conversion Station (1150)	Portion sent to Line 4
	Induction Furnaces (1110)	Portion sent to Line 4
	Six (6) grinders (Cells 1, 2, 3, 4, 11, and 12)	Portion sent to Line 4

- (a) The PM emissions shall be less than 25 tons per twelve consecutive month period, with compliance determined at the end of each month.
- (b) The PM₁₀ emissions shall be less than 15 tons per twelve consecutive month period, with compliance determined at the end of each month.
- (c) The PM_{2.5} emissions shall be less than 10 tons per twelve consecutive month period, with compliance determined at the end of each month.
- (d) The Lead emissions shall be less than 0.6 tons per twelve consecutive month period, with compliance determined at the end of each month.
- (e) The VOC emissions shall be less than 40 tons per twelve consecutive month period, with compliance determined at the end of each month.
- (f) The CO emissions shall be less than 100 tons per twelve consecutive month period, with compliance determined at the end of each month.

D.4.3 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2(e)(3), the allowable particulate emission rate from the facilities listed below shall be limited as specified when operating at the respective process weight rate:

Emission unit/process (Unit ID)	Dust collector/ Baghouse	Process Weight Rate (ton/hr)	Allowable emissions (lb/hr)
Electric induction furnace (EU-N1)	DC-N1A	10	19.18
Sand handling system (EU-N2A)	DC-N1B	75	48.43
Return sand handling system (EU-N2B)	DC-N1B		
Pouring station (EU-N3)	DC-N2	90*	83.58
Cooling line (EU-N4)	DC-N2	90*	83.58
Casting shakeout system (EU-N5)	DC-N2	90*	83.58
Bad heat shakeout system (EU-N5A)	DC-N2	85*	80.44
Shot blast unit (EU-N6)	DC-N2	15	25.16

* Process weight includes metal and sand throughput

The pounds per hour limitations were calculated by the following:

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

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

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

OR

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

$$E = 55.0 * P^{0.11} - 40$$

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

D.4.4 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities and their control devices.

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

D.4.5 Emission Calculations [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

In order to demonstrate compliance with Condition D.4.1, the Permittee shall determine the emissions for each month as below:

(a) PM

PM emissions (tons/month)	=	$\{(EFPM_{Charge} * H_{M4}) + (EFPM_{M4} * P_{M4}) + (EFPM_{M2} * P_{M3}) + (EFPM_{DIC} * P_{DIC4}) + (EFPM_{PCSS4} * P_{PCSS4}) + (EFPM_{Sand4} * P_{Sand4}) + (EFPM_{GRD} * P_{GRD4}) + (EFPM_{Core} * P_{M4})\} / 2000 \text{ lbs/ton}$
Where		
$EFPM_{Charge}$	=	PM emission factor (lb/hr) for Plant 2 Indoor Charge Handling System (1000A). 0.12 lb/hr shall be used. Since the Plant 2 Indoor Charge Handling System is common to both the Plant 2 and Line 4, the same lb/hr emission rate is used (PM Limit in Condition D.3.1(a)).
H_{M4}	=	Monthly hours (hr/month) during which the Plant 2 Indoor Charge Handling System (1000A) operated to feed metals at line 4.
$EFPM_{M4}$	=	PM emission factor (lb/ton of metal) for Induction Furnace (EU-N1) established during the most recent stack test. Until the test, 0.03 lb/ton emission factor shall be used.
P_{M4}	=	Monthly throughput of metal (tons/month) melted in Line 4 Induction Furnace (EU-N1)
$EFPM_{M2}$	=	PM emission factor (lb/ton metal) for Plant 2 Induction Furnaces (1110) established during the most recent stack test. Until the test, 0.03 lb/ton metal emission factor shall be used.
P_{M3}	=	Monthly throughput of metal (tons/month) melted in the Induction Furnace (1110) and poured on Line 4.
$EFPM_{DIC}$	=	PM emission factor (lb/ton metal) for the Plant 2 Ductile Iron Conversion process (1150) established during the most recent stack test. Until the test, 0.03 lb/ton metal emission factor shall be used.
P_{DIC4}	=	Monthly throughput of ductile iron (tons/month) poured on line 4.
$EFPM_{PCSS4}$	=	PM emission factor (lb/ton metal) for Line 4 Pouring, Cooling, Shakeout and Shotblast (EU-N3, EU-N4, EU-N5, EU-N5A and EU-N6) established during the most recent stack test. Until the test, 0.13 lb/ton metal emission factor shall be used.
P_{PCSS4}	=	Monthly throughput of metal (tons/month) poured on line 4.
$EFPM_{Sand4}$	=	PM emission factor (lb/ton sand) for Line 4 Sand Handling and Waste Sand Handling (EU-N2A and EU-N2B) established during the most recent stack test. Until the test, 0.014 lb/ton sand emission factor shall be used.
P_{Sand4}	=	Monthly throughput of sand (tons/month) for Sand Handling and Waste Sand Handling on line 4.
$EFPM_{GRD4}$	=	PM emission factor (lb/ton metal) for Cells 1 and 2 established during the most recent stack test. Until the test, 0.02 lb/ton metal emission factor shall be used.
P_{GRD4}	=	Monthly throughput of metal (tons/month) for Grinding Operations for Six (6) Bench Grinders (Cells 1, 2, 3, 4, 11, and 12) for grinding metal from Line 4.
$EFPM_{Core}$	=	PM emission factor (lb/ton metal) for Core production facilities. 0.014 lb/ton metal emission factor shall be used.

(b) PM_{10}

PM emissions (tons/month)	=	$\{(EF10_{Charge} * H_{M4}) + (EF10_{M4} * P_{M4}) + (EF10_{M2} * P_{M3}) + (EF10_{DIC} * P_{DIC4}) + (EF10_{PCSS4} * P_{PCSS4}) + (EF10_{Sand4} * P_{Sand4}) + (EF10_{GRD} * P_{GRD4}) + (EF10_{Core} * P_{M4})\} / 2000 \text{ lbs/ton}$
Where		
$EF10_{Charge}$	=	PM_{10} emission factor (lb/hr) for Plant 2 Indoor Charge Handling System (1000A). 0.12 lb/hr shall be used. Since the Plant 2 Indoor Charge Handling System is common to both the Plant 2 and Line 4, the same lb/hr emission rate is used (PM_{10} Limit in Condition D.3.1(b)).
H_{M4}	=	Monthly hours (hr/month) during which the Plant 2 Indoor Charge Handling System (1000A) operated to feed metals at line 4.
$EF10_{M4}$	=	PM_{10} emission factor (lb/ton of metal) for Induction Furnace (EU-N1) established during the most recent stack test. Until the test, 0.03 lb/ton emission factor shall be used.
P_{M4}	=	Monthly throughput of metal (tons/month) melted in Line 4 Induction Furnace (EU-N1)
$EF10_{M2}$	=	PM_{10} emission factor (lb/ton metal) for Plant 2 Induction Furnaces (1110) established during the most recent stack test. Until the test, 0.03 lb/ton metal emission factor shall be used.
P_{M3}	=	Monthly throughput of metal (tons/month) melted in the Induction Furnace (1110) and poured on Line 4.
$EF10_{DIC}$	=	PM_{10} emission factor (lb/ton metal) for the Plant 2 Ductile Iron Conversion process (1150) established during the most recent stack test. Until the test, 0.03 lb/ton metal emission factor shall be used.
P_{DIC4}	=	Monthly throughput of ductile iron (tons/month) poured on line 4.
$EF10_{PCSS4}$	=	PM_{10} emission factor (lb/ton metal) for Line 4 Pouring, Cooling, Shakeout and Shotblast (EU-N3, EU-N4, EU-N5, EU-N5A and EU-N6) established during the most recent stack test. Until the test, 0.13 lb/ton metal emission factor shall be used.
P_{PCSS4}	=	Monthly throughput of metal (tons/month) poured on line 4.
$EF10_{Sand4}$	=	PM_{10} emission factor (lb/ton sand) for Line 4 Sand Handling and Waste Sand Handling (EU-N2A and EU-N2B) established during the most recent stack test. Until the test, 0.014 lb/ton sand emission factor shall be used.
P_{Sand4}	=	Monthly throughput of sand (tons/month) for Sand Handling and Waste Sand Handling on line 4.
$EF10_{GRD4}$	=	PM_{10} emission factor (lb/ton metal) for Cells 1 and 2 established during the most recent stack test. Until the test, 0.02 lb/ton metal emission factor shall be used.
P_{GRD4}	=	Monthly throughput of metal (tons/month) for Grinding Operations for Six (6) Bench Grinders (Cells 1, 2, 3, 4, 11, and 12) for grinding metal from Line 4.
$EF10_{Core}$	=	PM_{10} emission factor (lb/ton metal) for Core production facilities. 0.014 lb/ton metal emission factor shall be used.

(c) $PM_{2.5}$

PM emissions (tons/month)	=	$\{(EF2.5_{Charge} * H_{M4}) + (EF2.5_{M4} * P_{M4}) + (EF2.5_{M2} * P_{M3}) + (EF2.5_{DIC} * P_{DIC4}) + (EF2.5_{PCSS4} * P_{PCSS4}) + (EF2.5_{Sand4} * P_{Sand4}) + (EF2.5_{GRD} * P_{GRD4}) + (EF2.5_{Core} * P_{M4})\} / 2000 \text{ lbs/ton}$
Where		
$EF2.5_{Charge}$	=	$PM_{2.5}$ emission factor (lb/hr) for Plant 2 Indoor Charge Handling System (1000A). 0.072 lb/hr shall be used. It is assumed that $PM_{2.5}$ emissions from Plant 2 Indoor Charge Handling System are 60% of the PM_{10} emissions from Plant 2 Indoor Charge Handling System.
H_{M4}	=	Monthly hours (hr/month) during which the Plant 2 Indoor Charge Handling System (1000A) operated to feed metals at line 4.
$EF2.5_{M4}$	=	$PM_{2.5}$ emission factor (lb/ton of metal) for Induction Furnace (EU-N1) established during the most recent stack test. Until the test, 0.03 lb/ton emission factor shall be used.
P_{M4}	=	Monthly throughput of metal (tons/month) melted in Line 4 Induction Furnace (EU-N1)
$EF2.5_{M2}$	=	$PM_{2.5}$ emission factor (lb/ton metal) for Plant 2 Induction Furnaces (1110) established during the most recent stack test. Until the test, 0.03 lb/ton metal emission factor shall be used.
P_{M3}	=	Monthly throughput of metal (tons/month) melted in the Induction Furnace (1110) and poured on Line 4.
$EF2.5_{DIC}$	=	$PM_{2.5}$ emission factor (lb/ton metal) for the Plant 2 Ductile Iron Conversion process (1150) established during the most recent stack test. Until the test, 0.03 lb/ton metal emission factor shall be used.
P_{DIC4}	=	Monthly throughput of ductile iron (tons/month) poured on line 4.
$EF2.5_{PCSS4}$	=	$PM_{2.5}$ emission factor (lb/ton metal) for Line 4 Pouring, Cooling, Shakeout and Shotblast (EU-N3, EU-N4, EU-N5, EU-N5A and EU-N6) established during the most recent stack test. Until the test, 0.13 lb/ton metal emission factor shall be used.
P_{PCSS4}	=	Monthly throughput of metal (tons/month) poured on line 4.
$EF2.5_{Sand4}$	=	$PM_{2.5}$ emission factor (lb/ton sand) for Line 4 Sand Handling and Waste Sand Handling (EU-N2A and EU-N2B) established during the most recent stack test. Until the test, 0.014 (lb/ton sand) emission factor shall be used.
P_{Sand4}	=	Monthly throughput of sand (tons/month) for Sand Handling and Waste Sand Handling on line 4.
$EF2.5_{GRD4}$	=	$PM_{2.5}$ emission factor (lb/ton metal) for Cells 1 and 2 established during the most recent stack test. Until the test, 0.02 lb/ton metal emission factor shall be used.
P_{GRD4}	=	Monthly throughput of metal (tons/month) for Grinding Operations for Six (6) Bench Grinders (Cells 1, 2, 3, 4, 11, and 12) for grinding metal from Line 4.
$EF2.5_{Core}$	=	$PM_{2.5}$ emission factor (lb/ton metal) for Core production facilities. 0.014 lb/ton metal emission factor shall be used.

(d) Lead

PM emissions (tons/month)	=	$\{(EF_{Lead_{M4}} * P_{M4}) + (EF_{Lead_{M2}} * P_{M3}) (EF_{Lead_{PCSS4}} * P_{PCSS4})\} / 2000$ lbs/ton
Where		
$EF_{Lead_{M4}}$	=	Lead emission factor (lb/ton of metal) for Induction Furnace (EU-N1) established during the most recent stack test. Until the test, 0.003 lb/ton emission factor shall be used.
P_{M4}	=	Monthly throughput of metal (tons/month) melted in Line 4 Induction Furnace (EU-N1)
$EF_{Lead_{M2}}$	=	Lead emission factor (lb/ton metal) for Plant 2 Induction Furnaces (1110) established during the most recent stack test. Until the test, 0.003 lb/ton metal emission factor shall be used.
P_{M3}	=	Monthly throughput of metal (tons/month) melted in the Induction Furnace (1110) and poured on Line 4.
$EF_{Lead_{PCSS4}}$	=	Lead emission factor (lb/ton metal) for Line 4 Pouring, Cooling, Shakeout and Shotblast (EU-N3, EU-N4, EU-N5, EU-N5A and EU-N6). 0.0002 lb/ton metal emission factor shall be used.

(e) VOC

VOC emissions (tons/month)	=	$\{(EF_{VOC_{PCSS}} + EF_{VOC_{Core}}) * P_M\} / 2000$ lbs/ton
Where		
$EF_{VOC_{PCS}}$	=	VOC emission factor (lb/ton metal) for Line 4 Pouring, Cooling, Shakeout (EU-N3, EU-N4, EU-N5, and EU-N5A) established during most recent stack test. Until the test, 0.8 lb/ton metal emission factor shall be used.
$EF_{VOC_{Core}}$	=	VOC emission factor lb/ton metal for Core production facilities. 1.72 lb/ton of core emission factor shall be used.
P_M	=	Monthly throughput of metal (tons/month) poured on line 4.

(f) CO

CO emissions (tons/month)	=	$(EFCO_{PCSS4} * P_{PCSS4}) / 2000$ lbs/ton
Where		
$EFCO_{PCS4}$	=	CO emission factor (lb/ton metal) for Line 4 Pouring, Cooling, Shakeout (EU-N3, EU-N4, EU-N5, and EU-N5A) established during most recent stack test. Until the test, 2.5 lb/ton metal emission factor shall be used.
P_{PCSS4}	=	Monthly throughput of metal (tons/month) poured on line 4.

D.4.6 Particulate Control [326 IAC 2-7-6(6)]

(a) In order to comply with Conditions D.4.2(a),(b),(c),(d), and D.4.3, the baghouses for particulate control shall be in operation and control emissions at all times the respective emission units are in operation.

(b) In order to comply with Conditions D.4.2(a),(b),(c),(d), and D.4.3, the Permittee shall install and operate continuous Bag leak detection systems (BLDSs) for the Baghouse DC-N1A and DC-N2.

The BLDS shall meet the following requirements:

- (i) The BLDSs must be certified by the manufacturer to be capable of detecting particulate matter emissions.
- (ii) The BLDS sensor must provide output of relative particulate matter loading.
- (iii) The BLDS must be equipped with an alarm system that will alarm when an increase in relative particulate loading is detected over a preset level.

- (iv) The BLDS shall be installed and operated in a manner consistent with available written guidance from the U.S. Environmental Protection Agency or, in the absence of such written guidance, the manufacturer's written specifications and recommendations for installation, operation, and adjustment of the system.
 - (v) The initial adjustment of the system shall, at a 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 and the alarm delay time.
 - (vi) In no event shall the sensitivity be increased by more than 100 percent or decreased by more than 50 percent over a 365 day period unless such adjustment follows a complete baghouse inspection, which demonstrates the baghouse is in good operating condition.
 - (vii) The bag detector must be installed downstream of the baghouses.
- (c) 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.4.7 Mold Vent Ignition

In order to comply with Conditions D.4.1 and D.4.2(f), the Permittee shall comply with the following mold vent off gas ignition requirements for EU-N3:

- (a) The Permittee shall operate the mold vent off gas ignition system for EU-N3 according to the mold vent ignition operation and maintenance plan approved by IDEM, OAQ.
- (b) The Permittee shall prepare and submit the mold vent ignition operation and maintenance plan to the IDEM, OAQ for approval.

The operation and maintenance plan must include procedures for igniting gases from mold vents in pouring areas and pouring stations that use a sand mold system. The plan must contain the elements below:

Procedures for providing an ignition source to mold vents of sand mold systems in each pouring area and pouring station unless the Permittee determine the mold vent gases either are not ignitable, ignite automatically, or cannot be ignited due to accessibility or safety issues. The Permittee shall document and maintain records of this determination. The determination of ignitability, accessibility, and safety may encompass multiple casting patterns provided the castings utilize similar sand-to-metal ratios, binder formulations, and coating materials. The determination of ignitability must be based on observations of the mold vents within 5 minutes of pouring, and the flame must be present for at least 15 seconds for the mold vent to be considered ignited. For the purpose of this determination:

- (i) Mold vents that ignite more than 75 percent of the time without the presence of an auxiliary ignition source are considered to ignite automatically; and
- (ii) Mold vents that do not ignite automatically and cannot be ignited in the presence of an auxiliary ignition source more than 25 percent of the time are considered to be not ignitable.

- (C) The Permittee shall maintain a current copy of the mold vent ignition operation and maintenance plan onsite approved by IDEM, OAQ and make available for inspection upon request.

D.4.8 Testing Requirements [326 IAC 2-1.1-11]

- (a) In order to show compliance with Conditions D.4.2 and D.4.3, the Permittee shall perform the following testing utilizing methods as approved by the Commissioner:
- (1) PM, PM₁₀, PM_{2.5} and Lead testing for the baghouse DC-N1A (Stack S-N1) controlling the Line 4 Induction Furnace EU-N1.
 - (2) PM, PM₁₀, PM_{2.5} and Lead testing for the baghouse controlling the Plant 2 Induction Furnace (1110) exhausting to stack No. 6010.
 - (3) PM, PM₁₀, and PM_{2.5} testing for the baghouse DC-N1B (Stack S-N1) controlling the Line 4 Sand Handling and Return Sand Handling System (EU-N2A and EU-N2B).
 - (4) PM, PM₁₀ and PM_{2.5} testing for the baghouse DC-N2 (Stack S-N2) controlling the following Line 4 operations: Pouring and Cooling (EU-N3 and EU-N4), Casting Shakeout (EU-N5) Bad Heat Shakeout (EU-N5A) and Shot Blast Unit (EU-N6).
 - (5) CO testing for the Stack S-N2 for the Line 4 Pouring, Cooling and Casting Shakeout (EU-N3 and EU-N4, EU-N5 and EU-N5A).
 - (6) PM, PM₁₀ and PM_{2.5} testing for the baghouse controlling the Plant 2 Ductile Iron Conversion Station (1150) exhausting to stack No. 6010.
- PM₁₀ and PM_{2.5} includes filterable and condensable PM.
- (b) In order to show compliance with Conditions D.4.1, D.4.2 and D.4.3(e), the Permittee shall perform VOC testing for the Pouring Station (EU-N3), Cooling Line (EU-N4) and Casting Shakeout System (EU-N5 and EU-N5A) utilizing methods as approved by the Commissioner.

The tests required in (a) and (b) above 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 2-7-5(1)][326 IAC 2-7-6(1)]

D.4.9 Visible Emissions Notations [40 CFR 64]

- (a) Visible emission notations of the indoor and the stack exhausts for Baghouse DC-N1B (Stack S-N1) shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

The above monitoring conditions satisfy the Compliance Assurance Monitoring (CAM) for PM, PM₁₀, and/or PM_{2.5} for the Sand handling system (EU-N2A) and Return sand handling system (EU-N2B).

- (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 or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take reasonable response steps shall be considered a deviation from this permit.

D.4.10 Parametric Monitoring [40 CFR 64]

- (a) The Permittee shall record the pressure drop across baghouses DC-N1A, DC-N1B, and DC-N2 at least once per day when the units are in operation. When for any one reading, the pressure drop across the baghouse or filter is outside the normal range, the Permittee shall take a reasonable response. The normal range for this unit is a pressure drop between 0.5 to 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 reasonable response steps shall be considered a deviation from this permit.

The instruments 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 or other time period specified by the manufacturer. The Permittee shall maintain records of the manufacturer specifications, if used.

- (b) An inspection shall be performed each calendar quarter of the Baghouse DC-N1A and DC-N2. All defective bags shall be replaced.

The above monitoring conditions satisfy the Compliance Assurance Monitoring (CAM) for PM, PM₁₀, and/or PM_{2.5} for the Sand handling system (EU-N2A), Return sand handling system (EU-N2B), Pouring station (EU-N3), Casting shakeout system (EU-N5), Bad heat shakeout system (EU-N5A), and Shot blast unit (EU-N6).

D.4.11 Broken or Failed Baghouse Detection

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

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

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

D.4.12 Record Keeping Requirements

- (a) To document the compliance status with Conditions D.4.1, the Permittee shall maintain monthly records of the following:
 - (1) Hours during which the Plant 2 Indoor Charge Handling System (1000A) operated to feed metals at line 4;
 - (2) Throughput of metal (tons) melted in Line 4 Induction Furnace (EU-N1);
 - (3) Throughput of metal (tons) melted in the Induction Furnace (1110) and poured on Line 4;
 - (4) Throughput of metal (tons) poured on line 4;
 - (5) Throughput of sand (tons) for Sand Handling and Waste Sand Handling on line 4;
 - (6) Throughput of metal (tons) for Grinding Operations for Six (6) Bench Grinders (Cells 1, 2, 3, 4, 11, and 12) for grinding metal from Line 4;
 - (7) PM, PM₁₀, PM_{2.5}, Lead, VOC, and CO emissions determined using the equations specified in Condition D.4.5.
- (b) To document the compliance status with Conditions D.4.7, the Permittee shall maintain a current copy of the mold vent ignition operation and maintenance plan onsite approved by IDEM, OAQ and make available for inspection upon request.
- (d) To document the compliance status with Condition D.4.8, the Permittee shall maintain a daily record of visible emission notations of the stack exhausts from Stack No. S-N2. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).
- (e) To document the compliance status with Condition D.4.9(a), the Permittee shall maintain a daily record of the pressure drop across each of the baghouses. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading (e.g. the process did not operate that day);
- (e) To document the compliance status with Condition D.4.9(b), the Permittee shall maintain records of the results of the inspections required under Condition 5.9(b).
- (f) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the records required by this condition.

D.4.13 Reporting Requirements

A quarterly summary of the information to document the compliance status with Conditions D.4.1 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 that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

SECTION D.5 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description: Insignificant Units

- (a) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) British thermal units per hour:
 - (1) Two (2) natural gas-fired boilers, identified as P40 and P41, constructed in 1988, with a maximum heat capacity of 0.9 and 1.2 million Btu per hour, respectively;
- (b) Degreasing operations that do not exceed one hundred forty-five (145) gallons per twelve (12) months, except if subject to 326 IAC 20-6: maintenance parts cleaner using mineral spirits solvent that is 100% recycled, with a maximum throughput of 120 gallons per 12 months;

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

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

D.5.1 Particulate [326 IAC 6-2-4]

Pursuant 326 IAC 6-2-4(a), particulate emissions from each of the boilers, identified as P40 and P41, shall not exceed 0.6 pound per million Btu heat input.

D.5.2 Volatile Organic Compounds (VOC) [326 IAC 8-3-2]

Pursuant to 326 IAC 8-3-2(a), the owner or operator of a cold cleaner degreaser shall ensure the following control equipment and operating requirements are met:

- (a) Equip the degreaser with a cover.
- (b) Equip the degreaser with a device for draining cleaned parts.
- (c) Close the degreaser cover whenever parts are not being handled in the degreaser.
- (d) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases.
- (e) Provide a permanent, conspicuous label that lists the operating requirements in subdivisions (3), (4), (6), and (7).
- (f) Store waste solvent only in closed containers.
- (g) Prohibit the disposal or transfer of waste solvent in such a manner that could allow greater than twenty percent (20%) of the waste solvent (by weight) to evaporate into the atmosphere.

SECTION D.6 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description: Shot blast units

- (e) One (1) shot blast operation associated with Plant 2, identified as Sprue Blast, approved in 2014 for construction, with a maximum throughput of 25 tons of metal per hour and 625 pounds of abrasive (steel shot) per hour, controlled by a baghouse, and exhausting to stack SB-1;
- (f) One (1) Die Quench Operation, identified as Die Quench, approved in 2014 for construction, and consisting of the following:
 - (1) One (1) shot blast operation, with a maximum throughput of 336 pounds of metal per hour and 625 pounds of abrasive (steel shot) per hour, controlled by a baghouse, and exhausting to stack DQ-1;
 - (2) One (1) spot welding operation;
 - (3) Four (4) electric chillers;
 - (4) One (1) electric IR oven for heat treatment; and
 - (5) One (1) 500-gallon rust proofing dip tank, utilizing a water-based rust inhibitor containing no solvents or petroleum products.

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

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

D.6.1 PSD Minor Limit - PM₁₀ and PM_{2.5} [326 IAC 2-2]

In order to render 326 IAC 2-2 not applicable, the Permittee shall comply with the following:

- (a) PM₁₀ emissions from the Sprue Blast operation shall not exceed 1.71 pounds per hour;
- (b) PM_{2.5} emissions from the Sprue Blast operation shall not exceed 1.14 pounds per hour;
- (c) PM₁₀ emissions from the Die Quench shot blast operation shall not exceed 1.71 pounds per hour; and
- (d) PM_{2.5} emissions from the Die Quench shot blast operation shall not exceed 1.14 pounds per hour.

Compliance with these emission limits, limits PM₁₀, and PM_{2.5} emissions from these units approved in 2014 for construction to less than 15 and 10 tons per year, respectively. Therefore, the requirements of 326 IAC 2-2 (PSD) are not applicable to these units.

D.6.2 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2(e)(3), the allowable particulate emission rate from the:

- (a) Sprue Blast operation shall not exceed 35.73 pounds per hour when operating at process weight rates of 25.31 tons per hour and
- (b) Die Quench shot blast operation shall not exceed 2.51 pounds per hour when operating at process weight rates of 0.48 tons per hour.

The pounds per hour limitations were calculated by the following:

Interpolation of the data for process weight rates 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.6.3 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities and their control devices.

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

D.6.4 Particulate Control [326 IAC 2-7-6(6)]

In order to comply with Conditions D.6.1 and D.6.2, the dust collectors for particulate control shall be in operation and control emissions at all times the respective emission units are in operation.

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

D.6.5 Visible Emissions Notations

- (a) Visible emission notations of the stack exhausts for the Sprue Blast operation (Stack SB-1) and the Die Quench shot blast operation (Stack DQ-1) shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) If abnormal emissions are observed, the Permittee shall take a reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take reasonable response steps shall be considered a deviation from this permit.

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

D.6.6 Record Keeping Requirements

- (a) To document the compliance status with Condition D.6.5, the Permittee shall maintain a daily record of visible emission notations of the Sprue blast and Die quench blast operation stack exhaust from Stacks SB-1 and DQ-1. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).
- (b) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the records required by this condition.

SECTION D.7 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description: dual grinding unit (EUG-20)

- (g) One (1) dual grinding unit, identified as EUG-20, approved in 2015 for construction, with a maximum capacity of 0.77 tons of metal per hour, using a baghouse (BH-20) as control and exhausting inside.

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

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

D.7.1 PSD Minor Limit - PM [326 IAC 2-2]

In order to render 326 IAC 2-2 not applicable, the PM emissions after control from the dual grinding unit (EUG-20) shall not exceed 3.44 pounds per hour.

Compliance with this limit will ensure that the PM PTE from the dual grinding unit (EUG-20) is less than 25 tons per year, and therefore will render the requirements of 326 IAC 2-2 not applicable to the dual grinding unit (EUG-20) (also referred to as the 2015 Modification).

D.7.2 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from the dual grinding unit (EUG-20) shall not exceed 3.44 pounds per hour when operating at a process weight rate of 0.77 tons per hour. 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:

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

D.7.3 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

A Preventive Maintenance Plan is required for this facility and its control device. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

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

D.7.4 Particulate Control [326 IAC 2-7-6(6)]

In order to comply with Conditions D.7.1 and D.7.2, the baghouse (BH-20) for particulate control shall be in operation and control emissions at all times the dual grinding unit (EUG-20) is in operation.

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

D.7.5 Baghouse Inspections

An inspection shall be performed each calendar quarter for the baghouse (BH-20) controlling the dual grinding unit (EUG-20). All defective bags shall be replaced.

D.7.6 Parametric Monitoring

The Permittee shall record the pressure drop across the baghouse (BH-20) used in conjunction with the dual grinding unit (EUG-20), at least once per day when the dual grinding unit (EUG-20) is in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 3 and 6 inches of water or a range established during the latest stack test, 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. 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.

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.7.7 Broken or Failed Bag Detection

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

Record Keeping Requirements [326 IAC 2-7-5(3)][326 IAC 2-7-19]

D.7.8 Record Keeping Requirement

- (a) To document the compliance status with Condition D.7.5, the Permittee shall maintain records of the results of the inspections required under Condition D.7.5.
- (b) To document the compliance status with Condition D.7.6, the Permittee shall maintain daily records of the pressure drop across the baghouse (BH-20) controlling the dual grinding unit (EUG-20). The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading, (i.e. the process did not operate that day).
- (c) Section C - General Record Keeping Requirements, of this permit contains the Permittee's obligations with regard to the records required by this condition.

SECTION E.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (a) Core production facilities, for producing cores for all three ductile iron foundry lines (Plant 1, Plant 2, Plant 2, and Line 4), consisting of:
- (1) Three (3) Core Sand Bins, constructed in 1988, and using a dust collector for particulate control, identified as DC-9, and exhausting to stack No. 9;
 - (2) Four (4) Isocure Cold Box Core Machines, identified as P4, P5, P6, constructed in 1988, and P7, constructed in 1994, each with a maximum capacity of processing 0.5 ton of core sand per hour, 8.0 pounds of resin per ton of core sand per hour, and 1.12 pounds of DMIPA catalyst per ton of core sand, using no control, and exhausting to stacks No. 10A and 10B.

Under 40 CFR 63, Subpart EEEEE (5E), the core production facilities are considered an affected source.

Plant 1

- (b) One (1) Ductile Iron Foundry Line, identified as Plant 1, consisting of the following:
- (1) Melting and Finishing operations, all units constructed in 1988 (unless otherwise specified), consisting of:
 - (A) One (1) Indoor Charge Handling System, with a total maximum capacity of 20 tons of metal per hour;

The maximum throughput of metal for the Charge Handling System is limited to 20 tons per hour by the Power Control System.
 - (B) One (1) Melting System, identified as P8, with a total maximum capacity of 20 tons of metal per hour, consisting of three (3) Electric Induction Furnaces, identified as P1, P2, and P3, each with a maximum throughput capacity of 10 tons of metal per hour, using two (2) baghouses for particulate control, identified as DC-3A and DC-3B, and exhausting to common stack No. 3;

The maximum throughput of metal for the Melting System is limited to 20 tons per hour by the maximum throughput from the Indoor Charge Handling system.
 - (C) One (1) Holding system consisting of the following equipment:
 - (i) Two (2) Electric Holding Furnaces, identified as P9, each with a holding capacity of 50 tons and a total maximum throughput capacity of 100 tons of metal per hour, using no control, and exhausting indoors;
 - (ii) Four (4) natural gas-fired Ladle Heaters, collectively identified as P10, all constructed in 2004, using no control, and exhausting indoors:
 - (a) Two (2) of which are metal treatment ladle heaters, each with a maximum heat input capacity of 1.0 MMBtu/hr, and

(b) Two (2) of which are pouring ladle heaters, each with a maximum heat input capacity of 0.4 MMBtu/hr,

- (D) One (1) Inoculation system, identified as P11, replaced in 2004, consisting of two (2) metal treatment ladles, each with a maximum throughput capacity of 10 tons of metal per hour, each ladle is using a baghouse (DC-3A and DC-3B) for particulate control, and exhausting to a common stack No. 3; and

Baghouse DC-3A is a common control for the Melting System and Inoculation system.

- (E) Seven (7) grinders, identified as Grinders 3 and 4, constructed in 1988, and Grinders 5 through 9, constructed in 2009, with a total maximum capacity of 12 tons of metal per hour, using four (4) dust collectors for particulate control, and exhausting inside the building.

Grinders 3, 4, and 5 share a common dust collector, while Grinders 6 to 9 each has its own dust collector.

- (2) One (1) Casting Line, identified as Casting Line 2, constructed in 2004 and approved in 2016 for modification to remove the advanced oxidation system, consisting of the following equipment:

- (A) One (1) Sand System, consisting of seven (7) units, identified as P32B, P33B, P34B, P35B, P36B, P37B and P39B, with a total maximum capacity of 70 tons of sand per hour, using baghouse BH6400 for particulate control, and exhausting to stack No. 6400;

- (B) One (1) Pouring station, identified as P13B, with a maximum capacity of 15 tons of metal poured per hour, using baghouse DC-3B for particulate control and a mold vent ignition system for VOC control, and exhausting to stack No. 3;

Baghouse DC-3B is a common control for the Melting System, Inoculation system, and Pouring Station.

- (C) One (1) Cooling line, identified as P14B, with a maximum capacity of 15 tons of metal per hour, using baghouse BH6200 for particulate control, and exhausting to stack No. 6200;

- (D) One (1) Shakeout unit, identified as P16B, with a maximum capacity of 15 tons of metal per hour, using baghouse BH6200 for particulate control, and exhausting to stack No. 6200;

- (E) One (1) Bad Heat Shakeout unit controlled by baghouse DC-5, and exhausting to stack No. 5;

- (F) Casting Conveyors and Desprue operations, identified as P17B, P18B, P19B, P20B, P21B and P22B, with a maximum capacity of 15 tons of metal per hour, using three (3) baghouses for particulate control, DC-7 and DC-8B, both exhausting inside the building, and BH6200, exhausting to stack No. 6200; and

Baghouse BH6200 is common control for the Cooling line, Shakeout unit, Casting Conveyors, and Desprue operations.

- (G) Three (3) Shotblast units, identified as P40, P41 and P42, each with a maximum capacity of 5.3 tons of metal per hour and a total maximum capacity of 9.0 tons of metal per hour, all shotblasting units using baghouse DC-8B for particulate control, and exhausting inside the building.

Baghouse DC-8B is common control for the Casting Conveyors, Desprue operations, and Shotblast units.

- (3) One (1) Shotblast unit, identified as Wheelabrator MeshBelt Blast, constructed in 2001, with a maximum capacity of 11.0 tons of metal per hour, using baghouse DC-13 for particulate control, and exhausting internally.

Under 40 CFR 63, Subpart EEEEE (5E), Plant 1 is considered an affected source.

Plant 2

- (c) One (1) Ductile Iron Foundry Line, all units constructed in 1997 (unless otherwise specified), identified as Plant 2, consisting of the following:

- (1) One (1) Indoor Charge Handling system, identified as 1000A, modified in 2013, with a nominal capacity of 20 tons of metal per hour, using no control, and exhausting indoors;

This Indoor Charge Handling system (1000A) is common for the Ductile Iron Foundry Lines, identified as Plant 2 and Line 4.

- (2) One (1) Ductile Iron Conversion Station, identified as 1150, modified in 2013, with a nominal capacity of 25 tons of metal per hour, using baghouse BH6010 for particulate control, and exhausting to stack No. 6010;

This Ductile Iron Conversion Station (1150) is common for the Ductile Iron Foundry Lines identified as Plant 2 and Line 4.

- (3) One (1) Melting System, identified as 1110, modified in 2013, consisting of two (2) Electric Induction Furnaces, each with a nominal capacity of 10 tons of metal per hour, using baghouse BH6010 for particulate control, and exhausting to stack No. 6010;

These electric induction furnaces (1110) are common for the Ductile Iron Foundry Lines, identified as Plant 2 and Line 4.

- (4) One (1) Electric Holding Furnace, with a maximum capacity of 10 tons of metal per hour, using no control, and exhausting indoors

- (5) Two (2) natural gas-fired Ladle Heaters, identified as 6600 and 6610, each with a maximum heat input rate of 2.0 MMBtu per hour, using no control, and exhausting indoors;

- (6) One (1) Pouring Station, identified as 2000, modified in 2013 to increase maximum throughput, with a nominal capacity of 20 tons of metal per hour, using baghouse BH6010 for particulate control, and exhausting to stack No. 6010;

- (7) One (1) Mold Machine, identified as 2010, with a maximum capacity of 10 tons of metal per hour and 70 tons of sand per hour, using baghouse BH6010 for particulate control, and exhausting to stack No. 6010;

Baghouse BH6010 is a common control for the Ductile Iron Conversion Station (1150), Electric Induction Furnaces (1110), Pouring Station (2000), and Mold Machine (2010)

- (8) One (1) Casting Conveyor System and one (1) Cooling Conveyor System, identified as 2015 and 2020, respectively, modified in 2009, with a maximum capacity of 10 tons of metal per hour and 70 tons of sand per hour, using baghouse BH6020 and BH6030 for particulate control, and exhausting to stack No. 6020, 6030A and 6030B;
- (9) One (1) Casting Shakeout System, identified as 3010, replaced in 2009, with a maximum capacity of 10 tons of metal per hour and 70 tons of sand per hour, using baghouse BH6030 for particulate control, and exhausting to stack No. 6030A and 6030B;
- (10) One (1) Sand and Waste Sand Handling System, identified as 4000, 4140 and 5000, with a maximum capacity of 70 tons of sand per hour, using baghouses BH6020 and BH6040 for particulate control, and exhausting to stack No. 6020 and 6040;

Baghouse BH6020 is a common control for Casting Conveyor System (2015) Cooling Conveyor System (2020), and Sand and Waste Sand Handling System (4000, 4140, 5000).

- (11) One (1) Shotblast unit, identified as Final Blast 3090, with a maximum capacity of 10 tons of metal per hour, using baghouse BH6030, and exhausting to stack No. 6030A and 6030B; and

Baghouse BH6030 is a common control for Casting Conveyor System (2015) Cooling Conveyor System (2020), Casting Shakeout System (3010), and Final Blast 3090.

- (12) One (1) Finishing operation consisting of trim presses, identified as 8000, with a maximum capacity of 5.5 tons of metal per hour, using no control, and exhausting indoors.
- (13) Six (6) Bench Grinders, modified in 2013, with a total nominal capacity of 5.5 tons of metal per hour, exhausting inside/outside the building, and consisting of the following:
 - (A) Cells 1 and 2, using fabric filter AAF for particulate control;
 - (B) Cell 3, using fabric filter DC#3 for particulate control;
 - (C) Cell 4, controlled by fabric filter DC#4 for particulate control;
 - (D) Cell 11, controlled by fabric filter DC#1 for particulate control; and
 - (E) Cell 12 controlled by Aercology #1.

Under 40 CFR 63, Subpart EEEEE (5E), Plant 2 is considered an affected source.

Line 4 in Plant 2

- (d) One (1) Ductile Iron Foundry Line, all units constructed in 2013 (unless otherwise specified), identified as Plant 2, Line 4, consisting of the following:

- (1) One (1) Electric Induction Furnace, identified as EU-N1, with a nominal capacity of 10 tons of metal per hour, using Baghouse DC-N1A for particulate control, and exhausting to Stack S-N1.
- (2) One (1) Sand Handling System, identified as EU-N2A, and one (1) Return Sand Handling System, identified as EU-N2B, with a nominal capacity of 75 tons of sand per hour, both systems using Baghouse DC-N1B for particulate control, exhausting to Stack S-N1.
- (3) One (1) Pouring Station, identified as EU-N3, with a nominal capacity of 15 tons of metal per hour, using Baghouse DC-N2 for particulate control and mold vent ignition system for VOC control, and exhausting to Stack S-N2.
- (4) One (1) Cooling Line, identified as EU-N4, with a nominal capacity of 15 tons of metal per hour, using Baghouse DC-N2 for particulate control, and exhausting to Stack S-N2.
- (5) One (1) Casting Shakeout System, identified as EU-N5, with a nominal capacity of 15 tons of metal per hour, using Baghouse DC-N2 for particulate control, and exhausting to Stack S-N2.
- (6) One (1) Bad Heat Shakeout System, identified as EU-N5A, with a nominal capacity of 10 tons of metal per hour, using Baghouse DC-N2 for particulate control, and exhausting to Stack S-N2.
- (7) One (1) Shot Blast Unit, identified as EU-N6, with a nominal capacity of 15 tons of metal per hour, using Baghouse DC-N2 for particulate control and exhausting to Stack S-N2.

Baghouse DC-N2 is common control for the Pouring Station (EU-N3), Cooling Line (EU-N4), Casting Shakeout system (EU-N5), Bad Heat Shakeout system (EU-N5A) and Shot Blast unit (EU-N6).

Under 40 CFR 63, Subpart EEEEE (5E), Plant 2, Line 4 is considered an affected source.

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

National Emission Standards for Hazardous Air Pollutants (NESHAP) Requirements [40 CFR Part 63][326 IAC 2-7-5(1)]

E.1.1 General Provisions Relating to NESHAP [326 IAC 20-1][40 CFR Part 63, Subpart A]

- (a) Pursuant to 40 CFR Part 63.7760, 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 1 of 40 CFR Part 63, Subpart EEEEE (5E).
- (b) Pursuant to 40 CFR 63.10, 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.1.2 NESHAP for Iron and Steel Foundries [326 IAC 20-92][40 CFR Part 63, Subpart EEEEE (5E)]

The Permittee shall comply with the following provisions of 40 CFR Part 63, Subpart EEEEE (5E), which are incorporated by reference as 326 IAC 20-92, for the facilities listed in Section E.1. The full text of Subpart EEEEE (5E) may be found in Attachment A to the operating permit.

- (a) 40 CFR 63.7680
- (b) 40 CFR 63.7681
- (c) 40 CFR 63.7682
- (d) 40 CFR 63.7683(a),(b),(f)
- (e) 40 CFR 63.7690(a)(1)(i),(5)(i),(7)
- (f) 40 CFR 63.7700(a),(b)
- (g) 40 CFR 63.7710(a),(b)(1),(3) through (6)
- (h) 40 CFR 63.7720
- (i) 40 CFR 63.7730(a),(b)
- (j) 40 CFR 63.7731
- (k) 40 CFR 63.7732(a),(b)(1),(2),(4);(c)(1),(2),(4);(d);(h)
- (l) 40 CFR 63.7733(a),(e),(f)
- (m) 40 CFR 63.7734(a)(1)(i),(5)(i),(7);(b)(1)
- (n) 40 CFR 63.7735(a)
- (o) 40 CFR 63.7736(c), (d)
- (p) 40 CFR 63.7740(b)
- (q) 40 CFR 63.7741(b)
- (r) 40 CFR 63.7742
- (s) 40 CFR 63.7743(a)(1)(i),(5)(i),(7),(12);(c)
- (t) 40 CFR 63.7744(a)
- (u) 40 CFR 63.7745
- (v) 40 CFR 63.7746
- (w) 40 CFR 63.7750(a),(b),(d),(e)
- (x) 40 CFR 63.7751
- (y) 40 CFR 63.7752(a),(c)
- (z) 40 CFR 63.7753
- (aa) 40 CFR 63.7760
- (bb) 40 CFR 63.7761
- (cc) 40 CFR 63.7765
- (dd) Table 1 to Subpart EEEEE of Part 63

SECTION E.2 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (j) One (1) 469 hp diesel-fired emergency generator located in Plant 2, Line 4, identified as EG3, and approved for construction in 2013.

Under 40 CFR 63, Subpart ZZZZ, EG3 is considered a new stationary RICE.

Under 40 CFR 60, Subpart IIII, EG3 is considered an affected source.

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

Standards of Performance for New Stationary Sources (NSPS) Requirements [40 CFR Part 60][326 IAC 2-7-5(1)]

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

- (a) Pursuant to 40 CFR Part 60.1, the Permittee shall comply with the 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 Part 60, Subpart IIII (4I).

- (b) Pursuant to 40 CFR 60.19, 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 NSPS for Stationary Compression Ignition Internal Combustion Engines [326 IAC 12-1][40 CFR Part 60, Subpart IIII (4I)]

The Permittee shall comply with the following provisions of 40 CFR Part 60, Subpart IIII (4I), which are incorporated by reference as 326 IAC 12, for the facilities listed in Section E.3. The full text of Subpart IIII (4I) may be found in Attachment B to the operating permit.

- (a) 40 CFR 60.4200(a)(2)
(b) 40 CFR 60.4205(b)
(c) 40 CFR 60.4206
(d) 40 CFR 60.4207(b)
(e) 40 CFR 60.4209(a)
(f) 40 CFR 60.4211(a), (c), and (f)
(g) 40 CFR 60.4214(b)
(h) 40 CFR 60.4218
(i) 40 CFR 60.4219

SECTION E.3 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (h) One (1) 429 hp diesel-fired emergency generator located in Plant 1, identified as EG1, and installed in 1989;

Under 40 CFR 63, Subpart ZZZZ, EG1 is considered an existing stationary RICE.

- (i) One (1) 469 hp diesel-fired emergency generator located in Plant 2, identified as EG2, and installed in 1998; and

Under 40 CFR 63, Subpart ZZZZ, EG2 is considered an existing stationary RICE.

- (j) One (1) 469 hp diesel-fired emergency generator located in Plant 2, Line 4, identified as EG3, and approved for construction in 2013.

Under 40 CFR 63, Subpart ZZZZ, EG3 is considered a new stationary RICE.

Under 40 CFR 60, Subpart IIII, EG3 is considered an affected source.

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

National Emission Standards for Hazardous Air Pollutants (NESHAP) Requirements [40 CFR Part 63][326 IAC 2-7-5(1)]

E.3.1 General Provisions Relating to NESHAP [326 IAC 20-1][40 CFR Part 63, Subpart A]

- (a) Pursuant to 40 CFR Part 63.6665, 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 8 of 40 CFR Part 63, Subpart ZZZZ (4Z).

- (b) Pursuant to 40 CFR 63.10, 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.3.2 NESHAP for Stationary Reciprocating Internal Combustion Engines [326 IAC 20-82][40 CFR Part 63, Subpart ZZZZ (4Z)]

- (a) The Permittee shall comply with the following provisions of 40 CFR Part 63, Subpart ZZZZ (4Z) for EG1 and EG2, which are incorporated by reference as 326 IAC 20-82, for the facilities listed in Section E.4. The full text of Subpart ZZZZ (4Z) may be found in Attachment C to the operating permit.

- (1) 40 CFR 63.6580
- (2) 40 CFR 63.6585
- (3) 40 CFR 63.6590(a)(1)(i)
- (4) 40 CFR 63.6595(a)(1)
- (5) 40 CFR 63.6602
- (6) 40 CFR 63.6605
- (7) 40 CFR 63.6625(e)(2)
- (8) 40 CFR 63.6640(f)(1)

- (9) 40 CFR 63.6645(a)(5)
- (10) 40 CFR 63.6655(e)(2)
- (11) 40 CFR 63.6660
- (12) 40 CFR 63.6665
- (13) 40 CFR 63.6670
- (14) 40 CFR 63.6675

(b) The Permittee shall comply with the following provisions of 40 CFR Part 63, Subpart ZZZZ (4Z) for EG3, which are incorporated by reference as 326 IAC 20-82, for the facilities listed in Section E.4. The full text of Subpart ZZZZ (4Z) may be found in Attachment C to this permit.

- (1) 40 CFR 63.6580
- (2) 40 CFR 63.6585
- (3) 40 CFR 63.6590(c)(6)

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH
PART 70 OPERATING PERMIT
CERTIFICATION**

Source Name: INTAT Precision, Inc.
Source Address: 2148 State Road 3 North, Rushville, Indiana 46173
Part 70 Permit No.: T139-34150-00011

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

Please check what document is being certified:

- Annual Compliance Certification Letter
- Test Result (specify)
- Report (specify)
- Notification (specify)
- Affidavit (specify)
- Other (specify)

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

Signature:

Printed Name:

Title/Position:

Phone:

Date:

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
Phone: (317) 233-0178
Fax: (317) 233-6865

PART 70 OPERATING PERMIT
EMERGENCY OCCURRENCE REPORT

Source Name: INTAT Precision, Inc.
Source Address: 2148 State Road 3 North, Rushville, Indiana 46173
Part 70 Permit No.: T139-34150-00011

This form consists of 2 pages

Page 1 of 2

- This is an emergency as defined in 326 IAC 2-7-1(12)
- The Permittee must notify the Office of Air Quality (OAQ), within four (4) business hours (1-800-451-6027 or 317-233-0178, ask for Compliance Section); and
 - The Permittee must submit notice in writing or by facsimile within two (2) working days (Facsimile Number: 317-233-6865), and follow the other requirements of 326 IAC 2-7-16.

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

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

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

Page 2 of 2

Date/Time Emergency started:
Date/Time Emergency was corrected:
Was the facility being properly operated at the time of the emergency? Y N
Type of Pollutants Emitted: TSP, PM-10, SO ₂ , VOC, NO _x , CO, Pb, other:
Estimated amount of pollutant(s) emitted during emergency:
Describe the steps taken to mitigate the problem:
Describe the corrective actions/response steps taken:
Describe the measures taken to minimize emissions:
If applicable, describe the reasons why continued operation of the facilities are necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw materials of substantial economic value:

Form Completed by: _____

Title / Position: _____

Date: _____

Phone: _____

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH**

Part 70 Quarterly Report

Source Name: INTAT Precision, Inc.
Source Address: 2148 State Road 3 North, Rushville, Indiana 46173
Part 70 Permit No.: T139-34150-00011
Facility: Plant 1 Melting, Finishing, and Casting operations
Parameter: Metal throughput
Limit: 79,000 tons per twelve (12) consecutive months

QUARTER :

YEAR:

Month	This Month	Previous 11 Months	12 Month Total

No deviation occurred in this quarter.

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

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

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH**

Part 70 Quarterly Report

Source Name: INTAT Precision, Inc.
Source Address: 2148 State Road 3 North, Rushville, Indiana 46173
Part 70 Permit No.: T139-34150-00011
Facility: Pouring station (P13B), Cooling line (P14B), Shakeout unit (P16B)
Parameter: CO emissions
Limit: 98.75 tons per twelve (12) consecutive months

QUARTER:

YEAR:

Month	This Month	Previous 11 Months	12 Month Total

- No deviation occurred in this quarter.
- Deviation/s occurred in this quarter.
Deviation has been reported on:

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

**INDIANA DEPARTMENT OF ENVIRONMENTAL
MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH**

Part 70 Quarterly Report

Source Name: INTAT Precision, Inc.
Source Address: 2148 State Road 3 North, Rushville, Indiana 46173
Part 70 Permit No.: T139-34150-00011
Facility: Plant 1 Sand System (P32B, P33B, P34B, P35B, P36B, P37B, P39B)
Parameter: Sand throughput
Limit: 368,667 tons per twelve (12) consecutive months

QUARTER :

YEAR:

Month	This Month	Previous 11 Months	12 Month Total

No deviation occurred in this quarter.

Deviation/s occurred in this quarter.

Deviation has been reported on:

Submitted by: _____

Title / Position: _____

Signature: _____

Date: _____

Phone: _____

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH**

Part 70 Quarterly Report

Source Name: INTAT Precision, Inc.
Source Address: 2148 State Road 3 North, Rushville, Indiana 46173
Part 70 Permit No.: T139-34150-00011
Facility: Plant 2 Ductile Iron Foundry Line
Parameter: Metal throughput
Limit: 61,500 tons per twelve (12) consecutive months

QUARTER :

YEAR:

Month	This Month	Previous 11 Months	12 Month Total

No deviation occurred in this quarter.

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

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

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH**

Part 70 Quarterly Report

Source Name: INTAT Precision, Inc.
Source Address: 2148 State Road 3 North, Rushville, Indiana 46173
Part 70 Permit No.: T139-34150-00011
Facility: Plant 2 Sand and Waste Sand Handling System (4000, 4140 and 5000)
Parameter: Sand throughput
Limit: 430,500 tons per twelve (12) consecutive months

QUARTER :

YEAR:

Month	This Month	Previous 11 Months	12 Month Total

No deviation occurred in this quarter.

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

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

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH**

Part 70 Quarterly Report

Source Name: INTAT Precision, Inc.
Source Address: 2148 State Road 3 North, Rushville, Indiana 46173
Part 70 Permit No.: T139-34150-00011
Facility: Plant 2 Finishing operation (8000) and six (6) bench grinders (Cells, 1, 2, 3, 4, 11, and 12)
Parameter: Metal throughput
Limit: 430,500 tons per twelve (12) consecutive months

QUARTER : YEAR:

Month	This Month	Previous 11 Months	12 Month Total

- No deviation occurred in this quarter.
- Deviation/s occurred in this quarter.
 Deviation has been reported on:

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

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF AIR QUALITY
 COMPLIANCE AND ENFORCEMENT BRANCH**

Part 70 Quarterly Report

Source Name: INTAT Precision, Inc.
 Source Address: 2148 State Road 3 North, Rushville, Indiana 46173
 Part 70 Permit No.: T139-34150-00011
 Facility: Plant 2, Line 4 operations
 Parameter: PM, PM₁₀, PM_{2.5}, Lead, CO, and VOC emissions
 Limit: Limits specified in Condition D.4.2

QUARTER :

YEAR:

Pollutant	Column 1	Column 2	Column 1 + Column 2
	Emissions this Month (tons/year)	Emissions Previous 11 Months (tons/year)	Emissions for 12 Month Total (tons/year)
PM			
PM ₁₀			
PM _{2.5}			
Lead			
CO			
VOC			
PM			
PM ₁₀			
PM _{2.5}			
Lead			
CO			
VOC			
PM			
PM ₁₀			
PM _{2.5}			
Lead			
CO			
VOC			

No deviation occurred in this quarter.

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

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

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

Form Completed by: _____

Title / Position: _____

Date: _____

Phone: _____

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

**Technical Support Document (TSD) for a PSD/Part 70 Significant Source
Modification and Part 70 Significant Permit Modification**

Source Description and Location

Source Name:	INTAT Precision, Inc.
Source Location:	2148 State Road 3 North, Rushville, Indiana 46173
County:	Rush
SIC Code:	3321 (Gray and Ductile Iron Foundries)
Operation Permit No.:	T 139-34150-00011
Operation Permit Issuance Date:	October 8, 2014
PSD/Significant Source Modification No.:	139-36453-00011
Significant Permit Modification No.:	139-36470-00011
Permit Reviewer:	Brian Williams

Existing Approvals

The source was issued Part 70 Operating Permit No. T139-34150-00011 on October 8, 2014. The source has since received the following approvals:

Permit Type	Permit Number	Issuance Date
Minor Source Modification	139-34899-00011	November 6, 2014
Significant Permit Modification	139-34923-00011	January 5, 2015
Significant Permit Modification	139-35965-00011	October 27, 2015
Significant Source Modification	139-36368-00011	December 28, 2015
Significant Permit Modification	139-36382-00011	January 15, 2016

County Attainment Status

The source is located in Rush County.

Pollutant	Designation
SO ₂	Better than national standards.
CO	Unclassifiable or attainment effective November 15, 1990.
O ₃	Unclassifiable or attainment effective July 20, 2012, for the 2008 8-hour ozone standard. ¹
PM _{2.5}	Unclassifiable or attainment effective April 5, 2005, for the annual PM _{2.5} standard.
PM _{2.5}	Unclassifiable or attainment effective December 13, 2009, for the 24-hour PM _{2.5} standard.
PM ₁₀	Unclassifiable effective November 15, 1990.
NO ₂	Cannot be classified or better than national standards.
Pb	Unclassifiable or attainment effective December 31, 2011.

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

- (a) **Ozone Standards**
Volatile organic compounds (VOC) and Nitrogen Oxides (NO_x) 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 NO_x emissions are considered when evaluating the rule applicability relating to ozone. Rush County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO_x

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

- (b) **PM_{2.5}**
 Rush County has been classified as attainment for PM_{2.5}. Therefore, direct PM_{2.5}, SO₂, and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
- (c) **Other Criteria Pollutants**
 Rush 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

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.

Source Status - Existing Source

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

Process / Emission Unit	Potential to Emit Prior to Modification (ton/yr)								Total HAPs	Single HAP
	PM	PM ₁₀ *	PM _{2.5} **	SO ₂	NO _x	VOC	CO			
1988 - Original Plant Construction										
Core production (Core sand bins)	10.77	10.77	N/A	-	-	-	-	>25	>10	
Core production (Isocure cold box core machines - P4, P5, P6, P7)	-	-	-	0.33	32.9	23.8	-			
Indoor charge handling	1.05	1.05	N/A	-	-	-	-			
Melting system - 3 electric induction furnaces (P8)	7.90	7.90	N/A	-	-	-	-			
Holding system - electric holding furnace (P9)	3.95	3.95	N/A	-	-	-	-			
Grinders (3,4)	7.9	7.9	N/A	-	-	-	-			
Total for Original Equipment	35.2	35.2	N/A	0.3	32.9	23.8	-	>25	>10	
PSD Major Source Thresholds	100	100	100	100	100	100	100	NA	NA	
1997 Modification (CP #139-8845-00011) - Plant 2 Construction										
Indoor charge handling (1000A)	0.5	0.5	N/A	-	-	-	-	>25	>10	
Conversion Station (1150)	15.4	15.4	N/A	-	-	24.6	98.4			
Electric induction furnaces (1110)				-	-					
Electric holding furnace	3.1	3.1	N/A	-	-					
Pouring station (2000)	***	***	N/A	1.75	0.88					
Mold machine (2010)	***	***	N/A	-	-					
Casting conveyor system (2015)	44.6	44.6	N/A	-	-					
Cooling conveyor system (2020)				-	-					
Casting shakeout system (3010)				-	-					
Shotblast unit (Final blast 3090)				-	-					
Sand waste and sand handling (4000,4140, 5000)	34.4	34.4	N/A	-	-	-	-			
Finish trim presses (8000)	1.45	1.45	N/A	-	-	-	-			

Process / Emission Unit	Potential to Emit Prior to Modification (ton/yr)								Total HAPs	Single HAP	
	PM	PM ₁₀ *	PM _{2.5} **	SO ₂	NO _x	VOC	CO				
Bench grinders (Cells 1,2,3,4,11,12)				-	-	-	-				
Ladle heaters (6600, 6610)	0.03	0.13	N/A	0.01	1.72	0.09	1.44				
Total for 1997 Modification	99.5	99.6	N/A	1.8	2.6	24.7	99.8	>25	>10		
PSD Major Source Thresholds	100	100	100	100	100	100	100	NA	NA		
2001 Modification - Wheelabrator MeshBelt blast unit construction											
Wheelabrator blast unit	25.0	14.9	N/A	-	-	-	-	>25	>10		
Total for 2001 Modification	25.0	14.9	N/A					>25	>10		
Significant Thresholds	25	15	10	40	40	40	100	NA	NA		
2004 Modification - Plant 1 Casting Line Construction, Inoculation system (P11) replacement											
Ladle heaters (P10)	0.02	0.09	N/A	0.01	1.20	0.07	1.01	>25	>10		
Inoculation - metal treatment ladles (P11)	6.72	14.92	N/A								
Sand System (P32B, P33B, P34B, P35B, P36B, P37B, P39B)	2.9	5.0	N/A								
Pouring Station (P13B)	***	***	N/A	1.31	0.66						
Cooling line (P14B)						47.4	98.8				
Shakeout unit (P16B)	7.5	12.5	N/A								
Bad heat shakeout unit											
Casting conveyors and desprue operations (P17B, P18B, P19B, P20B, P21B)	1.5	2.4	N/A								
Shotblast (P40, P41, P42)	4.3	4.5	N/A								
Total for 2004 Modification	23.0	39.4	N/A	1.3	1.9	47.5	99.8	>25	>10		
Significant Thresholds	25	15	10	40	40	40	100	NA	NA		
2009 Modification – Grinders 5, 6, 7, 8, and 9 Constructed											
Grinders 3,4,5	2.3	2.3	N/A	-	-	-	-	>25	>10		
Grinder 6	1.2	1.2	N/A	-	-	-	-				
Grinder 7	1.2	1.2	N/A	-	-	-	-				
Grinder 8	2.3	2.3	N/A	-	-	-	-				
Grinder 9	0.8	0.8	N/A	-	-	-	-				
Total for 2009 Modification	7.9	7.9	N/A	-	-	-	-	>25	>10		
Significant Thresholds	25	15	10	40	40	40	100	NA	NA		
2013 Modification – Plant 2, Line 4 constructed, some existing units modified											
Electric induction furnace (EU-N1)	<25.0	<15.0	<10.0	-	-	<40.0	<100	>25	>10		
Sand handling system (EU-N2A)				-	-						
Return sand handling system (EU-N2B)				-	-						
Pouring station (EU-N3)				1.31	0.66						
Cooling line (EU-N4)				-	-						
Casting shakeout system (EU-N5)				-	-						
Bad heat shakeout system (EU-N5A)				-	-						
Shot blast unit (EU-N6)				-	-						
Core production (Core sand bins and P4, P5, P6, P7)				-	-						
Indoor charge handling (1000A)				-	-						
Conversion Station (1150)				-	-						
Electric induction furnaces (1110)	-	-									

Process / Emission Unit	Potential to Emit Prior to Modification (ton/yr)								
	PM	PM ₁₀ [*]	PM _{2.5} ^{**}	SO ₂	NO _x	VOC	CO	Total HAPs	Single HAP
Pouring station (2000)				-	-				
Bench grinders (Cells 1,2,3,4,11,12)				-	-				
Total for 2013 Modification	<25.0	<15.0	<10.0	1.3	0.7	<40.0	<100	>25	>10
Significant Thresholds	25	15	10	40	40	40	100	NA	NA
2015 Modification - dual grinding unit (EUG-20)									
Dual grinding unit (EUG-20)	15.07 ^(a)	5.73 ^(b)	5.73 ^(b)	-	-	-	-	-	0.221 (Lead) ^(c)
Total for 2015 Modification	15.07	5.73	5.73	-	-	-	-	-	0.221 (Lead)
Significant Thresholds	25	15	10	40	40	40	100	NA	0.6
<p>* Under the Part 70 Permit program (40 CFR 70), PM₁₀ and PM_{2.5}, not particulate matter (PM), are each considered as a regulated air pollutant".</p> <p>**PM_{2.5} listed is direct PM_{2.5}. PM_{2.5} was not a PSD regulated pollutant prior to the 2013 modification. Therefore, no limits for PM_{2.5} are included for earlier modifications</p> <p>***Because some limits are for common control devices rather than emissions units, these units' limits are combined with other units.</p> <p>^(a) PTE is based on the PSD Minor limit.</p> <p>^(b) PTEs are uncontrolled emission rates.</p>									

- (a) This existing source is a major stationary source, under PSD (326 IAC 2-2), because a PSD regulated pollutant, excluding GHGs, is emitted at a rate of 100 tons per year or more, and it is one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(ff)(1).
 - (b) This existing source is a major source of HAPs, as defined in 40 CFR 63.2, because HAP emissions are greater than ten (10) tons per year for a single HAP and greater than twenty-five (25) tons per year for a combination of HAPs. Therefore, this source is a major source under Section 112 of the Clean Air Act (CAA).
 - (c) On June 23, 2014, in the case of *Utility Air Regulatory Group v. EPA*, cause no. 12-1146, (available at http://www.supremecourt.gov/opinions/13pdf/12-1146_4g18.pdf) the United States Supreme Court ruled that the U.S. EPA does not have the authority to treat greenhouse gases (GHGs) as an air pollutant for the purpose of determining operating permit applicability or PSD Major source status. On July 24, 2014, the U.S. EPA issued a memorandum to the Regional Administrators outlining next steps in permitting decisions in light of the Supreme Court's decision. U.S. EPA's guidance states that U.S. EPA will no longer require PSD or Title V permits for sources "previously classified as 'Major' based solely on greenhouse gas emissions."
- The Indiana Environmental Rules Board adopted the GHG regulations required by U.S. EPA at 326 IAC 2-2-1(zz), pursuant to Ind. Code § 13-14-9-8(h) (Section 8 rulemaking). A rule, or part of a rule, adopted under Section 8 is automatically invalidated when the corresponding federal rule, or part of the rule, is invalidated. Due to the United States Supreme Court Ruling, IDEM, OAQ cannot consider GHGs emissions to determine operating permit applicability or PSD applicability to a source or modification.
- (d) These emissions are based upon the TSD to Significant Permit Modification No. 139-36382-00011, issued on January 15, 2016.

Description of Proposed Modification

The Office of Air Quality (OAQ) has reviewed a modification application, submitted by INTAT Precision, Inc. on November 4, 2015, relating to a request to revise the existing 326 IAC 2-2-3 (PSD BACT) and 326 IAC 8-1-6 (VOC BACT) VOC requirements for the existing pouring, cooling, and shakeout process associated with Line 2 in Plant 1. INTAT is requesting to remove the existing Advanced Oxidation (AO) system and increase the VOC emission limit from 1.2 pounds per ton of metal to 1.4 pounds per ton of metal, maintaining its existing throughput limit. This modification was initially permitted in 2004.

There are no new emissions units being proposed in this modification.

The following is a list of the modified emission units and pollution control device(s):

- (1) One (1) Casting Line, identified as Casting Line 2, constructed in 2004 and approved in 2016 for modification to remove the advanced oxidation system, consisting of the following equipment:
 - (A) One (1) Pouring station, identified as P13B, with a maximum capacity of 15 tons of metal poured per hour, using baghouse DC-3B for particulate control and a mold vent ignition system for VOC control, and exhausting to stack No. 3;

Baghouse DC-3B is a common control for the Melting System, Inoculation system, and Pouring Station.
 - (B) One (1) Cooling line, identified as P14B, with a maximum capacity of 15 tons of metal per hour, using baghouse BH6200 for particulate control, and exhausting to stack No. 6200;
 - (C) One (1) Shakeout unit, identified as P16B, with a maximum capacity of 15 tons of metal per hour, using baghouse BH6200 for particulate control, and exhausting to stack No. 6200;

This emission unit was previously equipped with an Advanced Oxidation (AO) system for VOC control.
 - (D) One (1) Bad Heat Shakeout unit controlled by baghouse DC-5, and exhausting to stack No. 5;

Enforcement Issues

There are no pending enforcement actions related to this modification.

Emission Calculations

See Appendix A of this Technical Support Document for detailed emission calculations.

Permit Level Determination – Part 70 Modification to an Existing Source

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source or emission unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, IDEM, or the appropriate local air pollution control agency.”

The following table is used to determine the appropriate permit level under 326 IAC 2-7-10.5. This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit. If the control equipment has been determined to be integral, the table reflects the PTE after consideration of the integral control device.

Appendix A of this TSD reflects the unrestricted potential emissions of the modification.

Limited PTE Change of the Modified Process			
Pollutant	PTE Before Modification* (ton/yr)	PTE After Modification** (ton/yr)	Increase from Modification (ton/yr)
PM	14.22	14.22	0
PM ₁₀	66.28	66.28	0
PM _{2.5}	66.28	66.28	0
SO ₂	1.31	1.31	0
NO _x	0.66	0.66	0
VOC	47.40	55.30	7.90
CO	98.75	98.75	0
HAPs	>25	>25	0

*Limited PTE based on existing limits for pouring station (P13B), cooling line (P14B), shakeout unit (P16B), and bad heat shakeout unit before revision to VOC BACT limits.

**Limited PTE based on revised VOC BACT limits and existing limits (except VOC) for pouring station (P13B), cooling line (P14B), shakeout unit (P16B), and bad heat shakeout unit.

- (a) Significant Source Modification
 This source modification is considered a significant source modification, pursuant to 326 IAC 2-7-10.5(g)(1) and (g)(2), because this modification is subject to 326 IAC 2-2 (PSD) and 326 IAC 8-1-6.
- (b) Significant Permit Modification
 This permit modification is considered a significant permit modification, pursuant to 326 IAC 2-7-12(d)(1), because this modification does not qualify as a minor permit modification or administrative amendment and this modification includes significant changes in existing monitoring Part 70 permit terms and conditions and requires a case-by-case determination of an emission limitation or standard (e.g. PSD BACT and VOC BACT).

Permit Level Determination – PSD

This modification to an existing major PSD stationary source is a major PSD modification, because the source has requested to modify the existing PSD BACT limits for VOC for the existing pouring, cooling, and shakeout process associated with Casting Line 2 in Plant 1. Therefore, pursuant to 326 IAC 2-2, the PSD requirements apply to these emission units for VOC.

PTE of the Entire Source After Issuance of the Modification

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

Process / Emission Unit	Potential to Emit After Issuance of Modification (ton/yr)								Total HAPs	Single HAP
	PM	PM ₁₀ [*]	PM _{2.5} ^{**}	SO ₂	NO _x	VOC	CO			
1988 - Original Plant Construction										
Core production (Core sand bins)	10.77	10.77	N/A	-	-	-	-	>25	>10	
Core production (Isocure cold box core machines - P4, P5, P6, P7)	-	-	-	0.33	32.9	23.8	-			
Indoor charge handling	1.05	1.05	N/A	-	-	-	-			
Melting system - 3 electric induction furnaces (P8)	7.90	7.90	N/A	-	-	-	-			
Holding system - electric holding furnace (P9)	3.95	3.95	N/A	-	-	-	-			
Grinders (3,4)	7.9	7.9	N/A	-	-	-	-			
Total for Original Equipment	35.2	35.2	N/A	0.3	32.9	23.8	-	>25	>10	
PSD Major Source Thresholds	100	100	100	100	100	100	100	NA	NA	
1997 Modification (CP #139-8845-00011) - Plant 2 Construction										
Indoor charge handling (1000A)	0.5	0.5	N/A	-	-	-	-	>25	>10	
Conversion Station (1150)	15.4	15.4	N/A	-	-	24.6	98.4			
Electric induction furnaces (1110)				-	-					
Electric holding furnace	3.1	3.1	N/A	-	-					
Pouring station (2000)	***	***	N/A	1.75	0.88					
Mold machine (2010)	***	***	N/A	-	-					
Casting conveyor system (2015)	44.6	44.6	N/A	-	-					
Cooling conveyor system (2020)				-	-					
Casting shakeout system (3010)				-	-					
Shotblast unit (Final blast 3090)				-	-					
Sand waste and sand handling (4000,4140, 5000)	34.4	34.4	N/A	-	-	-	-			
Finish trim presses (8000)	1.45	1.45	N/A	-	-	-	-			
Bench grinders (Cells 1,2,3,4,11,12)				-	-	-	-			
Ladle heaters (6600, 6610)	0.03	0.13	N/A	0.01	1.72	0.09	1.44			
Total for 1997 Modification	99.5	99.6	N/A	1.8	2.6	24.7	99.8	>25	>10	
PSD Major Source Thresholds	100	100	100	100	100	100	100	NA	NA	
2001 Modification - Wheelabrator MeshBelt blast unit construction										
Wheelabrator blast unit	25.0	14.9	N/A	-	-	-	-	>25	>10	
Total for 2001 Modification	25.0	14.9	N/A				-	>25	>10	
Significant Thresholds	25	15	10	40	40	40	100	NA	NA	
2004 Modification - Plant 1 Casting Line Construction, Inoculation system (P11) replacement										
Ladle heaters (P10)	0.02	0.09	N/A	0.01	1.20	0.07	1.01	>25	>10	
Inoculation - metal treatment ladles (P11)	6.72	14.92 25.0	N/A			0.44				
Sand System (P32B, P33B, P34B, P35B, P36B, P37B, P39B)	2.95	5.0 3.69	N/A							
Pouring Station (P13B)	***	***	N/A	1.31	0.66	47.4 55.30 (c)	98.8			
Cooling line (P14B)	7.51	12.5 41.28	N/A							
Shakeout unit (P16B)										
Bad heat shakeout unit										
Casting conveyors and desprue operations (P17B, P18B, P19B, P20B, P21B)	1.5 1.46	2 3.36	N/A							

Process / Emission Unit	Potential to Emit After Issuance of Modification (ton/yr)								
	PM	PM ₁₀ [*]	PM _{2.5} ^{**}	SO ₂	NO _x	VOC	CO	Total HAPs	Single HAP
Shotblast (P40, P41, P42)	4.35	4.5 3.36	N/A						
Total for 2004 Modification	23.0	39.4 76.77	N/A	1.32	1.9 1.86	47.5 55.80	99.8	>25	>10
Significant Thresholds	25	15	10	40	40	40	100	NA	NA
2009 Modification – Grinders 5, 6, 7, 8, and 9 Constructed									
Grinders 3,4,5	2.3	2.3	N/A	-	-	-	-	>25	>10
Grinder 6	1.2	1.2	N/A	-	-	-	-		
Grinder 7	1.2	1.2	N/A	-	-	-	-		
Grinder 8	2.3	2.3	N/A	-	-	-	-		
Grinder 9	0.8	0.8	N/A	-	-	-	-		
Total for 2009 Modification	7.9	7.9	N/A	-	-	-	-	>25	>10
Significant Thresholds	25	15	10	40	40	40	100	NA	NA
2013 Modification – Plant 2, Line 4 constructed, some existing units modified									
Electric induction furnace (EU-N1)	<25.0	<15.0	<10.0	-	-	<40.0	<100	>25	>10
Sand handling system (EU-N2A)				-	-				
Return sand handling system (EU-N2B)				-	-				
Pouring station (EU-N3)				1.31	0.66				
Cooling line (EU-N4)				-	-				
Casting shakeout system (EU-N5)				-	-				
Bad heat shakeout system (EU-N5A)				-	-				
Shot blast unit (EU-N6)				-	-				
Core production (Core sand bins and P4, P5, P6, P7)				-	-				
Indoor charge handling (1000A)				-	-				
Conversion Station (1150)				-	-				
Electric induction furnaces (1110)				-	-				
Pouring station (2000)				-	-				
Bench grinders (Cells 1,2,3,4,11,12)				-	-				
Total for 2013 Modification	<25.0	<15.0	<10.0	1.3	0.7	<40.0	<100	>25	>10
Significant Thresholds	25	15	10	40	40	40	100	NA	NA
2015 Modification - dual grinding unit (EUG-20)									
Dual grinding unit (EUG-20)	15.07 ^(a)	5.73 ^(b)	5.73 ^(b)	-	-	-	-	-	0.221 (Lead) ^(c)
Total for 2015 Modification	15.07	5.73	5.73	-	-	-	-	-	0.221 (Lead)
Significant Thresholds	25	15	10	40	40	40	100	NA	0.6
<p>* Under the Part 70 Permit program (40 CFR 70), PM₁₀ and PM_{2.5}, not particulate matter (PM), are each considered as a regulated air pollutant".</p> <p>**PM_{2.5} listed is direct PM_{2.5}. PM_{2.5} was not a PSD regulated pollutant prior to the 2013 modification. Therefore, no limits for PM_{2.5} are included for earlier modifications</p> <p>***Because some limits are for common control devices rather than emissions units, these units' limits are combined with other units.</p> <p>^(a) PTE is based on the PSD Minor limit.</p> <p>^(b) PTEs are uncontrolled emission rates.</p> <p>^(c) VOC BACT limits revised in 2016 modification.</p>									

In this modification, IDEM has corrected the PM10 values for the 2004 modification in the table above. The correct PM10 values should be based on the filterable and condensable PM10 emission limits not the filterable PM10 emission limits. As a result, the total PM10 emissions from the 2004 modification increased from 39.4 tons per year to 76.77 tons per year based on the corresponding filterable and condensable PM10 emission limits in the permit. This correction does not change the PSD status of the 2004 modification.

The table below summarizes the potential to emit of the entire source after issuance of this modification, reflecting all limits, of the emission units. The table below was generated from the above table, with bold text un-bolded and strikethrough text deleted.

Process / Emission Unit	Potential to Emit After Issuance of Modification (ton/yr)								Total HAPs	Single HAP
	PM	PM ₁₀ *	PM _{2.5} **	SO ₂	NO _x	VOC	CO			
1988 - Original Plant Construction										
Core production (Core sand bins)	10.77	10.77	N/A	-	-	-	-	>25	>10	
Core production (Isocure cold box core machines - P4, P5, P6, P7)	-	-	-	0.33	32.9	23.8	-			
Indoor charge handling	1.05	1.05	N/A	-	-	-	-			
Melting system - 3 electric induction furnaces (P8)	7.90	7.90	N/A	-	-	-	-			
Holding system - electric holding furnace (P9)	3.95	3.95	N/A	-	-	-	-			
Grinders (3,4)	7.9	7.9	N/A	-	-	-	-			
Total for Original Equipment	35.2	35.2	N/A	0.3	32.9	23.8	-	>25	>10	
PSD Major Source Thresholds	100	100	100	100	100	100	100	NA	NA	
1997 Modification (CP #139-8845-00011) - Plant 2 Construction										
Indoor charge handling (1000A)	0.5	0.5	N/A	-	-	-	-	>25	>10	
Conversion Station (1150)	15.4	15.4	N/A	-	-	24.6	98.4			
Electric induction furnaces (1110)				-	-					
Electric holding furnace	3.1	3.1	N/A	-	-					
Pouring station (2000)	***	***	N/A	1.75	0.88					
Mold machine (2010)	***	***	N/A	-	-					
Casting conveyor system (2015)	44.6	44.6	N/A	-	-					
Cooling conveyor system (2020)				-	-					
Casting shakeout system (3010)				-	-					
Shotblast unit (Final blast 3090)				-	-					
Sand waste and sand handling (4000,4140, 5000)	34.4	34.4	N/A	-	-	-	-			
Finish trim presses (8000)	1.45	1.45	N/A	-	-	-	-			
Bench grinders (Cells 1,2,3,4,11,12)				-	-	-	-			
Ladle heaters (6600, 6610)	0.03	0.13	N/A	0.01	1.72	0.09	1.44			
Total for 1997 Modification	99.5	99.6	N/A	1.8	2.6	24.7	99.8	>25	>10	
PSD Major Source Thresholds	100	100	100	100	100	100	100	NA	NA	
2001 Modification - Wheelabrator MeshBelt blast unit construction										
Wheelabrator blast unit	25.0	14.9	N/A	-	-	-	-	>25	>10	
Total for 2001 Modification	25.0	14.9	N/A				-	>25	>10	
Significant Thresholds	25	15	10	40	40	40	100	NA	NA	
2004 Modification - Plant 1 Casting Line Construction, Inoculation system (P11) replacement										
Ladle heaters (P10)	0.02	0.09	N/A	0.01	1.20	0.07	1.01	>25	>10	
Inoculation - metal treatment ladles (P11)	6.72	25.0	N/A			0.44				

Process / Emission Unit	Potential to Emit After Issuance of Modification (ton/yr)								
	PM	PM ₁₀ [*]	PM _{2.5} ^{**}	SO ₂	NO _x	VOC	CO	Total HAPs	Single HAP
Sand System (P32B, P33B, P34B, P35B, P36B, P37B, P39B)	2.95	3.69	N/A						
Pouring Station (P13B)	***	***	N/A	1.31	0.66	55.30 (c)	98.8		
Cooling line (P14B)	7.51	41.28	N/A						
Shakeout unit (P16B)									
Bad heat shakeout unit									
Casting conveyors and desprue operations (P17B, P18B, P19B, P20B, P21B)	1.46	3.36	N/A						
Shotblast (P40, P41, P42)	4.35	3.36	N/A						
Total for 2004 Modification	23.0	76.77	N/A	1.32	1.86	55.80	99.8	>25	>10
Significant Thresholds	25	15	10	40	40	40	100	NA	NA
2009 Modification – Grinders 5, 6, 7, 8, and 9 Constructed									
Grinders 3,4,5	2.3	2.3	N/A	-	-	-	-	>25	>10
Grinder 6	1.2	1.2	N/A	-	-	-	-		
Grinder 7	1.2	1.2	N/A	-	-	-	-		
Grinder 8	2.3	2.3	N/A	-	-	-	-		
Grinder 9	0.8	0.8	N/A	-	-	-	-		
Total for 2009 Modification	7.9	7.9	N/A	-	-	-	-	>25	>10
Significant Thresholds	25	15	10	40	40	40	100	NA	NA
2013 Modification – Plant 2, Line 4 constructed, some existing units modified									
Electric induction furnace (EU-N1)	<25.0	<15.0	<10.0	-	-	<40.0	<100	>25	>10
Sand handling system (EU-N2A)				-	-				
Return sand handling system (EU-N2B)				-	-				
Pouring station (EU-N3)				1.31	0.66				
Cooling line (EU-N4)				-	-				
Casting shakeout system (EU-N5)				-	-				
Bad heat shakeout system (EU-N5A)				-	-				
Shot blast unit (EU-N6)				-	-				
Core production (Core sand bins and P4, P5, P6, P7)				-	-				
Indoor charge handling (1000A)				-	-				
Conversion Station (1150)				-	-				
Electric induction furnaces (1110)				-	-				
Pouring station (2000)				-	-				
Bench grinders (Cells 1,2,3,4,11,12)	-	-							

Process / Emission Unit	Potential to Emit After Issuance of Modification (ton/yr)								
	PM	PM ₁₀ [*]	PM _{2.5} ^{**}	SO ₂	NO _x	VOC	CO	Total HAPs	Single HAP
Total for 2013 Modification	<25.0	<15.0	<10.0	1.3	0.7	<40.0	<100	>25	>10
Significant Thresholds	25	15	10	40	40	40	100	NA	NA
2015 Modification - dual grinding unit (EUG-20)									
Dual grinding unit (EUG-20)	15.07 ^(a)	5.73 ^(b)	5.73 ^(b)	-	-	-	-	-	0.221 (Lead) ^(c)
Total for 2015 Modification	15.07	5.73	5.73	-	-	-	-	-	0.221 (Lead)
Significant Thresholds	25	15	10	40	40	40	100	NA	0.6
<p>* Under the Part 70 Permit program (40 CFR 70), PM₁₀ and PM_{2.5}, not particulate matter (PM), are each considered as a regulated air pollutant".</p> <p>**PM_{2.5} listed is direct PM_{2.5}. PM_{2.5} was not a PSD regulated pollutant prior to the 2013 modification. Therefore, no limits for PM_{2.5} are included for earlier modifications</p> <p>***Because some limits are for common control devices rather than emissions units, these units' limits are combined with other units.</p> <p>(a) PTE is based on the PSD Minor limit.</p> <p>(b) PTEs are uncontrolled emission rates.</p> <p>(c) VOC BACT limits revised in 2016 modification.</p>									

Federal Rule Applicability Determination

NSPS:

- (a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this proposed modification.

NESHAP:

- (b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) applicable to this proposed modification.

CAM:

- (c) The applicability of 40 CFR 64.2, Compliance Assurance Monitoring (CAM) will not change as a result of this modification. The source shall continue to comply with the applicable requirements and permit conditions as contained in Part 70 Operating Permit No. T139-34150-00011, issued on October 8, 2014.

State Rule Applicability Determination

The following state rules are applicable to the source due to the modification:

326 IAC 2-2 (PSD)

PSD applicability is discussed under the Permit Level Determination – PSD section.

326 IAC 2-2-3 (PSD Rule: Control Technology Review Requirements)

Pursuant to PSD/SSM No. 139-36453-00011 and 326 IAC 2-2-3(a)(3) (Prevention of Significant Deterioration), IDEM, OAQ has determined that the following requirements represent BACT for the Pouring station (P13B), Cooling line (P14B), Shakeout (P16B), and Bad Heat Shakeout processes of Plant 1, Casting Line 2 (See Appendix B for the detailed PSD BACT analysis for VOC):

- (a) Material substitution and lower-emitting processes/practices shall be used to limit VOC emissions.

This is an existing limit and no change is being made in this modification.

- (b) VOC emissions shall not exceed 1.4 pounds per ton of metal throughput to the pouring station (P13B), cooling line (P14B), and shakeout operations (P16B) and bad heat shakeout operations combined.

This is a new limit due to this modification. The VOC emissions were previously limited to 1.2 pounds per ton of metal throughput. This is a Title 1 change.

- (c) The throughput of metal to the pouring, cooling and shakeout operations (P13B, P14B, and P16B) and bad heat shakeout operations shall not exceed 79,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

This is an existing limit and no change is being made in this modification.

- (d) The VOC emissions from the Pouring Station (P13B) shall be controlled by a mold vent off-gas ignition system.

This is a new limit due to this modification. The source was previously required to operate an Advanced Oxidation (AO) system. This is a Title 1 change.

The following existing BACT requirement is being removed in this modification:

- (a) The installed Advanced Oxidation (AO) system shall be used with a minimum VOC reduction efficiency of 20%.

326 IAC 2-2-4 (Air Quality Analysis Requirements) and 326 IAC 2-2-5 (Air Quality Impact Requirements)

An air quality analysis was not performed for ozone (VOC and NO_x) because these pollutants are photochemically reactive. Currently, U.S. EPA has no regulatory photochemical models which can take into account small spatial scales or single source PSD modeling for ozone. In addition, the VOC emissions only increase 7.90 tons per year due to this modification.

326 IAC 2-2-6 (Increment Consumption Requirements)

This modification is exempt from the requirements of 326 IAC 2-2-6 because this PSD re-evaluation is only for VOC emissions not sulfur dioxide, PM, and/or nitrogen dioxide.

326 IAC 2-2-7 (Additional Analysis, Requirements)

326 IAC 2-2-7(a) requires an analysis of the impairment to visibility, soils and vegetation. An analysis of the air quality impact projected for the area as a result of general commercial, residential, industrial, and other growth associated with the source was performed in the original PSD BACT analysis in Significant Source Modification No. 139-22744-00011, issued on September 4, 2007. The results of the additional impact analysis concluded the modification will have no adverse impact on economic growth, soils, vegetation, and endangered or threatened species.

326 IAC 2-2-8 (Source Obligation)

- (1) Pursuant to 2-2-8(1), approval to construct shall become invalid if construction is not commenced within eighteen (18) months after receipt of the approval, if construction is discontinued for a period of eighteen (18) months or more, or if construction is not completed within a reasonable time.
- (2) Approval for construction shall not relieve the Permittee of the responsibility to comply fully with applicable provisions of the state implementation plan and any other requirements under local, state, or federal law.

326 IAC 2-2-10 (Source Information)

The Permittee has submitted all information necessary to perform an analysis or make the determination required under this rule.

326 IAC 2-2-12 (Permit Rescission)

The permit issued under this rule shall remain in effect unless and until it is rescinded, modified, revoked, or it expires in accordance with 326 IAC 2-1.1-9.5 or section 8 of this rule.

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

The Phase I and II Sand Handling and Ancillary Operations are subject to the requirements of the Iron and Steel Foundry NESHAP, 40 CFR 63, Subpart EEEEE. Therefore, pursuant to 2-4.1-1(b)(2), these operations are still exempt from the requirements of 326 IAC 2-4.1-1.

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

The Pouring station (P13B), Cooling line (P14B), Shakeout (P16B) and Bad Heat Shakeout processes of Plant 1, Casting Line 2 have potential VOC emissions of 25 tons or more per year, is located anywhere in the state, and is not otherwise regulated by other Article 8 rules, 326 IAC 20-48, or 326 IAC 20-56. Therefore, these emission units are subject to 326 IAC 8-1-6. Due to the request to increase the VOC emission limit and remove the AO System, IDEM has re-evaluated the Best Available Control Requirements (BACT) in accordance with 326 IAC 8-1-6.

Pursuant to 326 IAC 8-1-6, the Pouring station (P13B), Cooling line (P14B), Shakeout Unit (P16B) and Bad Heat Shakeout Unit shall comply with the following:

- (a) Material substitution and lower-emitting processes/practices shall be used to limit VOC emissions.

This is an existing limit and no change is being made in this modification.

- (b) VOC emissions shall not exceed 1.4 pounds per ton of metal throughput to the pouring station (P13B), cooling line (P14B), and shakeout operations (P16B) and bad heat shakeout operations combined.

This is a new limit due to this modification. The VOC emissions were previously limited to 1.2 pounds per ton of metal throughput. This is a Title 1 change.

- (c) The throughput of metal to the pouring, cooling and shakeout operations (P13B, P14B, and P16B) and bad heat shakeout operations shall not exceed 79,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

This is an existing limit and no change is being made in this modification.

- (d) The VOC emissions from the Pouring Station (P13B) shall be controlled by a mold vent off-gas ignition system.

This is a new limit due to this modification. The source was previously required to operate an Advanced Oxidation (AO) system. This is a Title 1 change.

The following existing BACT requirement is being removed in this modification:

- (a) The installed Advanced Oxidation (AO) system shall be used with a minimum VOC reduction efficiency of 20%.

See Appendix B for the full BACT determination.

Compliance Determination and Monitoring Requirements

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with all applicable state and federal rules on a continuous basis. All state and federal rules contain compliance provisions; however, these provisions do not always fulfill the requirement for a continuous demonstration. When this occurs, IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, Compliance Determination Requirements are included in the permit. The Compliance Determination Requirements in Section D of the permit are those conditions that are found directly within state and federal rules and the violation of which serves as grounds for enforcement action.

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

- (a) The following compliance determination requirements are applicable to the pouring station (P13B) to demonstrate compliance with mold vent off gas ignition requirements:
- (1) The Permittee shall operate the mold vent off gas ignition system for the Pouring Station (P13b) according to the mold vent ignition operation and maintenance plan submitted to IDEM, OAQ.
 - (2) The Permittee shall prepare and submit the mold vent ignition operation and maintenance plan to the IDEM, OAQ.

The operation and maintenance plan must include procedures for igniting gases from mold vents in pouring areas and pouring stations that use a sand mold system. The plan must contain the elements below:

Procedures for providing an ignition source to mold vents of sand mold systems in each pouring area and pouring station unless the Permittee determine the mold vent gases either are not ignitable, ignite automatically, or cannot be ignited due to accessibility or safety issues. The Permittee shall document and maintain records of this determination. The determination of ignitability, accessibility, and safety may encompass multiple casting patterns provided the castings utilize similar sand-to-metal ratios, binder formulations, and coating materials. The determination of ignitability must be based on observations of the mold vents within 5 minutes of pouring, and the flame must be present for at least 15 seconds for the mold vent to be considered ignited. For the purpose of this determination:

- (i) Mold vents that ignite more than 75 percent of the time without the presence of an auxiliary ignition source are considered to ignite automatically; and
 - (ii) Mold vents that do not ignite automatically and cannot be ignited in the presence of an auxiliary ignition source more than 25 percent of the time are considered to be not ignitable.
- (3) The Permittee shall maintain a current copy of the mold vent ignition operation and maintenance plan onsite and make available for inspection upon request.

These are new compliance determination requirements due to this modification and are necessary to demonstrate compliance with 326 IAC 2-2-3 (PSD BACT) and 326 IAC 8-1-6 (VOC BACT). This is a Title 1 change.

- (b) The testing requirements applicable to this modification are as follows:

Testing Requirements				
Emission Unit	Control Device	Pollutant	Timeframe for Testing	Frequency of Testing
Pouring station (P13B), Cooling line (P14B), Shakeout (P16B) and Bad Heat Shakeout	NA	VOC	Not later than 180 days after removal of the AO System or five (5) years from the most recent valid compliance demonstrate, whichever occurs first	Once every five (5) years

These testing requirements are necessary to demonstrate compliance with 326 IAC 2-2-3 (PSD BACT) and 326 IAC 8-1-6 (VOC BACT). These are new testing requirements due to this modification.

The most recent VOC stack test for these emission units was conducted on April 22, 2015 and the results of this test are still pending IDEM approval.

- (c) The compliance monitoring requirements for the AO System is no longer applicable to the pouring station (P13B), cooling line (P14B), shakeout unit (P16B) and bad heat shakeout unit due to this modification. This is a Title 1 change.

The source shall continue to comply with all other applicable requirements and permit conditions as contained in Part 70 Operating Permit No. T139-34150-00011, issued on October 8, 2014.

Proposed Changes

The changes listed below have been made to Part 70 Operating Permit No. 139-34510-00011. Deleted language appears as ~~strikethroughs~~ and new language appears in **bold**:

- (1) The descriptive information in Sections A.2, D.2, and E.1 for Casting Line 2 has been revised to reflect the changes in this proposed modification.
- (2) Condition D.2.2 has been revised to increase the VOC emission limit, remove the advanced oxidation system, and include the new requirement to control VOC emissions from the Pouring Station (P13B) using a mold vent off-gas ignition system.
- (3) The existing testing requirements for the Condition D.2.10 have been revised for the Pouring station (P13B), Cooling line (P14B), Shakeout Unit (P16B) and Bad Heat Shakeout Unit. IDEM has separated the revised VOC testing requirements from the existing CO testing requirements that are not being revised in this modification.
- (4) New compliance determination and record keeping requirements have been included in a new Condition in Section D.2 for the mold vent off gas ignition system.
- (5) The existing compliance monitoring and record keeping requirements in Conditions D.2.15 and D.2.16 for the advanced oxidation system have been removed

...

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)]
[326 IAC 2-7-5(14)]

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

...

Plant 1

...

- (2) One (1) Casting Line, identified as Casting Line 2, constructed in 2004 **and approved in 2016 for modification to remove the advanced oxidation system**, consisting of the following equipment:

...

- (B) One (1) Pouring station, identified as P13B, with a maximum capacity of 15 tons of metal poured per hour, using baghouse DC-3B for particulate control **and a mold vent ignition system for VOC control**, and exhausting to stack No. 3;

~~Note:—~~Baghouse DC-3B is a common control for the Melting System, Inoculation system, and Pouring Station.

...

- (D) One (1) Shakeout unit, identified as P16B, with a maximum capacity of 15 tons of metal per hour, using baghouse BH6200 for particulate control ~~and an advanced oxidation system for VOC control~~, and exhausting to stack No. 6200;

...

~~Note:—~~An advanced oxidation system is used in conjunction with Plant 1 casting line to reduce VOC emissions from the Pouring station, Cooling line, and Shakeout units through acoustic sonication and the incorporation of ozone and hydrogen peroxide in the water supply to the muller.

...

SECTION D.2

EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description: Plant 1

...

- (2) One (1) Casting Line, identified as Casting Line 2, constructed in 2004 **and approved in 2016 for modification to remove the advanced oxidation system**, consisting of the following equipment:

...

- (B) One (1) Pouring station, identified as P13B, with a maximum capacity of 15 tons of metal poured per hour, using baghouse DC-3B for particulate control **and a mold vent ignition system for VOC control**, and exhausting to stack No. 3;

~~Note:—~~Baghouse DC-3B is a common control for the Melting System, Inoculation system, and Pouring Station.

...

- (D) One (1) Shakeout unit, identified as P16B, with a maximum capacity of 15 tons of metal per hour, using baghouse BH6200 for particulate control ~~and an advanced oxidation system for VOC control~~, and exhausting to stack No. 6200;

...

~~Note:—~~An advanced oxidation system is used in conjunction with Plant 1 casting line to reduce VOC emissions from the Pouring station, Cooling line, and Shakeout units through acoustic sonication and the incorporation of ozone and hydrogen peroxide in the water supply to the muller.

...

...

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

... D.2.2 PSD BACT Limit - VOC [326 IAC 2-2] [326 IAC 8-1-6]

Pursuant to 326 IAC 2-2-3, and 326 IAC 8-1-6, **SSM 139-22702-00011, issued on December 4, 2007, and as revised in SSM No. 139-36453-00011**, the following conditions shall apply to the Pouring station (P13B), Cooling line (P14B), Shakeout (P16B) and Bad Heat Shakeout processes of Plant 1, Casting Line 2:

- (a) Material Substitution and Lower-Emitting Processes/Practices shall be used to limit VOC emissions.
- (b) VOC emissions shall not exceed 1.24 pounds per ton of metal throughput to the Pouring station (P13B), Cooling line (P14B), and Shakeout operations (P16B) and Bad Heat Shakeout operations combined.
- (c) The throughput of metal to the Pouring, Cooling and Shakeout operations (P13B, P14B, and P16B) and Bad Heat Shakeout operations shall not exceed 79,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- ~~(d) The installed Advanced Oxidation (AO) system shall be used with a minimum VOC reduction efficiency of 20%.~~
- (d) The VOC emissions from the Pouring Station (P13B) shall be controlled by a mold vent off-gas ignition system.**

... Compliance Determination Requirements [326 IAC 2-7-5(1)]

... D.2.10 Testing Requirements [326 IAC 2-1.1-11]

- ~~(b) In order to comply with Conditions D.2.2(b) and D.2.5(b), the Permittee shall perform VOC and CO testing for the Pouring station (P13B), Cooling line (P14B), and Shakeout operations (P16B) no later than one hundred-eighty (180) days after removal of the advanced oxidation system or no later than five (5) years from the date of the most recent valid compliance demonstration, whichever occurs first, utilizing methods as approved by the Commissioner.~~
- (c) In order to comply with Condition D.2.5(b), the Permittee shall perform CO testing for the Pouring station (P13B), Cooling line (P14B), and Shakeout operations (P16B) utilizing methods as approved by the Commissioner.**

The tests required in (a), ~~and (b)~~, and (c) above shall be repeated at least once every five (5) years from the date of ~~this~~ **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.

D.2.11 Mold Vent Ignition

In order to comply with Condition D.2.2, the Permittee shall comply with the following mold vent off gas ignition requirements for the Pouring Station (P13b):

- (a) The Permittee shall operate the mold vent off gas ignition system for the Pouring Station (P13b) according to the mold vent ignition operation and maintenance plan submitted to IDEM, OAQ.**
- (b) The Permittee shall prepare and submit the mold vent ignition operation and maintenance plan to the IDEM, OAQ.**

The operation and maintenance plan must include procedures for igniting gases

from mold vents in pouring areas and pouring stations that use a sand mold system. The plan must contain the elements below:

Procedures for providing an ignition source to mold vents of sand mold systems in each pouring area and pouring station unless the Permittee determine the mold vent gases either are not ignitable, ignite automatically, or cannot be ignited due to accessibility or safety issues. The Permittee shall document and maintain records of this determination. The determination of ignitability, accessibility, and safety may encompass multiple casting patterns provided the castings utilize similar sand-to-metal ratios, binder formulations, and coating materials. The determination of ignitability must be based on observations of the mold vents within 5 minutes of pouring, and the flame must be present for at least 15 seconds for the mold vent to be considered ignited. For the purpose of this determination:

- (i) Mold vents that ignite more than 75 percent of the time without the presence of an auxiliary ignition source are considered to ignite automatically; and**
 - (ii) Mold vents that do not ignite automatically and cannot be ignited in the presence of an auxiliary ignition source more than 25 percent of the time are considered to be not ignitable.**
- (C) The Permittee shall maintain a current copy of the mold vent ignition operation and maintenance plan onsite and make available for inspection upon request.**

D.2.142 Emission Calculations [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

...

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

D.2.123 Visible Emissions Notations [40 CFR 64]

...

D.2.134 Parametric Monitoring [40 CFR 64]

...

D.2.145 Broken or Failed Baghouse Detection

...

D.2.15 Parametric Monitoring – Advanced Oxidation (AO) System [40 CFR 64]

- ~~(a) The Permittee shall monitor and record the ultra-sonic power of the AO system or equivalent system used in conjunction with the Pouring station (P13B), Cooling line (P14B), Shakeout unit (P16B) and Bad Heat Shakeout unit, at least once per day when the units are in operation. When for any one reading, the ultra-sonic power is less than 1100 W or a minimum established during the latest stack test for Sensors A and B, or the ultra-sonic power is less than 800 W or a minimum established during the latest stack test for Sensor C, the Permittee shall take reasonable response steps. Section C – Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. An ultra-sonic power reading that is outside the above mentioned range is not a deviation from this permit. Failure to take reasonable response steps shall be considered a deviation from this permit.~~
- ~~(b) The Permittee shall monitor and record the ozone generator plasma voltage of the AO system or equivalent system used in conjunction with the Pouring (P13B), Cooling (P14B), Shakeout (P16B) and Bad Heat Shakeout processes, at least once per day when the units are in operation. When for any one reading, the ozone generator plasma voltage is less than 2400 V or a minimum established during the latest stack test, the Permittee shall take reasonable response steps. Section C – Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. An ozone generator plasma voltage reading that is outside the above mentioned range is not a deviation from this permit. Failure to take~~

~~reasonable response steps shall be considered a deviation from this permit.~~

- ~~(c) The Permittee shall monitor and record the hydrogen peroxide concentration of the AO system or equivalent system used in conjunction with the Pouring (P13B), Cooling (P14B), Shakeout (P16B) and Bad Heat Shakeout processes, at least once per day when the units are in operation. When for any one reading, the hydrogen peroxide reading is less than 1,000 ppm or a minimum established during the latest stack test for Sensor C, the Permittee shall take reasonable response steps. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A hydrogen peroxide concentration reading that is outside the above mentioned range is not a deviation from this permit. Failure to take reasonable response steps shall be considered a deviation from this permit.~~

~~The instruments used for determining the ultra-sonic power, the ozone generator plasma voltage, and the hydrogen peroxide concentration 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 or other time period specified by the manufacturer. The Permittee shall maintain records of the manufacturer specifications, if used.~~

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

D.2.16 Record Keeping Requirements

...

- (d) To document the compliance status with Conditions D.2.11, the Permittee shall maintain a current copy of the mold vent ignition operation and maintenance plan onsite and make available for inspection upon request.**
- ~~(de)~~ To document the compliance status with Condition D.2.143, the Permittee shall maintain a daily record of visible emission notations of the indoor charge handling system and stack exhaust from Stacks No. 3, 6400, 6200, and 5. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).
- ~~(df)~~ To document the compliance status with Condition D.2.124, the Permittee shall maintain a daily record of the pressure drop across each of the baghouses. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading (e.g. the process did not operate that day);
- ~~(e)~~ To document the compliance status with Condition D.2.14, the Permittee shall maintain records of the ultra-sonic power, the ozone generator plasma voltage, and the hydrogen peroxide usage of the AO system.
- (fg)** Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the records required by this condition.

...

SECTION E.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

...

Plant 1

...

- (2) One (1) Casting Line, identified as Casting Line 2, constructed in 2004 **and approved in 2016 for modification to remove the advanced oxidation system**, consisting of the following equipment:

...

- (B) One (1) Pouring station, identified as P13B, with a maximum capacity of 15 tons of metal poured per hour, using baghouse DC-3B for particulate control **and a mold vent ignition system for VOC**

...	control , and exhausting to stack No. 3;
...	Note: —Baghouse DC-3B is a common control for the Melting System, Inoculation system, and Pouring Station.
...	(D) One (1) Shakeout unit, identified as P16B, with a maximum capacity of 15 tons of metal per hour, using baghouse BH6200 for particulate control and an advanced oxidation system for VOC control, and exhausting to stack No. 6200;
...	Note: —An advanced oxidation system is used in conjunction with Plant 1 casting line to reduce VOC emissions from the Pouring station, Cooling line, and Shakeout units through acoustic sonication and the incorporation of ozone and hydrogen peroxide in the water supply to the miller.
...	

IDEM, OAQ made additional revisions to the permit as described below in order to update the language to match the most current version of the applicable rule, to eliminate redundancy within the permit, and to provide clarification regarding the requirements of these conditions.

- (1) All instances of the word "Note" from the emission unit descriptions in Sections A.2, D.1 through D.4, and E.1 have been removed from the permit as follows:

Entire Permit: ~~Note:~~

- (2) IDEM, OAQ revised the CAM portion of the Section C.13 Response to Excursions or Exceedances to provide clarity. In paragraph (II)(c), the acronym QIP is being spelled out as Quality Improvement Plan (QIP) because this is the first time it is mentioned in the condition. In paragraphs (II)(f) and (II)(h)(1), the reference to paragraph (II)(a)(2) is being changed to paragraph (II)(c). Referencing paragraph (II)(a)(2) is correct, however IDEM, OAQ believes that referencing paragraph (II)(c) provides clarity.
- (3) IDEM has revised Sections E.1 to E.3 for clarity.

...
C.13 Response to Excursions or Exceedances [40 CFR 64] [326 IAC 3-8] [326 IAC 2-7-5]
[326 IAC 2-7-6]

...	(II)	
...		(c) Based on the results of a determination made under paragraph (II)(a)(2) of this condition, the EPA or IDEM, OAQ may require the Permittee to develop and implement a Quality Improvement Plan (QIP) . The Permittee shall develop and implement a QIP if notified to in writing by the EPA or IDEM, OAQ.
...		(f) Following implementation of a QIP, upon any subsequent determination pursuant to paragraph (II)(a)(2)(c) of this condition the EPA or the IDEM, OAQ may require that the Permittee make reasonable changes to the QIP if the QIP is found to have:
...		(h) <i>CAM recordkeeping requirements.</i>
	(1)	The Permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan required pursuant to paragraph (II)(a)(2)(c) of this condition and any activities undertaken to implement a quality improvement plan, and other supporting information required to be maintained under this condition (such as data used to document the

adequacy of monitoring, or records of monitoring maintenance or corrective actions). Section C - General Record Keeping Requirements of this permit contains the Permittee's obligations with regard to the records required by this condition.

- ...
- E.1.2 NESHAP for Iron and Steel Foundries [326 IAC 20-92] [40 CFR Part 63, Subpart EEEEE (5E)]
The Permittee shall comply with the following provisions of 40 CFR Part 63, Subpart EEEEE (5E), which are incorporated by reference as 326 IAC 20-92, for the facilities listed in Section E.1. The full text of Subpart EEEEE (5E) may be found in Attachment A to ~~this~~ **the operating** permit.
- ...
- E.2.2 NSPS for Stationary Compression Ignition Internal Combustion Engines [326 IAC 12-1] [40 CFR Part 60, Subpart IIII (4I)]
The Permittee shall comply with the following provisions of 40 CFR Part 60, Subpart IIII (4I), which are incorporated by reference as 326 IAC 12, for the facilities listed in Section E.3. The full text of Subpart IIII (4I) may be found in Attachment B to ~~this~~ **the operating** permit.
- ...
- E.3.2 NESHAP for Stationary Reciprocating Internal Combustion Engines [326 IAC 20-82] [40 CFR Part 63, Subpart ZZZZ (4Z)]
(a) The Permittee shall comply with the following provisions of 40 CFR Part 63, Subpart ZZZZ (4Z) for EG1 and EG2, which are incorporated by reference as 326 IAC 20-82, for the facilities listed in Section E.4. The full text of Subpart ZZZZ (4Z) may be found in Attachment C to ~~this~~ **the operating** permit.

Conclusion and Recommendation

The construction of this proposed modification shall be subject to the conditions of the attached proposed PSD/Significant Source Modification No. 139-36453-00011 and Significant Permit Modification No. 139-36470-00011. The staff recommends to the Commissioner that this PSD/Significant Source and Significant Permit Modification 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 Permit Guide on the Internet at: <http://www.in.gov/idem/5881.htm>; and the Citizens' Guide to IDEM on the Internet at: <http://www.in.gov/idem/6900.htm>.

**Appendix A: Emissions Calculations
2016 Modification Summary**

Company Name: INTAT Precision (Indiana), Inc.
Address City IN Zip: 2148 State Rd. 3 North, Rushville, IN 46173
Significant Source Modification No: 139-36453-00011
Significant Permit Modification No: 139-36470-00011
Reviewer: Brian Williams

2016 VOC BACT Re-evaluation for Plant 1 Casting Line

Emission unit/process	Potential to Emit of Modification (tons/yr)									
	PM	PM ₁₀	PM _{2.5}	SO ₂	NO _x	VOC	CO	GHGs (as CO ₂ e)	Total HAPs	Worst single HAP
Pouring station, Cooling line, Shakeout unit, Bad heat shakeout unit - After Modification	14.22	66.28	66.28	1.31	0.66	55.30	98.75	657.00	>25	>10 -
Pouring station, Cooling line, Shakeout unit, Bad heat shakeout unit - Before Modification	14.22	66.28	66.28	1.31	0.66	47.40	98.75	657.00	>25	>10 -
Net PTE Increase of Modified Units	0	0	0	0	0	7.90	0	0	0	0

Methodology

Net PTE Increase of Modified Units (tons/year) = PTE Change of Modified Process After Modification - PTE of the Modified Process Before Modification

**Appendix A: Emissions Calculations
Source Summary - Unlimited**

Company Name: INTAT Precision (Indiana), Inc.
Address City IN Zip: 2148 State Rd. 3 North, Rushville, IN 46173
Significant Source Modification No: 139-36453-00011
Significant Permit Modification No: 139-36470-00011
Reviewer: Brian Williams

Line	Emission unit/process	Unit ID	PM	PM ₁₀	PM _{2.5}	SO ₂	NO _x	VOC	CO	GHGs (as CO ₂ e)	Total HAPs	Worst single HAP	
	Core production	Core sand bins	72.27	59.13	59.13	-	-	-	-	-	-	-	-
		Isocure macines P4, P5, P6, P7	-	-	-	0.33	32.85	23.83	-	-	-	-	-
Plant 1 - Melting and Finishing	Indoor charge handling	-	52.56	31.536	31.536	-	-	-	-	-	2.00	1.63	Manganese
	Melting system - 3 electric induction furnaces	P8	78.84	75.336	75.336	-	-	-	-	-	10.98	1.97	Manganese
	Holding system - electric holding furnace	P9	-	-	-	-	-	-	-	-	-	-	-
	Ladle heaters	P10	0.02	0.09	0.09	0.01	1.20	0.07	1.01	1,451	0.02	0.02	Hexane
	Inoculation - metal treatment ladle	P11	175.2	175.2	175.2	-	-	0.22	-	-	6.65	5.43	Manganese
	Inoculation - metal treatment ladle		175.2	175.2	175.2	-	-	0.22	-	-	6.65	5.43	Manganese
	Grinders	Grinders 3,4,5,6,7,8,9	893.5	89.4	89.4	-	-	-	-	-	33.94	27.70	Manganese
Plant 1 - Casting Line	Sand System	P32B, P33B, P34B, P35B, P36B, P37B, P39B	1103.8	165.6	165.6	-	-	-	-	-	41.92	34.22	Manganese
	Pouring Station	P13B	275.9	135.3	65.7	1.31	0.66	9.20	394.2	657	10.81	8.55	Manganese
	Cooling line	P14B	92.0	92.0	92.0	-	-	-			8.62	2.85	Manganese
	Shakeout unit	P16B	210.2	147.2	88.0	-	-	78.84			21.12	6.52	Manganese
	Bad heat shakeout unit	-	-	-	-	-	-	-	-	-	-	-	-
	Casting conveyors and desprue operations	P17B, P18B, P19B, P20B, P21B, P22B	92.0	92.0	92.0	-	-	-	-	-	7.98	6.52	Manganese
	Shotblast	P40	394.6	39.5	39.5	-	-	-	-	-	14.99	12.23	Manganese
P41		394.6	39.5	39.5	-	-	-	-	-	14.99	12.23	Manganese	
P42		394.6	39.5	39.5	-	-	-	-	-	14.99	12.23	Manganese	
	Wheelabrator	-	819.1	81.9	81.9	-	-	-	-	31.11	25.39	Manganese	
Plant 2 - original line (1997 line)	Indoor charge handling	1000A	52.6	31.5	31.5	-	-	-	-	-	2.00	1.63	Manganese
	Conversion Station	1150	438.0	438.0	438.0	-	-	0.55	-	-	16.64	13.58	Manganese
	Electric induction furnace	1110	39.4	37.7	37.7	-	-	-	-	-	5.49	4.38	Lead
	Electric induction furnace		39.4	37.7	37.7	-	-	-	-	-	5.49	4.38	Lead
	Electric holding furnace	-	*	*	*	-	-	-	-	-	*	*	*
	Ladle heaters	6600, 6610	0.03	0.13	0.13	0.01	1.72	0.09	1.44	2,073	0.03	0.03	Hexane
	Pouring station	2000	367.9	180.5	87.6	1.75	0.88	12.26	525.6	876	14.41	11.41	Manganese
	Mold machine	2010	61.3	61.3	61.3	-	-	-			2.33	1.90	Manganese
	Casting conveyor system	2015	61.3	61.3	61.3	-	-	-			5.75	1.90	Manganese
	Cooling conveyor system	2020	-	-	-	-	-	-	-	-	-	-	-
	Casting shakeout system	3010	140.2	98.1	58.7	-	-	52.56	-	-	14.08	4.34	Manganese
	Sand waste and sand handling	4000, 4140, 5000	1103.8	165.6	165.6	-	-	-	-	-	41.92	34.22	Manganese
	Shotblast unit	Final blast 3090	744.6	74.5	74.5	-	-	-	-	-	28.28	23.08	Manganese
	Finish trim presses	8000	409.5	41.0	41.0	-	-	-	-	-	15.55	12.70	Manganese
Bench grinders	Cells 1,2,3,4,11,12	409.5	41.0	41.0	-	-	-	-	-	15.55	12.70	Manganese	
Plant 2 - Line 4 (2013 line)	Electric induction furnace	EU-N1	39.4	37.7	37.7	-	-	-	-	-	5.49	4.38	Lead
	Sand handling system	EU-N2A	1182.6	177.4	177.4	-	-	-	-	-	-	-	-
	Return sand handling system	EU-N2B											
	Pouring station	EU-N3	275.9	135.3	65.7	1.31	0.66	9.20	394.2	657	10.81	8.55	Manganese
	Cooling line	EU-N4	92.0	92.0	92.0	-	-	-			8.62	2.85	Manganese
	Casting shakeout system	EU-N5	210.2	147.2	88.0	-	-	78.84			21.12	6.52	Manganese
	Bad heat shakeout system	EU-N5A	-	-	-	-	-	-	-	-	-	-	-
Shot blast unit	EU-N6	1116.9	111.7	111.7	-	-	-	-	-	42.42	34.62	Manganese	
Plant 2	dual grinding unit (EUG-20)	EUG-20	57.3	5.7	5.7	-	-	-	-	-	2.18	1.78	Manganese
Insignificant Activities	Natural gas combustion	-	0.04	0.16	0.16	0.01	2.08	0.11	1.74	2,507	0.04	0.04	Hexane
	Degreaser	-	-	-	-	-	-	0.38	-	-	0.004	0.004	Xylene
	Scrap bays	-	0.70	0.70	0.70	-	-	-	-	-	-	-	-
	Maintenance shop	-	0.44	0.44	0.44	-	-	-	-	-	-	-	-
	Collector penthouses	-	0.70	0.70	0.70	-	-	-	-	-	-	-	-
	Material separator	-	2.63	2.63	2.63	-	-	-	-	-	-	-	-
	Emergency Generators	-	0.71	0.71	0.71	0.66	9.97	0.81	2.15	371	0.009	0.003	Formaldehyde
	Sprue blast	-	10.95	9.42	9.42	-	-	-	-	-	-	-	-
	Die Quench shot blast	-	10.95	9.42	9.42	-	-	-	-	-	-	-	-
	Total:			12,094	3,437	3,048	5.40	50.01	267.2	1,320	8,592	529.9	372.5

* Potential emissions for the holding furnaces are included in the estimate for holding furnaces emissions

**Appendix A: Emissions Calculations
Source Summary - Limited**

Company Name: INTAT Precision (Indiana), Inc.
Address City IN Zip: 2148 State Rd. 3 North, Rushville, IN 46173
Significant Source Modification No: 139-36453-00011
Significant Permit Modification No: 139-36470-00011
Reviewer: Brian Williams

Emission unit/process	Unit ID	PM	PM ₁₀	PM _{2.5} *	SO ₂	NO _x	VOC	CO	GHGs (as CO ₂ e)
* PM _{2.5} was not limited prior to the 2013 modification, limited PM _{2.5} is assumed equal to PM ₁₀ for the purposes of limited PTE									
Original Equipment									
Core production	Core sand bins	3.59	3.59	3.59	-	-	-	-	-
	Isocure boxes (P4, P5, P6, P7)	-	-	-	0.33	32.85	23.83	-	-
Indoor charge handling	-	9.48	9.48	9.48	-	-	-	-	-
Melting system - 3 electric induction furnaces	P8	7.90	7.90	7.90	-	-	-	-	-
Holding system - electric holding furnace	P9	3.95	3.95	3.95	-	-	-	-	-
Grinders**	Grinders 3,4	***	**	**	-	-	-	-	-
Subtotal for original units:		24.9	24.9	24.9	0.3	32.9	23.8	-	-
**This limit was later separated into limits for the individual grinders (below). Grinder 5 (constructed in 2009) was also included in this limit.									
1997 Modification									
Indoor charge handling	1000A	0.5	0.5	0.5	-	-	-	-	-
Conversion Station	1150	-	-	-	-	-	-	-	-
Electric induction furnace	1110	15.4	15.4	15.4	-	-	-	-	-
Electric induction furnace	-	-	-	-	-	-	-	-	-
Electric holding furnace	-	3.1	3.1	3.1	-	-	-	-	-
Pouring station	2000	***	***	***	1.75	0.88	24.6	-	-
Mold machine	2010	***	***	***	-	-	-	-	-
Casting conveyor system	2015	-	-	-	-	-	-	98.4	876
Cooling conveyor system	2020	-	-	-	-	-	-	-	-
Casting shakeout system	3010	44.6	44.6	44.6	-	-	-	-	-
Shotblast unit	Final blast 3090	-	-	-	-	-	-	-	-
Sand waste and sand handling	4000, 4140, 5000	23.7	23.7	23.7	-	-	-	-	-
	-	10.8	10.8	10.8	-	-	-	-	-
Finish trim presses	8000	1.45	1.45	1.45	-	-	-	-	-
Bench grinders	Cells 1,2,3,4,11,12	-	-	-	-	-	-	-	-
Ladle heaters	6600, 6610	0.03	0.13	0.13	0.01	1.72	0.09	1.44	2,073
Subtotal for modification:		99.5	99.6	99.6	1.8	2.6	24.7	99.8	2949.4
***Since some limits are for common control devices rather than emissions units, these unit's limits are combined with other units.									
2001 Modification									
Wheelabrator	-	25.0	14.9	14.9	-	-	-	-	-
2004 Modification									
Ladle heaters	P10	0.02	0.09	0.09	0.01	1.20	0.07	1.01	1,451
Melting system - 3 electric induction furnaces (DC-3A & DC-3B)	P8	-	-	-	-	-	-	-	-
Inoculation - metal treatment ladle (DC-3A & DC-3B)	P11	6.72	25.00	25.00	-	-	0.22	-	-
Inoculation - metal treatment ladle (DC-3A & DC-3B)		-	-	-	-	-	0.22	-	-
Pouring station (DC-3B)*	P13B	-	-	-	1.31	0.66	-	-	-
Cooling line (BH6200)*	P14B	-	-	-	-	-	55.3	98.75	657
Shakeout unit (BH6200)*	P16B	-	-	-	-	-	-	-	-
Bad heat shakeout unit*	-	-	-	-	-	-	-	-	-
Casting conveyors and desprue operations (BH6200)	P17B, P18B, P19B, P20B, P21B, P22B	7.51	41.28	41.28	-	-	-	-	-
Sand handling system (BH6400)	P32B, P33B, P34B, P35B, P36B, P37B, P39B	2.95	3.69	3.69	-	-	-	-	-
Shotblast (DC-8B)	P40	-	-	-	-	-	-	-	-
	P41	-	-	-	-	-	-	-	-
	P42	4.35	3.36	3.36	-	-	-	-	-
Casting conveyors and desprue operations (DC-8B)	P17B, P18B, P19B, P20B, P21B, P22B	-	-	-	-	-	-	-	-
Casting conveyors and desprue operations (DC-7)	P17B, P18B, P19B, P20B, P21B, P22B	1.46	3.36	3.36	-	-	-	-	-
Subtotal for modification:		23.00	76.77	76.77	1.32	1.86	55.8	99.8	2,108
*VOC limit modified in SPM #36470 in 2016.									
*Metal will pass through either the shakeout or bad shakeout for purposes of calculating PTE. Emissions from the shakeout (P16B) represent worst case.									
2009 Modification									
Grinders	Grinders 3,4,5	2.3	2.3	2.3	-	-	-	-	-
	Grinder 6	1.2	1.2	1.2	-	-	-	-	-
	Grinder 7	1.2	1.2	1.2	-	-	-	-	-
	Grinder 8	2.3	2.3	2.3	-	-	-	-	-
	Grinder 9	0.8	0.8	0.8	-	-	-	-	-
Subtotal for modification:		7.9	7.9	7.9	-	-	-	-	-
2013 Modification									
Electric induction furnace	EU-N1	-	-	-	-	-	-	-	-
Sand handling system	EU-N2A	-	-	-	-	-	-	-	-
Return sand handling system	EU-N2B	-	-	-	-	-	-	-	-
Pouring station	EU-N3	-	-	-	1.314	0.657	-	-	-
Cooling line	EU-N4	-	-	-	-	-	-	-	-
Casting shakeout system	EU-N5	25.0	15.0	10.0	-	-	40.0	100.0	657
Bad heat shakeout system	EU-N5A	-	-	-	-	-	-	-	-
Shot blast unit	EU-N6	-	-	-	-	-	-	-	-
Core production	Core sand bins, P4, P5, P6, P7	-	-	-	-	-	-	-	-
Indoor charge handling	1000A	-	-	-	-	-	-	-	-
Conversion station	1150	-	-	-	-	-	-	-	-
Induction furnaces	1110	-	-	-	-	-	-	-	-
Bench grinders	Cells 1, 2, 3, 4, 11, 12	-	-	-	-	-	-	-	-
Subtotal for modification:		25.0	15.0	10.0	1.3	0.7	40.0	100.0	657
2014 Modification									
Sprue Blast	-	10.95	7.49	4.99	-	-	-	-	-
Die Quench shot blast	-	10.95	7.49	4.99	-	-	-	-	-
Subtotal for modification:		21.90	14.98	9.99	-	-	-	-	-
2015 modification									
dual grinding unit	EUG-20	15.07	5.73	5.73	-	-	-	-	-
Insignificant Units									
Natural gas combustion	-	0.04	0.16	0.16	0.01	2.08	0.11	1.74	2,507
Degreaser	-	-	-	-	-	-	0.38	-	-
Scrap bays	-	0.70	0.70	0.70	-	-	-	-	-
Maintenance shop	-	0.44	0.44	0.44	-	-	-	-	-
Collector penthouses	-	0.70	0.70	0.70	-	-	-	-	-
Material separator	-	2.63	2.63	2.63	-	-	-	-	-
Emergency Generators	-	0.71	0.71	0.71	0.66	9.97	0.81	2.15	371
Subtotal for insignificant:		5.2	5.3	5.3	0.7	12.1	1.3	3.9	2,877

**Appendix A: Emissions Calculations
PSD Limits**

Company Name: INTAT Precision (Indiana), Inc.
Address City IN Zip: 2148 State Rd. 3 North, Rushville, IN 46173
Significant Source Modification No: 139-36453-00011
Significant Permit Modification No: 139-36470-00011
Reviewer: Brian Williams

Original equipment - Plant 1, constructed in 1988 and 1994 for P7

Emission unit/process	Unit ID	Limited Throughput (ton metal/yr)	PM/PM ₁₀		
			Emission limit (lb/hr)	Emission limit (lb/ton metal or sand)	PTE (ton/yr)
Core production	Core sand bins	N/A	0.82	-	3.59
Charge Handling*	-	79000	-	0.24	9.48
Melting system**	P8	79000	-	0.2	7.90
Holding system**	P9	79000	-	0.1	3.95
Grinders***	***	***	***	***	***

Notes:

These units were constructed in 1988 and have not been modified since.

These limits were taken in order to limit PM and PM₁₀ less than 100 tons/yr for the source to be Minor for PSD.

* This limit was changed from 0.24 lb/hr to 0.24 lb/ton of metal in SPM #139-27169-00011, issued on June 5, 2009.

** The limited throughput was lowered from 90,000 tons in SPM #139-22744-00011, issued on December 20, 2007. A separate limit for the holding system was also added.

*** The original limit for the grinders was modified in SPM #139-27169-00011 when new insignificant grinding units were constructed. The limit also includes Grinder 5.

1997 Modification (CP #139-8845-00011) - Plant 2 Construction

Control Device	Emission Unit (ID)	PM/PM ₁₀ Limit			Emission Unit (ID)	VOC		CO	
		Emission limit (lb/hr)	Emission limit (lb/ton metal or sand)	PTE (ton/yr)		Emission limit (lb/ton metal)	PTE (ton/yr)	Emission limit (lb/ton metal)	PTE (ton/yr)
N/A	Indoor charge handling (1000A)	0.12	-	0.53	Melting (1110)*, Conversion station (1150)*, Pouring station (2000), Casting and cooling conveyors (2015, 2020), Casting shakeout (3010)	0.8	24.6	3.2	98.4
BH6010	Conversion station (1150), Induction furnaces (1110), Pouring station (2000), Mold machine (2010)	-	0.50	15.38					
N/A	Electric holding furnace	-	0.10	3.08					
BH6020*	Casting and cooling conveyors (2015, 2020), Sand and waste sand handling (4000, 4140, 5000)	-	0.11	23.68	*Melting (1110) and Conversion station are limited for VOC and not CO				
BH6030	Casting and cooling conveyors (2015, 2020)**, Casting shakeout (3010)**, Final blast shotblast unit (3090)	-	1.45	44.59					
BH6040*	Sand and waste sand handling (4000, 4140, 5000)	-	0.05	10.76	Limited throughput (tons sand/yr)	430,500			
Fabric filters (AAF, DC#3, DC#4, DC#1, and Aerocology #1)	Finish trim presses (8000), 6 grinders (Cells 1,2,3,4,11,12)	-	0.06	1.45	Limited throughput (tons metal in finish & grinding/yr)	48,180			

Notes:

These units were constructed in 1997 and have not been modified since.

These limits limited PM, PM₁₀ and CO to less than 100 tons/yr in order for the modification to be Minor for PSD.

VOC was limited to less than 25 tons per year to avoid 326 IAC 8-1-6 and for the modification to be Minor for PSD.

After this modification, the source became PSD major.

These limits were adjusted in SPM #139-22744-00011, issued on December 20, 2007.

*The throughput of sand was used to calculate the limited PTE of these baghouses.

**Conveyors were modified and Shakeout was replaced in SSM #139-28190-00011, issued on September 1, 2009. This modification did not result in net increase in emissions.

Therefore, the units did not require new emission limits and were kept under the existing 1997 PSD Minor emission limits.

2001 Modification (SSM #139-22701-000011) - Wheelabrator MeshBelt Blast unit constructed (permitted in 2007)

Unit	PM		PM ₁₀	
	Emission limit (lb/ton metal or sand)	PTE (ton/yr)	Emission limit (lb/ton metal or sand)	PTE (ton/yr)
Wheelabrator	5.7	24.97	3.4	14.89

Notes:

This unit was constructed in 2001 and permitted under SSM #139-22701-00011 issued on December 4, 2007.

These limits limit PM and PM₁₀ to less than 25 and 15 tons/yr, respectively, in order for the modification to be Minor for PSD.

Methodology:

PTE (ton/yr) = Emission Limit (lb/hr) * 8760 hrs/yr * 1 ton/2000 lbs **OR** = Emission Limit (lb/ton) * Limited Throughput (tons of metal or sand/yr) * 1 ton/2000 lbs

**Appendix A: Emissions Calculations
PSD Limits (continued)**

Company Name: INTAT Precision (Indiana), Inc.
Address City IN Zip: 2148 State Rd. 3 North, Rushville, IN 46173
Significant Source Modification No: 139-36453-00011
Significant Permit Modification No: 139-36470-00011
Reviewer: Brian Williams

2004 Modification (SSM #139-17898-00011) - Plant 1 Casting Line construction, Inoculation system (P11) replacement

Control Device	Emission unit/process	Limited throughput (tons metal or sand/yr)	Air flow (cfm)	PM - PSD Minor		PM ₁₀ - BACT				Emission Unit (ID)	VOC - BACT		CO - PSD Minor		
				Emission limit (lb/ton metal or sand)	PTE (ton/yr)	Filterable and Condensable Emission limit (lb/ton metal or sand)	PTE (ton/yr)	Emission limit gr/dcsf (filterable)	PTE (lb/hr)		PTE (ton/yr)	Emission limit (lb/ton metal)	PTE (ton/yr)	Emission limit (lb/ton metal)	PTE (ton/yr)
DC-3A	Melting system (P8)*, Inoculation (P11)	79000	66225	0.17	6.72	0.633	25.00	0.003	1.70	7.46	Pouring (P13B), Cooling line (P14B), Shakeout unit (P16B), Bad heat shakeout	1.4	55.3	2.5	98.75
DC-3B	Melting system (P8)*, Inoculation (P11), Pouring (P13B)	79000	66225					0.003	1.70	7.46					
BH6400	Sand Sytem (P32B, P33B, P34B, P35B, P36B, P37B, P39B)	368667	44000	0.016	2.95	0.02	3.69	0.003	1.13	4.96					
BH6200	Cooling line (P14B), Shakeout unit (P16B), Casting conveyors and desprue (P17B - P22B)	79000	111000	0.19	7.51	1.045	41.28	0.003	2.85	12.50					
DC-8B	Shotblast (P40, P41, P42), Casting conveyors and desprue (P17B-P22B)	79000	40000	0.11	4.35	0.085	3.36	0.003	1.03	4.51					
DC-7	Casting conveyors and desprue (P17B-P22B)	79000	21300	0.037	1.46	0.085	3.36	0.003	0.55	2.40					
DC-5	Bad heat shakeout**	79000	17400	0.03	1.19	0.03	1.19	0.003	0.45	1.96					

Notes:

These units were constructed or modified in 2004 and have not been modified since. These limits limit PM and CO to less than 25 and 100 tons/yr, respectively, in order for the modification to be Minor for PSD. BACT determination for PM₁₀ was made in SPM #139-17898-00011. BACT determination for VOC was made in SSM #139-36453-00011 due to the removal of the advanced oxidation system. These limits were adjusted in SPM #139-22744-00011, issued on December 20, 2007. *The melting system (P8) was not modified in 2004; however, this limit is on the baghouse that is common control with the units constructed in 2004.. **Metal will pass through either the shakeout or bad shakeout for purposes of calculating PTE

2009 (SPM #139-27169-00011) - Grinders 5-9 were constructed, Grinders 3 and 4 were existing

Units	PM/PM ₁₀	
	Emission limit (lb/hr)	PTE (ton/yr)
Grinders 3,4,5	0.53	2.32
Grinder 6	0.28	1.23
Grinder 7	0.28	1.23
Grinder 8	0.53	2.32
Grinder 9	0.18	0.79

Notes:

These limits limit PM and PM₁₀ to less than 25 and 15 tons/yr, respectively, in order for the modification to be Minor for PSD. * Grinders 3 and 4 were not constructed in 2009; however, this limit is on the baghouse that is common control for new and old units.

2013 (SPM #139-32540-00011) - Plant 2, Line 4 was constructed, throughputs to existing units was modified

New line + modified units included as one limit.

Emission unit/process	Unit ID	PSD Minor Limits (ton/yr)					
		PM	PM ₁₀	PM _{2.5}	Lead	CO	VOC
New units							
Electric induction furnace	EU-N1	25.00	15.00	10.00	0.60	100.00	40.00
Sand handling system	EU-N2A						
Return sand handling system	EU-N2B						
Pouring station	EU-N3						
Cooling line	EU-N4						
Casting shakeout system	EU-N5						
Bad heat shakeout system	EU-N5A						
Shot blast unit	EU-N6						
Modified units							
Core production	Core sand bins, P4, P5, P6, P7						
Indoor charge handling	1000A						
Conversion station	1150						
Induction furnaces	1110						
Bench grinders	Cells 1, 2, 3, 4, 11, 12						

Notes:

These limits limit PM, PM₁₀, PM_{2.5}, Lead, CO, and VOC below the PSD significance threshold, in order for the modification to be Minor for PSD. These limits include the potential emissions from all new units, the additional throughput of used in Line 4 for the existing units, and the entire throughput of the Pouring Station (2000). The throughput of Pouring Station (2000) increased in this modification but is not used as part of Plant 2, Line 4.

Methodology:

PTE (ton/yr) = Emission Limit (lb/hr) * 8760 hrs/yr * 1 ton/2000 lbs OR = Emission Limit (lb/ton) * Limited Throughput (tons of metal or sand/yr) * 1 ton/2000 lbs
PM₁₀ BACT Limit (lb/hr) = BACT limit (gr/dcsf, filterable) * Air flow (cfm) * 60 min/hr * 1 lb/7000 gr

2014 (SPM #139-34923-00011) - Sprue blast and Die Quench shot blast

Emission unit	Emission Limit (lb/hr)		Limited PTE (ton/yr)	
	PM ₁₀	PM _{2.5}	PM ₁₀	PM _{2.5}
Sprue blast	1.71	1.14	7.49	4.99
Die Quench shot blast	1.71	1.14	7.49	4.99
Totals:			14.98	9.99

Notes:

These limits limit PM₁₀ and PM_{2.5} below the PSD significance threshold, in order for the modification to be Minor for PSD.

Methodology:

PTE (ton/yr) = Emission Limit (lb/hr) * 8760 hrs/yr * 1 ton/2000 lbs

Appendix A: Emissions Calculations
Coremaking - Three (3) core sand bins and Four (4) isocure cold box core machines (P4, P5, P6, P7)

Company Name: INTAT Precision (Indiana), Inc.
Address City IN Zip: 2148 State Rd. 3 North, Rushville, IN 46173
Significant Source Modification No: 139-36453-00011
Significant Permit Modification No: 139-36470-00011
Reviewer: Brian Williams

Unit	Unit ID	Max throughput (ton sand/hr)	Max resin usage (lb/ton sand)	Max catalyst usage (lb/ton sand)	VOC emission factor from resin (lb VOC/ton sand)	PTE of VOC from resin (ton/yr)	PTE of VOC from catalyst (ton/yr)	Total PTE of VOC (ton/yr)
Isocure cold box core machines	P4	0.5	8.00	1.12	1.6	3.50	2.45	5.96
	P5	0.5	8.00	1.12	1.6	3.50	2.45	5.96
	P6	0.5	8.00	1.12	1.6	3.50	2.45	5.96
	P7	0.5	8.00	1.12	1.6	3.50	2.45	5.96

SCC	Max throughput (ton sand/hr)	Max throughput (ton metal/hr)	Unit	Emission Factors (lb/ton of sand or metal)				
				PM	PM ₁₀	PM _{2.5}	SO ₂ *	NO _x
3-04-003-19, 3-04-003-51, 3-04-003-53	2	15	Core sand bins	1.1	0.9	0.9	-	-
			Isocure machines (P4, P5, P6, P7)	-	-	-	0.038	0.5

Unit	PTE (tons/yr)					
	PM	PM ₁₀	PM _{2.5}	SO ₂ *	NO _x	VOC
Core sand bins	72.27	59.13	59.13	-	-	-
Isocure machines (P4, P5, P6, P7)	-	-	-	0.33	32.85	23.83

Notes:

Particulate emissions are generated from the core sand bins, exhausting to stack 9 and controlled by a dust collector. SO₂, NO_x, and VOC emissions are generated from the cold box core, exhausting to stacks 10 A and 10B and uncontrolled. Catalyst is DMIPA (dimethylisopropylamine), a non-HAP, VOC. It is assumed all the catalyst evaporates as VOC. VOC emission factor for resin is from SPM #139-22744-00011, issued on December 20, 2007. All other emission factors are from AP-42, Section 12.10 and WebFIRE using the SCC specified above. *SO₂ emission factor is based on the tons of sand throughput. All other emission factors are based on tons of metal

Methodology:

PTE of VOC from resin (ton/yr) = Max throughput (ton sand/hr) * VOC emission factor (lb VOC/ton sand) * 8670 hrs/yr * 1 ton/2000 lbs
PTE of VOC from catalyst (ton/yr) = Max throughput (ton sand/hr) * Max catalyst usage (lb/ton sand) * 8670 hrs/yr * 1 ton/2000 lbs
PTE of other pollutants (ton/yr) = Max throughput (ton sand or metal/hr) * Emission factor (lb/ton sand or metal) * 8670 hrs/yr * 1 ton/2000 lbs

**Appendix A: Emissions Calculations
Plant 1 - Unlimited PTE of criteria pollutants**

Company Name: INTAT Precision (Indiana), Inc.
Address City IN Zip: 2148 State Rd. 3 North, Rushville, IN 46173
Significant Source Modification No: 139-36453-00011
Significant Permit Modification No: 139-36470-00011
Reviewer: Brian Williams

Line	Emission unit/process	Unit ID	SCC	Capacity (tons metal (or sand)/hr)	Emission Factors (lb/ton metal (or sand))							CO ¹	GHGs as CO ₂ e ²
					PM	PM ₁₀	PM _{2.5}	SO ₂	NO _x	VOC			
Plant 1, Melting and Finishing	Indoor charge handling	-	3-04-003-15	20	0.6	0.36	0.36	-	-	-	-	-	
	Melting system - 3 electric induction furnaces	P8	3-04-003-03	20	0.9	0.86	0.86	-	-	-	-	-	
	Holding system - electric holding furnaces	P9	3-04-003-03	20	-	-	-	-	-	-	-	-	
	Inoculation - metal treatment ladle	P11	3-04-003-10	10	4.0	4.0	4.0	-	-	0.005	-	-	
	Inoculation - metal treatment ladle		3-04-003-10	10	4.0	4.0	4.0	-	-	0.005	-	-	
	Grinders	Grinders 3,4,5,6,7,8,9	3-04-003-40	12	17	1.7	1.7	-	-	-	-	-	
Plant 1, Casting Line	Sand System	P32B, P33B, P34B, P35B, P36B, P37B, P39B	3-04-003-50	70	3.6	0.54	0.54	-	-	-	-	-	
	Pouring Station	P13B	3-04-003-18, 3-04-003	15	4.2	2.06	1.00	0.02	0.01	0.14	6	10	
	Cooling line	P14B	3-04-003-25	15	1.4	1.4	1.4	-	-	-			
	Shakeout unit	P16B	3-04-003-31	15	3.2	2.24	1.34	-	-	1.2			
	Bad heat shakeout unit	-	3-04-003-31	15	3.2	2.24	1.34	-	-	1.2			
	Casting conveyors and desprue operations	P17B, P18B, P19B, P20B, P21B, P22B	3-04-003-25	15	1.4	1.4	1.4	-	-	-	-	-	
	Shotblast		P40	3-04-003-40	5.3	17	1.7	1.7	-	-	-	-	-
			P41	3-04-003-40	5.3	17	1.7	1.7	-	-	-	-	-
		P42	3-04-003-40	5.3	17	1.7	1.7	-	-	-	-	-	
	Wheelabrator		3-04-003-40	11	17	1.7	1.7	-	-	-	-	-	

Notes:

Unless noted, all emission factors are from AP-42, Section 12.10 and WebFIRE using the SCC specified above.

¹ CO is from IDEM letter "Notice of Limited Self-Disclosure Opportunity for CO Emissions from PCS Operations within the Foundry Sector", August 11, 2006

² GHGs as CO₂e emissions is equal to CO₂ emissions. CO₂ emission factor from American Foundry Society (AFS) Data,

"Pouring, Cooling, and Shakeout CO/CO₂ Emission Sources and Variability" (AFS 08-031), for greensand casting operations.

* Potential emissions for the holding furnaces are included in the estimate for holding furnaces emissions.

PM = PM₁₀ = PM_{2.5}, when specific emissions are not provided

Line	Emission unit/process	Unit ID	PTE (tons/year)							GHGs as CO ₂ e ²	
			PM	PM ₁₀	PM _{2.5}	SO ₂	NO _x	VOC	CO		
Melting and Finishing	Indoor charge handling	-	52.6	31.5	31.5	-	-	-	-	-	
	Melting system - 3 electric induction furnaces	P8	78.8	75.3	75.3	-	-	-	-	-	
	Holding system - electric holding furnaces	P9	-	-	-	-	-	-	-	-	
	Inoculation - metal treatment ladle	P11	175.2	175.2	175.2	-	-	0.22	-	-	
	Inoculation - metal treatment ladle		175.2	175.2	175.2	-	-	0.22	-	-	
	Grinders	Grinders 3,4,5,6,7,8,9	893.5	89.4	89.4	-	-	-	-	-	
Casting Line	Sand System	P32B, P33B, P34B, P35B, P36B, P37B, P39B	1103.8	165.6	165.6	-	-	-	-	-	
	Pouring Station	P13B	275.9	135.3	65.7	1.31	0.66	9.20	394.20	657	
	Cooling line	P14B	92.0	92.0	92.0	-	-	-			
	Shakeout unit ³	P16B	210.2	147.2	88.0	-	-	78.84			
	Bad heat shakeout unit ³	-	-	-	-	-	-	-			
	Casting conveyors and desprue operations	P17B, P18B, P19B, P20B, P21B, P22B	92.0	92.0	92.0	-	-	-	-	-	
	Shotblast		P40	394.6	39.5	39.5	-	-	-	-	-
			P41	394.6	39.5	39.5	-	-	-	-	-
		P42	394.6	39.5	39.5	-	-	-	-	-	
	Wheelabrator		819.1	81.9	81.9	-	-	-	-	-	
Totals:			5,152	1,379	1,250	1.31	0.66	88.48	394.20	657	

Notes:

³ The 15 lb/yr max throughput of poured metal will pass through only one of the shakeout units (normal or bad heat), therefore potential emissions are included for only one of the units.

Methodology:

PTE (tons/yr) = Capacity (tons metal (or sand)/hr) * Emission factor (lb/ton metal (or sand)) * 8760 hr/yr * 1 ton/2000 lbs

Appendix A: Emissions Calculations
Plant 1 - Unlimited PTE of HAPs

Company Name: INTAT Precision (Indiana), Inc.
Address City IN Zip: 2148 State Rd. 3 North, Rushville, IN 46173
Significant Source Modification No: 139-36453-00011
Significant Permit Modification No: 139-36470-00011
Reviewer: Brian Williams

Line	Emission unit/process	Unit ID	Capacity (tons metal (or sand)/hr)	Emission Factors (lb/ton metal (or sand))										
				PM	Antimony	Arsenic	Cadmium	Chromium	Cobalt	Lead	Manganese	Nickel	Selenium	Organic HAPs ²
Melting and Finishing	Indoor charge handling	-	20	0.6	1.11E-03	7.80E-05	3.60E-05	2.28E-04	1.80E-05	2.31E-03	1.86E-02	4.02E-04	6.00E-06	-
	Melting system - 3 electric induction furnaces ¹	P8	20	0.9	1.67E-03	1.17E-04	5.40E-05	3.42E-04	2.70E-05	1.00E-01	2.25E-02	6.03E-04	9.00E-06	-
	Holding system - electric holding furnaces	P9	20	-	-	-	-	-	-	-	-	-	-	-
	Inoculation - metal treatment ladle	P11	10	4.0	7.40E-03	5.20E-04	2.40E-04	1.52E-03	1.20E-04	1.54E-02	1.24E-01	2.68E-03	4.00E-05	-
	Inoculation - metal treatment ladle	-	10	4.0	7.40E-03	5.20E-04	2.40E-04	1.52E-03	1.20E-04	1.54E-02	1.24E-01	2.68E-03	4.00E-05	-
Casting Line	Grinders	Grinders 3,4,5,6,7,8,9	12	17	3.15E-02	2.21E-03	1.02E-03	6.46E-03	5.10E-04	6.55E-02	5.27E-01	1.14E-02	1.70E-04	-
	Sand System	P32B, P33B, P34B, P35B, P36B, P37B, P39B	70	3.6	6.66E-03	4.68E-04	2.16E-04	1.37E-03	1.08E-04	1.39E-02	1.12E-01	2.41E-03	3.60E-05	-
	Pouring Station	P13B	15	4.2	7.77E-03	5.46E-04	2.52E-04	1.60E-03	1.26E-04	1.62E-02	1.30E-01	2.81E-03	4.20E-05	5.00E-03
	Cooling line	P14B	15	1.4	2.59E-03	1.82E-04	8.40E-05	5.32E-04	4.20E-05	5.39E-03	4.34E-02	9.38E-04	1.40E-05	7.80E-02
	Shakeout unit	P16B	15	3.2	5.92E-03	4.16E-04	1.92E-04	1.22E-03	9.60E-05	1.23E-02	9.92E-02	2.14E-03	3.20E-05	2.00E-01
	Bad heat shakeout unit	-	15	3.2	5.92E-03	4.16E-04	1.92E-04	1.22E-03	9.60E-05	1.23E-02	9.92E-02	2.14E-03	3.20E-05	-
	Casting conveyors and desprue operations	P17B, P18B, P19B, P20B, P21B, P22B	15	3.2	5.92E-03	4.16E-04	1.92E-04	1.22E-03	9.60E-05	1.23E-02	9.92E-02	2.14E-03	3.20E-05	-
	Shotblast	P40	5.3	17	3.15E-02	2.21E-03	1.02E-03	6.46E-03	5.10E-04	6.55E-02	5.27E-01	1.14E-02	1.70E-04	-
		P41	5.3	17	3.15E-02	2.21E-03	1.02E-03	6.46E-03	5.10E-04	6.55E-02	5.27E-01	1.14E-02	1.70E-04	-
		P42	5.3	17	3.15E-02	2.21E-03	1.02E-03	6.46E-03	5.10E-04	6.55E-02	5.27E-01	1.14E-02	1.70E-04	-
-	Wheelabrator	-	11	17	3.15E-02	2.21E-03	1.02E-03	6.46E-03	5.10E-04	6.55E-02	5.27E-01	1.14E-02	1.70E-04	-
Weight % of PM:					0.185%	0.013%	0.006%	0.038%	0.003%	0.385%	3.100%	0.067%	0.001%	

Notes:

Metal HAP emission factors are based on the average metal HAP content for gray iron foundries, from EPA's SPECIATE database.

¹ Lead and manganese emission factors for electric induction furnaces were provided in AP-42, Section

² Organic HAPs emission factors are from the Background Information Document for the NESHAP for Iron and Steel Foundries, Table 5-4 (CERP, 1998).

* Potential emissions for the holding furnaces are included in the estimate for holding furnaces emissions

Line	Emission unit/process	Unit ID	PTE (tons/year)										
			Antimony	Arsenic	Cadmium	Chromium	Cobalt	Lead	Manganese	Nickel	Selenium	Total Metal HAPs	Organic HAPs
Melting and Finishing	Indoor charge handling	-	0.10	0.01	0.003	0.02	0.002	0.20	1.63	0.04	0.001	2.00	-
	Melting system - 3 electric induction furnaces	P8	0.15	0.01	0.005	0.03	0.002	8.76	1.97	0.05	0.001	10.98	-
	Holding system - electric holding furnace	P9	-	-	-	-	-	-	-	-	-	0.00	-
	Inoculation - metal treatment ladle	P11	0.32	0.02	0.011	0.07	0.005	0.67	5.43	0.12	0.002	6.65	-
	Inoculation - metal treatment ladle	-	0.32	0.02	0.011	0.07	0.005	0.67	5.43	0.12	0.002	6.65	-
Casting Line	Grinders	Grinders 3,4,5,6,7,8,9	1.65	0.12	0.054	0.34	0.027	3.44	27.70	0.60	0.009	33.94	-
	Sand System	P32B, P33B, P34B, P35B, P36B, P37B, P39B	2.04	0.14	0.066	0.42	0.033	4.25	34.22	0.74	0.011	41.92	-
	Pouring Station	P13B	0.51	0.04	0.017	0.10	0.008	1.06	8.55	0.18	0.003	10.48	0.329
	Cooling line	P14B	0.17	0.01	0.006	0.03	0.003	0.35	2.85	0.06	0.001	3.49	5.125
	Shakeout unit ³	P16B	0.39	0.03	0.013	0.08	0.006	0.81	6.52	0.14	0.002	7.98	13.140
	Bad heat shakeout unit ³	-	0.39	0.03	0.013	0.08	0.006	0.81	6.52	0.14	0.002	7.98	-
	Casting conveyors and desprue operations	P17B, P18B, P19B, P20B, P21B, P22B	0.39	0.03	0.013	0.08	0.006	0.81	6.52	0.14	0.002	7.98	-
	Shotblast	P40	0.73	0.05	0.024	0.15	0.012	1.52	12.23	0.26	0.004	14.99	-
		P41	0.73	0.05	0.024	0.15	0.012	1.52	12.23	0.26	0.004	14.99	-
		P42	0.73	0.05	0.024	0.15	0.012	1.52	12.23	0.26	0.004	14.99	-
-	Wheelabrator	-	1.52	0.11	0.049	0.31	0.025	3.15	25.39	0.55	0.008	31.11	-
Total:			9.75	0.69	0.32	2.00	0.16	28.75	162.91	3.53	0.05	208.16	18.59

Notes:

³ The 15 lb/yr throughput of poured metal will pass through only one of the shakeout units (normal or bad heat), therefore potential emissions are included for only one of the units.

Methodology:

PTE (tons/yr) = Capacity (tons metal (or sand)/hr) * Emission factor (lb/ton metal (or sand)) * 8760 hr/yr * 1 ton/2000 lbs

Appendix A: Emissions Calculations
Plant 1 Ladle heaters

Company Name: INTAT Precision (Indiana), Inc.
Address City IN Zip: 2148 State Rd. 3 North, Rushville, IN 46173
Significant Source Modification No: 139-36453-00011
Significant Permit Modification No: 139-36470-00011
Reviewer: Brian Williams

Emission unit	Emission Unit ID	Heat Input Capacity (MMBtu/hr)	Potential Throughput (MMCF/yr)
Metal treatment ladle heater	P10	1	8.6
Metal treatment ladle heater		1	8.6
Pouring ladle heater		0.4	3.4
Pouring ladle heater		0.4	3.4
Totals:		2.800	24.0

	Pollutant						
	PM*	PM ₁₀ *	Direct PM _{2.5} *	SO ₂	NO _x	VOC	CO
Emission Factor (lb/MMCF)	1.9	7.6	7.6	0.6	100.0	5.5	84.0
Potential Emission (tons/yr)	0.02	0.1	0.09	0.01	1.2	0.1	1.0

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

PM_{2.5} emission factor is filterable and condensable PM_{2.5} combined.

	HAPs - Organics				
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor (lb/MMCF)	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission (tons/yr)	2.525E-05	1.443E-05	9.018E-04	2.164E-02	4.088E-05

	HAPs - Metals				
	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor (lb/MMCF)	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission (tons/yr)	6.012E-06	1.323E-05	1.683E-05	4.569E-06	2.525E-05
Total HAPs:					2.269E-02

	Greenhouse Gas		
	CO ₂	CH ₄	N ₂ O
Emission Factor (lb/MMCF)	120,000	2.3	2.2
Potential Emission (tons/yr)	1,443	0.0	0.0
Summed Potential Emissions (tons/yr)	1,443		
CO ₂ e Total (tons/yr)	1,451		

Notes:

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

The five highest organic and metal HAPs emission factors are provided above.

Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.

Methodology:

Total Heat Input Capacity (MMBtu/hr) = \sum (Heat Input Capacity Each (MMBtu/hr/unit) * Number of Units)

Total Potential Throughput (MMCF/yr) = Heat Input Capacity Each (MMBtu/hr) * Number of Units * 8,760 hrs/yr * High Heat Value (1 MMCF/1,020 MMBtu)

Potential Emission (tons/yr) = Total Potential Throughput (MMCF/yr) * Emission Factor (lb/MMCF) * 1 ton/2000 lbs

CO₂e (tons/yr) = CO₂ Potential Emission (tons/yr) * CO₂ GWP (1) + CH₄ Potential Emission (tons/yr) * CH₄ GWP (25) + N₂O

Potential Emission (tons/yr) * N₂O GWP (298).

Appendix A: Emissions Calculations
Plant 2 - Unlimited PTE of criteria pollutants

Company Name: INTAT Precision (Indiana), Inc.
Address City IN Zip: 2148 State Rd. 3 North, Rushville, IN 46173
Significant Source Modification No: 139-36453-00011
Significant Permit Modification No: 139-36470-00011
Reviewer: Brian Williams

Line	Emission unit/process	Unit ID	SCC	Capacity (tons metal (or sand)/hr)	Emission Factors (lb/ton metal (or sand))								GHGs as CO ₂ e ²
					PM	PM ₁₀	PM _{2.5}	SO ₂	NO _x	VOC	CO ¹		
Plant 2, original line (1997 line)	Indoor charge handling	1000A	3-04-003-15	20	0.6	0.36	0.36	-	-	-	-	-	-
	Conversion Station	1150	3-04-003-10	25	4.0	4.0	4.0	-	-	0.005	-	-	-
	Electric induction oven	1110	3-04-003-03	10	0.9	0.86	0.86	-	-	-	-	-	-
	Electric induction oven		3-04-003-03	10	0.9	0.86	0.86	-	-	-	-	-	-
	Electric holding oven	-	3-04-003-04	-	*	*	*	-	-	-	-	-	-
	Pouring station	2000	3-04-003-18, 3-04-003-20	20	4.2	2.06	1.00	0.02	0.01	0.14	6	10	
	Mold machine	2010	3-04-003-25	10	1.4	1.4	1.4	-	-	-			
	Casting conveyor system	2015	3-04-003-25	10	1.4	1.4	1.4	-	-	-			
	Cooling conveyor system	2020											
	Casting shakeout system	3010	3-04-003-31	10	3.2	2.24	1.34	-	-	1.2	-	-	
	Sand waste and sand handling	4000, 4140, 5000	3-04-003-50	70	3.6	0.54	0.54	-	-	-	-	-	
	Shotblast unit	Final blast 3090	3-04-003-40	10	17	1.7	1.7	-	-	-	-	-	
	Finish trim presses	8000	3-04-003-40	5.5	17	1.7	1.7	-	-	-	-	-	
	Bench grinders	Cells 1,2,3,4,11,12	3-04-003-40	5.5	17	1.7	1.7	-	-	-	-	-	
Plant 2, Line 4 (2013 line)	Electric induction furnace	EU-N1	3-04-003-03	10	0.9	0.86	0.86	-	-	-	-	-	
	Sand handling system	EU-N2A	3-04-003-50	75	3.6	0.54	0.54	-	-	-	-	-	
	Return sand handling system	EU-N2B	3-04-003-50					-	-	-	-	-	
	Pouring station	EU-N3	3-04-003-18, 3-04-003-20	15	4.2	2.06	1.00	0.02	0.01	0.14	6	10	
	Cooling line	EU-N4	3-04-003-25	15	1.4	1.4	1.4	-	-	-			
	Casting shakeout system	EU-N5	3-04-003-31	15	3.2	2.24	1.34	-	-	1.2			
	Bad heat shakeout system	EU-N5A	3-04-003-31	10	3.2	2.24	1.34	-	-	1.2			
	Shot blast unit	EU-N6	3-04-003-39	15	17	1.7	1.7	-	-	-	-	-	

Notes:

Unless noted, all emission factors are from AP-42, Section 12.10 and WebFIRE using the SCC specified above.

¹ CO is from IDEM letter "Notice of Limited Self-Disclosure Opportunity for CO Emissions from PCS Operations within the Foundry Sector", August 11, 2006

² GHGs as CO₂e emissions is equal to CO₂ emissions. CO₂ emission factor from American Foundry Society (AFS) Data,

"Pouring, Cooling, and Shakeout CO/CO₂ Emission Sources and Variability" (AFS 08-031), for greensand casting operations.

* Potential emissions for the holding furnaces are included in the estimate for holding furnaces emissions.

PM = PM₁₀ = PM_{2.5}, when specific emissions are not provided

Line	Emission unit/process	Unit ID	PTE (tons/year)							GHGs as CO ₂ e ²	
			PM	PM ₁₀	PM _{2.5}	SO ₂	NO _x	VOC	CO		
Plant 2, original line (1997 line)	Indoor charge handling	1000A	52.6	31.5	31.5	-	-	-	-	-	-
	Conversion Station	1150	438.0	438.0	438.0	-	-	0.55	-	-	-
	Electric induction oven	1110	39.4	37.7	37.7	-	-	-	-	-	-
	Electric induction oven		39.4	37.7	37.7	-	-	-	-	-	-
	Electric holding oven	-	*	*	*	-	-	-	-	-	-
	Pouring station	2000	367.9	180.5	87.6	1.75	0.88	12.26	525.60	876	
	Mold machine	2010	61.3	61.3	61.3	-	-	-			
	Casting conveyor system	2015	61.3	61.3	61.3	-	-	-			
	Cooling conveyor system	2020									
	Casting shakeout system	3010	140.2	98.1	58.7	-	-	52.56	-	-	
	Sand waste and sand handling	4000, 4140, 5000	1103.8	165.6	165.6	-	-	-	-	-	
	Shotblast unit	Final blast 3090	744.6	74.5	74.5	-	-	-	-	-	
	Finish trim presses	8000	409.5	41.0	41.0	-	-	-	-	-	
	Bench grinders	Cells 1,2,3,4,11,12	409.5	41.0	41.0	-	-	-	-	-	
Plant 2, Line 4 (2013 line)	Electric induction furnace	EU-N1	39.4	37.7	37.7	-	-	-	-	-	
	Sand handling system	EU-N2A	1182.6	177.4	177.4	-	-	-	-	-	
	Return sand handling system	EU-N2B	0.0	0.0	0.0	-	-	-	-	-	
	Pouring station	EU-N3	275.9	135.3	65.7	1.31	0.66	9.20	394.20	657	
	Cooling line	EU-N4	92.0	92.0	92.0	-	-	-			
	Casting shakeout system ³	EU-N5	210.2	147.2	88.0	-	-	78.84			
	Bad heat shakeout system ³	EU-N5A				-	-	-			
Shot blast unit	EU-N6	1116.9	111.7	111.7	-	-	-	-	-		
Totals:			6,785	1,969	1,708	3.07	1.53	153.41	919.80	1,533	

Notes:

³ The 15 lb/yr throughput of metal will pass through only one of the shakeout units (normal or bad heat), therefore only one of the units is accounted for PTE.

Methodology:

PTE (tons/yr) = Capacity (tons metal (or sand)/hr) * Emission factor (lb/ton metal (or sand)) * 8760 hr/yr * 1 ton/2000 lbs

**Appendix A: Emissions Calculations
Plant 2 - Unlimited PTE of HAPs**

Company Name: INTAT Precision (Indiana), Inc.
Address City IN Zip: 2148 State Rd. 3 North, Rushville, IN 46173
Significant Source Modification No: 139-36453-00011
Significant Permit Modification No: 139-36470-00011
Reviewer: Brian Williams

Line	Emission unit/process	Unit ID	Capacity (tons metal or sand)/hr	Emission Factors (lb/ton metal (or sand))										
				PM	Antimony	Arsenic	Cadmium	Chromium	Cobalt	Lead	Manganese	Nickel	Selenium	Organic HAPs ²
Plant 2, original line (1997 line)	Indoor charge handling	1000A	20	0.6	1.11E-03	7.80E-05	3.60E-05	2.28E-04	1.80E-05	2.31E-03	1.86E-02	4.02E-04	6.00E-06	-
	Conversion Station	1150	25	4.0	7.40E-03	5.20E-04	2.40E-04	1.52E-03	1.20E-04	1.54E-02	1.24E-01	2.68E-03	4.00E-05	-
	Electric induction oven ¹	1110	10	0.9	1.67E-03	1.17E-04	5.40E-05	3.42E-04	2.70E-05	1.00E-01	2.25E-02	6.03E-04	9.00E-06	-
	Electric induction oven ¹		10	0.9	1.67E-03	1.17E-04	5.40E-05	3.42E-04	2.70E-05	1.00E-01	2.25E-02	6.03E-04	9.00E-06	-
	Electric holding oven	-	-	-	-	-	-	-	-	-	-	-	-	-
	Pouring station	2000	20	4.2	7.77E-03	5.46E-04	2.52E-04	1.60E-03	1.26E-04	1.62E-02	1.30E-01	2.81E-03	4.20E-05	5.00E-03
	Mold machine	2010	10	1.4	2.59E-03	1.82E-04	8.40E-05	5.32E-04	4.20E-05	5.39E-03	4.34E-02	9.38E-04	1.40E-05	-
	Casting conveyor system	2015	10	1.4	2.59E-03	1.82E-04	8.40E-05	5.32E-04	4.20E-05	5.39E-03	4.34E-02	9.38E-04	1.40E-05	7.80E-02
	Cooling conveyor system	2020												
	Casting shakeout system	3010	10	3.2	5.92E-03	4.16E-04	1.92E-04	1.22E-03	9.60E-05	1.23E-02	9.92E-02	2.14E-03	3.20E-05	2.00E-01
	Sand waste and sand handling	4000, 4140, 5000	70	3.6	6.66E-03	4.68E-04	2.16E-04	1.37E-03	1.08E-04	1.39E-02	1.12E-01	2.41E-03	3.60E-05	-
	Shotblast unit	Final blast 3090	10	17	3.15E-02	2.21E-03	1.02E-03	6.46E-03	5.10E-04	6.55E-02	5.27E-01	1.14E-02	1.70E-04	-
	Finish trim presses	8000	5.5	17	3.15E-02	2.21E-03	1.02E-03	6.46E-03	5.10E-04	6.55E-02	5.27E-01	1.14E-02	1.70E-04	-
	Bench grinders	Cells 1,2,3,4,11,12	5.5	17	3.15E-02	2.21E-03	1.02E-03	6.46E-03	5.10E-04	6.55E-02	5.27E-01	1.14E-02	1.70E-04	-
	Electric induction furnace ¹	EU-N1	10	0.9	1.67E-03	1.17E-04	5.40E-05	3.42E-04	2.70E-05	1.00E-01	2.25E-02	6.03E-04	9.00E-06	-
Sand handling system	EU-N2A	75	3.6	6.66E-03	4.68E-04	2.16E-04	1.37E-03	1.08E-04	1.39E-02	1.12E-01	2.41E-03	3.60E-05	-	
Return sand handling system	EU-N2B													
Pouring station	EU-N3	15	4.2	7.77E-03	5.46E-04	2.52E-04	1.60E-03	1.26E-04	1.62E-02	1.30E-01	2.81E-03	4.20E-05	5.00E-03	
Cooling line	EU-N4	15	1.4	2.59E-03	1.82E-04	8.40E-05	5.32E-04	4.20E-05	5.39E-03	4.34E-02	9.38E-04	1.40E-05	7.80E-02	
Casting shakeout system	EU-N5	15	3.2	5.92E-03	4.16E-04	1.92E-04	1.22E-03	9.60E-05	1.23E-02	9.92E-02	2.14E-03	3.20E-05	2.00E-01	
Bad heat shakeout system	EU-N5A	10	3.2	5.92E-03	4.16E-04	1.92E-04	1.22E-03	9.60E-05	1.23E-02	9.92E-02	2.14E-03	3.20E-05	-	
Shot blast unit	EU-N6	15	17	3.15E-02	2.21E-03	1.02E-03	6.46E-03	5.10E-04	6.55E-02	5.27E-01	1.14E-02	1.70E-04	-	
Plant 2	dual grinding unit (EUG-20)	BH-20	0.77	17	3.15E-02	2.21E-03	1.02E-03	6.46E-03	5.10E-04	6.55E-02	5.27E-01	1.14E-02	1.70E-04	0.00E+00
Weight % of PM:				0.185%	0.013%	0.006%	0.038%	0.003%	0.385%	3.100%	0.067%	0.001%		

Notes:

Metal HAP emission factors are based on the average metal HAP content for gray iron foundries, from EPA's SPECIATE database.

¹ Lead and manganese emission factors for electric induction furnaces were provided in AP-42, Section

² Organic HAPs emission factors are from the Background Information Document for the NESHAP for Iron and Steel Foundries, Table 5-4 (CERP, 1998).

* Potential emissions for the holding furnaces are included in the estimate for holding furnaces emissions

Line	Emission unit/process	Unit ID	PTE (tons/year)										
			Antimony	Arsenic	Cadmium	Chromium	Cobalt	Lead	Manganese	Nickel	Selenium	Total Metal HAPs	Organic HAPs
Plant 2, original line (1997 line)	Indoor charge handling	1000A	0.097	0.007	0.003	0.020	0.002	0.202	1.629	0.035	0.001	1.996	-
	Conversion Station	1150	0.810	0.057	0.026	0.166	0.013	1.686	13.578	0.293	0.004	16.635	-
	Electric induction oven	1110	0.073	0.005	0.002	0.015	0.001	4.380	0.986	0.026	0.0004	5.489	-
	Electric induction oven		0.073	0.005	0.002	0.015	0.001	4.380	0.986	0.026	0.0004	5.489	-
	Electric holding oven	-	-	-	-	-	-	-	-	-	-	-	-
	Pouring station	2000	0.681	0.048	0.022	0.140	0.011	1.416	11.406	0.247	0.004	13.974	0.4
	Mold machine	2010	0.113	0.008	0.004	0.023	0.002	0.236	1.901	0.041	0.001	2.329	-
	Casting conveyor system	2015	0.113	0.008	0.004	0.023	0.002	0.236	1.901	0.041	0.001	2.329	3.4
	Cooling conveyor system	2020											
	Casting shakeout system	3010	0.259	0.018	0.008	0.053	0.004	0.540	4.345	0.094	0.001	5.323	8.8
	Sand waste and sand handling	4000, 4140, 5000	2.042	0.143	0.066	0.419	0.033	4.249	34.217	0.740	0.011	41.921	-
	Shotblast unit	Final blast 3090	1.378	0.097	0.045	0.283	0.022	2.867	23.083	0.499	0.007	28.280	-
	Finish trim presses	8000	0.758	0.053	0.025	0.156	0.012	1.577	12.695	0.274	0.004	15.554	-
	Bench grinders	Cells 1,2,3,4,11,12	0.758	0.053	0.025	0.156	0.012	1.577	12.695	0.274	0.004	15.554	-
	Electric induction furnace	EU-N1	0.073	0.005	0.002	0.015	0.001	4.380	0.986	0.026	0.000	5.489	-
Sand handling system	EU-N2A	2.188	0.154	0.071	0.449	0.035	4.553	36.661	0.792	0.012	44.915	-	
Return sand handling system	EU-N2B												
Pouring station	EU-N3	0.510	0.036	0.017	0.105	0.008	1.062	8.554	0.185	0.003	10.480	0.3	
Cooling line	EU-N4	0.170	0.012	0.006	0.035	0.003	0.354	2.851	0.062	0.001	3.493	5.1	
Casting shakeout system ³	EU-N5	0.389	0.027	0.013	0.080	0.006	0.809	6.517	0.141	0.002	7.985	13.1	
Bad heat shakeout system ³	EU-N5A												
Shot blast unit	EU-N6	2.066	0.145	0.067	0.424	0.034	4.300	34.624	0.748	0.011	42.420	-	
Plant 2	dual grinding unit (EUG-20)	BH-20	0.106	0.007	0.003	0.022	0.002	0.221	1.78	0.038	0.001	2.18	0.000
Totals:			12.552	0.882	0.407	2.578	0.204	38.805	209.614	4.546	0.068	269.7	31.2

Notes:

³ The 15 lb/yr throughput of poured metal will pass through only one of the shakeout units (normal or bad heat), therefore potential emissions are included for only one of the units.

Methodology:

PTE (tons/yr) = Capacity (tons metal (or sand)/hr) * Emission factor (lb/ton metal (or sand)) * 8760 hr/yr * 1 ton/2000 lbs

**Appendix A: Emissions Calculations
Plant 2 - Ladle Heaters**

Company Name: INTAT Precision (Indiana), Inc.
Address City IN Zip: 2148 State Rd. 3 North, Rushville, IN 46173
Significant Source Modification No: 139-36453-00011
Significant Permit Modification No: 139-36470-00011
Reviewer: Brian Williams

Emission unit	Emission Unit ID	Heat Input Capacity (MMBtu/hr)	Potential Throughput (MMCF/yr)
Ladle heater - Plant 2 - 1997	6600	2.0	17.2
Ladle heater - Plant 2 - 1997	6610	2.0	17.2
Totals:		4.000	34.4

	Pollutant						
	PM*	PM ₁₀ *	Direct PM _{2.5} *	SO ₂	NO _x	VOC	CO
Emission Factor (lb/MMCF)	1.9	7.6	7.6	0.6	100.0	5.5	84.0
Potential Emission (tons/yr)	0.03	0.1	0.13	0.01	1.7	0.1	1.4

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

PM_{2.5} emission factor is filterable and condensable PM_{2.5} combined.

	HAPs - Organics				
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor (lb/MMCF)	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission (tons/yr)	3.607E-05	2.061E-05	1.288E-03	3.092E-02	5.840E-05

	HAPs - Metals				
	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor (lb/MMCF)	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission (tons/yr)	8.588E-06	1.889E-05	2.405E-05	6.527E-06	3.607E-05
Total HAPs:	3.242E-02				

	Greenhouse Gas		
	CO ₂	CH ₄	N ₂ O
Emission Factor (lb/MMCF)	120,000	2.3	2.2
Potential Emission (tons/yr)	2,061	0.0	0.0
Summed Potential Emissions (tons/yr)	2,061		
CO ₂ e Total (tons/yr)	2,073		

Notes:

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

The five highest organic and metal HAPs emission factors are provided above.

Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.

Methodology:

Total Heat Input Capacity (MMBtu/hr) = \sum (Heat Input Capacity Each (MMBtu/hr/unit) * Number of Units)

Total Potential Throughput (MMCF/yr) = Heat Input Capacity Each (MMBtu/hr) * Number of Units * 8,760 hrs/yr * High Heat Value (1 MMCF/1,020 MMBtu)

Potential Emission (tons/yr) = Total Potential Throughput (MMCF/yr) * Emission Factor (lb/MMCF) * 1 ton/2000 lbs

CO₂e (tons/yr) = CO₂ Potential Emission (tons/yr) * CO₂ GWP (1) + CH₄ Potential Emission (tons/yr) * CH₄ GWP (25) + N₂O

Potential Emission (tons/yr) * N₂O GWP (298).

Appendix A: Emissions Calculations
326 IAC 6-3-2 Limits

Company Name: INTAT Precision (Indiana), Inc.
Address City IN Zip: 2148 State Rd. 3 North, Rushville, IN 46173
Significant Source Modification No: 139-36453-00011
Significant Permit Modification No: 139-36470-00011
Reviewer: Brian Williams

Line	Emission unit/process	Unit ID	Process Weight Rate (ton/hr)	Allowable emissions (lb/hr)	
	Core production	Core sand bins and P4, P5, P6, P7	2.01	6.54	
Plant 1, Melting and Finishing	Indoor charge handling	-	20	30.51	
	Melting system - 3 electric induction furnaces	P8	20	30.51	
	Holding system - electric holding furnaces	P9	20	30.51	
	Inoculation - metal treatment ladles	P11	20	30.51	
	Grinders	Grinder 3		1.25	4.76
		Grinder 4		1.25	4.76
		Grinder 5		1.25	4.76
		Grinder 6		1.25	4.76
		Grinder 7		1.25	4.76
Grinder 8		3.75	9.94		
Grinder 9		1.25	4.76		
Plant 1, Casting Line	Sand System	P32B, P33B, P34B, P35B, P36B, P37B, P39B	70	47.77	
	Pouring Station	P13B	85	49.66	
	Cooling line	P14B	85	49.66	
	Shakeout unit	P16B	85	49.66	
	Bad heat shakeout unit	-	85	49.66	
	Casting conveyors and desprue operations	P17B, P18B, P19B, P20B, P21B, P22B	15	25.16	
	Shotblast units	P40, P41, P42	9	17.87	
Wheelabrator	-	11	20.44		
Plant 2, original line (1997 line)	Indoor charge handling	1000A	20	30.51	
	Conversion Station	1150	25	35.43	
	Electric induction furnace	1110	20	30.51	
	Electric holding furnace	-	10	19.18	
	Pouring station	2000	20	30.51	
	Mold machine	2010	80	49.06	
	Casting conveyor system	2015	80	49.06	
	Cooling conveyor system	2020			
	Casting shakeout system	3010	80	49.06	
	Sand waste and sand handling	4000, 4140, 5000	70	47.77	
	Shotblast unit	Final blast 3090	10	19.18	
	Finish trim presses	8000	5.5	12.85	
	Bench grinders	Cells 1,2,3,4,11,12	5.5	12.85	
Plant 2, Line 4 (2013 line)	Electric induction furnace	EU-N1	10	19.18	
	Sand handling system	EU-N2A	75	48.43	
	Return sand handling system	EU-N2B			
	Pouring station	EU-N3	90	83.58	
	Cooling line	EU-N4	90	83.58	
	Casting shakeout system	EU-N5	90	83.58	
	Bad heat shakeout system	EU-N5A	85	80.44	
Shot blast unit	EU-N6	15	25.16		

Methodology:

For process weight ≤30 tons/hr, Allowable emission (lb/hr) = 4.10 * Process weight rate (ton/hr)^{0.67}, pursuant to 326 IAC 6-3-2(e)

For process weight >30 tons/hr, Allowable emission (lb/hr) = 55.0 * Process weight rate (ton/hr)^{0.11} - 40, pursuant to 326 IAC 6-3-2(e)

**Appendix A: Emissions Calculations
Insignificant Natural Gas Combustion**

Company Name: INTAT Precision (Indiana), Inc.
Address City IN Zip: 2148 State Rd. 3 North, Rushville, IN 46173
Significant Source Modification No: 139-36453-00011
Significant Permit Modification No: 139-36470-00011
Reviewer: Brian Williams

Emission unit	Emission Unit ID	Heat Input Capacity (MMBtu/hr)	Potential Throughput (MMCF/yr)
Boiler (Hot water heater)	P40	0.2	1.7
Boiler (Hot water heater)	P41	1.1	9.4
Totals:		1.300	11.2

	Pollutant						
	PM*	PM ₁₀ *	Direct PM _{2.5} *	SO ₂	NO _x	VOC	CO
Emission Factor (lb/MMCF)	1.9	7.6	7.6	0.6	100.0	5.5	84.0
Potential Emission (tons/yr)	0.01	0.04	0.04	0.00	0.56	0.03	0.47

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

PM_{2.5} emission factor is filterable and condensable PM_{2.5} combined.

	HAPs - Organics				
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor (lb/MMCF)	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission (tons/yr)	0.0000	0.0000	0.0004	0.0100	0.0000

	HAPs - Metals				
	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor (lb/MMCF)	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission (tons/yr)	0.0000	0.0000	0.0000	0.0000	0.0000
Total HAPs:					0.011

	Greenhouse Gas		
	CO ₂	CH ₄	N ₂ O
Emission Factor (lb/MMCF)	120,000	2.3	2.2
Potential Emission (tons/yr)	670	0.0	0.0
Summed Potential Emissions (tons/yr)	670		
CO ₂ e Total (tons/yr)	674		

Notes:

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

The five highest organic and metal HAPs emission factors are provided above.

Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.

Methodology:

Total Heat Input Capacity (MMBtu/hr) = \sum (Heat Input Capacity Each (MMBtu/hr/unit) * Number of Units)

Total Potential Throughput (MMCF/yr) = Heat Input Capacity Each (MMBtu/hr) * Number of Units * 8,760 hrs/yr * High Heat Value (1 MMCF/1,020 MMBtu)

Potential Emission (tons/yr) = Total Potential Throughput (MMCF/yr) * Emission Factor (lb/MMCF) * 1 ton/2000 lbs

CO₂e (tons/yr) = CO₂ Potential Emission (tons/yr) * CO₂ GWP (1) + CH₄ Potential Emission (tons/yr) * CH₄ GWP (25) + N₂O

Potential Emission (tons/yr) * N₂O GWP (298).

**Appendix A: Emissions Calculations
Insignificant Natural Gas Combustion**

Company Name: INTAT Precision (Indiana), Inc.
Address City IN Zip: 2148 State Rd. 3 North, Rushville, IN 46173
Significant Source Modification No: 139-36453-00011
Significant Permit Modification No: 139-36470-00011
Reviewer: Brian Williams

Emission unit	Emission Unit ID	Heat Input Capacity (MMBtu/hr)	Potential Throughput (MMCF/yr)
Boiler (Hot water heater)	P40	0.2	1.7
Boiler (Hot water heater)	P41	1.1	9.4
Scrap metal dryer	-	1	8.6
Heater	P50	2.5	21.5
Heat treat furnace	-	0.036	0.3
Totals:		4.836	41.5

	Pollutant						
	PM*	PM ₁₀ *	Direct PM _{2.5} *	SO ₂	NO _x	VOC	CO
Emission Factor (lb/MMCF)	1.9	7.6	7.6	0.6	100.0	5.5	84.0
Potential Emission (tons/yr)	0.04	0.2	0.16	0.01	2.1	0.1	1.7

*PM emission factor is filterable PM only. PM₁₀ emission factor is filterable and condensable PM₁₀ combined.
PM_{2.5} emission factor is filterable and condensable PM_{2.5} combined.

	HAPs - Organics				
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor (lb/MMCF)	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission (tons/yr)	4.361E-05	2.492E-05	1.557E-03	3.738E-02	7.061E-05

	HAPs - Metals				
	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor (lb/MMCF)	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission (tons/yr)	1.038E-05	2.284E-05	2.907E-05	7.891E-06	4.361E-05
Total HAPs:	3.919E-02				

	Greenhouse Gas		
	CO ₂	CH ₄	N ₂ O
Emission Factor (lb/MMCF)	120,000	2.3	2.2
Potential Emission (tons/yr)	2,492	0.0	0.0
Summed Potential Emissions (tons/yr)	2,492		
CO ₂ e Total (tons/yr)	2,507		

Notes:

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

The five highest organic and metal HAPs emission factors are provided above.

Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.

Methodology:

Total Heat Input Capacity (MMBtu/hr) = \sum (Heat Input Capacity Each (MMBtu/hr/unit) * Number of Units)

Total Potential Throughput (MMCF/yr) = Heat Input Capacity Each (MMBtu/hr) * Number of Units * 8,760 hrs/yr * High Heat Value (1 MMCF/1,020 MMBtu)

Potential Emission (tons/yr) = Total Potential Throughput (MMCF/yr) * Emission Factor (lb/MMCF) * 1 ton/2000 lbs

CO₂e (tons/yr) = CO₂ Potential Emission (tons/yr) * CO₂ GWP (1) + CH₄ Potential Emission (tons/yr) * CH₄ GWP (25) + N₂O

Potential Emission (tons/yr) * N₂O GWP (298).

**Appendix A: Emissions Calculations
Degreaser**

Company Name: INTAT Precision (Indiana), Inc.

Address City IN Zip: 2148 State Rd. 3 North, Rushville, IN 46173

Significant Source Modification No: 139-36453-00011

Significant Permit Modification No: 139-36470-00011

Reviewer: Brian Williams

Material	Annual usage (gal/yr)	Density (lb/gal)	VOC content	Xylene content	PTE of VOC (ton/yr)	PTE of Xylene (ton/yr)
Mineral spirits	120	6.3	100%	1%	0.378	0.00378

Methodology

PTE of VOC (ton/yr) = Annual usage (gal/yr) * Density (lb/gal) * VOC content * 1 ton/2000 lb

PTE of xylene (ton/yr) = PTE of VOC (ton/yr) * Xylene content

**Appendix A: Emissions Calculations
Diesel-fired emergency generators**

Company Name: INTAT Precision (Indiana), Inc.
Address City IN Zip: 2148 State Rd. 3 North, Rushville, IN 46173
Significant Source Modification No: 139-36453-00011
Significant Permit Modification No: 139-36470-00011
Reviewer: Brian Williams

Emission unit	Capacity (bhp)	Heat input capacity (MMBtu/hr)
EG1	429	3.00
EG2	429	3.00
EG3	429	3.00
Totals:	1287	9.01

	Pollutant						
	PM	PM ₁₀	PM _{2.5}	SO ₂	NO _x	VOC	CO
Emission factor (lb/bhp-hr)	0.0022	0.0022	0.0022	0.0021	0.0310	0.0025	0.0067
Potential emissions (tons/yr)	0.71	0.71	0.71	0.66	9.97	0.81	2.15

	HAPs							
	Benzene	Toluene	Xylene	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Total PAH HAPs**
Emission factor (lb/MMBtu)	9.33E-04	4.09E-04	2.85E-04	3.91E-05	1.18E-03	7.67E-04	9.25E-05	1.68E-04
Potential emissions (tons/yr)	0.0021	0.0009	0.0006	0.0001	0.0027	0.0017	0.0002	0.0004
	Total HAPs (tons/yr):							0.0087

**PAH = Polyaromatic Hydrocarbon (PAHs are considered HAPs, since they are considered Polycyclic Organic Matter)

	Greenhouse Gas		
	CO ₂	CH ₄	N ₂ O
Emission factor (lb/MMBtu/hr)	1.64E+02	6.61E-03	1.32E-03
Potential emissions (tons/yr)	369.37	1.49E-02	2.98E-03
Summed potential emissions (tons/yr)	369		
CO ₂ e total (tons/yr)	371		

Notes:

These internal combustion engines are for emergency use only and do not operate more than 500 hours per year.

Fuel heat value = 0.137 MMBtu/gal

Emission Factors are from AP42 (Supplement B 10/96), Tables 3.3-1 and 3.3-2

CH₄ and N₂O Emission Factor from 40 CFR 98 Subpart C Table C-2.

Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.

Assume a brake specific fuel consumption of 7,000 Btu/hp-hr (AP-42 Table 3.3-1).

Calculations:

Heat input capacity (MMBtu/hr) = Capacity (bhp) * 0.007 MMBtu/hp-hr

Potential emissions (tons/yr) = Total capacity (bhp) or Total heat input capacity (MMBtu/hr) * Emission factor (lb/bhp-hr or lb/MMBtu/hr) * 500 hrs/yr * 1 ton/2000 lbs

CO₂e (tons/yr) = CO₂ Potential Emission ton/yr * CO₂ GWP (1) + CH₄ Potential Emission ton/yr * CH₄ GWP (25) + N₂O Potential Emission ton/yr * N₂O GWP (298).

Appendix A: Emissions Calculations
Shot blasting (Sprue Blast and Die Quench Shot Blast)

Company Name: INTAT Precision (Indiana), Inc.
Address City IN Zip: 2148 State Rd. 3 North, Rushville, IN 46173
Significant Source Modification No: 139-36453-00011
Significant Permit Modification No: 139-36470-00011
Reviewer: Brian Williams

Emission Factors for Abrasives

Abrasive	lb PM/lb abrasive	lb PM ₁₀ /lb PM
Sand	0.041	0.70
Grit	0.010	0.70
Steel Shot	0.004	0.86
Other	0.010	0.70

Uncontrolled PTE

Uncontrolled PTE			Emission factors		Uncontrolled PTE - PM		Uncontrolled PTE - PM ₁₀	
Emission Unit	Number of nozzles	Flow rate (lb/hr)	PM (lb/lb abrasive)	PM ₁₀ (lb/lb PM)	lb/hr	ton/yr	lb/hr	ton/yr
Die Quench	1	625.0	0.004	0.86	2.50	10.95	2.2	9.4
Sprue blast	1	625.0	0.004	0.86	2.50	10.95	2.2	9.4

Controlled PTE

Controlled PTE		Controlled PTE - PM		Controlled PTE - PM ₁₀	
Emission Unit	Control Efficiency	lb/hr	ton/yr	lb/hr	ton/yr
Die Quench	96%	0.10	0.44	0.09	0.38
Sprue blast	96%	0.10	0.44	0.09	0.38

Notes:

Emission factors from STAPPA/ALAPCO "Air Quality Permits", Vol. I, Section 3 "Abrasive Blasting" (1991 edition)
 PM₁₀=PM_{2.5}

Methodology:

Uncontrolled PTE of PM (lb/hr) = Flow rate (lb/hr) * PM emission factor (lb/lb abrasive) * Number of nozzles

Uncontrolled PTE of PM₁₀ (lb/hr) = Uncontrolled PTE of PM (lb/hr) * PM₁₀ emission factor (lb/lb PM)

Uncontrolled PTE (lb/day) = Uncontrolled PTE (lb/hr) * 24 hrs/day

Uncontrolled PTE (ton/yr) = Uncontrolled PTE (lb/hr) * 8760 hrs/yr * 1 ton/2000 lbs

Controlled PTE = Uncontrolled PTE * (1 - Control efficiency)

326 IAC 6-3-2 Limits

Emission Unit	Material throughput (lb/hr)	Abrasive throughput (lb/hr)	Process weight rate (ton/hr)	Allowable emissions (lb/hr)	Control efficiency needed
Die Quench	50000	625.0	25.31	35.73	NA
Sprue blast	336	625.0	0.48	2.51	NA

326 IAC 2-2 (PSD) Limits

	Limited PTE (lb/hr)	Limited PTE (ton/yr)	Control efficiency needed
PM₁₀			
Die Quench	1.71	7.49	31.6%
Sprue	1.71	7.49	31.6%
PM_{2.5}			
Die Quench	1.14	4.99	54.4%
Sprue	1.14	4.99	54.4%

Note:

PM limits are not required because PTE of PM is less than PSD significance level.

Methodology:

Abrasive throughput (lb/hr) = Flow rate (lb/hr) * Number of nozzles

Process weight rate (ton/hr) = (Material throughput (lb/hr) + Abrasive throughput (lb/hr)) / 2000 lb/ton

Allowable emission (lb/hr) = 4.10 * Process weight rate (ton/hr)^{0.67}, pursuant to 326 IAC 6-3-2(e)

Limited PTE (ton/yr) = Limited PTE (lb/hr) * 8760 hrs/yr * 1 ton/2000 lbs

Control efficiency needed = 1 - (Limited emissions (lb/hr) / Unlimited PTE (lb/hr))

Appendix A:Emissions Calculations
dual grinding unit (EUG-20)

Company Name: INTAT Precision (Indiana), Inc.

Source Address: 2148 State Rd. 3 North, Rushville, IN 46173

Significant Source Modification No: 139-36453-00011

Significant Permit Modification No: 139-36470-00011

Reviewer: Brian Williams

Emission Unit ID	Control	Stack ID	Throughput (tons of metal/hr)	Emission Factor (lb/ton of metal)			Uncontrolled Emissions (tons/yr)			326 IAC 6-3 Limit (lbs/hr) for PM	PSD Minor Limit (lb/hr)	baghouse efficiency (%)	controlled emission (lbs/hr)	Limited Emission (tons/year)
				PM	PM10	PM2.5	PM	PM10	PM2.5	PM	PM	PM	PM	PM
dual grinding unit (EUG-20)	BH-20	exhausting inside	0.77	17	1.7	1.7	57.3	5.73	5.73	3.44	3.44	75.0%	3.27	15.07

Methodology

Emission factors are from AP 42 Chapter 12.10 Gray Iron Foundries.

Uncontrolled Emissions (tons/yr) = Emission Factor (lb/ton of metal) x Throughput (tons of metal/hr) x 8760 (hrs/yr) / 2000 (lbs/ton)

326 IAC 6-3 Limit (lbs/hr) for PM = 4.10 x [Throughput (tons of metal/hr)]^{0.67}

PSD Minor Limit (lb/hr) = 326 IAC 6-3 Limit (lbs/hr) for PM

Controlled Emissions (lbs/hr) = Emission Factor (lb/ton of metal) x Throughput (tons of metal/hr) x [1-(baghouse efficiency (%) / 100%)]

Limited Emission (tons/year) = PSD Minor Limit (lb/hr) x [8760 (hrs/yr) / 2000 (lbs/ton)]

Please refer Page 10 of this Appendix A for the HAPs calculations.

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

**Appendix B
Best Available Control Technology (BACT) Determination
Prevention of Significant Deterioration (PSD)**

Technical Support Document (TSD) for a
PSD/Part 70 Significant Source Modification and
Part 70 Significant Permit Modification

Source Description and Location
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Source Name:	INTAT Precision, Inc.
Source Location:	2148 State Road 3 North, Rushville, Indiana 46173
County:	Rush
SIC Code:	3321 (Gray and Ductile Iron Foundries)
PSD/Significant Source Modification No.:	139-36453-00011
Significant Permit Modification No.:	139-36470-00011
Permit Reviewer:	Brian Williams

Background Information

The Office of Air Quality (OAQ) has reviewed a modification application, submitted by INTAT Precision, Inc. on November 4, 2015, relating to the request to revise the existing VOC limitations and best available control technology requirement for the existing pouring, cooling, and shakeout process associated with Casting Line 2 in Plant 1. INTAT is requesting to remove the existing Advanced Oxidation (AO) system and increase the VOC emission limit from 1.2 pounds per ton of metal to 1.4 pounds per ton of metal, maintaining its existing throughput limit. Line 2 in Plant 1 was initially permitted in 2004.

There are no new emissions units being proposed in this modification.

As a result of this application, the Office of Air Quality (OAQ) has performed the following 326 IAC 2-2-3 (PSD) and 326 IAC 8-1-6 (VOC) Best Available Control Technology (BACT) review for INTAT Precision, Inc. relating to its existing stationary gray and ductile iron foundry.

VOC Emitted During the Pouring, Cooling and Shakeout Processes:

VOCs are emitted from the iron casting process during the pouring, cooling and shakeout processes. VOCs are emitted as the hot molten iron comes into contact with the organic materials used in the mold sand and the resin bonded cores. The shape of each individual casting is defined by the corresponding shape of the sand mold and sand core. VOCs are generated from pyrolysis and distillation processes involving the organic materials in the mold and core materials driven by the heat from the molten metal. The generation of VOCs is driven by the heat of the molten metal and occurs in the boundary layer where the mold and metal and the core and metal meet. The emission process begins when the mold is poured and the hot metal causes organic gases to be generated and pushed out of the mold through displacement of the cavity space. As the mold cools, emissions continue to come off the mold primarily through gas vents, but the rate of generation of the emissions declines over time. When the mold and core are removed from the solidified casting at the shakeout process, the VOCs, which have

been trapped in the mold, are released. Once these gases are released, the generation of the VOCs declines rapidly and ceases as the metal is separated from the sand molds.

Emissions Units Involved in this BACT Re-evaluation:

The following emission units will be included in this 326 IAC 2-2-3 (PSD) and 326 IAC 8-1-6 (VOC) BACT analysis for VOC:

(1) One (1) Casting Line, identified as Casting Line 2, constructed in 2004, consisting of the following equipment:

(A) One (1) Pouring station, identified as P13B, with a maximum capacity of 15 tons of metal poured per hour, using baghouse DC-3B for particulate control, and exhausting to stack No. 3;

Baghouse DC-3B is a common control for the Melting System, Inoculation system, and Pouring Station.

(B) One (1) Cooling line, identified as P14B, with a maximum capacity of 15 tons of metal per hour, using baghouse BH6200 for particulate control, and exhausting to stack No. 6200;

(C) One (1) Shakeout unit, identified as P16B, with a maximum capacity of 15 tons of metal per hour, using baghouse BH6200 for particulate control and an advanced oxidation system for VOC control, and exhausting to stack No. 6200;

(D) One (1) Bad Heat Shakeout unit controlled by baghouse DC-5, and exhausting to stack No. 5;

An advanced oxidation system is used in conjunction with Plant 1 casting line to reduce VOC emissions from the Pouring station, Cooling line, and Shakeout units through acoustic sonication and the incorporation of ozone and hydrogen peroxide in the water supply to the muller.

Current Best Available Control Technology (BACT) Limits
--

The emission units identified in the previous section currently have the following BACT limits for VOC:

Pursuant to 326 IAC 2-2-3 (PSD BACT), 326 IAC 8-1-6 (BACT), and Significant Source Modification No. 139-17898-00011, issued on April 6, 2004, the following conditions shall apply to the Pouring station (P13B), Cooling line (P14B), Shakeout (P16B) and Bad Heat Shakeout processes of Plant 1, Casting Line 2:

- (a) Material Substitution and Lower-Emitting Processes/Practices shall be used to limit VOC emissions.
- (b) VOC emissions shall not exceed 1.2 pounds per ton of metal throughput to the Pouring station (P13B), Cooling line (P14B), and Shakeout operations (P16B) and Bad Heat Shakeout operations combined.
- (c) The throughput of metal to the Pouring, Cooling and Shakeout operations (P13B, P14B, and P16B) and Bad Heat Shakeout operations shall not exceed 79,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (d) The installed Advanced Oxidation (AO) system shall be used with a minimum VOC reduction efficiency of 20%.

Permitting History of Pouring, Cooling and Shakeout (PCS) of Plant 1 Casting Line 2

2004 PSD Minor Modification:

The Pouring, Cooling and Shakeout (PCS) of Plant 1 Casting Line 2 were initially permitted under Significant Source Modification No. 139-17898-00011, issued on April 6, 2004. The unlimited VOC emissions from this process were greater than twenty-five (25) tons per year. As a result, INTAT accepted a synthetic minor VOC limit of 0.8 pounds of VOC per ton of metal from the PCS operations to limit VOC emissions to less than 25 tons per year to render 326 IAC 8-1-6 (BACT) not applicable. In addition, IDEM required INTAT to perform testing to demonstrate compliance with this limit.

2005 Uncontrolled VOC Testing:

INTAT conducted testing in September of 2005 to verify compliance with the VOC limit of 0.8 lbs/ton. The test result showed an emission rate as high as 1.98 lbs/ton. However, this result was biased high since there was no methane correction for the cooling and shakeout tests. At the time, INTAT contended that the VOC emissions rate was likely in the range of 1.2 to 1.3 lbs/ton after a methane correction.

Since the source was not able to comply with the VOC limit of 0.8 lbs/ton, the potential to emit of VOCs from the pouring, cooling, shakeout and bad heat shakeout were greater than 40 tons per year and the requirements of both 326 IAC 2-2 (PSD) and 326 IAC 8-1-6 (BACT) applied.

2007 VOC BACT:

On February 21, 2006 INTAT submitted a VOC BACT analysis for the Plant 1 Casting Line 2 due to the failed VOC stack test in 2005. Based on the results of the VOC BACT analysis, INTAT was required to install and operate an AO system for VOC control on Plant 1 Casting Line 2 in PSD Permit and Part 70 Significant Source Modification No. 139-22701-00011, issued on December 4, 2007.

The BACT assessment performed as part of the request to amend the limit in 2007 indicated that the AO system vendor would only guarantee a 20% reduction in VOCs from the greensand portion of the emissions only. The final limit was 1.2 lbs/ton which is estimated to only represent a 0.1 lb/ton reduction in emissions which would equate to about 4 tons/year reduction assuming 79,000 tons poured per year.

In addition, the BACT assessment assumed that the AO system would save money by reducing the amount of bond used and that the savings would offset any increase in capital or operating costs. Since INTAT has already been operating with the AO system, this claim has not proved to be the case as there have been no savings in bond use and considerable costs incurred to install and operate the system compared with the limited benefits in reducing VOC emissions. In fact the bond usage rate on Casting Line 2 is higher than the bond usage rate on Casting Line 4 which does not have an AO system.

2010 and 2015 Testing with AO System:

INTAT has tested the PCS VOC emissions from Casting Line 2 on two occasions following the installation of the AO system. The first test in 2010 showed a VOC emission rate of 1.03 lbs/ton (after correcting for methane emissions). Another test was conducted in April 2015 showed a result of 1.01 lbs/ton. Therefore, it is still appropriate to use a VOC reduction of 0.1 to 0.2 lbs/ton metal poured as the basis for any BACT assessments.

2016 BACT Re-evaluation:

INTAT is requesting to remove the existing Advanced Oxidation (AO) system and increase the VOC emission limit from 1.2 pounds per ton of metal to 1.4 pounds per ton of metal, maintaining its existing throughput limit. In lieu of using the AO System, INTAT is proposing to utilize a mold vent off-gas ignition system to control VOC emissions from the pouring station (P13B). INTAT proposes to continue to comply with the existing throughput limit and material substitution and lower-emitting processes/practices.

Summary of the Best Available Control Technology (BACT) Process

BACT is a mass emission limitation based on the maximum degree of pollution reduction of emissions, which is achievable on a case-by-case basis. BACT analysis takes into account the energy, environmental, and economic impacts on the source. These reductions may be determined through the application of available control techniques, process design, work practices, and operational limitations. Such reductions are necessary to demonstrate that the emissions remaining after application of BACT will not cause or contribute to air pollution, thereby protecting public health and the environment.

Federal guidance on BACT requires an evaluation that follows a “top down” process. In this approach, the applicant identifies the best-controlled similar source on the basis of controls required by regulation or permit, or controls achieved in practice. The highest level of control is then evaluated for technical feasibility.

The five (5) basic steps of a top-down BACT analysis are listed below:

Step 1: Identify Potential Control Technologies

The first step is to identify potentially “available” control options for each emission unit and for each pollutant under review. Available options should consist of a comprehensive list of those technologies with a potentially practical application to the emissions unit in question. The list should include lowest achievable emission rate (LAER) technologies and controls applied to similar source categories. There is no requirement in the State or Federal regulations to require innovative control to be used as BACT.

Step 2: Eliminate Technically Infeasible Options

The second step is to eliminate technically infeasible options from further consideration. To be considered feasible, a technology must be both available and applicable. It is important in this step that any presentation of a technical argument for eliminating a technology from further consideration be clearly documented based on physical, chemical, engineering, and source-specific factors related to safe and successful use of the controls. Innovative control means a control that has not been demonstrated in a commercial application on similar units. Innovative controls are normally given a waiver from the BACT requirements due to the uncertainty of actual control efficiency. Based on this, the OAQ will not evaluate or require any innovative controls for this BACT analysis. Only available and proven control technologies are evaluated. A control technology is considered available when there are sufficient data indicating that the technology results in a reduction in emissions of regulated pollutants.

Step 3: Rank the Remaining Control Technologies by Control Effectiveness

The third step is to rank the technologies not eliminated in Step 2 in order of descending control effectiveness for each pollutant of concern. The ranked alternatives are reviewed in terms of environmental, energy, and economic impacts specific to the proposed modification. If the analysis determines that the evaluated alternative is not appropriate as BACT due to any of the impacts, then the next most effective is evaluated. This process is repeated until a control

alternative is chosen as BACT. If the highest ranked technology is proposed as BACT, it is not necessary to perform any further technical or economic evaluation, except for the environmental analyses.

Step 4: Evaluate the Most Effective Controls and Document the Results

The fourth step entails an evaluation of energy, environmental, and economic impacts for determining a final level of control. The evaluation begins with the most stringent control option and continues until a technology under consideration cannot be eliminated based on adverse energy, environmental, or economic impacts.

Step 5: Select BACT

The fifth and final step is to select as BACT the most effective of the remaining technologies under consideration for each pollutant of concern. For the technologies determined to be feasible, there may be several different limits that have been set as BACT for the same control technology. The permitting agency has to choose the most stringent limit as BACT unless the applicant demonstrates in a convincing manner why that limit is not feasible. The final BACT determination would be the technology with the most stringent corresponding limit that is economically feasible. BACT must, at a minimum, be no less stringent than the level of control required by any applicable New Source Performance Standard (NSPS) and National Emissions Standard for Hazardous Air Pollutants (NESHAP) or state regulatory standards applicable to the emission units included in the permits.

The Office of Air Quality (OAQ) makes BACT determinations by following the five steps identified above.

BACT Analysis - VOC

Step 1 – Identify All Potentially Available Control Options

Based on the information reviewed for this BACT determination, the following potentially available control technologies were identified for controlling VOC emissions from the pouring, cooling, and shakeout process associated with Casting Line 2 in Plant 1.

Inherently Lower-Polluting Processes or Practices:

Inherently lower-polluting processes or practices include the use of materials, production processes, and work practices that prevent emissions and result in lower "production-specific" emissions.

Use of Lower Emitting Materials in the Mold Sand and Core Resins:

Modify the specific carbon containing materials in the mold sand or in the core resins. It has been demonstrated that specific changes can bring about VOC emission reductions in some systems by as much as 50% from baseline emission levels. The use of alternate materials in both the mold sand and the core resins have shown the ability to reduce VOCs from the iron casting process, but in many cases, the impact of the specific materials on casting quality has not been evaluated and would affect the technical feasibility of specific materials.

The Optimization of the Mold Sand System to Reduce Carbon Content:

Reduce the amount of carbon containing material in the mold sand and/or core materials. This can be accomplished by limiting the % resin in the cores, or by reducing the % Loss on Ignition (LOI) of the mold sand mix. LOI is a common test used in a foundry to measure the volatiles contained in the mold sand mixture. This can be brought about in one of two ways: The sand system can be "optimized" to produce the necessary bonding characteristics without the use of

excessive amounts of carbon containing materials; and /or the system can employ the use of Advanced Oxidation (AO) technology, which allows for a reduction in the level of "bond" in the sand mixture by altering the chemical properties of the sand system.

Mold Vent Off Gas Ignition:

Reduce VOC emissions by ensuring that the gases vented from the mold combust ("light-off") following pouring to burn off a portion of the VOCs emitted. After the molten iron is poured into the sand molds, the mold vent off gas spontaneously ignites, reducing the VOC generated during this operation. The iron and steel foundry MACT standard (40 CFR 63 Subpart EEEEE) requires that a mold light-off plan be included in the Operation and Maintenance Plan. Essentially, the plan documents whether the molds light-off spontaneously, cannot light-off, or require assistance in the form of an external ignition source to ensure mold light-off.

Add On Controls:

Regenerative Thermal Oxidizer:

Thermal oxidation is the process of oxidizing organic contaminants in a waste gas stream by raising the temperature above the auto ignition point in the presence of oxygen for sufficient time to completely oxidize the organic contaminants to carbon dioxide and water. The residence time, temperature, flow velocity and mixing, and the oxygen concentration in the combustion chamber affect the oxidation rate and destruction efficiency. Thermal oxidizers typically require combustion of an auxiliary fuel (e.g., natural gas) to maintain combustion chamber temperature high enough to completely oxidize the contaminant gases. Thermal oxidizers are typically designed to have a residence time of one second or less and combustion chamber temperatures between 1,200 and 2,000°F.

A regenerative thermal oxidizer uses a high-density media such as a packed ceramic bed, which was heated in a previous cycle, to preheat the incoming waste gas stream, resulting in improved oxidizer efficiency and significant fuel cost savings. Process gases pass through the RTO inlet isolation damper before entering the inlet of the RTO. Upon entering the RTO, the gases pass up through a heat recovery section (pre-heating mode), enter the combustion chamber where the VOCs are destroyed and then pass through another heat recovery section (heat recovery mode), and exit the system via the exhaust duct. A regenerative thermal oxidizer can be configured to have a two pass or three pass system, where the heat regeneration beds are passed by the gases either 2 or 3 times. For this application the theoretical thermal efficiency is increased from 95% for a two-pass system to 99% for a three pass system. However, the three pass system initial cost is higher and the required fan energy is also higher.

Carbon Adsorption:

Carbon adsorption is a process, by which VOC is retained on a granular carbon surface, which is highly porous and has a very large surface-to-volume ratio. Adsorption is rapid and removes most of the VOC in the stream. Eventually, the adsorbent becomes saturated with the vapors and the system's efficiency drops. The adsorbent must be regenerated or replaced soon after efficiency begins to decline. In regenerative systems, the adsorbent is reactivated with steam or hot air and the absorbate (solvent) is recovered for reuse or disposal. Non-regenerative systems require the removal of the adsorbent and replacement with fresh or previously regenerated carbon.

Innovative Technologies:

Advanced Oxidation:

Advanced Oxidation (AO) - sonication and optimization of the sand system operates by the incorporation of ozone and hydrogen peroxide in the water supply to the muller, which is further acted on by acoustic sonication. The system must be incorporated over time to achieve a stable sand system through the operation of the casting line. As the system acclimates to the AO system, the bond characteristics change, and it is necessary to reduce the amount of bond additives (clay and sea coal mix) to maintain the desired bond strength. The AO system operates by the incorporation of ozone and hydrogen peroxide in the water supply to the muller, which is further acted on by acoustic sonication. The system must be incorporated over time to achieve a stable sand system through the operation of the casting lines. As the system acclimates to the AO system, the bond characteristics change, and it is necessary to reduce the amount of bond additives (clay) to maintain the desired bond strength.

The results of the testing at the CERP facility showed reductions of 43% of VOCs when testing was conducted on a greensand mold using sodium silicate cores (cores without organic resins). For the non-core production trials, 50% of the emission reduction was attributed to AO, with the balance of the benefit coming from the reduced organics in the mold mix (as measured by %LOI). One other note regarding the trials conducted at CERP is that casting quality was degraded in the test conducted with AO and the resultant castings were determined to not be of acceptable quality.

It has to be noted though that there is no requirement in the State or Federal regulations to require innovative control to be used as BACT.

Step 2 – Eliminate Technically Infeasible Control Options

Based on the information reviewed for this BACT determination, IDEM, OAQ has determined the following control options are technically infeasible:

Carbon adsorption:

Carbon adsorption is not technically feasible for use in foundry operations because the exhaust streams from the respective operations contain a number of organic and inorganic contaminants that would foul and clog the carbon surface. Therefore, carbon adsorption is considered technically infeasible for controlling VOC emissions from the pouring, cooling and shakeout operations.

Mold Process Optimization/Advanced Oxidation:

The optimization of the sand system and the AO system are not technically feasible as explained below:

INTAT has installed and operated an AO system on Casting Line 2 since 2008. As noted previously, due to the inability to correct VOC test results for methane from VOC testing prior to the installation of the AO system INTAT does not have specific data with which to compare subsequent VOCs tests to determine whether the extent to which the AO system has provided reductions in the VOC emissions. The test results on Casting Line 2 in 2010 and 2015 are higher than the results for Casting Lines 1 and 4 which do not employ AO. INTAT has estimated that VOC reductions if any from the use of the AO system to be in the range of 0.1 to 0.2 lbs/ton of metal poured.

INTAT believes that a finding of technical infeasibility for the use of AO is consistent with other BACT determinations for PCS emissions in Indiana. Thyssen Krupp Waupaca, Inc. Plant #5

(Source ID 123-00019), located in Tell City, Indiana was issued Title V Permit No. T123-9234-00019, which required the source to install an AO system. As part of their Title V Renewal application, Waupaca submitted a BACT assessment for the Lines 1-4 PCS processes in order to remove the AO system. The following is the technical feasibility discussion for the AO system from the TSD to the Title V Renewal Permit (T123-27047-00019), issued July 23, 2009:

... Advanced oxidation systems have been installed at several foundries and these foundries (following sand system stabilization) have reported reductions in VOCs ranging from 20 to 75 percent. The amount of reduction is dependent upon several factors, including core loading, coal/clay composition, and binder systems.

While IDEM identified AO as a VOC alternative, the tests conducted at Plant 5 did not confirm that AO reduces VOC emissions. The AO system treats the water used in the green sand cooling and mulling operations. The primary benefit of AO is a reduction in bond consumption, lowering raw material costs. A secondary, unpredictable benefit, is a reduction in VOC emissions. Some foundries have modified their mold sand preparation systems to use AO. Examples include ThyssenKrupp Waupaca, Inc. Plant 4, Grede Foundries, Inc. in Wisconsin, Dalton Foundry INTAT Precision, Inc., and ThyssenKrupp Waupaca Plant 5 in Indiana. While there are potential emission reduction benefits due to the use of AO, these are not predictable with any precision. VOC emissions vary from foundry to foundry, and with many variables involved in the casting process including casting size and shape, mold sand size and composition and core to metal ratio to name a few.

The variability of VOC emission and unpredictability for the reduction of VOC emission is shown by the testing program at Plant 5. In some instances VOC emissions prior to the use of AO were lower than emissions measured during tests after installation of AO. IDEM confirmed the variability and unpredictability of the benefits of AO in its 2003 BACT Analysis for Dalton Foundry:

"Dalton Foundry has submitted information demonstrating that VOC reductions from the use of advanced oxidation system are highly variable and difficult to predict. As a result, IDEM included language in the permit that allows the VOC limit on Herman 3 cooling process to be adjusted up or down after the initial stack test results have been reviewed and approved by IDEM".

Whether or to what extent the use of AO causes reductions in VOC emissions, Plant 5 has already incorporated AO into its sand system so any benefits are already incorporated into the proposed VOC emissions.

Based on the information reviewed for this BACT determination, IDEM, OAQ has determined that the use of an AO is not a technically feasible option for the Phase 1 Lines 1 to 4 at this source.

IDEM determined BACT to be the following: The combined VOC emissions from the pouring/mold cooling and shakeout operation shall be controlled by mold vent off-gas ignition and shall not exceed 1.9 pounds per ton of iron poured and 112 lbs/hour, combined for both stacks, identified as S01 and S04.

IDEM agrees with the finding that use of AO is not technically feasible and benefits (if any) are highly variable. While IDEM and INTAT conclude that AO is not technically feasible, INTAT has conducted an assessment of the cost effectiveness for continuing operations of the AO system in Step 3 below. This additional step is not necessary, however, since analysis has already been provided by INTAT, it is being considered as part of the analysis.

Step 3 – Rank Remaining Control Technologies by Control Effectiveness

IDEM, OAQ has ranked the technically feasible control technologies and combinations of control technologies in Table 1 below as follows:

Table 1 - Control Effectiveness	
Control Technology	Overall Control Efficiency (%)
Regenerative Thermal Oxidizer	88.2%*
Mold Vent Off Gas Ignition	NA**

*90% capture efficiency and 98% destruction efficiency

** VOC reduction would occur but has not been quantified

IDEM, OAQ is aware that the above-mentioned control technologies may periodically achieve control efficiencies that exceed the listed values under certain operating conditions. However, one factor to consider when evaluating BACT is that the BACT limit must be achievable on a consistent basis under normal operational conditions. BACT limitations should not necessarily reflect the highest possible control efficiency achievable by the technology on which the emission limitation is based. The permitting authority has the discretion to base the emission limitation on a control efficiency that can be lower than the optimal level. One reason why the permitting authority might choose to do this is that the control efficiency achievable through the use of the technology may fluctuate, so that it would not always achieve its optimal control efficiency. In that case, setting the emission limitation to reflect the highest control efficiency would make violations of the permit unavoidable. To account for this possibility, a permitting authority must be allowed a certain degree of discretion to set the emission limitation at a level that does not necessarily reflect the highest possible control efficiency, but will allow the Permittee to achieve compliance consistently. While IDEM, OAQ recognizes that a greater control efficiency may be achievable as an average during compliance testing, IDEM, OAQ allows sources to include a safety factor, or margin of error, to allow for minor variations in the operation of the emission units and the control device.

Step 4 – Evaluate the Most Effective Controls and Document Results

The U.S. EPA RACT/BACT/LAER Clearinghouse (RBLC) database was reviewed to identify control requirements and limitations for facilities with similar to the pouring, cooling, and shakeout operations. Table 2 below includes a brief summary of search results obtained from the U.S. EPA RACT/BACT/LAER Clearinghouse (RBLC) database.

- (1) The U.S. EPA RACT/BACT/LAER Clearinghouse (RBLC) database search results are based on the following criteria:
 - (A) SIC Code 3321 (Gray and Ductile Iron Foundries);
 - (B) Pollutant name - Volatile Organic Compounds; and
 - (C) Facilities listed since 2006.
- (2) Indiana Department of Environmental Management (IDEM) air quality permits under SIC Code 3321 (Gray and Ductile Iron Foundries).

Table 2 - Existing BACT Determinations

Plant	RBLC ID or Permit #	Date Issued and State	Facility	BACT Determination
<i>Proposed Limits: INTAT Precision, Inc.</i>	<i>(Proposed)</i>	<i>IN</i>	<i>Casting Line 2 - Pouring, Cooling, and Shakeout</i>	<i>Mold Vent Off Gas Ignition Low Emitting Binders 1.4 lb VOC/ton of metal Throughput of metal shall not exceed 79,000 tons/year</i>
Current Limits: INTAT Precision, Inc.	139-22744- 00011	12/20/2007 IN	Casting Line 2 - Pouring, Cooling, and Shakeout	Advanced Oxidation (AO) System Material Substitution and Lower- Emitting Processes/Practices 1.2 lb VOC/ton of metal Throughput of metal shall not exceed 79,000 tons/year
Waupaca Foundry, Inc. - Plant 5	123-33464- 00019	02/19/2014 IN	Line 4 Pouring/Mold, Cooling, and Shakeout	Mold Vent Off Gas Ignition 1.4 lb VOC/ton of metal 56 lb VOC/hr 157.2 lb VOC/hr, combined for Stacks S01 and S04)
INTAT Precision, Inc.	139-32559- 00011	06/10/2013 IN	Casting Line 4 - Pouring, Cooling, and Shakeout	Mold Vent Off Gas Ignition 0.8 lb VOC/ton of iron
Waupaca Foundry, Inc. - Plant 5	123-29490- 00019	05/10/2011 IN	Casting Lines 1-8	Mold Vent Off Gas Ignition 1.4 lb VOC/ton of iron 138.60 lb VOC/hr - Lines 1-4 141.4 lb VOC/hr - Lines 5-8
Metal Technologies Auburn, LLC	033-21760- 00042	08/29/2008 IN	Pouring, Cooling, and Shakeout Operations	Low Emitting Greensand Binding Materials and Core Resin Binders 0.8 lb VOC per ton of metal poured when using greensand molds without cores and 1.4 lb VOC per ton of metal poured when using greensand molds with cores
Asama Coldwater Manufacturing, Inc.	MI-0385	10/15/2007 MI	Melting and Pouring	No Add On Controls 5.28 lb VOC/hr
			Automated Mold Cooling Conveyor System And Shakeout Lines (Includes Casting Cooling and Finishing Operation)	No Add On Controls 15.49 lb VOC/hr 20 PPMV of VOC VOC CEM
Dalton Corporation, Warsaw Manufacturing Facility	085-6708- 00003	05/09/2007 IN	Herman 3 Mold Line	Sonoperoxone® or Equivalent Advanced Oxidation (AO) System Sand System Optimization Low VOC Core Resin Binder Materials Automatic Mold Vent-Off Gas Ignition Pouring - 0.163 lb VOC/ton of metal Cooling - 0.36 lb VOC/ton of metal Shakeout and Sand Handling - 0.115 lb VOC/ton of metal and sand

Plant	RBLC ID or Permit #	Date Issued and State	Facility	BACT Determination
Thyssen Krupp Plant #1	WI-0238	01/12/2006 WI	Shakeout	No Add On Controls 0.10 lb VOC/ton of metal
			Pouring/Cooling	No Add On Controls 0.50 lb VOC/ton of metal
Thyssen Krupp Plants #2 & #3	WI-0239	01/12/2006 WI	Shakeout	No Add On Controls 0.10 lb VOC/ton of metal

(a) Economic, Energy, and Environmental Impact Analysis

(1) Regenerative Thermal Oxidizer:

While the most stringent limits found in the review of issued permits did not rely on the use of add-on controls such as an RTO, INTAT has conducted an assessment of the cost effectiveness of the use of two (2) RTOs to control VOCs from the pouring/cooling and shakeout processes. The detailed cost effectiveness assessment is attached in Appendix C and is summarized below. This analysis assumes the use of two (2) RTO units to control the pouring/cooling and shakeout process downstream of the baghouses controlling those processes (total exhaust flow rate would be 160,000 cfm). The assessment is based on the potential production rate of 79,000 tons per year since this annual production limit would remain. The assessment is based on a VOC emission rate of 1.4 pounds per ton of metal poured.

As shown in Table 3 below, the use of two (2) RTOs would not be cost effective for the control of VOCs from the casting line. In addition, the RTOs would consume 128 million cubic feet of natural gas annually, which would increase NOx emissions by 6.4 tons per year and GHG emissions by 7,712 tons of CO2e per year.

Processes Controlled	Estimated VOCs Controlled (tons/yr)	Estimated Capital Costs (\$)	Estimated Annualized Costs (\$)	Cost Effectiveness (\$/ton)
Pouring, Cooling and Shakeout	48.77	\$8,085,826	\$2,700,001	\$55,357

(2) Advanced Oxidation:

As noted above, IDEM and INTAT considers the use of AO to be technically infeasible. Nevertheless, INTAT has assessed the cost effectiveness of continued utilization of the installed system and the results are shown in Table 4 below. INTAT has not included any initial capital costs, but have included ongoing operational expenses.

Processes Controlled	Estimated VOCs Controlled (tons/yr)	Estimated Annualized Costs (\$)	Cost Effectiveness (\$/ton)
Pouring, Cooling and Shakeout	3.95	\$190,738	\$48,288
	7.90	\$190,738	\$24,144

Based on an annual cost of \$190,738 per year and a VOC reduction benefit of 3.95 tons per year (VOC reduction of 0.1 lb/ton metal poured), the cost effectiveness would be \$48,288 per ton. If the VOC reduction benefit were assumed to be 7.90 tons per year (VOC reduction of 0.2 lb/ton metal poured) the cost effectiveness would be \$24,144 per ton. In either case, in addition to being technically infeasible, IDEM concludes that continued use of the AO system is not cost effective. The original expectation for reduced cost due to reduced bond usage has not materialized with the installation and operation of the AO system.

(3) Ranking of Technically Feasible Alternatives

Table 5 provides a summary of the various technically feasible alternatives with respect to the economic, environmental and energy impacts.

Table 5 - Ranking of Remaining Technologies				
Control Option	VOC Reduction Benefit	Economic Impact	Other Environmental Impacts	Energy Impacts
Use of Low Emitting Core Binders	Collectively estimated to reduce VOCs by 30% as compared with use of older binder systems and at higher content levels	Some Increased cost of cores.	None	None
Core binder resin content control		No anticipated cost impact.	None	None
Use of Lower emitting Greensand Carbon Source Material.		Potential increased cost for Bond	None	None
Sand System Optimization/ Lower %LOI.		No anticipated cost impact	None	None
Mold Light-Off	VOC reduction would occur but has not been quantified	None	Potential reductions in CO emissions as well	None
Thermal Oxidation	95% reduction of captured VOCs	Not economically feasible – see discussion above	Increased NOx and CO2e emissions	Increased use of natural gas.

(b) Comparison with other BACT Limitations

There has been considerable research done to identify potential changes in materials and processes to bring about a reduction in organic Hazardous Air Pollutants (HAPs) and VOCs from the use of newer materials. Work has also been done to specifically evaluate the impact of various variables in the casting process that may also affect the emission rates of VOCs and organic HAPs. Of particular note is the work done under the Casting Emission Reduction Program (CERP) conducted at the Technikon Environmental Development Center™. The various technical papers published by the CERP program have been relied upon in this assessment.

There are two fundamental conclusions that can be drawn from the body of work performed at CERP: First, there are alternate materials and process changes which can reduce VOC emissions, but the selection of materials and process changes is foundry specific and depends on the specific product mix. Secondly, VOC emissions can vary significantly from foundry to foundry and even within a single casting line based on a number of variables in the casting process.

It is very difficult to predict the specific level of VOC emissions measured from the casting process due to the large number of variables. As such, establishing a fixed permit limit (in

pounds per ton of iron poured or pounds/hour) must not only represent the use of effective control strategies, but must also account for the variability in emissions arising from the casting and foundry specific variables noted above.

- (a) The BACT limits proposed by INTAT for Casting Line 2 are as stringent as the VOC BACT limits for Waupaca Foundry, Inc. - Plant 5 (123-33464-00019).
- (b) The BACT limits proposed by INTAT for Casting Line 2 are also as stringent as Metal Technologies Auburn, LLC (033-21760-00042) when using greensand molds with cores.
- (c) BACT limits proposed by INTAT for Casting Line 2 are less stringent than the limits for INTAT Casting Line 4. However, based on stack testing results for Casting Line 2, a VOC limit of 0.8 lb/ton of iron is not achievable on a consistent basis under normal operational conditions.

The permitting authority has the discretion to base the emission limitation on a control efficiency that can be lower than the optimal level. To account for this possibility, a permitting authority must be allowed a certain degree of discretion to set the emission limitation at a level that does not necessarily reflect the highest possible control efficiency, but will allow the Permittee to achieve compliance consistently.

- (c) Comparison to NSPS and NESHAP

BACT must be no less stringent than the level of control required by any applicable New Source Performance Standard (NSPS) and National Emissions Standard for Hazardous Air Pollutants (NESHAP) or state regulatory standards applicable to the emission units included in the permits.

There currently is no NSPS for iron foundries.

There is a NESHAP for steel and iron foundries under 40 CFR Part 60 Subpart EEEEE. This NESHAP requires that a mold light-off plan be included in the Operation and Maintenance Plan. Essentially, the plan documents whether the molds light-off spontaneously, cannot light-off, or require assistance in the form of an external ignition source to ensure mold light-off.

Step 5 – Select BACT

Pursuant to 326 IAC 2-2-3 and 326 IAC 8-1-6, the following conditions shall apply to the Pouring station (P13B), Cooling line (P14B), Shakeout (P16B) and Bad Heat Shakeout processes of Plant 1, Casting Line 2:

- (a) Material substitution and lower-emitting processes/practices shall be used to limit VOC emissions.

This is an existing requirement and no change is being made in this BACT re-evaluation.

- (b) VOC emissions shall not exceed 1.4 pounds per ton of metal throughput to the pouring station (P13B), cooling line (P14B), and shakeout operations (P16B) and bad heat shakeout operations combined.

This VOC limit has changed from 1.2 pounds per ton of metal throughput.

- (c) The throughput of metal to the pouring, cooling and shakeout operations (P13B, P14B, and P16B) and bad heat shakeout operations shall not exceed 79,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

This is an existing throughput limit and no change being made in this BACT re-evaluation.

- (d) The VOC emissions from the pouring station (P13B) shall be controlled by a mold vent off-gas ignition system.

This is a new requirement as BACT; however, it has been a requirement under 40 CFR 63, Subpart EEEEE - NESHAP for Iron and Steel Foundries.

IDEM agrees to remove the use of AO system as BACT for the PCS of Plant 1, Casting Line 2.

IDEM Contact

- (a) Questions regarding this BACT Analysis can be directed to Brian Williams at the Indiana Department Environmental Management, Office of Air Quality, 100 North Senate Avenue, MC 61-53, Room 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 Permit Guide on the Internet at: <http://www.in.gov/idem/5881.htm>; and the Citizens' Guide to IDEM on the Internet at: <http://www.in.gov/idem/6900.htm>.

Appendix C: BACT Cost Effectiveness for Control Devices
Cost Effectiveness Estimate for RTO control of Pouring Cooling Shakeout

Company Name: INTAT Precision (Indiana), Inc.
 Address City IN Zip: 2148 State Rd. 3 North, Rushville, IN 46173
 Significant Source Modification No: 139-36453-00011
 Significant Permit Modification No: 139-36470-00011
 Reviewer: Brian Williams

Cost Item	Average Cost Factor		Cost (\$)	Basis of Costs
Direct Costs:				
RTO Capital Cost: two units at 80,000 cfm each			\$ 4,185,210	EPA Cost Estimation Tool
Instruments/controls	0.10		\$ 418,521	EPA Cost Manual Table 2.8
Taxes	0.05		\$ 209,261	EPA Cost Manual Table 2.8
Freight	0.05		\$ 209,261	EPA Cost Manual Table 2.8
Base Price:			\$ 5,022,252	
Installation costs, direct:				
Foundations/Supports	0.08		\$ 401,780	EPA Cost Manual Table 2.8
Erection/handling	0.14		\$ 703,115	
Electrical	0.04		\$ 200,890	
Piping	0.02		\$ 100,445	
Insulation	0.01		\$ 50,223	
Painting	0.01		\$ 50,223	
Total Installation Costs:			\$ 1,506,676	
TOTAL DIRECT COSTS (Base Price + Installation) =			\$ 6,528,928	
Installation costs, indirect:				
Engineering/supervision	0.10		\$ 502,225	EPA Cost Manual Table 2.8
Construction/field expenses	0.05		\$ 251,113	
Construction fee	0.10		\$ 502,225	
Start-up	0.02		\$ 100,445	
Performance Test	0.01		\$ 50,223	
Contingencies	0.03		\$ 150,668	
TOTAL INDIRECT COSTS =			\$ 1,556,898	
TOTAL CAPITAL COSTS (Direct + Indirect) =			\$ 8,085,826	
Direct Operating Costs:				
Operator (\$/HR X HRS/YR)	15.5	1,095	\$ 16,973	EPA guidance - 0.5 hour per shift per device
Supervision(15% of labor)			\$ 2,546	EPA Cost Manual
Operating Materials:				
Maintenance Labor	40	1,095	\$ 43,800	EPA Guidance (.5 hour/shift/device)
Maintenance Materials (100% of labor)			\$ 43,800	
Replacement parts (as required)	5% of equipment costs		\$ 209,261	
Utilities:				
Electricity (\$/KWhxKWH/yr)	\$0.055/kw		\$ 300,643	
Gas (\$/10 ³ ft ³ x 10 ³ /yr)	\$5/MMBtu		\$ 644,118	
TOTAL DIRECT OPERATING COSTS (A) =			\$ 1,261,140	
Indirect operating (fixed) costs:				
Overhead	60% of O & M labor/materials		\$ 64,271	EPA Cost Manual
Property Tax	1% of capital costs		\$ 80,858	
Insurance	1% of capital costs		\$ 80,858	
Administration	2% of capital costs		\$ 161,717	
Capital Recovery CRF =	0.13	(5.0% for 10 years)	\$ 1,051,157	
TOTAL FIXED COSTS (B) =			\$ 1,438,861	
TOTAL ANNUALIZED COSTS (A +B minus C) =			\$ 2,700,001	
Uncontrolled Emissions Rate (tons/year) based on 1.4 lbs/ton emission factor and 79,000 tons of metal per year.			55.30	
Control System Efficiency based on 90 capture and 98% control			88.2%	
VOC Emitted (tons/year) =			6.53	
VOC Controlled, tons/year			48.77	
Cost (\$/ton) =			\$55,357	

80,000 acfm total
 Pressure Drop 4 inches of water - no heat recovery
 Power-fan 624 kW
 Electricity cost 0.055 \$/kWhr
 Annual Electricity cost 300,643 \$/yr
 NG requirement 15.0 MMBtu/hr
 128.8 MMCF/yr
 5000 \$/MMCF
 644,118 \$/year
 NOx 100 lbs/MMCF
 6.44 tpy NOx
 CO 84 lbs/MMCF
 5.41
 CO2e 120,000 lbs/MMCF
 7,729 tpy CO2e

EPA Air Pollution Control Cost Manual, Sixth Edition, EPA-452-02-001, January 2002.

Methodology

VOC Emitted (tons/yr) = Uncontrolled Emission Rate (tons/yr) x (1 - Control System Efficiency %)
 Controlled VOC Emissions (tons/yr) = Uncontrolled Emission Rate (tons/yr) - VOC Emitted After Controls (tons/yr)
 Cost Effectiveness (\$/ton VOC controlled/yr) = Total Annualized Costs (\$) / Controlled VOC Emissions (tons/yr)

**Appendix C: BACT Cost Effectiveness for Control Devices
Cost Effectiveness Estimate for AO System**

Company Name: INTAT Precision (Indiana), Inc.
Address City IN Zip: 2148 State Rd. 3 North, Rushville, IN 46173
Significant Source Modification No: 139-36453-00011
Significant Permit Modification No: 139-36470-00011
Reviewer: Brian Williams

Cost Item	Average Cost Factor	hours/year	Cost (\$)	Basis of Costs
Direct Operating Costs:				
Annual Hydrogen Peroxide (H2O2) Costs			\$ 22,200	Provided by source
Annual Equipment Costs			\$ 60,000	Provided by source
Operator (\$/HR X HRS/YR)	24	547.5	\$ 13,140	EPA Cost Manual
Supervision(15% of labor)			\$ 1,971	EPA Cost Manual
Operating Materials:				
Maintenance Labor	40	548	\$ 21,900	EPA Cost Manual
TOTAL DIRECT OPERATING COSTS (A) =			\$ 119,211	
Indirect operating (fixed) costs:				
Overhead	60% of O & M labor/materials		\$ 71,527	EPA Cost Manual
TOTAL FIXED COSTS (B) =			\$ 71,527	
TOTAL ANNUALIZED COSTS (A +B minus C) =			\$ 190,738	
Uncontrolled Emissions Rate (tons/year) based on 1.4 lbs/ton emission factor and 79,000 tons of metal per year.			55.30	
VOC Reduction (lb/ton metal poured)			0.10	
Equivalent Control System Efficiency based on VOC Reduction Factor			7.14%	
VOC Emitted (tons/year) =			51.35	
VOC Controlled, tons/year			3.95	
Cost (\$/ton) =			\$48,288	
VOC Reduction (lb/ton metal poured)			0.20	
Equivalent Control System Efficiency based on VOC Reduction Factor			14.29%	
VOC Emitted (tons/year) =			47.40	
VOC Controlled, tons/year			7.90	
Cost (\$/ton) =			\$24,144	

"EPA Air Pollution Control Cost Manual, Sixth Edition", EPA-452-02-001, January 2002.

Methodology

VOC Emitted (tons/yr) = Uncontrolled Emission Rate (tons/yr) x (1 - Control System Efficiency %)
Controlled VOC Emissions (tons/yr) = Uncontrolled Emission Rate (tons/yr) - VOC Emitted After Controls (tons/yr)
Cost Effectiveness (\$/ton VOC controlled/yr) = Total Annualized Costs (\$) / Controlled VOC Emissions (tons/yr)



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

Carol S. Comer
Commissioner

March 7, 2016

Mr. Brad Rist
INTAT Precision, Inc.
P. O. Box 488
Rushville, Indiana 46173

Re: Public Notice
INTAT Precision, Inc.
Permit Level: Significant Source Modification -
Permit Number: 139-36453-00011
Permit Level: Significant Permit Modification
Permit Number: 139-36453-00011

Dear Mr. Rist:

Enclosed is a copy of your draft Significant Source Modification and Significant Permit Modification, Technical Support Document, emission calculations, and the Public Notice which will be printed in your local newspaper.

The Office of Air Quality (OAQ) has prepared two versions of the Public Notice Document. The abbreviated version will be published in the newspaper, and the more detailed version will be made available on the IDEM's website and provided to interested parties. Both versions are included for your reference. The OAQ has requested that the Rushville Republican in Rushville, Indiana publish the abbreviated version of the public notice no later than March 11, 2016. You will not be responsible for collecting any comments, nor are you responsible for having the notice published in the newspaper.

OAQ has submitted the draft permit package to the Rushville Public Library, 130 W. 3rd Street in Rushville, Indiana. As a reminder, you are obligated by 326 IAC 2-1.1-6(c) to place a copy of the complete permit application at this library no later than ten (10) days after submittal of the application or additional information to our department. We highly recommend that even if you have already placed these materials at the library, that you confirm with the library that these materials are available for review and request that the library keep the materials available for review during the entire permitting process.

Please review the enclosed documents carefully. This is your opportunity to comment on the draft permit and notify the OAQ of any corrections that are needed before the final decision. Questions or comments about the enclosed documents should be directed to Brian Williams, Indiana Department of Environmental Management, Office of Air Quality, 100 N. Senate Avenue, Indianapolis, Indiana, 46204 or call (800) 451-6027, and ask for extension 4-5375 or dial (317) 234-5375.

Sincerely,

Vicki Biddle

Vicki Biddle
Permits Branch
Office of Air Quality

Enclosures
PN Applicant Cover letter 2/17/2016



Indiana Department of Environmental Management

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Michael R. Pence
Governor

Carol S. Comer
Commissioner

ATTENTION: PUBLIC NOTICES, LEGAL ADVERTISING

March 7, 2016

Rushville Republican
126 S. Main Street
P. O. Box 189
Rushville, Indiana 46173

Enclosed, please find one Indiana Department of Environmental Management Notice of Public Comment for INTAT Precision, Inc., Rush County, Indiana.

Since our agency must comply with requirements which call for a Notice of Public Comment, we request that you print this notice one time, no later than March 11, 2016.

Please send a notarized form, clippings showing the date of publication, and the billing to the Indiana Department of Environmental Management, Accounting, Room N1345, 100 North Senate Avenue, Indianapolis, Indiana, 46204.

To ensure proper payment, please reference account # 100174737.

We are required by the Auditor's Office to request that you place the Federal ID Number on all claims. If you have any conflicts, questions, or problems with the publishing of this notice or if you do not receive complete public notice information for this notice, please call Vicki Biddle at 800-451-6027 and ask for extension 3-6867 or dial 317-233-6867.

Sincerely,

Vicki Biddle

Vicki Biddle
Permit Branch
Office of Air Quality

Permit Level: Title V-Significant Source Modification & Significant Permit Modification
Permit Number: 139-36453-00011 - 139-36470-00011

Enclosure

PN Newspaper.dot 2/17/2016



Indiana Department of Environmental Management

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(800) 451-6027 • (317) 232-8603 • www.idem.IN.gov

Michael R. Pence
Governor

Carol S. Comer
Commissioner

March 7, 2016

To: Rushville Public Library

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

Subject: **Important Information to Display Regarding a Public Notice for an Air Permit**

Applicant Name: INTAT Precision, Inc.

Permit Number: 139-36453-00011 and 139-36470-00011

Enclosed is a copy of important information to make available to the public. This proposed project is regarding a source that may have the potential to significantly impact air quality. Librarians are encouraged to educate the public to make them aware of the availability of this information. The following information is enclosed for public reference at your library:

- Notice of a 30-day Period for Public Comment
- Request to publish the Notice of 30-day Period for Public Comment
- Draft Permit and Technical Support Document

You will not be responsible for collecting any comments from the citizens. Please refer all questions and request for the copies of any pertinent information to the person named below.

Members of your community could be very concerned in how these projects might affect them and their families. **Please make this information readily available until you receive a copy of the final package.**

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. Questions pertaining to the permit itself should be directed to the contact listed on the notice.

Enclosures
PN Library.dot 2/17/2016



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

Carol S. Comer
Commissioner

Notice of Public Comment

March 7, 2016

INTAT Precision, Inc.

139-36453-00011 and 139-36470-00011

Dear Concerned Citizen(s):

You have been identified as someone who could potentially be affected by this proposed air permit. The Indiana Department of Environmental Management, in our ongoing efforts to better communicate with concerned citizens, invites your comment on the draft permit.

Enclosed is a Notice of Public Comment, which has been placed in the Legal Advertising section of your local newspaper. The application and supporting documentation for this proposed permit have been placed at the library indicated in the Notice. These documents more fully describe the project, the applicable air pollution control requirements and how the applicant will comply with these requirements.

If you would like to comment on this draft permit, please contact the person named in the enclosed Public Notice. Thank you for your interest in the Indiana's Air Permitting Program.

Please Note: *If you feel you have received this Notice in error, or would like to be removed from the Air Permits mailing list, please contact Patricia Pear with the Air Permits Administration Section at 1-800-451-6027, ext. 3-6875 or via e-mail at PPEAR@IDEM.IN.GOV. If you have recently moved and this Notice has been forwarded to you, please notify us of your new address and if you wish to remain on the mailing list. Mail that is returned to IDEM by the Post Office with a forwarding address in a different county will be removed from our list unless otherwise requested.*

Enclosure
PN AAA Cover.dot 2/17/2016



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Commissioner

AFFECTED STATE NOTIFICATION OF PUBLIC COMMENT PERIOD DRAFT INDIANA AIR PERMIT

March 4, 2016

A 30-day public comment period has been initiated for:

Permit Number: 139-36453-00011 and 139-36470-00011
Applicant Name: INTAT Precision, Inc.
Location: Rushville, Rush County, Indiana

The public notice, draft permit and technical support documents can be accessed via the **IDEM Air Permits Online** site at:

<http://www.in.gov/ai/appfiles/idem-caats/>

Questions or comments on this draft permit should be directed to the person identified in the public notice by telephone or in writing to:

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

Questions or comments regarding this email notification or access to this information from the EPA Internet site can be directed to Chris Hammack at chammack@idem.IN.gov or (317) 233-2414.

Affected States Notification.dot 2/17/2016

Mail Code 61-53

IDEM Staff	VBIDDLE 3/7/2016 139-36470-00011		INTAT Precision Incorporated 139-36453-00011 DRAFT		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		Brad Rist INTAT Precision Incorporated PO Box 488 Rushville IN 46173 (Source CAATS)										
2		Rush County Commissioners 101 East Second Street Rushville IN 46173 (Local Official)										
3		Rush County Health Department Courthouse, Room 5 Rushville IN 46173-1854 (Health Department)										
4		Rushville Public Library 130 W 3rd St Rushville IN 46173-1899 (Library)										
5		Rushville Town Council 133 W. First St. Rushville IN 46173 (Local Official)										
6		Tom Rarick Environmental Resources Management (ERM) 8425 Woodfield Crossing Blvd, Suite 560-W Indianapolis IN 46240 (Consultant)										
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