INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We Protect Hoosiers and Our Environment.
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(800) 451-6027 • (317) 232-8603 • www.idem.IN.gov

Eric J. Holcomb
Governor

Brian C. Rockensuess
Commissioner

Dan Plant
Metal Technologies Auburn, LLC
1401 S. Grandstaff Drive
Auburn, IN 46706

Re: 033-47542-00042
Significant Permit Modification

Dear Dan Plant:

Metal Technologies Auburn, LLC was issued Part 70 Operating Permit Renewal No. T033-45841-00042 on May 16, 2023, for a stationary gray and ductile iron foundry located at 1537 West Auburn Drive, Auburn, Indiana 46706.

An application requesting changes to this permit was received on February 9, 2024.

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.

A copy of the permit is available on the Internet at: http://www.in.gov/ai/appfiles/idem-caats/. A copy of the application and permit is also available via IDEM's Virtual File Cabinet (VFC). To access VFC, please go to: https://www.in.gov/idem/ and enter VFC in the search box. You will then have the option to search for permit documents using a variety of criteria. For additional information about air permits and how the public and interested parties can participate, refer to the IDEM Air Permits page on the Internet at: https://www.in.gov/idem/airpermit/public-participation/; and the Citizens' Guide to IDEM on the Internet at: https://www.in.gov/idem/resources/citizens-guide-to-idem/.

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

If you have any questions regarding this matter, please contact Omar El-Rjoob, 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) 232-4971 or (800) 451-6027, and ask for Omar El-Rjoob (317) 232-4971.

Sincerely,

Iryn Calilung, Section Chief
Permits Branch
Office of Air Quality

Attachments: Modified Permit and Technical Support Document
cc: File - DeKalb County
DeKalb County Health Department
U.S. EPA, Region 5
Compliance and Enforcement Branch
IDEM Northern Regional Office

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Part 70 Operating Permit Renewal
OFFICE OF AIR QUALITY

Metal Technologies Auburn, LLC
1537 West Auburn Drive
Auburn, Indiana 46706

(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.

Operating Permit No.: 033-45841-00042 Master Agency Interest ID: 14700	
Issued by: Original signed by: Iryn Calilung, Section Chief Permits Branch Office of Air Quality	Issuance Date: May 16, 2023 Expiration Date: May 16, 2028

Significant Permit Modification No.: 033-46919-00042, issued on January 22, 2024

Significant Permit Modification No.: 033-47542-00042	
Issued by: Iryn Calilung, Section Chief Permits Branch Office of Air Quality	Issuance Date: Expiration Date: May 16, 2028

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SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 through A.4 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:	1537 West Auburn Drive, Auburn, Indiana 46706
General Source Phone Number:	260-925-4717
SIC Code:	3321 (Gray and Ductile Iron Foundries)
County Location:	DeKalb
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) One (1) Scrap and charge handling, constructed in 1995 and modified in 2014 to add a return scrap crusher, with a nominal capacity of 30 tons of metal per hour, with no control and exhausting inside the building.

The return scrap crusher consists of 2 steel plates and is used to reduce the size of the return scrap.

Scrap and charge handling is considered part of the affected source under NESHAP 40 CFR Part 63, Subpart EEEEE.

(b) One (1) iron charging, melting, ladle metallurgy, holding and transfer system, collectively identified as EU-2, constructed in 1995, with a nominal capacity of 30 tons of metal per hour, particulate emissions are controlled by baghouses DC-2 and DC-8, which exhaust to stacks S-2 and S-8. The transfer operations refer to the transfer of metal from the holding furnace to the ladle.

The system consists of the following equipment/operations:

(1) One (1) furnace charging operation;

(2) Three (3) electric induction furnaces*;

(3) One (1) ladle metallurgical station; and

(4) One (1) electric covered holding furnace, used to keep molten iron from induction furnaces liquefied, prior to transferring to ladle for delivery to the pouring and casting operations.

* The three (3) electric induction furnaces are considered part of the affected source under NESHAP 40 CFR Part 63, Subpart EEEEE.

Stack S-8 is a common stack for Baghouse DC-8 and Baghouse DC-7.

Baghouse DC-8 and stack S-8 are also used for the Lines 1, 2, 3, & 4 pouring and casting operations, the EU-6 shot reblast unit, and the EU-5bc waste sand system.

Four (4) Pouring and Casting Operations

(c) One (1) Line 1 pouring and casting operation, identified as EU-3a1, constructed in 1995 and modified in 2008, with a nominal capacity of 10 tons of metal and 55 tons of sand per hour, particulate emissions are controlled by baghouse DC-8, which exhausts to Stack S-8.

EU-3a1 is considered part of the affected source under NESHAP 40 CFR Part 63, Subpart EEEEE.

(d) One (1) Line 2 pouring and casting operation, identified as EU-3a2, constructed in 1995 and modified in 2009, with a nominal capacity of 10 tons of metal and 55 tons of sand per hour, particulate emissions are controlled by baghouse DC-8, which exhausts to stack S-8.

EU-3a2 is considered part of the affected source under NESHAP 40 CFR Part 63, Subpart EEEEE.

(e) One (1) Line 3 pouring and casting operation; identified as EU-3a3, constructed in 1995 and modified in 2012, with a nominal capacity of 11 tons of metal and 55 tons of sand per hour, particulate emissions are controlled by baghouse DC-8, which exhausts to stack S-8.

EU-3a3 is considered part of the affected source under NESHAP 40 CFR Part 63, Subpart EEEEE.

(f) One (1) Line 4 pouring and casting operation; identified as EU-3a4, constructed in 1995 and modified in 2012, with a nominal capacity of 11 tons of metal and 55 tons of sand per hour, particulate emissions are controlled by baghouse DC-8, which exhausts to stack S-8.

EU-3a4 is considered part of the affected source under NESHAP 40 CFR Part 63, Subpart EEEEE.

Baghouse DC-8 and stack S-8 are a common control and stack, respectively of the Lines 1, 2, 3, & 4 pouring and casting operations.

Baghouse DC-8 and stack S-8 are also used for the iron charging, melting, ladle metallurgy, holding and transfer system, identified as EU-2, the EU-6 shot reblast unit, and the EU-5bc waste sand system.

Stack S-8 is a common stack for Baghouse DC-8 and Baghouse DC-7.

Four (4) Casting/Mold Cooling Operations

(g) One (1) Line 1 casting/mold cooling operation, identified as EU-3b1, constructed in 1995, with a nominal capacity of 10 tons of metal and 55 tons of sand per hour, with no control, and emissions exhaust to stack S-3b.

(h) One (1) Line 2 casting/mold cooling operation, identified as EU-3b2, constructed in 1995, with a nominal capacity of 10 tons of metal and 55 tons of sand per hour, with no control, and emissions exhaust to stack S-3b.
Stack-3b is a common stack for the casting/mold cooling operations for Line 1 and Line 2.

(i) One (1) Line 3 casting/mold cooling operation, identified as EU-3b3, constructed in 1995 and modified in 2012, with a nominal capacity of 11 tons of metal and 55 tons of sand per hour, with no control, and emissions exhaust to stack S-3d.

(j) One (1) Line 4 casting/mold cooling operation, identified as EU-3b4, constructed in 1995 and modified in 2012, with a nominal capacity of 11 tons of metal and 55 tons of sand per hour, with no control, and emissions exhaust to stack S-3d.

Stack-3d is a common stack for the casting/mold cooling operations for Line 3 and Line 4.

Three (3) Casting Shakeout Operations

(k) One (1) Line 3 casting shakeout operation, identified as EU-4a, approved in 2021 for construction, with a nominal capacity of 11 tons of metal and 55 tons of sand per hour, using baghouse DC-3 as control, and exhausting to Stack S-15.

This casting shakeout operation replaces the Line 3 casting shakeout operation, identified as EU-4a.

(l) One (1) Line 4 casting shakeout operation, identified as EU-4b, constructed in 1995 and modified in 2012, with a nominal capacity of 11 tons of metal and 55 tons of sand per hour, particulate emissions are controlled by baghouse DC-4, which exhausts to stack S-4.

(m) One (1) Line 1 and Line 2 casting shakeout operation, identified as EU-5a, approved in 2024 for construction, with a nominal capacity of 20 tons of metal and 110 tons of sand per hour, using baghouse DC-5 and baghouse DC-11 as control, and exhausting to stacks S-5 and S-11.

The EU-5a casting shakeout operation is shared by Line 1 and Line 2; they merge into one (1) line for casting cooling, controlled by a baghouse (DC-11), and exhausting to stack S-11.

This EU-5a casting shakeout operation replaces an existing casting shakeout operation installed in 1995.

(n) One (1) return sand/waste sand system, identified as EU-5bc, constructed in 1995, with a nominal capacity of 220 tons of sand per hour, particulate emissions are controlled by baghouse DC-5, which exhausts to stack S-5 and baghouse DC-8, which exhausts to stack S-8.

Baghouse DC-5 controls the return sand system.

Baghouse DC-8 controls the waste sand system.

Baghouse DC-5 and stack S-5 are a common control and stack, respectively of the Line 1 and Line 2 casting shakeout operation and return sand system, identified as EU-5bc.

Stack S-8 is a common stack for Baghouse DC-8 and Baghouse DC-7.

Baghouse DC-8 and stack S-8 are also used for the iron charging, melting, ladle metallurgy, holding and transfer system, identified as EU-2, the Lines 1, 2, 3, and 4 pouring and casting operations, and the shot reblast unit EU-6.

(o) One (1) shot reblast unit, identified as EU-6, constructed in 1997, with a nominal capacity of 1.12 tons of iron castings per hour, particulate emissions are controlled by baghouse DC-8, which exhausts to stack S-8.

Stack S-8 is a common stack for Baghouse DC-8 and Baghouse DC-7.
Baghouse DC-8 and stack S-8 are also used for the iron charging, melting, ladle metallurgy, holding and transfer system, identified as EU-2, the Lines 1, 2, 3, and 4 pouring and casting operations, and the EU-5bc waste sand system.

(p) One (1) shot blast system, consisting of three two (2) shot blast units, identified as EU-17, and EU-19, constructed in 1999 and modified in 2012, and approved in 2024 for modification, with a total nominal capacity of 27 tons of iron castings per hour, with all particulate emissions controlled by baghouse DC-7, which exhausts to stack S-8.

Shot Blast System Unit	Line Served	Modification Date
EU-17	Line 1	EU-17 is approved in 2024 to blast castings from Lines 1 and 2.
	Line 2	
EU-19	Line 3	EU-19 is approved in 2021 to blast castings from both Lines 3 and 4.
	Line 4	

Stack S-8 is a common stack for Baghouse DC-8 and Baghouse DC-7.

(q) Sand handling system; identified as EU-1a, constructed in 1995 and modified in 2011, with a nominal capacity of 220 tons of sand per hour, and exhausting to stack S-1, stack S-5 and stack S-10. The sand handling system is described as follows:

(1) Metal Separation controlled by baghouse DC-5, and exhausting to stack S-5.

(2) Sand multi-cooler controlled by baghouse DC-5, and exhausting to stack S-5.

(3) Return sand conveyor partially controlled by baghouse DC-5, and exhausting to stack S-5.

(4) Return sand distribution conveyor controlled by baghouse DC-1, and exhausting to stack S-1.

(5) Four (4) 250 ton return sand storage bins controlled by baghouse DC-1, and exhausting to stack S-1.

(6) Two (2) sand mullers, for Lines 3 and 4, rated at 75 tons of sand per hour, each, controlled by baghouse DC-10 and exhausting to stack S-10.

(7) Two (2) sand mullers, for Lines 1 and 2, rated at 75 tons of sand per hour, each, controlled by baghouse DC-1 and exhausting to stack S-1.

Ductile Iron Conversion Process

(r) One (1) ductile iron conversion (DIC) process, identified as EU-20, constructed in 2009, with a nominal capacity of 30 tons of metal per hour, particulate emissions are captured by two side draft fume and exhaust hoods and controlled by Baghouse DC-20, which exhausts to stack S-20;

In this ductile iron conversion (DIC) process, magnesium and other elements are added to molten iron to produce ductile iron.

Core Making Process

(s) One (1) Phenolic Urethane Cold Box (PUCB) core production process, constructed in 2012, with a nominal capacity of 2.9 tons of cores per hour, consisting of the following units:

(1) One (1) 65 ton core sand silo, identified as EU-30a, controlled by a bin vent filter, which exhausts inside the building.

(2) One (1) core sand mixer (controlled by an internally-venting dust collector) and sand transport system (emissions vented back to the core sand silo), identified as EU-30b.

(3) One (1) PUCB core machine, identified as EU-30c, using a tertiary amine catalyst gas, controlled by an acid scrubber, identified as SC-1, which vents to stack SC-1.

(4) One (1) water based core wash, identified as EU-30d.

(5) One (1) 1.5 MMBtu/hr natural gas fired drying oven, identified as EU-30e.

Thermal Chip Drying Process

(t) One (1) natural gas-fired thermal chip dryer process, consisting of the following:

(1) One (1) thermal chip dryer, identified as EU-32, constructed in 2015 and modified in 2016 to replace the baghouse, with a nominal maximum capacity of 15 tons of metal chips and machining oil per hour, with particulate matter emissions controlled by cyclone DC-32a and baghouse DC-32c, and VOC and CO emissions controlled by a 6.545 MMBtu per hour natural gas-fired smoke hood and thermal oxidizer DC-32b, and exhausting to Stack S-32b.

The chip dryer is equipped with eight (8) low NOx retort burners (the flame does not directly contact the scrap metal chips), with a combined maximum heat input capacity of 9.50 MMBtu per hour. Combustion emissions from the eight (8) natural gas-fired burners are uncontrolled and exhaust to Stack S-32a.

(2) One (1) chip screening unit and associated material handling equipment, identified as EU-32A, constructed in 2016, with a nominal maximum capacity of 15 tons of metal chips per hour, with particulate matter emissions controlled by baghouse DC-32c, and exhausting to Stack S-32b.

Core Making Process

(v) One (1) phenolic urethane cold box (PUCB), identified as EU-31, approved in 2023 for construction, with a nominal capacity of 1.5 tons of cores per hour, consisting of the following units:

(1) One (1) 60-ton core sand silo, identified as EU-31a, controlled by a bin vent filter (BV-2), which exhausts inside the building.

(2) One (1) core sand mixer and sand transport system, identified as EU-31b.

The sand mixer is controlled by dust collector, venting inside the building and the sand transport system's emissions are vented back to the core sand silo (EU-31(a).

(3) One (1) PUCB core machine, identified as EU-31c, with a maximum capacity of 1.5 tons of cores per hour using a tertiary amine catalyst gas, voluntary controlled by an acid scrubber, identified as SC-1, which vents to stack SC-1.

(4) One (1) water based core wash, identified as EU-31d.

(5) One (1) natural gas fired drying oven, identified as EU-31e, with a maximum capacity of 0.4 MMBtu/hr.

A.3 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, as defined in 326 IAC 2-7-1(21):

(a) Eleven (11) grinders, identified as EU-7, constructed in 1999 and modified in 2012, with a combined nominal capacity of 24 tons of iron castings per hour, consisting of the following:

(1) Nine (9) grinders, particulate emissions controlled by dust collector DC-7, which exhausts to stack S-8.

(2) Two (2) enclosed stationary grinding units, resulting in negligible emissions, each controlled by dedicated small fabric filters, which exhaust inside the building.

(b) One (1) test sample blast machine, identified as EU-1b, constructed in 1995, with a nominal capacity of 150 pounds of metal per hour, particulate emissions controlled by fabric filter dust collectors, which exhaust inside the building.

(c) Twenty-seven (27) Natural gas-fired combustion units, as follows:

Unit type	Unit ID	Heat input capacity (MMBtu/hr)	Construction date
Twelve (12) Ladle Preheater Torches and Three (3) hot shots	portable, used intermittently for heating ladles - no IDs	10 MMBtu/hr for all fifteen (15)	1994
Air Makeup unit	#1 AMU	6.75	1994
Air Makeup unit	#2 AMU	6.75	1994
Air Makeup unit	#3 AMU	6.75	1994
Air Makeup unit	#4 AMU	6.75	1994
Air Makeup unit	#5 AMU	6.75	1994
Air Makeup unit	#6 AMU	6.75	1994
Air Makeup unit	#7 AMU	6.75	1994
Air Makeup unit	#8 AMU	5.00	1994
Air Makeup unit	#9 AMU	5.13	1994
Air Makeup unit	#10 AMU	5.13	1994
Air Makeup unit	#11 AMU	7.70	1994
Air Makeup unit	#12 AMU	7.70	1994

(d) One (1) emergency diesel generator, constructed in 1994, with a maximum output horsepower rating (hp) of 1135 HP, using no control, and exhausting to stacks S-EG-1

and S-EG-2.

This generator is used exclusively for emergency situations and requires testing and maintenance to produce power for critical systems during a power outage. It is never used to power equipment during any other time.

The emergency generator is considered an existing affected source under NESHAP 40 CFR Part 63, Subpart ZZZZ.

(e) Scrap receiving operations in which all metal scrap is received via truck and deposited into scrap storage bins within a building. A source of fugitive emissions.

The scrap receiving and storage operations are considered part of the affected source under NESHAP 40 CFR Part 63, Subpart EEEEE.

(f) Paved and unpaved roads and parking lots with public access.

(g) The following equipment used as needed strictly for maintenance purposes not resulting in the emission of HAPs: brazing equipment cutting torches, soldering equipment, welding equipment.

(h) One (1) shot reclaim system, with negligible emissions, controlled by an internally vented dust collector, exhausting to inside the building.

A.4 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, T033-45841-00042, 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 or of permits issued pursuant to Title IV of the Clean Air Act and 326 IAC 21 (Acid Deposition Control).

(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. All certifications shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted no later than July 1 of each year to:

Indiana Department of Environmental Management
Compliance 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 5
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) A Preventive Maintenance Plan meets the requirements of 326 IAC 1-6-3 if it includes, at a minimum:

(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.

The Permittee shall implement the PMPs.

(b) If required by specific condition(s) in Section D of this permit where no PMP was previously required, 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.

(c) 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).

(d) 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 or Southwest Regional Office 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
Southwest Regional Office phone: (812) 380-2305; fax: (812) 380-2304.

(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 T033-45841-00042 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, except for permits issued pursuant to Title IV of the Clean Air Act and 326 IAC 21 (Acid Deposition Control)

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] [40 CFR 72]

(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) Pursuant to 326 IAC 2-7-11(b) and 326 IAC 2-7-12(a), administrative Part 70 operating permit amendments and permit modifications for purposes of the acid rain portion of a Part 70 permit shall be governed by regulations promulgated under Title IV of the Clean Air Act. [40 CFR 72]

(c) 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).

(d) 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 5
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.

(f) This condition does not apply to emission trades of SO_2 or NO_X under 326 IAC 21.

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 317-233-8590 (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 Stack Height [326 IAC 1-7]

The Permittee shall comply with the applicable provisions of 326 IAC 1-7 (Stack Height Provisions), for all exhaust stacks through which a potential (before controls) of twenty-five (25) tons per year or more of particulate matter or sulfur dioxide is emitted. The provisions of 326 IAC 1-7-1(3), 326 IAC 1-7-2, 326 IAC 1-7-3(c) and (d), 326 IAC 1-7-4, and 326 IAC 1-7-5(a), (b), and (d) are not federally enforceable.

C.7 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(c).

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

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.8 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.9 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.10 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.11 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.12 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.13 Risk Management Plan [326 IAC 2-7-5(11)] [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.14 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 Quality Improvement Plan (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)(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.

(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.15 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.16 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)(1), starting in 2004 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.17 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(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) 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.18 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) 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.19 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:

(a) One (1) Scrap and charge handling, constructed in 1995 and modified in 2014 to add a return scrap crusher, with a nominal capacity of 30 tons of metal per hour, with no control and exhausting inside the building.

The return scrap crusher consists of 2 steel plates and is used to reduce the size of the return scrap.

Scrap and charge handling is considered part of the affected source under NESHAP 40 CFR Part 63, Subpart EEEEE.

(b) One (1) iron charging, melting, ladle metallurgy, holding and transfer system, collectively identified as EU-2, constructed in 1995, with a nominal capacity of 30 tons of metal per hour, particulate emissions are controlled by baghouses DC-2 and DC-8, which exhaust to stacks S-2 and S-8. The transfer operations refer to the transfer of metal from the holding furnace to the ladle. The system consists of the following equipment/operations:

(1) One (1) furnace charging operation;

(2) Three (3) electric induction furnaces*;

(3) One (1) ladle metallurgical station; and

(4) One (1) electric covered holding furnace, used to keep molten iron from induction furnaces liquefied, prior to transferring to ladle for delivery to the pouring and casting operations.

* The three (3) electric induction furnaces are considered part of the affected source under NESHAP 40 CFR Part 63, Subpart EEEEE.

Stack S-8 is a common stack for Baghouse DC-8 and Baghouse DC-7.

Baghouse DC-8 and stack S-8 are also used for the Lines 1, 2, 3, & 4 pouring and casting operations, the EU-6 shot reblast unit, and the EU-5bc waste sand system.

Four (4) Pouring and Casting Operations

(c) One (1) Line 1 pouring and casting operation, identified as EU-3a1, constructed in 1995 and modified in 2008, with a nominal capacity of 10 tons of metal and 55 tons of sand per hour, particulate emissions are controlled by baghouse DC-8, which exhausts to Stack S-8.

EU-3a1 is considered part of the affected source under NESHAP 40 CFR Part 63, Subpart EEEEE.

(d) One (1) Line 2 pouring and casting operation, identified as EU-3a2, constructed in 1995 and modified in 2009, with a nominal capacity of 10 tons of metal and 55 tons of sand per hour, particulate emissions are controlled by baghouse DC-8, which exhausts to stack S-8.

EU-3a2 is considered part of the affected source under NESHAP 40 CFR Part 63, Subpart EEEEE.

(e) One (1) Line 3 pouring and casting operation; identified as EU-3a3, constructed in 1995 and

modified in 2012, with a nominal capacity of 11 tons of metal and 55 tons of sand per hour, particulate emissions are controlled by baghouse DC-8, which exhausts to stack S-8.

EU-3a3 is considered part of the affected source under NESHAP 40 CFR Part 63, Subpart EEEEE.

(f) One (1) Line 4 pouring and casting operation; identified as EU-3a4, constructed in 1995 and modified in 2012, with a nominal capacity of 11 tons of metal and 55 tons of sand per hour, particulate emissions are controlled by baghouse DC-8, which exhausts to stack S-8.

EU-3a4 is considered part of the affected source under NESHAP 40 CFR Part 63, Subpart EEEEE.

Baghouse DC-8 and stack S-8 are a common control and stack, respectively of the Lines 1, 2, 3, & 4 pouring and casting operations.

Baghouse DC-8 and stack S-8 are also used for the iron charging, melting, ladle metallurgy, holding and transfer system, identified as EU-2, the EU-6 shot reblast unit, and the EU-5bc waste sand system.

Stack S-8 is a common stack for Baghouse DC-8 and Baghouse DC-7.

(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 Best Available Control Technology (BACT) for PM/PM_{10} Emissions [326 IAC 2-2-3]

Pursuant to 326 IAC 2-2-3 (PSD - BACT) and PSD T033-21760-00042, issued on August 29, 2008, the Permittee shall comply with the following:

(a) The PM and PM_{10} emissions from the following facilities shall be controlled by a baghouse:

Process / Unit description	Line ID	Unit ID	Control/Stack
Charging, melting, metallurgy, holding and transfer system		EU-2	Baghouse DC-2 (Stack S-2) and Baghouse DC-8 (Stack S-8)
pouring and casting operation	Line 1	EU-3a1	Baghouse DC-8 (Stack S-8)
	Line 2	EU-3a2	
	Line 3	EU-3a3	
	Line 4	EU-3a4	

(b) The PM and PM_{10} emissions after control from the following facilities, in conjunction with Condition D.1.1(c)(ii), shall not exceed the limits, as indicated in the table below:

Process/facility Description (ID)	Control/ Stack	PM and PM_{10} (Filterable Emissions)		PM_{10} (Filterable Plus Condensable Emissions)
		(gr/dscf)	(lb/hr)	(lb/ton iron produced)
Charging, melting, metallurgy, holding	Baghouse DC-2 (Stack S-2)	0.003	3.6	0.06

Process/facility Description (ID)	Control/ Stack	PM and PM_{10} (Filterable Emissions)		PM_{10} (Filterable Plus Condensable Emissions)
		(gr/dscf)	(lb/hr)	(lb/ton iron produced)
and transfer system (EU-2)	and Baghouse DC-8 (Stack S-8)		(total for 2 stacks)	
Lines 1, 2, 3 and 4 Pouring and casting operations (EU-3a1 through EU-3a4)	Baghouse DC-8 (Stack S-8)			

PM10 emissions are surrogate for PM2.5 emissions.

(c) The total iron production of the three (3) electric induction furnaces (comprising EU-2) shall not exceed the following:

(i) 750 tons per day, with compliance determined at the end of each day, and

(ii) 220,000 tons per twelve consecutive month period, with compliance determined at the end of each month.

(d) Visible emissions of the fugitive emissions from building openings shall not exceed twenty percent (20%) opacity, as determined by a six (6) minute average (24 readings taken in accordance with EPA Method 9, Appendix A); except for one 6-minute average per hour that does not exceed twenty seven percent (27%) opacity.

D.1.2 Best Available Control Technology (BACT) for VOC Emissions [326 IAC 2-2-3][326 IAC 8-1-6]

Pursuant to 326 IAC 2-2-3 (PSD - BACT), 326 IAC 8-1-6, and PSD T033-21760-00042, issued on August 29, 2008, VOC BACT is as follows:

(a) The Permittee shall use low VOC emitting greensand binding materials and core resin binders.

(b) The total VOC emissions from the following:

Process / Unit description	Line ID	Unit ID	Permit Section
pouring and casting operation	Line 1	EU-3a1	D.1
	Line 2	EU-3a2	
	Line 3	EU-3a3	
	Line 4	EU-3a4	
casting/mold cooling operation	Line 1	EU-3b1	D.2
	Line 2	EU-3b2	
	Line 3	EU-3b3	
	Line 4	EU-3b4	
casting shakeout operation	Line 1	EU-5a	D.3
	Line 2		
	Line 3	EU-3b	
	Line 4	EU-4b	

in conjunction with Condition D.1.1(c)(ii), shall not exceed:

(i) 0.8 pounds per ton of metal poured when using greensand molds without cores, and

(ii) 1.7 pounds of VOC per ton of metal poured when using greensand molds with cores.

D.1.3 Best Available Control Technology (BACT) for CO Emissions [326 IAC 2-2-3]

Pursuant to 326 IAC 2-2-3 (PSD) and PSD T033-21760-00042, issued on August 29, 2008, the CO emissions from the following operations, in conjunction with Condition D.1.1(c)(ii), shall not exceed 6.0 pounds per ton of metal poured:

Process / Unit description	Line ID	Unit ID	Permit Section
pouring and casting operation	Line 1	EU-3a1	D.1
	Line 2	EU-3a2	
	Line 3	EU-3a3	
	Line 4	EU-3a4	
casting/mold cooling operation	Line 1	EU-3b1	D.2
	Line 2	EU-3b2	
	Line 3	EU-3b3	
	Line 4	EU-3b4	
casting shakeout operation	Line 1	EU-5a	D.3
	Line 2		
	Line 3	EU-3b	
	Line 4	EU-4b	

D.1.4 PSD Minor Limit - Lead (Pb) Emissions [326 IAC 2-2]

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

The total Lead (Pb) emissions after control from the following operations, in conjunction with Condition D.1.1(c)(ii), shall not exceed 0.003 pounds per ton of metal poured:

Process / Unit description	Line ID	Unit ID	Control/Stack	Permit Section Condition
Charging, melting, metallurgy, holding and transfer system		EU-2	Baghouse DC-2 (Stack S-2) and Baghouse DC-8 (Stack S-8)	D.1
pouring and casting operation	Line 1	EU-3a1	Baghouse DC-8 (Stack S-8)	
	Line 2	EU-3a2		
	Line 3	EU-3a3		
	Line 4	EU-3a4		

Compliance with this limit and in conjunction with Conditions D.1.1(c), D.2.4 and D.3.4 will limit the total Lead (Pb) emissions for the limited facilities to less than 0.6 tons per twelve consecutive month period and render the requirements of 326 IAC 2-2 not applicable to these facilities.

D.1.5 Particulate Emission Limitations from Manufacturing Processes [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2, the allowable particulate matter (PM) from the scrap and charge handling shall not exceed 40.04 pounds per hour, when operating at a process weight rate of 30.0 tons per hour. This limitation was calculated using the following equation:

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

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

D.1.6 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

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

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

D.1.7 Particulate and VOC Control

(a) In order to ensure compliance with Conditions D.1.1 and D.1.4, the following baghouses shall be in operation at all times their corresponding emission units are in operation.

Process / Unit description	Line ID	Unit ID	Control/Stack
Charging, melting, metallurgy, holding and transfer system		EU-2	Baghouse DC-2 (Stack S-2) and Baghouse DC-8 (Stack S-8)
Pouring and casting operation	Line 1	EU-3a1	Baghouse DC-8 (Stack S-8)
	Line 2	EU-3a2	
	Line 3	EU-3a3	
	Line 4	EU-3a4	

(b) In order to ensure compliance with Condition D.1.2, the following:

(i) greensand molding materials,
(ii) percent loss on ignition (%LOI) of the greensand mold system,
(iii) shell and phenolic urethane cold box core resins, and
(iv) percent resin in the cores

shall be consistent with the respective characteristics used during validation testing conducted in July 2008.

D.1.8 Testing Requirements [326 IAC 2-1.1-11]

PM and PM10 testing

(a) In order to demonstrate the compliance status with Condition D.1.1, the Permittee shall perform PM and PM_{10} testing for the following facilities, utilizing methods approved by the Commissioner.

Process / Unit description	Line ID	Unit ID	Control/Stack
Charging, melting, metallurgy, holding and transfer system		EU-2	Baghouse DC-2 (Stack S-2) and Baghouse DC-8 (Stack S-8)
Pouring and casting operation	Line 1	EU-3a1	Baghouse DC-8 (Stack S-8)
	Line 2	EU-3a2	

Process / Unit description	Line ID	Unit ID	Control/Stack
	Line 3	EU-3a3	
	Line 4	EU-3a4	

The above mentioned facilities shall all be in operation when the tests are conducted since a total limit (in lb/hour) is specified for the 2 stacks involved.

PM_{10} includes filterable and condensable PM_{10}.

These tests shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test.

Lead (Pb) testing

(b) In order to demonstrate the compliance status with Condition D.1.4, the Permittee shall perform Lead (Pb) testing for the following facilities, utilizing methods approved by the Commissioner.

Process / Unit description	Line ID	Unit ID	Control/Stack
Charging, melting, metallurgy, holding and transfer system		EU-2	Baghouse DC-2 (Stack S-2) and Baghouse DC-8 (Stack S-8)
Pouring and casting operation	Line 1	EU-3a1	Baghouse DC-8 (Stack S-8)
	Line 2	EU-3a2	
	Line 3	EU-3a3	
	Line 4	EU-3a4	

The above mentioned facilities shall all be in operation when the tests are conducted since a total limit (in lb/ton) is specified for the 2 stacks involved.

These tests shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test.

(c) 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.1.9 Baghouse Parametric Monitoring

(a) The Permittee shall install and operate a continuous bag leak detection system (BLDS) on each of the 2 baghouses listed below.

Process / Unit description	Line ID	Unit ID	Control/Stack
Charging, melting, metallurgy, holding and transfer system		EU-2	Baghouse DC-2 (Stack S-2) and Baghouse DC-8 (Stack S-8)
Pouring and casting operation	Line 1	EU-3a1	Baghouse DC-8 (Stack S-8)
	Line 2	EU-3a2	
	Line 3	EU-3a3	
	Line 4	EU-3a4	

(b) The BLDS shall meet the monitoring requirements found in Section E.1 and NESHAP 40 CFR 63, Subpart EEEEE (included as Attachment A to the operating permit).

D.1.10 Broken or Failed Bag Detection

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

(b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the process 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).

(c) For multi-compartment units, if operations continue after bag failure is observed and it will be 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.

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

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

D.1.11 Record Keeping Requirements

(a) In order to document the compliance status with the following conditions the Permittee shall maintain records of the total daily and monthly metal production of the three (3) electric induction furnaces (comprising EU-2):

(i) D.1.1(b),
(ii) D.1.1(c),
(iii) D.1.2,
(iv) D.1.3 and
(v) D.1.4.

(b) In order to document the compliance status with Conditions D.1.2 and D.1.7(b), the Permittee shall maintain records of the following:
(i) greensand molding materials,
(ii) percent loss on ignition (%LOI) of the greensand mold system,
(iii) shell and phenolic urethane cold box core resins and
(iv) percent resin in the cores

(c) In order to document the compliance status with Condition D.1.8, the Permittee shall maintain records of the results from testing required by that condition.

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

D.1.12 Reporting Requirements

A quarterly summary of the information to document the compliance status with the twelve-month

rolling limit in Condition D.1.1(c)(ii) shall be submitted no 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.2 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

Four (4) Casting/Mold Cooling Operations

(g) One (1) Line 1 casting/mold cooling operation, identified as EU-3b1, constructed in 1995, with a nominal capacity of 10 tons of metal and 55 tons of sand per hour, with no control, and emissions exhaust to stack S-3b.

(h) One (1) Line 2 casting/mold cooling operation, identified as EU-3b2, constructed in 1995, with a nominal capacity of 10 tons of metal and 55 tons of sand per hour, with no control, and emissions exhaust to stack S-3b.

Stack-3b is a common stack for the casting/mold cooling operations for Line 1 and Line 2.

(i) One (1) Line 3 casting/mold cooling operation, identified as EU-3b3, constructed in 1995 and modified in 2012, with a nominal capacity of 11 tons of metal and 55 tons of sand per hour, with no control, and emissions exhaust to stack S-3d.

(j) One (1) Line 4 casting/mold cooling operation, identified as EU-3b4, constructed in 1995 and modified in 2012, with a nominal capacity of 11 tons of metal and 55 tons of sand per hour, with no control, and emissions exhaust to stack S-3d.

Stack-3d is a common stack for the casting/mold cooling operations for Line 3 and Line 4.

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

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

D.2.1 Best Available Control Technology (BACT) for PM/PM_{10} Emissions [326 IAC 2-2-3]

Pursuant to 326 IAC 2-2-3 (PSD - BACT) and PSD T033-21760-00042, issued on August 29, 2008, the PM and PM_{10} emissions from the following facilities, in conjunction with Condition D.1.1(c)(ii), shall not exceed the limits, as indicated in the table below:

Process/facility Description (ID)	Control/Stack	PM and PM_{10} (Filterable Emissions)		PM_{10} (Filterable Plus Condensable Emissions)
		(gr/dscf)	(lb/hr)	(lb/ton iron produced)
Line 1 and Line 2 casting/mold cooling operations (EU-3b1 and EU-3b2)	None (stack S-3b)	0.01	2.14	0.09
Line 3 and Line 4 casting/mold cooling operations (EU-3b3 and EU-3b4)	None (stack S-3d)	0.01	2.14	0.09

PM10 emissions are surrogate for PM2.5 emissions.

D.2.2 Best Available Control Technology (BACT) for VOC Emissions [326 IAC 2-2-3][326 IAC 8-1-6]

Pursuant to 326 IAC 2-2-3 (PSD - BACT), 326 IAC 8-1-6 and PSD T033-21760-00042, issued August 29, 2008, the Permittee shall comply with VOC BACT for the Lines 1, 2, 3 and 4 casting/mold cooling operations in Condition D.1.2.

D.2.3 Best Available Control Technology (BACT) for CO Emissions [326 IAC 2-2-3]

Pursuant to 326 IAC 2-2-3 (PSD - BACT) and PSD T033-21760-00042, issued on August 29, 2008, the Permittee shall comply with CO BACT for the Lines 1, 2, 3 and 4 casting/mold cooling operations in Condition D.1.3.

D.2.4 PSD Minor Limit - Lead (Pb) Emissions [326 IAC 2-2]

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

The Lead (Pb) emissions from the following facilities, in conjunction with Condition D.1.1(c)(ii), shall not exceed the pounds per ton of iron processed:

Process / Unit description	Line ID	Unit ID	Control/Stack	PSD Minor Limit (lb/ton)
Casting/mold cooling operation	Line 1	EU-3b1	No control (Stack S-3b)	0.0012
	Line 2	EU-3b2		
	Line 3	EU-3b3	No control (Stack S-3d)	0.0012
	Line 4	EU-3b4		

Compliance with these limits and in conjunction with Conditions D.1.1(c), D.1.4 and D.3.4 will limit the total Lead (Pb) emissions of the limited facilities to less than 0.6 tons per twelve consecutive month period and render the requirements of 326 IAC 2-2 not applicable to these facilities.

D.2.5 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

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

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

D.2.6 Testing Requirements [326 IAC 2-1.1-11]

PM and PM10 testing

(a) In order to demonstrate the compliance status with Condition D.2.1, the Permittee shall perform PM and PM_{10} testing for the following facilities, utilizing methods approved by the Commissioner.

Process / Unit description	Line ID	Unit ID	Control/Stack
Casting/mold cooling operation	Line 1	EU-3b1	No control (Stack S-3b)
	Line 2	EU-3b2	

The above mentioned facilities shall all be in operation when the tests are conducted since a combined limit (in lb/hour) is specified for the operations involved.

PM_{10} includes filterable and condensable PM_{10}. These tests shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test.

PM and PM10 testing

(b) In order to demonstrate the compliance status with Condition D.2.1, the Permittee shall perform PM and PM_{10} testing for the following facilities, utilizing methods approved by the Commissioner.

Process / Unit description	Line ID	Unit ID	Control/Stack
Casting/mold cooling operation	Line 3	EU-3b3	No control (Stack S-3d)
	Line 4	EU-3b4	

The above mentioned facilities shall all be in operation when the tests are conducted since a combined limit (in lb/hour) is specified for the operations involved.

PM_{10} includes filterable and condensable PM_{10}. These tests shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test.

Lead (Pb) Testing

(c) In order to demonstrate the compliance status with Condition D.2.4, the Permittee shall perform lead (Pb) testing for the following facilities, utilizing methods approved by the Commissioner.

Process / Unit description	Line ID	Unit ID	Control/Stack
Casting/mold cooling operation	Line 1	EU-3b1	No control (Stack S-3b)
	Line 2	EU-3b2	

The above mentioned facilities shall all be in operation when the tests are conducted since a combined limit (in lb/ton) is specified for the operations involved.

These tests shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test.

Lead (Pb) Testing

(d) In order to demonstrate the compliance status with Condition D.2.4, the Permittee shall perform lead (Pb) testing for the following facilities, utilizing methods approved by the Commissioner.

Process / Unit description	Line ID	Unit ID	Control/Stack
Casting/mold cooling operation	Line 3	EU-3b3	No control (Stack S-3d)
	Line 4	EU-3b4	

The above mentioned facilities shall all be in operation when the tests are conducted since a combined limit (in lb/ton) is specified for the operations involved.

These tests shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test.

(e) 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.

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

D.2.7 Record Keeping Requirements

(a) In order to document the compliance status with Condition D.2.6, the Permittee shall maintain records of the results from testing required by that condition.

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

SECTION D.3 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

Three (3) Casting Shakeout Operations

(k) One (1) Line 3 casting shakeout operation, identified as EU-4a, approved in 2021 for construction, with a nominal capacity of 11 tons of metal and 55 tons of sand per hour, using baghouse DC-3 as control, and exhausting to Stack S-15.

This casting shakeout operation replaces the Line 3 casting shakeout operation, identified as EU-4a.

(l) One (1) Line 4 casting shakeout operation, identified as EU-4b, constructed in 1995 and modified in 2012, with a nominal capacity of 11 tons of metal and 55 tons of sand per hour, particulate emissions are controlled by baghouse DC-4, which exhausts to stack S-4.

(m) One (1) Line 1 and Line 2 casting shakeout operation, identified as EU-5a, approved in 2024 for construction, with a nominal capacity of 20 tons of metal and 110 tons of sand per hour, using baghouse DC-5 and baghouse DC-11 as control, and exhausting to stacks S-5 and S-11.

The EU-5a casting shakeout operation is shared by Line 1 and Line 2; they merge into one (1) line for casting cooling, controlled by a baghouse (DC-11), and exhausting to stack S-11.

This EU-5a casting shakeout operation replaces an existing casting shakeout operation installed in 1995.

(n) One (1) return sand/waste sand system, identified as EU-5bc, constructed in 1995, with a nominal capacity of 220 tons of sand per hour, particulate emissions are controlled by baghouse DC-5, which exhausts to stack S-5 and baghouse DC-8, which exhausts to stack S-8.

Baghouse DC-5 controls the return sand system.

Baghouse DC-8 controls the waste sand system.

Baghouse DC-5 and stack S-5 are a common control and stack, respectively of the Line 1 and Line 2 casting shakeout operation and return sand system, identified as EU-5bc.

Stack S-8 is a common stack for Baghouse DC-8 and Baghouse DC-7.

Baghouse DC-8 and stack S-8 are also used for the iron charging, melting, ladle metallurgy, holding and transfer system, identified as EU-2, the Lines 1, 2, 3, and 4 pouring and casting operations, and the shot reblast unit EU-6.

(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 Best Available Control Technology (BACT) for PM/PM_{10} Emissions [326 IAC 2-2-3]

Pursuant to 326 IAC 2-2-3 (PSD - BACT) and PSD T033-21760-00042, issued on August 29, 2008, the Permittee shall comply with the following:

(a) The PM and PM_{10} emissions from the following facilities shall be controlled by a baghouse:

Process / Unit description	Line ID	Unit ID	Control/Stack
Casting shakeout operation	Line 3	EU-4a	Baghouse DC-3 (Stack S-15)
	Line 4	EU-4b	Baghouse DC-4 (Stack S-4)
	Line 1	Eu-5a	Baghouse DC-5 (Stack S-5) and Baghouse DC-11 (Stack S-11)
	Line 2		
Return sand/waste sand system		EU-5bc	Baghouse DC-5 (Stack S-5) and Baghouse DC-8 (Stack S-8)

(b) The PM and PM_{10} emissions after control from the following facilities, in conjunction with Condition D.1.1(c)(ii), shall not exceed the limits, as indicated in the table below:

Process/facility Description (ID)	Control/Stack	PM and PM_{10} (Filterable Emissions)		PM_{10} (Filterable Plus Condensable Emissions)
		(gr/dscf)	(lb/hr)	(lb/ton iron produced)
Line 3 and Line 4 casting shakeout operation (EU-4a and EU-4b)	Baghouse DC-3 (Stack S-15) and Baghouse DC-4 (Stack S-4)	0.003	2.06 (total for 2 stacks)	0.10
Line 1 and Line 2 casting shakeout operation (EU-5a)	Baghouse DC-5 (Stack S-5) and Baghouse DC-11 (Stack S-11) and Baghouse DC-8 (Stack S-8)	0.003	3.34 (total for 2 stacks)	0.12
Return sand and waste sand system (EU-5bc)				

PM10 emissions are surrogate for PM2.5 emissions.

D.3.2 Best Available Control Technology (BACT) for VOC Emissions [326 IAC 2-2][326 IAC 8-1-6]

Pursuant to to 326 IAC 2-2-3 (PSD - BACT), 326 IAC 8-1-6 and PSD T033-21760-00042, issued on August 29, 2008, the Permittee shall comply with VOC BACT for the Lines 1, 2, 3 and 4 casting shakeout operations in Condition D.1.2.

D.3.3 Best Available Control Technology (BACT) for CO Emissions [326 IAC 2-2][326 IAC 8-1-6]

Pursuant to 326 IAC 2-2-3 (PSD - BACT) and PSD T033-21760-00042, issued Auguat 29, 2008, the Permittee shall comply with CO BACT for the Lines 1, 2, 3 and 4 casting shakeout operations in Condition D.1.3.

D.3.4 PSD Minor Limit - Lead (Pb) Emissions [326 IAC 2-2]

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

The Lead (Pb) emissions after control from the following operations, in conjunction with Condition D.1.1(c)(ii), shall not exceed the pounds per ton of metal processed:

<table>
<tr><th>Process / Unit description</th><th>Line ID</th><th>Unit ID</th><th>Control/Stack</th><th>PSD Minor Limit (lb/ton)</th></tr>
<tr><td rowspan="5">Casting shakeout operation</td><td>Line 3</td><td>EU-4a</td><td>Baghouse DC-3 (Stack S-15)</td><td rowspan="2">0.0012</td></tr>
<tr><td>Line 4</td><td>EU-4b</td><td>Baghouse DC-4 (Stack S-4)</td></tr>
<tr><td>Line 1</td><td rowspan="2">EU-5a</td><td rowspan="2">Baghouse DC-5 (Stack S-5) and Baghouse DC-11 (Stack S-11)</td><td rowspan="3">0.0012</td></tr>
<tr><td>Line 2</td></tr>
<tr><td>Return sand/waste sand system</td><td></td><td>EU-5bc</td><td>Baghouse DC-5 (Stack S-5) and Baghouse DC-8 (Stack S-8)</td></tr>
</table>

Compliance with these limits and Conditions D.1.1(c), D.1.4, and D.2.4 will limit the total lead (Pb) emissions of the limited facilities to less than 0.6 tons per twelve consecutive month period and render the requirements of 326 IAC 2-2 not applicable to these facilities.

D.3.5 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

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

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

D.3.6 Particulate Control

In order to ensure compliance with Condition D.3.1, the following baghouses shall be in operation at all times the corresponding emission units are in operation.

Process / Unit description	Line ID	Unit ID	Control/Stack
Casting shakeout operation	Line 3	EU-4a	Baghouse DC-3 (Stack S-15)

Process / Unit description	Line ID	Unit ID	Control/Stack
	Line 4	EU-4b	Baghouse DC-4 (Stack S-4)
	Line 1	EU-5a	Baghouse DC-5 (Stack S-5) and Baghouse DC-11 (Stack S-11)
	Line 2		
Return sand/waste sand system		EU-5bc	Baghouse DC-5 (Stack S-5) and Baghouse DC-8 (Stack S-8)

D.3.7 Testing Requirements [326 IAC 2-1.1-11]

PM and PM10 testing

(a) In order to demonstrate the compliance status with Condition D.3.1, the Permittee shall perform PM and PM_{10} testing for the following facilities, utilizing methods approved by the Commissioner.

PM_{10} includes filterable and condensable PM_{10}.

Process / Unit description	Line ID	Unit ID	Control/Stack
Casting shakeout operation	Line 3	EU-4a	Baghouse DC-3 (Stack S-15)
	Line 4	EU-4b	Baghouse DC-4 (Stack S-4)

The above mentioned facilities shall all be in operation when the tests are conducted since a total limit (in lb/hour) is specified for the 2 stacks involved.

These tests shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test.

(b) In order to demonstrate the compliance status with Condition D.3.1, the Permittee shall perform PM and PM_{10} testing for the following facilities, utilizing methods approved by the Commissioner.

Process / Unit description	Line ID	Unit ID	Control/Stack
Casting shakeout operation	Line 1	EU-5a	Baghouse DC-5 (Stack S-5) and *Baghouse DC-11 (Stack S-11)
	Line 2		
Return sand/waste sand system		EU-5bc	Baghouse DC-5 (Stack S-5) and Baghouse DC-8 (Stack S-8)

PM_{10} includes filterable and condensable PM_{10}.

The above mentioned facilities shall all be in operation when the tests are conducted since a total limit (in lb/hour) is specified for the 2 stacks involved.

These tests shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test.

*The new baghouse DC-11 will share the same date as the most recent valid compliant stack test for DC-5.

Lead (Pb) testing

(c) In order to demonstrate the compliance status with Condition D.3.4, the Permittee shall perform Lead (Pb) testing for the following facilities, utilizing methods approved by the Commissioner.

Process / Unit description	Line ID	Unit ID	Control/Stack
Casting shakeout operation	Line 3	EU-4a	Baghouse DC-3 (Stack S-15)
	Line 4	EU-4b	Baghouse DC-4 (Stack S-4)

The above mentioned facilities shall all be in operation when the tests are conducted since a combined limit (in lb/ton) is specified for the operations involved.

These tests shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test.

(d) In order to demonstrate the compliance status with Condition D.3.4, the Permittee shall perform Lead (Pb) testing for the following facilities, utilizing methods approved by the Commissioner.

Process / Unit description	Line ID	Unit ID	Control/Stack
Casting shakeout operation	Line 1	EU-5a	Baghouse DC-5 (Stack S-5) and Baghouse DC-11 (Stack S-11)
	Line 2		
Return sand/waste sand system		EU-5bc	Baghouse DC-5 (Stack S-5) and Baghouse DC-8 (Stack S-8)

The above mentioned facilities shall all be in operation when the tests are conducted since a combined limit (in lb/ton) is specified for the operations involved.

These tests shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test.

(e) 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.3.8 Baghouse Parametric Monitoring [40 CFR 64]

Pursuant to 40 CFR 64:

(a) The Permittee shall record the pressure drop across the baghouses used in conjunction with the following facilities at least once per day when the respective facilities are in operation.

Process / Unit description	Line ID	Unit ID	Control/Stack
Casting shakeout operation	Line 3	EU-4a	Baghouse DC-3 (Stack S-15)
	Line 4	EU-4b	Baghouse DC-4 (Stack S-4)
	Line 1	EU-5a	Baghouse DC-5 (Stack S-5) and Baghouse DC-11 (Stack S-11)
	Line 2		
Return sand/waste sand system		EU-5bc	Baghouse DC-5 (Stack S-5)

When for any one reading, the pressure drop across the dust collector is outside the normal range, the Permittee shall take reasonable response. The normal range for each of these units is a pressure drop between 1.5 and 8.0 inches of water unless a different upper-bound or lower-bound value for this range is determined during the latest stack test. Section C- Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

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

D.3.9 Bag Leak Detection System (BLDS)[40 CFR 64]

Pursuant to 40 CFR 64, the Permittee shall comply with the following:

(a) The Permittee shall install and operate a continuous bag leak detection system (BLDS) on the waste sand/waste sand system (EU-5bc) Baghouse DC-8.

(b) The BLDS shall meet the monitoring requirements found in Section E.1 and NESHAP 40 CFR 63, Subpart EEEEE (included as Attachment A to the operating permit).

D.3.10 Broken or Failed Bag Detection [40 CFR 64]

Pursuant to 40 CFR 64:

(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 process 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).

(c) For multi-compartment units, If operations continue after bag failure is observed and it will be 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.

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

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

D.3.11 Record Keeping Requirements

(a) In order to document the compliance status with Condition D.3.7, the Permittee shall maintain records of the results from testing required by that condition.

(b) In order to document the compliance status with Condition D.3.8, the Permittee shall maintain records of the pressure drop readings required by that condition. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of pressure drop reading (e.g. the process did not operate that day).

(c) For extended periods of time when daily parametric monitoring is not required (e.g., during plant shutdown), IDEM, OAQ has determined that it is sufficient to document the reason parametric monitoring will not be required on the first day of the period and document when the daily parametric monitoring requirement will resume.

(d) To document the compliance status with condition D.3.9, the Permittee shall maintain records of the dates and times of all bag leak detection system alarms, the cause of each alarm, and an explanation of all corrective actions taken.

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

SECTION D.4 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(o) One (1) shot reblast unit, identified as EU-6, constructed in 1997, with a nominal capacity of 1.12 tons of iron castings per hour, particulate emissions are controlled by baghouse DC-8, which exhausts to stack S-8.

Stack S-8 is a common stack for Baghouse DC-8 and Baghouse DC-7.

Baghouse DC-8 and stack S-8 are also used for the iron charging, melting, ladle metallurgy, holding and transfer system, identified as EU-2, the Lines 1, 2, 3, and 4 pouring and casting operations, and the EU-5bc waste sand system.

(p) One (1) shot blast system, consisting of the following two (2) shot blast units, identified as EU-17, and EU-19, constructed in 1999, modified in 2012 and approved in 2024 for modification, with a total nominal capacity of 27 tons of iron castings per hour, with all particulate emissions controlled by baghouse DC-7, which exhausts to stack S-8.

Shot Blast System Unit	Line Served	Modification Date
EU-17	Line 1	EU-17 is approved in 2024 to blast castings from Lines 1 and 2.
	Line 2	
EU-19	Line 3	EU-19 is approved in 2021 to blast castings from both Lines 3 and 4.
	Line 4	

Stack S-8 is a common stack for Baghouse DC-8 and Baghouse DC-7.

(q) Sand handling system; identified as EU-1a, constructed in 1995 and modified in 2011, with a nominal capacity of 220 tons of sand per hour, and exhausting to stack S-1, stack S-5 and stack S-10. The sand handling system is described as follows:

(1) Metal Separation controlled by baghouse DC-5, and exhausting to stack S-5.

(2) Sand multi-cooler controlled by baghouse DC-5, and exhausting to stack S-5.

(3) Return sand conveyor partially controlled by baghouse DC-5, and exhausting to stack S-5.

(4) Return sand distribution conveyor controlled by baghouse DC-1, and exhausting to stack S-1.

(5) Four (4) 250 ton return sand storage bins controlled by baghouse DC-1, and exhausting to stack S-1.

(6) Two (2) sand mullers, for Lines 3 and 4, rated at 75 tons of sand per hour, each, controlled by baghouse DC-10 and exhausting to stack S-10.

(7) Two (2) sand mullers, for Lines 1 and 2, rated at 75 tons of sand per hour, each, controlled by baghouse DC-1 and exhausting to stack S-1.

Insignificant Activities:

(a) Eleven (11) grinders, identified as EU-7, constructed in 1999 and modified in 2012, with a combined nominal capacity of 24 tons of iron castings per hour, consisting of the following:

(1) Nine (9) grinders, particulate emissions controlled by dust collector DC-7, which exhausts to stack S-8.

(2) Two (2) enclosed stationary grinding units, resulting in negligible emissions, each controlled by dedicated small fabric filters, which exhaust inside the building.

(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 Best Available Control Technology (BACT) for PM and PM_{10} Emissions [326 IAC 2-2-3]

Pursuant to 326 IAC 2-2-3 (PSD - BACT) and PSD T033-21760-00042, issued August 29, 2008, the Permittee shall comply with the following:

(a) The PM and PM_{10} emissions from the following facilities shall be controlled by a baghouse or dust collector:

Process / Unit description	Individual units	Unit ID	Control/Stack
Shot reblast unit	-	EU-6	Baghouse DC-8 (Stack S-8)
Shot blast system	-	EU-17	Baghouse DC-7 (Stack S-8)
		EU-19	
Grinders	eight (8) portable grinders	EU-7	Dust Collectors (indoors)
	one (1) stationary grinder		Fabric filter (indoors)
	two (2) stationary grinders		Dust Collector DC-7 (Stack S-8)
Sand handling system	return sand distribution conveyor	EU-1a	Baghouse DC-1 (Stack S-1)
	four (4) return sand storage bins		Baghouse DC-1 (Stack S-1)
	two (2) sand mullers, Lines 3 & 4		Baghouse DC-10 (Stack S-10)
	two (2) sand mullers, Lines 1 & 2		Baghouse DC-1 (Stack S-1)

(b) The PM and PM_{10} emissions after control from the following facilities in conjunction with Condition D.1.1(c)(ii), shall not exceed the limits as indicated in the table below:

Process/facility Description (ID)	Control/Stack	PM and PM_{10} (Filterable Emissions)	
		(gr/dscf)	(lb/hr)
Shot reblast operation (EU-6)	Baghouse DC-8 (Stack S-8)	0.003	0.15
Shot blast system (EU-17, and EU-19)	Baghouse DC-7 (Stack S-8)	0.003	0.95
Sand handling operations (EU-1a)	Baghouse DC-1 (Stack S-1) and Baghouse DC-10 (Stack S-10)	0.003	0.64 (total for 2 stacks)
Eight (8) portable and one (1) stationary grinders (EU-7)	Individual dust collectors and fabric filters (indoors exhaust)	0.003	-
Two (2) stationary grinders (EU-7)	Dust Collector DC-7		

Process/facility Description (ID)	Control/Stack	PM and PM_{10} (Filterable Emissions)	
		(gr/dscf)	(lb/hr)
	(Stack S-8)		

PM10 emissions are surrogate for PM2.5 emissions.

D.4.2 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

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

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

D.4.3 Particulate Control

In order to ensure compliance with Condition D.4.1, the following baghouses and dust collectors shall be in operation at all times the corresponding emission units are in operation.

Process / Unit description	Individual units	Unit ID	Control/Stack
Shot reblast unit	-	EU-6	Baghouse DC-8 (Stack S-8)
Shot blast system	-	EU-17	Baghouse DC-7 (Stack S-8)
		EU-19	
Grinders	nine (9) grinders	EU-7	Dust Collector DC-7 (Stack S-8)
	two (2) stationary grinders		Fabric filter (indoors)
Sand handling system	return sand distribution conveyor	EU-1a	Baghouse DC-1 (Stack S-1)
	four (4) return sand storage bins		Baghouse DC-1 (Stack S-1)
	two (2) sand mullers, Lines 3 & 4		Baghouse DC-10 (Stack S-10)
	two (2) sand mullers, Lines 1 & 2		Baghouse DC-1 (Stack S-1)

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

D.4.4 Baghouse Parametric Monitoring [40 CFR 64]

Pursuant to 40 CFR 64:

(a) The Permittee shall record the pressure drop across the baghouses used in conjunction with the following facilities at least once per day when the respective facilities are in operation.

Process / Unit description	Individual units	Unit ID	Control/Stack
Shot blast system	-	EU-17	Baghouse DC-7 (Stack S-8)
		EU-19	
Sand handling system	return sand distribution conveyor	EU-1a	Baghouse DC-1 (Stack S-1)
	four (4) return sand storage bins		Baghouse DC-1 (Stack S-1)
	two (2) sand mullers, Lines 3 & 4		Baghouse DC-10 (Stack S-10)

Process / Unit description	Individual units	Unit ID	Control/Stack
	two (2) sand mullers, Lines 1 & 2		Baghouse DC-1 (Stack S-1)

When for any one reading, the pressure drop across the baghouse is outside the normal range, the Permittee shall take reasonable response. The normal range for each of these units is a pressure drop between 1.5 and 8.0 inches of water unless a different upper-bound or lower-bound value for this range is determined during the latest stack test. Section C- Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

(b) The instrument used for determining the pressure drop 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.4.5 Bag Leak Detection System (BLDS) [40 CFR 64]

Pursuant to 40 CFR 64, the Permittee shall comply with the following:

(a) The Permittee shall install and operate a continuous bag leak detection system (BLDS) on shot reblast unit (EU-6) Baghouse DC-8.

(b) The BLDS shall meet the monitoring requirements found in Section E.1 and NESHAP 40 CFR 63, Subpart EEEEE (included as Attachment A to the operating permit).

D.4.6 Broken or Failed Bag Detection [40 CFR 64]

Pursuant to 40 CFR 64:

(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 process 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).

(c) For multi-compartment units, If operations continue after bag failure is observed and it will be 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.

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

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

D.4.7 Record Keeping Requirements

(a) In order to document the compliance status with Condition D.4.4, the Permittee shall maintain records of the pressure drop readings required by that condition. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of pressure drop reading (e.g. the process did not operate that day).

(b) For extended periods of time when daily parametric monitoring are not required (e.g., during plant shutdown), IDEM, OAQ Compliance Branch has determined that it is sufficient to document the reason parametric monitoring will not be required on the first day of the period and document when daily parametric monitoring requirement will resume.

(c) To document the compliance status with Condition D.4.5, the Permittee shall maintain records of the dates and times of all bag leak detection system alarms, the cause of each alarm, and an explanation of all corrective actions taken.

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

SECTION D.5 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

Ductile Iron Conversion Process

(r) One (1) ductile iron conversion (DIC) process, identified as EU-20, constructed in 2009, with a nominal capacity of 30 tons of metal per hour, particulate emissions are captured by two side draft fume and exhaust hoods and controlled by Baghouse DC-20, which exhausts to stack S-20;

In this ductile iron conversion (DIC) process, magnesium and other elements are added to molten iron to produce ductile iron.

(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 PSD Minor Limits [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 (PSD) not applicable to the 2009 modification to the existing PSD major source, the Permittee shall comply with the following:

(a) The PM emissions after control from the ductile iron conversion process shall be limited to less than 25 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

(b) The PM10 emissions after control from the ductile iron conversion process shall be limited to less than 15 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

Compliance with these limits shall limit the PM and PM_{10} emissions to less than 25 and 15 tons per twelve consecutive month period, respectively, and render the requirements of 326 IAC 2-2 not applicable to the 2009 modification.

Pursuant to the following PM10 emissions are surrogate for PM2.5 emissions:
(i) SPM No. 033-27652-00042, issued on May 21, 2009,
(ii) SPM No. 033-29247-00042, issued on July 12, 2010, and
(iii) SPM No. 033-34870-00042, issued on January 9, 2015.

D.5.2 Particulate Emission Limitations from Manufacturing Processes [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the ductile iron conversion process, identified as EU-20, shall not exceed 40.04 pounds per hour when operating at a process weight rate of 30 tons per hour.

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

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

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

D.5.3 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

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

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

D.5.4 Particulate Control

(a) In order to ensure compliance with Conditions D.5.1 and D.5.2, baghouse DC-20 shall be in operation and control at all times when the ductile iron conversion (DIC) process is in operation.

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

D.5.5 Testing Requirements [326 IAC 2-7-6(1), (6)][326 IAC 2-1.1-11]

In order to demonstrate compliance with Conditions D.5.1 and D.5.2, the Permittee shall perform inlet and outlet PM and PM_{10} testing on baghouse DC-20 controlling the ductile iron conversion (DIC) process (EU-20) using methods as approved by the Commissioner.

PM_{10} includes filterable and condensable PM_{10}.

These tests shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test.

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.5.6 PM and PM10 Emissions

Compliance with Condition D.5.1 shall be determined no later than 30 days after the end of each month.

For a particular month, this shall be based on the total PM and PM10 emitted for that month added to the previous eleven (11) month total PM and PM10 emitted so as to arrive at the PM and PM10 emissions for the most recent twelve (12) consecutive month period.

The PM and PM10 emissions for a month can be arrived at using the following equations:

(a) $$PM = \frac{\left(P_{DIC} \times EFPM_{DICc} + P_{DIC} \times EFPM_{DICu} \times \frac{(1-CE)}{CE}\right)}{2{,}000}$$

Where:
PM = tons of PM emitted for that month
P_{DIC} = tons of ductile iron processed for that month
$EFPM_{DICc}$ = Controlled PM emission factor based on the emission factor determined from the most recent valid stack test (lbs/ton of ductile iron processed)
$EFPM_{DICu}$ = Uncontrolled PM emission factor based on the emission factor determined from the most recent valid stack test (lbs/ton of ductile iron processed)
CE = Percent Capture Efficiency (70%)

(b) $$PM10 = \frac{\left(P_{DIC} \times EFPM_{10DICc} + P_{DIC} \times EFPM_{10DICu} \times \frac{(1-CE)}{CE}\right)}{2{,}000}$$

Where:
PM10 = tons of PM10 emitted for that month
P_{DIC} = tons of ductile iron processed for that month
$EFPM_{10DICc}$ = Controlled PM10 emission factor based on the emission factor determined from the most recent valid stack test (lbs/ton of ductile iron processed)
$EFPM_{10DICu}$ = Uncontrolled PM10 emission factor based on the emission factor determined from the most recent valid stack test (lbs/ton of ductile iron processed)
CE = Percent Capture Efficiency (70%)

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

D.5.7 Parametric Monitoring [40 CFR 64]

Pursuant to 40 CFR 64:

The Permittee shall record the fan amperage of the baghouse DC-20 used in conjunction with the ductile iron conversion (DIC) process at least once per day when the DIC process is in operation. When for any one reading, the fan amperage across the baghouse is outside the normal range, the Permittee shall take reasonable response steps. The normal range for this unit is a fan amperage between 40 to 60 amps unless a different upper-bound or lower-bound value for this range is determined during the latest stack test. Section C - Responses to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A fan amperage reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

D.5.8 Broken or Failed Bag Detection [40 CFR 64]

Pursuant to 40 CFR 64:

(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 process 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).

(c) For multi-compartment units, If operations continue after bag failure is observed and it will be 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.

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

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

D.5.9 Record Keeping Requirements

(a) In order to document the compliance status with Condition D.5.5, the Permittee shall maintain records of the results from the testing required by that condition.

(b) In order to document the compliance status with Condition D.5.6, the Permittee shall maintain records of the total ductile iron produced each month (comprising EU-20) and the calculated PM and PM10 emissions for each month.

(c) In order to document the compliance status with Condition D.5.7, the Permittee shall maintain records of the fan amperage required by that condition. The Permittee shall include in its daily record when a fan amperage is not taken and the reason for the lack of a fan amperage (e.g. the process did not operate that day).

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

D.5.10 Reporting Requirements

Quarterly summaries of the information to document the compliance status with Conditions D.5.1(a) and D.5.1(b) shall be submitted not later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting Requirements contains the Permittee's obligation with regard to the reporting required by this condition. The reports submitted by the Permittee 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).

SECTION D.6 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

Core Making Process

(s) One (1) Phenolic Urethane Cold Box (PUCB) core production process, constructed in 2012, with a nominal capacity of 2.9 tons of cores per hour, consisting of the following units:

(1) One (1) 65 ton core sand silo, identified as EU-30a, controlled by a bin vent filter, which exhausts inside the building.

(2) One (1) core sand mixer (controlled by an internally-venting dust collector) and sand transport system (emissions vented back to the core sand silo), identified as EU-30b, with emissions vented back to the core sand silo.

(3) One (1) PUCB core machine, identified as EU-30c, using a tertiary amine catalyst gas, controlled by an acid scrubber, identified as SC-1, which vents to stack SC-1.

(4) One (1) water based core wash, identified as EU-30d.

(5) One (1) 1.5 MMBtu/hr natural gas fired drying oven, identified as EU-30e.

(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 Limits [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 (PSD) not applicable to the 2012 modification to the existing PSD major source, the Permittee shall comply with the following limits:

Phenolic Urethane Cold Box (PUCB) Core Production Process

(a) The throughput of sand to the PUCB Core Production shall not exceed 25,404 tons of sand per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) The total PM emissions after control from the PUCB Core Production shall not exceed 0.925 pound per ton of sand throughput.

(c) The total PM_{10} emissions after control from the PUCB Core Production shall not exceed 0.52 pound per ton of sand throughput.

(d) The total $PM_{2.5}$ emissions after control from the PUCB Core Production shall not exceed 0.32 pound per ton of sand throughput.

The sand throughput is equivalent to the core throughput.

The above emissions limitations include all emission units related to the PUCB Core Production:

Process/Operation	Unit description	Unit ID	Control/Exhaust
	Core sand silo	EU-30a	bin vent filter (indoors)

Process/Operation	Unit description	Unit ID	Control/Exhaust
Phenolic Urethane Cold Box (PUCB) core production process	Core sand mixer and sand transport	EU-30b	internally vented to dust collector
			vented back to core sand silo
	Core machine	EU-30c	acid scrubber SC-1 (Stack SC-1)
	Water based core wash	EU-30d	none
	1.5 MMBtu/hr NG drying oven	EU-30e	none

Compliance with these limits, and pursuant to the Actual-to-Projected-Actual (ATPA) Analysis for Significant Permit Modification No. 033-31732-00042 issued on August 7, 2012, will ensure that the total emissions from the PUCB Core Production for PM are less than 25 tons per year, PM10 emissions less than 15 tons per year and PM2.5 emissions are less than 10 tons per year, and render the requirements of 326 IAC 2-2 (PSD) not applicable to the 2012 modification.

D.6.2 Particulate Emission Limitations from Manufacturing Processes [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2, the allowable particulate matter (PM) from the PUCB Core Production shall not exceed 8.37 pounds per hour when operating at a process weight rate of 2.9 tons per hour. This limitation was calculated using the following equation:

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

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

D.6.3 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

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

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

D.6.4 Particulate Emissions Control

In order to ensure compliance with Conditions D.6.1 and D.6.2, fabric bin vent filters and dust collectors for particulate control shall be in operation and control emissions from the Core Sand Silo (EU-30a) and Core Sand mixer and sand transport system (EU-3b) at all times that the associated emission units are in operation.

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

D.6.5 Record Keeping Requirements

(a) To document the compliance status with Condition D.6.1, the Permittee shall maintain records of the sand throughput to the PUCB Core Production and the calculated PM, PM10 and PM2.5 emissions, for each month.

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

D.6.6 Reporting Requirements

A quarterly summary of the information to document the compliance status with Condition D.6.1(a) shall be submitted not later than thirty (30) days following the end of each 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.7 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

Thermal Chip Drying Process

(t) One (1) natural gas-fired thermal chip dryer process, consisting of the following:

(1) One (1) thermal chip dryer, identified as EU-32, constructed in 2015 and modified in 2016 to replace the baghouse, with a nominal maximum capacity of 15 tons of metal chips and machining oil per hour, with particulate matter emissions controlled by cyclone DC-32a and baghouse DC-32c, and VOC and CO emissions controlled by a 6.545 MMBtu per hour natural gas-fired smoke hood and thermal oxidizer DC-32b, and exhausting to Stack S-32b.

The chip dryer is equipped with eight (8) low NOx retort burners (the flame does not directly contact the scrap metal chips), with a combined maximum heat input capacity of 9.50 MMBtu per hour. Combustion emissions from the eight (8) natural gas-fired burners are uncontrolled and exhaust to Stack S-32a.

(2) One (1) chip screening unit and associated material handling equipment, identified as EU-32A, constructed in 2016, with a nominal maximum capacity of 15 tons of metal chips per hour, with particulate matter emissions controlled by baghouse DC-32c, and exhausting to Stack S-32b.

(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 Limits [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 (PSD) not applicable to the 2015 and 2016 modifications to the existing PSD major source, the Permittee shall comply with the following:

Unit description	Unit ID	Particulate matter Control/exhaust	VOC Control/exhaust
Thermal chip dryer	EU-32	Cyclone DC-32a and Baghouse DC-32c (Stack S-32b)	Smoke hood and thermal oxidizer (Stack S-32b)
Chip screening unit	EU-32A	Baghouse DC-32c (Stack S-32b)	none

(a) The combined PM emissions after control, from the emissions units mentioned above, shall not exceed 9.47 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) The combined PM10 emissions after control, from the emissions units mentioned above, shall not exceed 9.47 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(c) The combined PM2.5 emissions after control, from the emissions units mentioned above, shall not exceed 9.47 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(d) The VOC emissions after control from the thermal chip dryer (EU-32) shall not exceed 39.58 tons of VOC per twelve (12) consecutive month period, with compliance determined at the end of each month.

These emissions exclude natural gas combustion emissions from the thermal chip dryer (EU-32).

Compliance with these emission limits will ensure that the potential to emit from the facilities above are less than twenty-five (25) tons of PM per year, fifteen (15) tons of PM_{10} per year, ten (10) tons of direct $PM_{2.5}$ per year, and forty (40) tons of VOC per year, and therefore will render the requirements of 326 IAC 2-2 not applicable to the 2015 and 2016 modifications.

D.7.2 Particulate Emission Limitations from Manufacturing Processes [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the thermal chip dryer and chip screening process, identified as EU-32 and EU-32A, shall each not exceed 25.16 pounds per hour when operating at a process weight rate of 15 tons per hour. The pound per hour limitation was calculated using the following equation:

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

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

D.7.3 Best Available Control Technology (BACT) for VOC [326 IAC 8-1-6]

Pursuant to the following:
(i) 326 IAC 8-1-6 (BACT),
(ii) Significant Source Modification No. 033-35828-00042, issued on August 19, 2015, and
(iii) Significant Source Modification No. 033-37263-00042, issued August 22, 2016 to add a ppmv limit,

the Permittee shall control the VOC emissions from thermal chip dryer using Best Available Control Technology (BACT).

The BACT for the thermal chip dryer has been determined to be the following:

(a) The thermal chip dryer (EU-32) shall
(i) use a thermal oxidizer to control VOC emissions with an overall control efficiency equal to or greater than 98% (VOC capture efficiency of 100% and minimum VOC destruction efficiency of 98%) or

(ii) the VOC outlet concentration shall not exceed 10 ppmv at a VOC capture efficiency of 100%.

(b) The VOC emission rate after controls from the thermal chip dryer (EU-32) and exhausted to Stack S-32b shall not exceed 0.16 pounds per ton of metal chips processed.

Compliance with these conditions equates to 10.51 tons of VOC emitted (excluding natural gas combustion emissions from the retort burners, which exhaust through Stack S-32a) per twelve (12) consecutive month period, based on the thermal chip dryer operating at a maximum capacity of 15 tons of metal chips per hour. Compliance with this condition shall satisfy the requirements of 326 IAC 8-1-6 (General Reduction Requirements).

D.7.4 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

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

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

D.7.5 Volatile Organic Compound (VOC)

(a) In order to comply with Conditions D.7.1(d) and D.7.3, the thermal oxidizer for VOC control shall be in operation and control emissions from the thermal chip dryer, at all times that the process is in operation.

(b) Compliance with the VOC emission limitation contained in Condition D.7.1(d), shall be determined using the following equation:

$$\text{VOC} = \frac{M \times EFc}{2{,}000\ lbs/ton}$$

Where:
VOC = tons of VOC emitted for previous 12 consecutive month period
M = tons of metal chips processed in previous 12 months
EF_C = controlled VOC emission factor based on the controlled emission factor determined from most recent valid compliance demonstration, in pounds of VOC per ton of metal chips processed

D.7.6 Particulate Matter (PM)

(a) In order to comply with Conditions D.7.1(a), D.7.1(b), and D.7.1(c), the baghouse for particulate matter control shall be in operation and control emissions from the thermal chip dryer (EU-32) and chip screening process (EU-32A), at all times that either process is in operation.

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

(c) Compliance with the PM emission limitation contained in Condition D.7.1(a), shall be determined using the following equation:

$$\text{PM} = \frac{M \times EF_{PM}}{2{,}000\ lbs/ton}$$

Where:
PM = tons of PM emitted for previous 12 consecutive month period
M = tons of metal chips processed in previous 12 months
EF_{PM} = controlled PM emission factor based on the controlled emission factor determined from most recent valid compliance demonstration, in pounds of PM per ton of metal chips processed

(d) Compliance with the PM10 emission limitation contained in Condition D.7.1(b), shall be determined using the following equation:

$$\text{PM10} = \frac{M \times EF_{PM10}}{2{,}000\ lbs/ton}$$

Where:
PM10 = tons of PM10 emitted for previous 12 consecutive month period
M = tons of metal chips processed in previous 12 months
EF_{PM10} = controlled PM10 emission factor based on the controlled emission factor determined from most recent valid compliance demonstration, in pounds of PM10 per ton of metal chips processed

(e) Compliance with the PM2.5 emission limitation contained in Condition D.7.1(c), shall be determined using the following equation:

$$PM2.5 = \frac{M \times EF_{PM2.5}}{2{,}000\ lbs/ton}$$

Where:
PM2.5 = tons of PM2.5 emitted for previous 12 consecutive month period
M = tons of metal chips processed in previous 12 months
$EF_{PM2.5}$ = controlled PM2.5 emission factor based on the controlled emission factor determined from most recent valid compliance demonstration, in pounds of PM2.5 per ton of metal chips processed

D.7.7 Testing Requirements [326 IAC 2-7-6(1), (6)][326 IAC 2-1.1-11]

PM, PM10, and PM2.5 testing

(a) In order to demonstrate compliance with Conditions D.7.1(a), D.7.1(b), D.7.1(c), and D.7.2, the Permittee shall perform PM, PM_{10}, and $PM_{2.5}$ testing on the thermal chip dryer and chip screening process baghouse (DC-32c), utilizing methods as approved by the Commissioner.

PM_{10} and $PM_{2.5}$ includes filterable and condensable PM_{10} and $PM_{2.5}$.

This testing shall be repeated at least once every five (5) years after completion of the most recent valid compliance stack test.

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.

VOC testing

(b) In order to demonstrate compliance with Conditions D.7.1(d) and D.7.3, the Permittee shall perform VOC testing, including emission rate, destruction efficiency, and capture efficiency of the thermal chip dryer control, utilizing methods as approved by the Commissioner.

This testing 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.

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

D.7.8 Parametric Monitoring [40 CFR 64]

Pursuant to 40 CFR 64:

(a) The Permittee shall record the duct pressure of the thermal oxidizer used in conjunction with the thermal chip dryer (EU-32) at least once per day when the thermal chip dryer is in operation. When for any one reading, the duct pressure of the thermal oxidizer is outside the normal range, the Permittee shall take reasonable response steps. The normal range for this unit is a duct pressure between 0.1 and 0.8 inches of water unless a different upper-bound or lower-bound value for this range is determined during the latest stack test.

(b) The Permittee shall record the pressure drop across Baghouse DC-32c used in conjunction with the thermal chip dryer (EU-32) and chip screening process (EU-32A), at least once per day when the thermal chip dryer and chip screening process are in operation. When for any one reading, the pressure drop across Baghouse DC-32c is outside the normal range the Permittee shall take reasonable response. The normal range for Baghouse DC-32c is a pressure drop range between 1.5 and 8.0 inches of water unless a different upper-bound or lower-bound value for this range is determined during the latest stack test.

(c) 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 of the above mentioned ranges is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

D.7.9 Thermal Oxidizer Operating Temperature [40 CFR 64]

Pursuant to 40 CFR 64:

(a) A continuous monitoring system shall be calibrated, maintained, and operated on the thermal oxidizer for measuring operating temperature, when controlling the VOC emissions from the thermal chip dryer. For the purpose of this condition, continuous means no less than once per fifteen (15) minutes. The output of this system shall be recorded as a 3-hour rolling average. The Permittee shall operate the thermal oxidizer at or above the 3-hour rolling average temperature of 1,330°F.

(b) The Permittee shall determine the 3-hour rolling average temperature from the most recent valid stack test that demonstrates compliance with the limits in Condition D.7.1(d) and D.7.3.

(c) On and after the date the stack test results are available, the Permittee shall operate the thermal oxidizer at or above the 3-hour rolling average temperature as observed during the compliant stack test.

(d) If the 3-hour rolling average temperature falls below the above mentioned 3-hour rolling average temperature, the Permittee shall take a reasonable response. Section C - Responses to Excursions or Exceedances contains the Permittee's obligation with regard to the response steps required by the condition. Failure to take response steps shall be considered a deviation from this permit.

D.7.10 Broken or Failed Bag Detection [40 CFR 64]

Pursuant to 40 CFR 64:

(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, dust traces or triboflows.

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

D.7.11 Record Keeping Requirements

(a) To document the compliance status with Condition D.7.6, the Permittee shall maintain monthly records of the amount of metal chips processed in the thermal chip dryer and chip screening process and the calculated PM, PM10 and PM2.5 emissions for each month.

(b) To document the compliance status with Condition D.7.8(a), the Permittee shall maintain once per day records of the thermal oxidizer duct pressure. The Permittee shall include in its daily record when duct pressure is not taken and the reason for the lack of duct pressure notation (e.g. the process being controlled by the thermal oxidizer did not operate that day, etc.).

(c) To document the compliance status with Condition D.7.8(b), the Permittee shall maintain daily records of the pressure drop across Baghouse DC-32c. 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) To document the compliance status with Condition D.7.9, the Permittee shall maintain the continuous temperature records (on a 3-hour rolling average basis) for the thermal oxidizer and the 3-hour rolling average temperature used to demonstrate compliance during the most recent compliant stack test.

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

D.7.12 Reporting Requirements

Quarterly summaries of the information to document the compliance status with Condition D.7.1 shall be submitted no later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting Requirements contains the Permittee's obligations with regard to the records required by this condition. The reports submitted by the Permittee 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).

SECTION D.8 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

Regulated Insignificant Activities:

(b) One (1) test sample blast machine, identified as EU-1b, constructed in 1995, with a nominal capacity of 150 pounds of metal per hour, particulate emissions controlled by fabric filter dust collectors, which exhaust inside the building.

(c) Twenty-seven (27) Natural gas-fired combustion units, as follows:

Unit type	Unit ID	Heat input capacity (MMBtu/hr)	Construction date
Twelve (12) Ladle Preheater Torches and Three (3) hot shots	portable, used intermittently for heating ladles - no IDs	10 MMBtu/hr for all fifteen (15)	1994
Air Makeup unit	#1 AMU	6.75	1994
Air Makeup unit	#2 AMU	6.75	1994
Air Makeup unit	#3 AMU	6.75	1994
Air Makeup unit	#4 AMU	6.75	1994
Air Makeup unit	#5 AMU	6.75	1994
Air Makeup unit	#6 AMU	6.75	1994
Air Makeup unit	#7 AMU	6.75	1994
Air Makeup unit	#8 AMU	5.00	1994
Air Makeup unit	#9 AMU	5.13	1994
Air Makeup unit	#10 AMU	5.13	1994
Air Makeup unit	#11 AMU	7.70	1994
Air Makeup unit	#12 AMU	7.70	1994

(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.8.1 Particulate Emissions Limitations [326 IAC 6-2]

Pursuant to 326 IAC 6-2-4 (Particulate Limitations for Sources of Indirect Heating) the PM emissions from the following natural gas-fired air make up units shall not exceed the listed pound per million Btu heat input (lb/MMBtu).

These limitations are based on the following equation:

$$Pt = \frac{1.09}{Q^{0.26}}$$

Where:

P_t = pounds of particulate matter emitted per million Btu heat input (lb/MMBtu)
Q = total source operating capacity

Year Constructed	Emission Unit	Maximum Capacity of each unit	Total Source Operating Capacity at	PM Emission Limitation for each unit

		constructed (MMBtu/hr)	the time of construction (MMBtu/hr) (Q)	(lbs/MMBtu) (Pt)
1994	Air Makeup #1 AMU	6.75	77.91	0.351
	Air Makeup #2 AMU	6.75		
	Air Makeup #3 AMU	6.75		
	Air Makeup #4 AMU	6.75		
	Air Makeup #5 AMU	6.75		
	Air Makeup #6 AMU	6.75		
	Air Makeup #7 AMU	6.75		
	Air Makeup #8 AMU	5.00		
	Air Makeup #9 AMU	5.13		
	Air Makeup #10 AMU	5.13		
	Air Makeup #11 AMU	7.70		
	Air Makeup #12 AMU	7.70		

D.8.2 Particulate Emission Limitations from Manufacturing Processes [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the test sample blast machine, identified as EU-1b, shall not exceed 0.75 pounds per hour when operating at a process weight rate of 0.08 tons per hour. The pound per hour limitation was calculated using the following equation:

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

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

D.8.3 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

A Preventive Maintenance Plan is required for these facilities. 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.8.4 Particulate Control

(a) In order to comply with Condition D.8.2, the fabric filter dust collector for particulate control shall be in operation and control emissions from the test sample blast machine (EU-1b), at all times that the process is in operation.

SECTION D.9 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

Core Making Process

(v) One (1) phenolic urethane cold box (PUCB), identified as EU-31, approved in 2023 for construction, with a nominal capacity of 1.5 tons of cores per hour, consisting of the following units:

(1) One (1) 60-ton core sand silo, identified as EU-31a, controlled by a bin vent filter (BV-2), which exhausts inside the building.

(2) One (1) core sand mixer and sand transport system, identified as EU-31b.

The sand mixer is controlled by dust collector, venting inside the building and the sand transport system's emissions are vented back to the core sand silo (EU-31(a).

(3) One (1) PUCB core machine, identified as EU-31c, with a maximum capacity of 1.5 tons of cores per hour using a tertiary amine catalyst gas, voluntary controlled by an acid scrubber, identified as SC-1, which vents to stack SC-1.

(4) One (1) water based core wash, identified as EU-31d.

(5) One (1) natural gas fired drying oven, identified as EU-31e, with a maximum capacity of 0.4 MMBtu/hr.

(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.9.1 Particulate Emission Limitations from Manufacturing Processes [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2, the allowable particulate matter (PM) from the PUCB core sand silo, identified as EU-31a shall not exceed 5.37 pounds per hour when operating at a process weight rate of 1.5 tons per hour.

This limitation was calculated using the following equation:

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

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

D.9.2 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

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

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

D.9.3 Particulate Emissions Control

In order to ensure compliance with Condition D.9.1, bin vent filter (BV-2) shall be in operation and control emissions from the core sand silo (EU-31a) at all times that the emission units are in operation.

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

D.9.4 Dust Collector Inspections

The Permittee shall perform semi-annual inspections of the bin vent filter (BV-2) controlling particulate emissions from the one (1) core sand silo (EU-31a), to verify that it is being operated and maintained in accordance with the manufacturer's specifications. Inspections required by this condition shall not be performed in consecutive months. All defective filters shall be replaced.

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

D.9.5 Record Keeping Requirements

(a) To document the compliance status with Condition D.9.4, the Permittee shall maintain records of the semi-annual inspections of the bin vent filter (BV-2).

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

SECTION E.1 NESHAP

Emissions Unit Description:

(a) One (1) Scrap and charge handling, constructed in 1995 and modified in 2014 to add a return scrap crusher, with a nominal capacity of 30 tons of metal per hour, with no control and exhausting inside the building.

The return scrap crusher consists of 2 steel plates and is used to reduce the size of the return scrap.

Scrap and charge handling is considered part of the affected source under NESHAP 40 CFR Part 63, Subpart EEEEE.

(b) One (1) iron charging, melting, ladle metallurgy, holding and transfer system, collectively identified as EU-2, constructed in 1995, with a nominal capacity of 30 tons of metal per hour, particulate emissions are controlled by baghouses DC-2 and DC-8, which exhaust to stacks S-2 and S-8. The transfer operations refer to the transfer of metal from the holding furnace to the ladle. The system consists of the following equipment/operations:

(1) One (1) furnace charging operation;

(2) Three (3) electric induction furnaces*;

(3) One (1) ladle metallurgical station; and

(4) One (1) electric covered holding furnace, used to keep molten iron from induction furnaces liquefied, prior to transferring to ladle for delivery to the pouring and casting operations.

* The three (3) electric induction furnaces are considered part of the affected source under NESHAP 40 CFR Part 63, Subpart EEEEE.

Stack S-8 is a common stack for Baghouse DC-8 and Baghouse DC-7.

Baghouse DC-8 and stack S-8 are also used for the Lines 1, 2, 3, & 4 pouring and casting operations, the EU-6 shot reblast unit, and the EU-5bc waste sand system.

Four (4) Pouring and Casting Operations

(c) One (1) Line 1 pouring and casting operation, identified as EU-3a1, constructed in 1995 and modified in 2008, with a nominal capacity of 10 tons of metal and 55 tons of sand per hour, particulate emissions are controlled by baghouse DC-8, which exhausts to Stack S-8.

EU-3a1 is considered part of the affected source under NESHAP 40 CFR Part 63, Subpart EEEEE.

(d) One (1) Line 2 pouring and casting operation, identified as EU-3a2, constructed in 1995 and modified in 2009, with a nominal capacity of 10 tons of metal and 55 tons of sand per hour, particulate emissions are controlled by baghouse DC-8, which exhausts to stack S-8.

EU-3a2 is considered part of the affected source under NESHAP 40 CFR Part 63, Subpart EEEEE.

(e) One (1) Line 3 pouring and casting operation; identified as EU-3a3, constructed in 1995 and

modified in 2012, with a nominal capacity of 11 tons of metal and 55 tons of sand per hour, particulate emissions are controlled by baghouse DC-8, which exhausts to stack S-8.

EU-3a3 is considered part of the affected source under NESHAP 40 CFR Part 63, Subpart EEEEE.

(f) One (1) Line 4 pouring and casting operation; identified as EU-3a4, constructed in 1995 and modified in 2012, with a nominal capacity of 11 tons of metal and 55 tons of sand per hour, particulate emissions are controlled by baghouse DC-8, which exhausts to stack S-8.

EU-3a4 is considered part of the affected source under NESHAP 40 CFR Part 63, Subpart EEEEE.

Baghouse DC-8 and stack S-8 are a common control and stack, respectively of the Lines 1, 2, 3, & 4 pouring and casting operations.

Baghouse DC-8 and stack S-8 are also used for the iron charging, melting, ladle metallurgy, holding and transfer system, identified as EU-2, the EU-6 shot reblast unit, and the EU-5bc waste sand system.

Stack S-8 is a common stack for Baghouse DC-8 and Baghouse DC-7.

Insignificant Activities:

(e) Scrap receiving operations in which all metal scrap is received via truck and deposited into scrap storage bins within a building. A source of fugitive emissions.

The scrap receiving and storage operations are considered part of the affected source under NESHAP 40 CFR Part 63, Subpart EEEEE.

(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 [326 IAC 2-7-5(1)]

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

(a) Pursuant to 40 CFR 63.1 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, for the emission unit(s) listed above, except as otherwise specified in 40 CFR Part 63, Subpart EEEEE.

(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 National Emissions Standards for Hazardous Air Pollutants for Iron and Steel Foundries [40 CFR Part 63, Subpart EEEEE][326 IAC 20-92]

The Permittee shall comply with the following provisions of 40 CFR Part 63, Subpart EEEEE (included as Attachment A to the operating permit), which are incorporated by reference as 326 IAC 20-92, for the emission units listed above:

(1) 40 CFR 63.7681
(2) 40 CFR 63.7682
(3) 40 CFR 63.7683 (a), (b), (f)
(4) 40 CFR 63.7690 (a)(1), (a)(5), (a)(7)
(5) 40 CFR 63.7700 (a), (b), (c)(1)(i), (c)(2), (c)(3)
(6) 40 CFR 63.7710 (a), (b)(1), (b)(3) - (b)(6)
(7) 40 CFR 63.7720
(8) 40 CFR 63.7730 (a), (b)
(9) 40 CFR 63.7731
(10) 40 CFR 63.7732 (a), (b)(1), (b)(2), (b)(4), (c)(1), (c)(2), (c)(4), (d), (h)
(11) 40 CFR 63.7733 (e), (f)
(12) 40 CFR 63.7734 (a)(1), (a)(5), (a)(7)
(13) 40 CFR 63.7735 (a), (b)
(14) 40 CFR 63.7736 (c), (d)
(15) 40 CFR 63.7740 (b), (c)
(16) 40 CFR 63.7741 (b)
(17) 40 CFR 63.7742
(18) 40 CFR 63.7743 (a)(1), (a)(5), (a)(7), (a)(12), (c)
(19) 40 CFR 63.7744 (a)
(20) 40 CFR 63.7745
(21) 40 CFR 63.7746
(22) 40 CFR 63.7747 (b) - (d)
(23) 40 CFR 63.7750 (a), (b), (d), (e)
(24) 40 CFR 63.7751 (a), (b), (c), (d), (e), (f), (h), (i)
(25) 40 CFR 63.7752 (a)(1), (a)(2), (a)(3), (c), (d), (e)
(26) 40 CFR 63.7753
(27) 40 CFR 63.7760
(28) 40 CFR 63.7761
(29) 40 CFR 63.7765
(30) Table 1 of Subpart EEEEE

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

E.1.3 Testing Requirements [326 IAC 2-1.1-11][326 IAC 2-7-6(1)][326 IAC 2-7-5(1)]

In order to document the compliance status with Condition E.1.2, the Permittee shall perform the testing required under 40 CFR 63, Subpart EEEEE, utilizing methods as approved by the Commissioner, at least once every five (5) years from the date of the most recent valid compliance demonstration. Section C - Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

SECTION E.2 NESHAP

Emissions Unit Description:

Insignificant Activities:

(d) One (1) emergency diesel generator, constructed in 1994, with a maximum output horsepower rating (hp) of 1135 HP, using no control, and exhausting to stacks S-EG-1 and S-EG-2.

This generator is used exclusively for emergency situations and requires testing and maintenance to produce power for critical systems during a power outage. It is never used to power equipment during any other time.

The emergency generator is considered an existing affected source under NESHAP 40 CFR Part 63, Subpart ZZZZ.

(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 [326 IAC 2-7-5(1)]

E.2.1 National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines [40 CFR Part 63, Subpart ZZZZ][326 IAC 20-82]

The Permittee shall comply with the following provisions of 40 CFR Part 63, Subpart ZZZZ (included as Attachment B to the operating permit), which are incorporated by reference as 326 IAC 20-82, for the emission units listed above:

(1) 40 CFR 63.6580
(2) 40 CFR 63.6585(a), (b)
(3) 40 CFR 63.6590(a)(1)(i), (b)(3)(iii)
(4) 40 CFR 63.6665

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

Source Name: Metal Technologies Auburn, LLC
Source Address: 1537 West Auburn Drive, Auburn, Indiana 46706
Part 70 Permit No.: T033-45841-00042

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:	
Email Address:	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: Metal Technologies Auburn, LLC
Source Address: 1537 West Auburn Drive, Auburn, Indiana 46706
Part 70 Permit No.: T033-45841-00042

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**) daytime 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 Usage Report

(Submit Report Quarterly)

Source Name: Metal Technologies Auburn, LLC
Source Address: 1537 West Auburn Drive, Auburn, Indiana 46706
Part 70 Permit No.: T033-45841-00042
Facility: Three (3) Electric Induction Furnaces (comprising EU-2)
Parameter: Metal (Iron) Production
Limit: Shall not exceed 220,000 tons per twelve (12) consecutive month period with compliance determined at the end of each month (Condition D.1.1(c)(ii))

QUARTER: _____ YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	This Month (tons)	Previous 11 Months (tons)	12 Month Total (tons)

☐ No deviation occurred in this month.
☐ Deviation/s occurred in this month.
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: Metal Technologies Auburn, LLC
Source Address: 1537 West Auburn Drive, Auburn, Indiana 46706
Part 70 Permit No.: T033-45841-00042
Facility: Ductile Iron Conversion Process (DIC) (EU-20)
Parameter: PM Emissions
Limit: Shall be limited to less than twenty-five (25) tons per twelve (12) consecutive month period with compliance determined at the end of each month (Condition D.5.1(a))

QUARTER:_____ YEAR:_____

Month	Column 1	Column 2	Column 1 + Column 2
	This Month (tons)	Previous 11 Months (tons)	12 Month Total (tons)

☐ 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: Metal Technologies Auburn, LLC
Source Address: 1537 West Auburn Drive, Auburn, Indiana 46706
Part 70 Permit No.: T033-45841-00042
Facility: Ductile Iron Conversion Process (DIC) (EU-20)
Parameter: PM10 Emissions
Limit: Shall be limited to less than fifteen (15) tons per twelve (12) consecutive month period with compliance determined at the end of each month (Condition D.5.1(b))

QUARTER: _____ YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	This Month (tons)	Previous 11 Months (tons)	12 Month Total (tons)

☐ 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: Metal Technologies Auburn, LLC
Source Address: 1537 West Auburn Drive, Auburn, Indiana 46706
Part 70 Permit No.: T033-45841-00042
Facility: Phenolic Urethane Cold Box (PUCB) Core Production
Parameter: Sand throughput
Limit: Shall not exceed 25,404 tons per twelve (12) consecutive period with compliance determined at the end of each month. (Condition D.6.1(a))

QUARTER: _____ YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	This Month (tons)	Previous 11 Months (tons)	12 Month Total (tons)

☐ 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: Metal Technologies Auburn, LLC
Source Address: 1537 West Auburn Drive, Auburn, Indiana 46706
Part 70 Permit No.: T033-45841-00042
Facility: Thermal Chip Dryer (EU-32), excluding natural gas combustion emissions
Parameter: VOC Emissions
Limit: Shall not exceed 39.58 tons of VOC per twelve (12) consecutive month period, with compliance determined at the end of each month. (Condition D.7.1(d))

QUARTER: _____ YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	This Month (tons)	Previous 11 Months (tons)	12 Month Total (tons)

☐ 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: Metal Technologies Auburn, LLC
Source Address: 1537 West Auburn Drive, Auburn, Indiana 46706
Part 70 Permit No.: T033-45841-00042
Facility: Thermal Chip Dryer (EU-32) and Chip Screening Process (EU-32A), excluding natural gas combustion emissions from the thermal chip dryer (EU-32)
Parameter: PM, PM10, and PM2.5 Emissions
Limit: Shall not exceed 9.54 tons per twelve (12) consecutive month period, each, with compliance determined at the end of each month.
(Condition D.7.1(a), (b), and (c))

QUARTER: _____ YEAR: _____

Month	Column 1			Column 2			Column 1 + Column 2		
	This Month (tons)			Previous 11 Months (tons)			12 Month Total (tons)		
	PM	PM10	PM2.5	PM	PM10	PM2.5	PM	PM10	PM2.5

☐ 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 OPERATING PERMIT
QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT

Source Name: Metal Technologies Auburn, LLC
Source Address: 1537 West Auburn Drive, Auburn, Indiana 46706
Part 70 Permit No.: T033-45841-00042

Months: _____ to _____ Year: _____

Page 1 of 2

This report shall be submitted quarterly based on a calendar year. Proper notice submittal under Section B -Emergency Provisions satisfies the reporting requirements of paragraph (a) of Section C-General Reporting. Any deviation from the requirements of this permit, the date(s) of each deviation, the probable cause of the deviation, and the response steps taken must be reported. A deviation required to be reported pursuant to an applicable requirement that exists independent of the permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. Additional pages may be attached if necessary. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period".

□ NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.

□ THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD

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

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

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

Form Completed by:_____

Title / Position: _____

Date:_____

Phone: _____

Indiana Department of Environmental Management
Office of Air Quality

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

Source Description and Location

Source Name:	**Metal Technologies Auburn, LLC**
Source Location:	**1537 West Auburn Drive, Auburn, IN 46706**
County:	**DeKalb**
SIC Code:	**3321 (Gray and Ductile Iron Foundries)**
Operation Permit No.:	**T 033-45841-00042**
Operation Permit Issuance Date:	**May 16, 2023**
Significant Source Modification No.:	**033-47516-00042**
Significant Permit Modification No.:	**033-47542-00042**
Permit Reviewer:	**Omar El-Rjoob**

Existing Approvals

The source was issued Part 70 Operating Permit Renewal No. 033-45841-00042 on May 16, 2023. The source has since received the following approvals:

(a) Minor Source Modification No. 033-46825-00042, issued on November 3, 2023; and

(b) Significant Permit Modification No. 033-46919-00042, issued on January 22, 2024.

County Attainment Status

The source is located in Dekalb County.

Pursuant to amendments to Indiana Code IC 13-17-3-14, effective July 1, 2023, a federal regulation that classifies or amends a designation of attainment, nonattainment, or unclassifiable for any area in Indiana under the federal Clean Air Act is effective and enforceable in Indiana on the effective date of the federal regulation.

Pollutant	Designation
SO_2	Unclassifiable or attainment effective April 9, 2018, for the 2010 primary 1-hour SO_2 standard. Better than national secondary standards effective March 3, 1978.
CO	Unclassifiable or attainment effective November 15, 1990.
O_3	Unclassifiable or attainment effective January 16, 2018, for the 2015 8-hour ozone standard.
$PM_{2.5}$	Unclassifiable or attainment effective April 15, 2015, for the 2012 annual $PM_{2.5}$ standard.
$PM_{2.5}$	Unclassifiable or attainment effective December 13, 2009, for the 2006 24-hour $PM_{2.5}$ standard.
PM_{10}	Unclassifiable effective November 15, 1990.
NO_2	Unclassifiable or attainment effective January 29, 2012, for the 2010 NO_2 standard.
Pb	Unclassifiable or attainment effective December 31, 2011, for the 2008 lead standard.

(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. Dekalb County has been designated as

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

(b) $PM_{2.5}$
Dekalb County has been classified as attainment for $PM_{2.5}$. Therefore, direct $PM_{2.5}$, SO_2, and NOx emissions were reviewed pursuant to the requirements of Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

(c) Other Criteria Pollutants
Dekalb County has been classified as attainment or unclassifiable in Indiana for all the 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 (1) of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(ff)(1), 326 IAC 2-3-2(g), or 326 IAC 2-7-1(22)(B). Therefore, fugitive emissions are counted toward the determination of PSD, Emission Offset, and Part 70 Permit applicability.

The fugitive emissions of hazardous air pollutants (HAP) are counted toward the determination of Part 70 Permit applicability and source status under Section 112 of the Clean Air Act (CAA).

Greenhouse Gas (GHG) Emissions

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 GHG emissions to determine operating permit applicability or PSD applicability to a source or modification.

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. If the control equipment has been determined to be integral, the table reflects the potential to emit (PTE) after consideration of the integral control device.

	Source-Wide Emissions Prior to Modification (ton/year)								
	PM[1]	**PM_{10}[1]**	**$PM_{2.5}$[1, 2]**	**SO_2**	**NO_x**	**VOC**	**CO**	**Single HAP[3]**	**Total HAPs**
Total PTE of Entire Source Excluding Fugitive Emissions*	210.11	141.61	139.07	15.02	51.33	257.06	706.30	71.64	124.00

	Source-Wide Emissions Prior to Modification (ton/year)								
	PM[1]	**PM_{10}[1]**	**$PM_{2.5}$[1, 2]**	**SO_2**	**NO_X**	**VOC**	**CO**	**Single HAP[3]**	**Total HAPs**
Title V Major Source Thresholds	NA	100	100	100	100	100	100	10	25
PSD Major Source Thresholds	100	100	100	100	100	100	100	--	--

[1]Under the Part 70 Permit program (40 CFR 70), PM_{10} and $PM_{2.5}$, not particulate matter (PM), are each considered as a "regulated air pollutant."

[2]$PM_{2.5}$ listed is direct $PM_{2.5}$.

[3]Single highest source-wide HAP

*Fugitive HAP emissions are always included in the source-wide emissions.

(a) This existing source is a major stationary source, under PSD (326 IAC 2-2), because a PSD regulated pollutant, PM, PM10, PM2.5, VOC and CO, 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 source is a major source of HAP, as defined in 40 CFR 63.2, because HAP emissions are equal to or greater than ten (10) tons per year for a single HAP and equal to or 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) These emissions are based on the TSD of Significant Permit Modification No. 033-46919-00042, issued on January 22, 2024.

Description of Proposed Modification

The Office of Air Quality (OAQ) has reviewed an application, submitted by Metal Technologies Auburn on February 9, 2024, relating to the following:

(a) Construction of new casting shakeout operation that will replace (1) casting shakeout.

Below is the new replacement casting shakeout operation:

One (1) Line 1 and Line 2 casting shakeout operation, identified as EU-5a, approved in 2024 for construction, with a nominal capacity of 20 tons of metal and 110 tons of sand per hour, using baghouse DC-5 and baghouse DC-11 as control, and exhausting to stacks S-5 and S-11.

The EU-5a casting shakeout operation is shared by Line 1 and Line 2; they merge into one (1) line for casting cooling, controlled by a baghouse (DC-11), and exhausting to stack S-11.

This EU-5a casting shakeout operation replaces an existing casting shakeout operation installed in 1995.

Below is the existing casting shakeout operation being replaced:

~~One (1) Line 1 and Line 2 casting shakeout operation, identified as EU-5a, constructed in 1995 with a nominal capacity of 20 tons of metal and 110 tons of sand per hour, particulate emissions are controlled by baghouse DC-5, which exhausts to stack S-5.~~

~~This EU-5a casting shakeout operation is shared by Line 1 and Line 2.~~

(b) Modification of one (1) existing shot blast system by:

(i) Removing one (1) shot blasting unit (EU-16), and

(ii) Modifying the existing shot blast unit (EU-17) to blast castings from Lines 1 and 2.

Since EU-16 is being removed, the castings from Line 1 are going to be routed to the existing EU-17. There is no change in the nominal capacity of the existing shot blast system.

With this modification, the description of the existing shot blast system is revised as follows:

One (1) shot blast system, consisting of **the following** ~~three (3)~~ **two (2)** shot blast units, identified as ~~EU-16,~~ EU-17, and EU-19, constructed in 1999, modified in 2012, **and approved in 2024 for modification**, with a total nominal capacity of 27 tons of iron castings per hour, with all particulate emissions controlled by baghouse DC-7, which exhausts to stack S-8.

Stack S-8 is a common stack for Baghouse DC-8 and Baghouse DC-7.

Shot Blast System Unit	Line Served	**Modification Date**
~~EU-16~~	Line 1	**EU-17 is approved in 2024 to blast castings from Lines 1 and 2.**
EU-17	Line 2	
	Line 3	EU-19 is approved in 2021 to blast castings from both Lines 3 and 4.
EU-19	Line 4	

(c) Incorporation in the permit of the modification of the eleven (11) grinders made in 2012, as follows:

(A) Eleven (11) grinders, **identified as EU-7, constructed in 1999 and modified in 2012**, with a combined nominal capacity of 24 tons of iron castings per hour, consisting of the following:

(1) ~~Eight (8)~~ **Nine (9)** ~~portable~~ grinders, ~~identified together as EU-7, constructed in 1999 and modified in 2012~~, particulate emissions controlled by ~~individual fabric filter dust collectors which exhaust indoors~~ **dust collector DC-7, which exhausts to stack S-8.**

(2) ~~Three (3)~~ **Two (2)** grinding units, resulting in negligible emissions, **each controlled by dedicated small fabric filters, which exhaust inside the building.**

~~(i) one (1) is controlled by fabric filters, which exhaust inside the building; and~~
~~(ii) two (2) are controlled by dust collector DC-7, which exhausts to Stack S-8.~~

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.

Project Aggregation

Metal Technologies Auburn, LLC. provided the following information to justify that under 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), the following projects (2024 and 2023 Projects) are separate and independent of each other and therefore should not be aggregated:

The current 2024 and 2023 projects are independent, and have no impact on one another from an operational or utilization standpoint. Furthermore, the 2023 and 2024 projects were not treated by Metal Technologies Auburn, LLC. as a single project are separate and independent of each other and therefore should not be aggregated:

2023 Project - MSM 033-45942-00042, issued on November 3, 2023

This 2023 project is the addition of One (1) phenolic urethane cold box (PUCB), identified as EU-31.

2024 Projects:

The 2024 projects consist of the following, which are explained in details above:

(a) Replacement of one (1) casting shakeout for Line 1 and Line 2 with a new shakeout operation for Line 1 and Line 2.
(b) Modification of the existing one (1) shot blast system.

The 2023 project is to provide MTA the ability to make more cores inhouse instead of purchasing the cores from outside venders. The new core machine did not debottleneck the processes before or after.

The 2024 projects are to accommodate aging equipment. Furthermore, the 2023 and 2024 projects were not treated by MTA as a single project financially- funding decisions for the projects were completely separate, and the projects are not dependent on one another to be financially viable.

The 2023 and 2024 projects would have been proposed and completed without the other project taking place and are independent from each other. Based on these, they should not be aggregated as one project.

Conclusion:

Based on the information presented, IDEM, OAQ will consider the 2023 and 2024 projects independent, and emissions will not be aggregated for the purpose of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) review.

Permit Level Determination – Part 70 Modification to an Existing Source

Pursuant to 326 IAC 2-1.1-1(12), 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. If the control equipment has been determined to be integral, the table reflects the potential to emit (PTE) after consideration of the integral control device.

	PTE Before Controls of the New Emission Units (ton/year)								
	PM	**PM_{10}**	**$PM_{2.5}$[1]**	**SO_2**	**NO_X**	**VOC**	**CO**	**Single HAP[2]**	**Total HAPs**
Total PTE Before Controls of the New Emission Units	280.32	196.22	196.22	0.00	0.00	148.92	525.60	24.53	24.53
Total PTE Before Controls of the New Emission Units:	280.32	196.22	196.22	0.00	0.00	148.92	525.60	24.53	24.53

[1]$PM_{2.5}$ listed is direct $PM_{2.5}$.
[2]Single highest HAP.

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

(a) Approval to Construct

Pursuant to 326 IAC 2-7-10.5(g)(4), a Significant Source Modification is required because this modification has the potential to emit PM, PM10, direct PM2.5, and VOC at equal to or greater than twenty-five (25) tons per year.

Pursuant to 326 IAC 2-7-10.5(g)(6), a Significant Source Modification is required because this modification has a potential to emit equal to or greater than ten (10) tons per year of a single HAP or twenty-five (25) tons per year of any combination of HAPs.

Pursuant to 326 IAC 2-7-10.5(g)(7), a Significant Source Modification is required because this modification has a potential to emit equal to or greater than one hundred (100) tons per year of carbon monoxide (CO).

(b) Approval to Operate

Pursuant to 326 IAC 2-7-12(d)(1), this change to the permit is being made through a Significant Permit Modification because this modification does not qualify as a Minor Permit Modification or as an Administrative Amendment.

Permit Level Determination – PSD Emissions Increase

See Appendix B and Appendix C of this TSD for a detailed PSD Emissions Increase evaluation.

PTE of the Entire Source After Issuance of the Part 70 Modification

The table below summarizes the after issuance source-wide potential to emit, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of the Part 70 source and permit modification, and only to the extent that the effect of the control equipment is made practically enforceable in the permit. If the control equipment has been determined to be integral, the table reflects the potential to emit (PTE) after consideration of the integral control device.

	Source-Wide Emissions After Issuance (ton/year)								
	PM[1]	**PM_{10}[1]**	**$PM_{2.5}$[1, 2]**	**SO_2**	**NO_X**	**VOC**	**CO**	**Single HAP[3]**	**Total HAPs**
Total PTE of Entire Source Including Fugitives*	210.11	141.61	139.07	15.02	51.33	257.06	706.30	71.64	124.00
Title V Major Source Thresholds	NA	100	100	100	100	100	100	10	25
PSD Major Source Thresholds	100	100	100	100	100	100	100	--	--

[1]Under the Part 70 Permit program (40 CFR 70), PM_{10} and $PM_{2.5}$, not particulate matter (PM), are each considered as a "regulated air pollutant."

[2]$PM_{2.5}$ listed is direct $PM_{2.5}$.

[3]Single highest source-wide HAP

*Fugitive HAP emissions are always included in the source-wide emissions.

(a) This existing major PSD stationary source will continue to be major under 326 IAC 2-2 because at least one pollutant, PM, PM10, PM2.5, VOC and CO, has emissions equal to or greater than the PSD major source threshold.

(b) This existing major source of HAP will continue to be a major source of HAP, as defined in 40 CFR 63.2, because HAP emissions will continue to be equal to or greater than ten (10) tons per year for any single HAP and/or equal to or greater than twenty-five (25) tons per year of a combination of HAPs. Therefore, this source is a major source under Section 112 of the Clean Air Act (CAA).

Federal Rule Applicability Determination

Due to the modification at this source, federal rule applicability has been reviewed as follows:

New Source Performance Standards (NSPS):

(a) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included in the permit for this proposed modification.

National Emission Standards for Hazardous Air Pollutants (NESHAP):

(a) The requirements of the National Emission Standards for Hazardous Air Pollutants for Secondary Aluminum Production, 40 CFR 63.1500, Subpart RRR and 326 IAC 20-70, are still not included in the permit because this source does not process aluminum and is not located at a secondary aluminum production facility.

(b) The requirements of the National Emission Standards for Hazardous Air Pollutants for Integrated Iron and Steel Manufacturing Facilities, 40 CFR 63.7780, Subpart FFFFF are still not included in the permit for this source because this source does not produce steel from iron ore.

(c) The requirements of the National Emission Standard for Hazardous Air Pollutants for Iron and Steel Foundries Area Sources, Subpart ZZZZZ are still not included in the permit for this source because, pursuant to 40 CFR 63.10880, this source is not an area source of HAP emissions.

(d) There are no National Emission Standards for Hazardous Air Pollutants under 40 CFR 63, 326 IAC 14 and 326 IAC 20 included for this proposed modification.

Compliance Assurance Monitoring (CAM):

(a) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is applicable to each pollutant-specific emission unit that meets the following criteria:

(1) has a potential to emit before controls equal to or greater than the major source threshold for the regulated pollutant involved;

(2) is subject to an emission limitation or standard for that pollutant (or a surrogate thereof); and

(3) uses a control device, as defined in 40 CFR 64.1, to comply with that emission limitation or standard.

(b) Pursuant to 40 CFR 64.2(b)(1)(i), emission limitations or standards proposed after November 15, 1990 pursuant to a NSPS or NESHAP under Section 111 or 112 of the Clean Air Act are exempt from the requirements of CAM. Therefore, an evaluation was not conducted for any emission limitations or standards proposed after November 15, 1990 pursuant to a NSPS or NESHAP under Section 111 or 112 of the Clean Air Act.

(c) Pursuant to 40 CFR 64.2(b)(1)(iii), Acid Rain requirements pursuant to Sections 404, 405, 406, 407(a), 407(b), or 410 of the Clean Air Act are exempt emission limitations or standards. Therefore, CAM was not evaluated for emission limitations or standards for SO_2 and NO_X under the Acid Rain Program.

(d) Pursuant to 40 CFR 64.3(d), if a continuous emission monitoring system (CEMS) is required pursuant to other federal or state authority, the owner or operator shall use the CEMS to satisfy the requirements of CAM according to the criteria contained in 40 CFR 64.3(d).

The following table is used to identify the applicability of CAM to new and modified emission unit and each emission limitation or standard for a specified pollutant based on the criteria specified under 40 CFR 64.2:

Emission Unit/Pollutant	Control Device	Applicable Emission Limitation	Uncontrolled PTE (tons/year)	Controlled PTE (tons/year)	CAM Applicable (Y/N)	Large Unit (Y/N)
EU-17 Shot Blast (PM10)	BH	326 IAC 2-2 BACT	<100	-	N	-
EU-17 Shot Blast (PM2.5)	BH	326 IAC 2-2 BACT	<100	-	N	-
EU-17 Shot Blast (PM)	BH	326 IAC 2-2 BACT	>100	<100	N[1]	-
Line 1 and Line casting shakeout (PM10)	BH	326 IAC 2-2 BACT	≥100	<100	Y	N
Line 1 and Line 2 casting shakeout (PM2.5)	BH	326 IAC 2-2 BACT	≥100	<100	Y	N
Line 1 and Line 2 casting shakeout (PM)	BH	326 IAC 2-2 BACT	≥100	<100	N[1]	-

Under the Part 70 Permit program (40 CFR 70), PM is not a regulated air pollutant.

Uncontrolled PTE (tpy) and controlled PTE (tpy) are evaluated against the Major Source Threshold for each pollutant. Major Source Threshold for regulated air pollutants (PM10, PM2.5, SO2, NOx, VOC and CO) is 100 tpy, for a single HAP ten (10) tpy, and for total HAPs twenty-five (25) tpy.

PM* For limitations under 326 IAC 6-3-2, 326 IAC 6.5, and 326 IAC 6.8, IDEM OAQ uses PM as a surrogate for the regulated air pollutant PM10. Therefore, uncontrolled PTE and controlled PTE reflect the emissions of the regulated air pollutant PM10.

Emission Unit/Pollutant	Control Device	Applicable Emission Limitation	Uncontrolled PTE (tons/year)	Controlled PTE (tons/year)	CAM Applicable (Y/N)	Large Unit (Y/N)
N [1] Under 326 IAC 2-2, PM is not a surrogate for a regulated air pollutant. Therefore, CAM does not apply to these emission units for the 326 IAC 2-2 PM limitation.						
Controls: BH = Baghouse						
Emission units without air pollution controls are not subject to CAM. Therefore, they are not listed.						

Based on this evaluation, the requirements of 40 CFR Part 64, CAM, are applicable to Line 1 and Line 2 casting shakeout, which is considered a "large unit," for PM10 and PM2.5 upon start-up. A CAM plan was submitted as part of this application and the Compliance Determination and Monitoring Requirements section of this TSD includes a detailed description of the CAM requirements.

State Rule Applicability - Entire Source

Due to this modification, state rule applicability has been reviewed as follows:

326 IAC 2-2 (PSD)
PSD applicability is discussed under the Permit Level Determination – PSD section of this document.

See Appendix B for PSD Emissions Increase Evaluation.

PSD BACT Requirements

The existing 326 IAC 2-2-3 (PSD - BACT) and 326 IAC 8-1-6 BACT determination established in PSD T033-21760-00042, issued on August 29, 2008, are not being revised in this modification.

326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))
The provisions of 326 IAC 2-4.1 apply to any owner or operator who constructs or reconstructs a major source of hazardous air pollutants (HAP), as defined in 40 CFR 63.41, after July 27, 1997, unless the major source has been specifically regulated under or exempted from regulation under a NESHAP that was issued pursuant to Section 112(d), 112(h), or 112(j) of the Clean Air Act (CAA) and incorporated under 40 CFR 63. On and after June 29, 1998, 326 IAC 2-4.1 is intended to implement the requirements of Section 112(g)(2)(B) of the Clean Air Act (CAA).

The operation of this source will emit equal to or greater than ten (10) tons per year for a single HAP and equal to or greater than twenty-five (25) tons per year for a combination of HAPs. Therefore, 326 IAC 2-4.1 would apply to this source. However, pursuant to 326 IAC 2-4.1-1(b)(2), because this source is specifically regulated under NESHAP 40 CFR 63, Subpart EEEEE, which was issued pursuant to Section 112(d), 112(h), or 112(j) of the CAA, this source is exempt from the requirements of 326 IAC 2- 4.1.

326 IAC 2-6 (Emission Reporting)
This source is subject to the requirements of 326 IAC 2-6 (Emission Reporting), since it is required to have an operating permit under 326 IAC 2-7, Part 70 Permit Program. Pursuant to 326 IAC 2-6-3(a)(2), the Permittee shall submit triennially, by July 1, an emission statement covering the previous calendar year in accordance with the compliance schedule in 326 IAC 2-6-3. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4.

326 IAC 2-7-6(5) (Annual Compliance Certification)
The U.S. EPA Federal Register 79 FR 54978 notice does not exempt Title V Permittees from the requirements of 40 CFR 70.6(c)(5)(iv) or 326 IAC 2-7-6(5)(D), but the submittal of the Title V annual compliance certification to IDEM satisfies the requirement to submit the Title V annual compliance certifications to EPA. IDEM does not intend to revise any permits since the requirements of 40 CFR 70.6(c)(5)(iv) or 326 IAC 2-7-6(5)(D) still apply, but Permittees can note on their Title V annual compliance certifications that submission to IDEM has satisfied reporting to EPA per Federal Register 79 FR 54978. This only applies to Title V Permittees and Title V compliance certifications.

326 IAC 5-1 (Opacity Limitations)
This source is subject to the opacity limitations specified in 326 IAC 5-1-2(1)

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

326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations)
This source is not subject to the requirements of 326 IAC 6-5, because the source has potential fugitive particulate emissions of less than twenty-five (25) tons per year.

326 IAC 6.5 (Particulate Matter Limitations Except Lake County)
Pursuant to 326 IAC 6.5-1-1(a), this source (located in Dekalb County) is not subject to the requirements of 326 IAC 6.5 because it is not located in one of the following counties: Clark, Dearborn, Dubois, Howard, Marion, St. Joseph, Vanderburgh, Vigo or Wayne.

326 IAC 6.8 (Particulate Matter Limitations for Lake County)
Pursuant to 326 IAC 6.8-1-1(a), this source (located in Dekalb County) is not subject to the requirements of 326 IAC 6.8 because it is not located in Lake County.

326 IAC 6.8-10 (Lake County: Fugitive Particulate Matter)
Pursuant to 326 IAC 6.8-10-1, this source (located in DeKalb County) is not subject to the requirements of 326 IAC 6.8-10 because it is not located in Lake County.

State Rule Applicability – Individual Facilities

Due to this modification, state rule applicability has been reviewed as follows:

Line 1 and Line 2 casting shakeout

326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
Pursuant to 326 IAC 6-3-1(c)) (1), the Line 1 and Line 2 casting shakeout is not subject to the requirements of 326 IAC 6-3, since a particulate matter limitation that is as stringent as or more stringent than the particulate limitation established in 326 IAC 6-3 has been established for the Line 1 casting shakeout and Line 2 casting shakeout.

Line 1 and Line 2 casting shakeout is subject to existing 326 IAC 2-2-3, PSD BACT determinations established in PSD T033-21760- 00042, issued on August 29, 2008.

The new casting shakeout operation (Line 1 and Line 2 casting shakeout is to replace the one (1) Line 1 and Line 2 casting shakeout operation constructed in 1995.

326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)
The replacement Line 1 and Line 2 casting shakeout is subject to the requirements of 326 IAC 8-1-6, because it was constructed after January 1, 1980, and its unlimited VOC potential emissions are equal to or greater than twenty-five (25) tons per year, and the Line 1 and Line 2 casting shakeout is not regulated

by other rules in 326 IAC 8. Therefore, a Best Available Control Technology (BACT) analysis was required for the one (1) Line 1 and Line 2 casting shakeout operation.

The 326 IAC 2-2-3 (PSD - BACT) and 326 IAC 8-1-6 BACT determination established in PSD T033-21760-00042, issued on August 29, 2008, will not be revised in this modification. However, the replacement Line 1 and Line 2 casting shakeout will be incorporated into this existing BACT.

Shot blast unit (EU-17)

326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes) Pursuant to 326 IAC 6-3-1(c))(1), the Shot blast unit (EU-17) is not subject to the requirements of 326 IAC 6-3, since a particulate matter limitation that is as stringent as or more stringent than the particulate limitation established in 326 IAC 6-3 has been established for the EU-17. EU-17 is subject to existing 326 IAC 2-2-3, PSD BACT determinations established in PSD T033-21760- 00042, issued on August 29, 2008.

Compliance Determination and Monitoring Requirements

Permits issued under 326 IAC 2-7 are required to assure 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 Compliance Determination Requirements applicable to this modification are as follows:

(i) There is no change to the existing compliance determination requirements applicable to the Line Shot blast unit (EU-17) in this modification.

(ii) In order to ensure compliance with the PSD limits, the following baghouses shall be in operation at all times their corresponding emission units are in operation:

Process / Unit description	Line ID	Unit ID	Control/Stack
casting shakeout operation	Line 1 and Line 2	EU-5a	Baghouse DC-5 (Stack S-5) and Baghouse DC-11 (Stack S-11)

Testing Requirements:

(iii) There is no change to the existing testing requirements for the Baghouses DC-5 and DC-7, since these are existing control devices with established testing requirements.

(1) The most recent stack test performed on Baghouse DC-5 was on February 5, 2020.

(2) The most recent stack test for Baghouse DC-7 was on February 4, 2020.

Both stack test results were found to be acceptable

(iiii) The new baghouse DC-11 will share the same date as the most recent valid compliant stack test for DC-5.

(b) The Compliance Monitoring Requirements applicable to this proposed modification are as follows:

(v) There is no change to the existing compliance monitoring requirements for the baghouses DC-5 and DC-7 since these are existing control devices with established monitoring requirements.

(vi) The compliance monitoring requirements applicable to the new baghouse DC-11 are as follows:

Control Device	Emission Units	Type of Parametric Monitoring	Frequency	Range or Specification
Baghouse DC-11 (Stack S-11)	EU-5a (Shakeout & Casting Cooling Line 1 and 2)	Water Pressure Drop	Once per day	1.5 to 8.0 inches

This monitoring condition is necessary because the baghouse DC-11 for the specified EU-5a must operate properly to assure compliance with 326 IAC 2-2 (BACT), 326 IAC 8-1-6 (BACT), 326 IAC 2-7 and 40 CFR 64 (CAM), and to render 326 IAC 2-2 not applicable.

Proposed Changes

As part of this permit approval, the permit may contain new or different permit conditions and some conditions from previously issued permits/approvals may have been corrected, changed, or removed. These corrections, changes, and removals may include Title I changes.

The following changes listed below are due to the proposed modification. Deleted language appears as ~~strikethrough~~ text and new language appears as **bold** text (these changes may include Title I changes):
(1) Section A.2 was updated as follows:

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:

…

Three (3) Casting Shakeout Operations

(m) ~~One (1) Line 1 and Line 2 casting shakeout operation, identified as EU-5a, constructed in 1995, with a nominal capacity of 20 tons of metal and 110 tons of sand per hour, particulate emissions are controlled by baghouse DC-5, which exhausts to stack S-5.~~

~~This EU-5a casting shakeout operation is shared by Line 1 and Line 2.~~

One (1) Line 1 and Line 2 casting shakeout operation, identified as EU-5a, approved in 2024 for construction, with a nominal capacity of 20 tons of metal and 110 tons of sand per hour, using baghouse DC-5 and baghouse DC-11 as control, and exhausting to stacks S-5 and S-11.

The EU-5a casting shakeout operation is shared by Line 1 and Line 2; they merge into one (1) line for casting cooling, controlled by a baghouse (DC-11), and exhausting to stack S-11.

This EU-5a casting shakeout operation replaces an existing casting shakeout operation installed in 1995.

…

(p) One (1) shot blast system, consisting of **the following** ~~three (3)~~ **two (2)** shot blast units, identified as ~~EU-16,~~ EU-17, and EU-19, constructed in 1999, modified in 2012 **and approved in 2024 for modification**, with a total nominal capacity of 27 tons of iron castings per hour, with all particulate emissions controlled by baghouse DC-7, which exhausts to stack S-8.

Stack S-8 is a common stack for Baghouse DC-8 and Baghouse DC-7.

Shot Blast System Unit	Line Served	**Modification Date**
~~EU-16~~	Line 1	**EU-17 is approved in 2024 to blast castings from Lines 1 and 2.**
EU-17	Line 2	
	Line 3	**EU-19 is approved in 2021 to blast castings from both Lines 3 and 4.**
EU-19	Line 4	

Stack S-8 is a common stack for Baghouse DC-8 and Baghouse DC-7.

(2) Section A.3 was updated as follows:

A.3 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, as defined in 326 IAC 2-7-1(21):

(a) Eleven (11) grinders, **identified as EU-7, constructed in 1999 and modified in 2012**, with a combined nominal capacity of 24 tons of iron castings per hour, consisting of the following:

(1) ~~Eight (8)~~ **Nine (9)** ~~portable~~ grinders, ~~identified together as EU-7, constructed in 1999 and modified in 2012~~, particulate emissions controlled by ~~individual fabric filter dust collectors which exhaust indoors~~ **dust collector DC-7, which exhausts to stack S-8.**

(2) ~~Three (3)~~ **Two (2)** grinding units, resulting in negligible emissions, **each controlled by dedicated small fabric filters, which exhaust inside the building.**

~~(i) one (1) is controlled by fabric filters, which exhaust inside the building; and~~
~~(ii) two (2) are controlled by dust collector DC-7, which exhausts to Stack S-8.~~

(3) Section D.3 was updated as follows:

SECTION D.3 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

Three (3) Casting Shakeout Operations

~~(m) One (1) Line 1 and Line 2 casting shakeout operation, identified as EU-5a, constructed in 1995, with a nominal capacity of 20 tons of metal and 110 tons of sand per hour, particulate emissions are controlled by baghouse DC-5, which exhausts to stack S-5.~~

~~This EU-5a casting shakeout operation is shared by Line 1 and Line 2.~~

One (1) Line 1 and Line 2 casting shakeout operation, identified as EU-5a, approved in 2024 for construction, with a nominal capacity of 20 tons of metal and 110 tons of sand per hour, using baghouse DC-5 and baghouse DC-11 as control, and exhausting to stacks S-5 and S-11.

The EU-5a casting shakeout operation is shared by Line 1 and Line 2; they merge into one (1) line for casting cooling, controlled by a baghouse (DC-11), and exhausting to stack S-11.

This EU-5a casting shakeout operation replaces an existing casting shakeout operation installed in 1995.

(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 Best Available Control Technology (BACT) for PM/PM_{10} Emissions [326 IAC 2-2-3]

Pursuant to 326 IAC 2-2-3 (PSD - BACT) and PSD T033-21760-00042, issued on August 29, 2008, the Permittee shall comply with the following:

(a) The PM and PM_{10} emissions from the following facilities shall be controlled by a baghouse:

Process / Unit description	Line ID	Unit ID	Control/Stack
Casting shakeout operation	Line 3	EU-4a	Baghouse DC-3 (Stack S-15)
	Line 4	EU-4b	Baghouse DC-4 (Stack S-4)
	Line 1	EU-5a	Baghouse DC-5 (Stack S-5) **and Baghouse DC-11 (Stack S-11)**
	Line 2		

…

(b) The PM and PM_{10} emissions after control from the following facilities, in conjunction with Condition D.1.1(c)(ii), shall not exceed the limits, as indicated in the table below:

Process/facility Description (ID)	Control/Stack	PM and PM_{10} (Filterable Emissions)		PM_{10} (Filterable Plus Condensable Emissions)
		(gr/dscf)	(lb/hr)	(lb/ton iron produced)
Line 3 and Line 4 casting shakeout operation (EU-4a and EU-4b)	Baghouse DC-3 (Stack S-15) and Baghouse DC-4 (Stack S-4)	0.003	2.06 (total for 2 stacks)	0.10
Line 1 and Line 2 casting shakeout operation (EU-5a)	Baghouse DC-5 (Stack S-5) **and Baghouse DC-11 (Stack S-11)** and Baghouse DC-8 (Stack S-8)	0.003	3.34 (total for 2 stacks)	0.12
Return sand and waste sand system (EU-5bc)				

PM10 emissions are surrogate for PM2.5 emissions.
…

D.3.4 PSD Minor Limit - Lead (Pb) Emissions [326 IAC 2-2]

In order to render 326 IAC 2-2 not applicable, the Permittee shall comply with the following:
The Lead (Pb) emissions after control from the following operations, in conjunction with Condition D.1.1(c)(ii), shall not exceed the pounds per ton of metal processed:

Process / Unit description	Line ID	Unit ID	Control/Stack	PSD Minor Limit (lb/ton)
Casting shakeout operation	Line 3	EU-4a	Baghouse DC-3 (Stack S-15)	0.0012
	Line 4	EU-4b	Baghouse DC-4 (Stack S-4)	
	Line 1	EU-5a	Baghouse DC-5 (Stack S-5) **and Baghouse DC-11 (Stack S-11)**	0.0012
	Line 2			
Return sand/waste sand system		EU-5bc	Baghouse DC-5 (Stack S-5) and Baghouse DC-8 (Stack S-8)	

…

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

D.3.6 Particulate Control

In order to ensure compliance with Condition D.3.1, the following baghouses shall be in operation at all times the corresponding emission units are in operation.

Process / Unit description	Line ID	Unit ID	Control/Stack
Casting shakeout operation	Line 3	EU-4a	Baghouse DC-3 (Stack S-15)

Process / Unit description	Line ID	Unit ID	Control/Stack
	Line 4	EU-4b	Baghouse DC-4 (Stack S-4)
	Line 1	EU-5a	Baghouse DC-5 (Stack S-5) **and Baghouse DC-11 (Stack S-11)**
	Line 2		

…

D.3.7 Testing Requirements [326 IAC 2-1.1-11]

PM and PM10 testing

…

(b) In order to demonstrate the compliance status with Condition D.3.1, the Permittee shall perform PM and PM_{10} testing for the following facilities, utilizing methods approved by the Commissioner.

Process / Unit description	Line ID	Unit ID	Control/Stack
Casting shakeout operation	Line 1	EU-5a	Baghouse DC-5 (Stack S-5) **and Baghouse DC-11(Stack S-11)**
	Line 2		

...

Lead (Pb) testing

…

(d) In order to demonstrate the compliance status with Condition D.3.4, the Permittee shall perform Lead (Pb) testing for the following facilities, utilizing methods approved by the Commissioner.

Process / Unit description	Line ID	Unit ID	Control/Stack
Casting shakeout operation	Line 1	EU-5a	Baghouse DC-5 (Stack S-5) **and Baghouse DC-11(Stack S-11)**
	Line 2		

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

D.3.8 Baghouse Parametric Monitoring [40 CFR 64]

Pursuant to 40 CFR 64:

(a) The Permittee shall record the pressure drop across the baghouses used in conjunction with the following facilities at least once per day when the respective facilities are in operation.

Process / Unit description	Line ID	Unit ID	Control/Stack
Casting shakeout operation	Line 3	EU-4a	Baghouse DC-3 (Stack S-15)
	Line 4	EU-4b	Baghouse DC-4 (Stack S-4)
	Line 1	EU-5a	Baghouse DC-5 (Stack S-5) **and Baghouse DC-11 (Stack S-11)**
	Line 2		

...

(4) Section D.4 was updated as follows:

SECTION D.4 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

...

(p) One (1) shot blast system, consisting of **the following** ~~three (3)~~ **two (2)** shot blast units, identified as ~~EU-16,~~ EU-17, and EU-19, constructed in 1999, modified in 2012 **and approved in 2024 for modification**, with a total nominal capacity of 27 tons of iron castings per hour, with all particulate emissions controlled by baghouse DC-7, which exhausts to stack S-8.

Stack S-8 is a common stack for Baghouse DC-8 and Baghouse DC-7.

Shot Blast System Unit	Line Served	**Modification Date**
~~EU-16~~ EU-17	Line 1	**EU-17 is approved in 2024 to blast castings from Lines 1 and 2.**
	Line 2	
EU-19	Line 3	EU-19 is approved in 2021 to blast castings from both Lines 3 and 4.

Stack S-8 is a common stack for Baghouse DC-8 and Baghouse DC-7.

...

Insignificant Activities:

(a) Eleven (11) grinders, **identified as EU-7, constructed in 1999 and modified in 2012**, with a combined nominal capacity of 24 tons of iron castings per hour, consisting of the following:

(1) ~~Eight (8)~~ **Nine (9)** ~~portable~~ grinders, ~~identified together as EU-7, constructed in 1999 and modified in 2012~~, particulate emissions controlled by ~~individual fabric filter dust collectors which exhaust indoors~~ **dust collector DC-7, which exhausts to stack S-8.**

(2) ~~Three (3)~~ **Two (2)** enclosed stationary grinding units, resulting in negligible emissions, **each controlled by dedicated small fabric filters, which exhaust inside the building.**

~~(i) one (1) is controlled by fabric filters, which exhaust inside the building; and~~
~~(ii) two (2) are controlled by dust collector DC-7, which exhausts to Stack S-8.~~

(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 Best Available Control Technology (BACT) for PM and PM_{10} Emissions [326 IAC 2-2-3]

Pursuant to 326 IAC 2-2-3 (PSD - BACT) and PSD T033-21760-00042, issued August 29, 2008, the Permittee shall comply with the following:

(a) The PM and PM_{10} emissions from the following facilities shall be controlled by a baghouse or dust collector:

Process / Unit description	Individual units	Unit ID	Control/Stack
...			
Shot blast system		~~EU-16~~	Baghouse DC-7 (Stack S-8)
		EU-17	
		EU-19	

...

(b) The PM and PM_{10} emissions after control from the following facilities in conjunction with Condition D.1.1(c)(ii), shall not exceed the limits as indicated in the table below:

Process/facility Description (ID)	Control/Stack	PM and PM_{10} (Filterable Emissions)	
		(gr/dscf)	(lb/hr)
...			
Shot blast system (~~EU-16~~, EU-17, and EU-19)	Baghouse DC-7 (Stack S-8)	0.003	0.95
...			

PM10 emissions are surrogate for PM2.5 emissions.

…

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

D.4.3 Particulate Control

In order to ensure compliance with Condition D.4.1, the following baghouses and dust collectors shall be in operation at all times the corresponding emission units are in operation.

Process / Unit description	Individual units	Unit ID	Control/Stack
...			
Shot blast system		~~EU-16~~	Baghouse DC-7 (Stack S-8)
		EU-17	
		EU-19	
Grinders	~~eight (8)~~ **nine (9)** ~~portable~~ grinders	EU-7	Dust Collector DC-7 (Stack S-8) ~~Dust Collectors (indoors)~~
	~~one (1) stationary grinder~~		~~Fabric filter (indoors)~~
	two (2) stationary grinders		~~Dust Collector DC-7 (Stack S-8)~~ **Fabric filter (indoors)**

...

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

D.4.4 Baghouse Parametric Monitoring [40 CFR 64]

Pursuant to 40 CFR 64:

(a) The Permittee shall record the pressure drop across the baghouses used in conjunction with the following facilities at least once per day when the respective facilities are in operation.

Process / Unit description	Individual units	Unit ID	Control/Stack
Shot blast system		~~EU-16~~	Baghouse DC-7 (Stack S-8)
		EU-17	
		EU-19	

...

Conclusion and Recommendation

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant. An application for the purposes of this review was received on February 9, 2024.

The construction of this proposed modification shall be subject to the conditions of the attached proposed Part 70 Significant Source Modification No. 033-47516-00042. The operation of this proposed modification shall be subject to the conditions of the attached proposed Significant Permit Modification No. 033-47542-00042.

The staff recommends to the Commissioner that the Part 70 Significant Source Modification Significant Permit Modification be approved.

IDEM Contact

(a) If you have any questions regarding this permit, please contact Omar El-Rjoob, 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) 232-4971 or (800) 451-6027, and ask for Omar El-Rjoob or (317) 232-4971.

(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 Air Permits page on the Internet at: https://www.in.gov/idem/airpermit/public-participation/; and the Citizens' Guide to IDEM on the Internet at: https://www.in.gov/idem/resources/citizens-guide-to-idem/.

Appendix A: Emissions Calculations
Emissions Summary - Unlimited PTE

Company Name: Metal Technologies Auburn, LLC
Source Address: 1537 West Auburn Drive, Auburn, IN 46706
TVOP Renewal Permit No: T033-45841-00042
Significant Source Modification No.: 033-47516-00042
Significant Permit Modification No.: 033-47542-00042
Reviewer: Omar El-Rjoob

Summary of Unlimited PTE

		Unlimited Potential to Emit (tons/year)										
		Criteria Pollutants							Hazardous Air Pollutants			
Process Description		**PM**	**PM10**	**PM2.5**	**SO_2**	**NOx**	**VOC**	**CO**	**Lead**	**Beryllium (Be)**	**Total Organic HAPs**	**Total Metallic HAPs**
Scrap and Charge Handling	Scrap and charge handling	78.84	78.84	78.84	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sand Handling	EU-5bc Return Sand System EU-1a Sand System & Mullers for Lines 1 & 2 EU-1a Sand System & Mullers for Lines 3 & 4	3,468.96	520.34	520.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Thermal Chip Dryer and Natural Gas Combustion	EU-32	919.93	940.27	940.27	11.40	4.85	525.98	6.56	0.34	0.00	0.13	0.36
Chip Screening Process	EU-32A	65.70	65.70	65.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Magnesium Treatment	EU-20 (Ductile Iron Conversion Process)	236.52	236.52	236.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Electric Induction Furnaces	EU-2 (3 EIF furnaces total)	118.26	113.00	113.00	0.00	0.00	0.00	0.00	5.58	1.18E-04	0.00	9.46
Pouring/Casting	EU-3a1 Pouring & Casting Line 1 EU-3a2 Pouring & Casting Line 2 EU-3a3 Pouring & Casting Line 3 EU-3a4 Pouring & Casting Line 4	772.63	378.96	378.96	3.68	1.84	312.73	1,103.76	1.16	0.00	51.51	61.81
Casting/Mold Cooling	EU-3b1 Casting/Mold Cooling Line 1 EU-3b2 Casting/Mold Cooling Line 2 EU-3b3 Casting/Mold Cooling Line 3 EU-3b4 Casting/Mold Cooling Line 4	257.54	257.54	257.54	0.00	0.00						
Casting Shakeout	EU-4a Casting Shakeout Line 3 EU-4b Casting Shakeout Line 4 EU-5a Casting Shakeout Line 1 and 2	588.67	412.07	412.07	0.00	0.00						
Grinding/Cleaning	EU-7 Grinding	1,340.28	134.03	134.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Blasting	EU-17 Shot Blast EU-19 Shot Blast EU1b Sample Blast EU-6 Re-blast	1,340.28	134.03	134.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Core Making	EU-30a PUCB Sand Silo	45.73	6.86	6.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	EU-30b PUCB core mixing	0.00	0.00	0.00	0.00	0.00	15.62	0.00	0.00	0.00	0.00	0.00
	EU-30c PUCB core making (DMIPA)	0.00	0.00	0.00	0.00	0.00	3.94E-03	0.00	0.00	0.00	0.00	0.00
Mold and Core Production (EU-31)	EU-31a PUCB Sand Silo	23.65	3.55	3.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	EU-31b PUCB core mixer	0.00	0.00	0.00	0.00	0.00	8.08	0.00	0.00	0.00	0.00	0.00
	EU-31c PUCB core machine (DMIPA)	0.00	0.00	0.00	0.00	0.00	4.073	0.00	0.00	0.00	0.00	0.00
	PUCB Drying Oven (EU-31e)	0.00	0.01	0.01	0.00	0.17	0.01	0.14	0.00	0.00	0.00	0.003
Natural Gas Combustion - PUCB dryer oven		0.01	0.05	0.05	0.00	0.64	0.04	0.54	0.00	0.00	1.21E-02	3.53E-05
Natural Gas Combustion - air makeup, ladle torches, hot shots		0.72	2.87	2.87	0.23	37.75	2.08	31.71			7.10E-01	2.07E-03
Emergency Generator		0.20	0.11	0.11	1.15	6.81	0.20	1.56	0.00	0.00	3.13E-03	2.07E-03
Fugitive Emissions		1.46	0.28	0.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Unlimited/ Uncontrolled PTE		**9,259.38**	**3,285.04**	**3,285.04**	**16.46**	**52.07**	**868.81**	**1,144.28**	**7.08**	**1.18E-04**	**52.37**	**71.64**

124.01 **Total HAPs**

Notes
PM10 emissions are surrogate for PM2.5 emissions.

Methodology
Except where noted in the following pages, uncontrolled/unlimited emission factors are based on AP-42 Chapter 12.10 Gray Iron Foundries and US EPA Fire Version 6.25
Where emission factors are not available for PM2.5, it is assumed that PM2.5 = PM10

Appendix A: Emissions Calculations
Emissions Summary - Limited PTE

Company Name: Metal Technologies Auburn, LLC
Source Address: 1537 West Auburn Drive, Auburn, IN 46706
TVOP Renewal Permit No: T033-45841-00042
Significant Source Modification No.: 033-47516-00042
Significant Permit Modification No.: 033-47542-00042
Reviewer: Omar El-Rjoob

Summary of Limited PTE

			Limited Potential to Emit (tons/year)*										
			Criteria Pollutants							Hazardous Air Pollutants			
Emission Unit	Control / Stack ID	Type of Foundry Process	PM	PM10	PM2.5	SO_2	NOx	VOC	CO	Lead	Beryllium (Be)	Organic HAPs	Metallic HAPs
Scrap and charge handling	No control; indoors	Scrap and Charge Handling	66.00	66.00	66.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Thermal Chip Dryer	Cyclone DC-32a, Thermal Oxidizer DC-32b, and Baghouse DC-32c (Stack S-32b)	Wet Metal Machining Chip Drying	9.47	9.47	9.47	11.40	0	39.58	6.56	0.34	0	0	0.36
Chip Screening Process	Baghouse DC-32c (Stack S-32b)	Screening metal chips				0	0	0	0	0	0	0	0
Thermal Chip Dryer Natural Gas Burners, Smoke Hood, and Thermal Oxidizer	Burners - no control (Stack S-32a) Smoke Hood and Oxidizer (Stack S-32b)	Natural Gas Combustion	0.13	0.52	0.52	0.04	4.85	0.38	5.79	0.00	0.00	0.13	0.00
EU-2 (3 EIF furnaces total)	DC-2 (Stack S-2) DC-8 (Stack S-8)	Metal Melting: Electric Induction Furnaces				0	0	0	0		1.18E-04	0	9.46
EU-3a1 Pouring & Casting Line 1	DC-8 (Stack S-8)	Casting and Finishing: Pouring/Casting	15.77	6.60	6.60	2.20	1.10			0.33			
EU-3a2 Pouring & Casting Line 2													
EU-3a3 Pouring & Casting Line 3													
EU-3a4 Pouring & Casting Line 4													
EU-3b1 Casting/Mold Cooling Line 1	Uncontrolled, Stack S-3b	Castings and Finishing: Casting/Mold Cooling	9.37	4.95	4.95	0	0	187.00	660.00	0.07	0	51.51	61.81
EU-3b2 Casting/Mold Cooling Line 2													
EU-3b3 Casting/Mold Cooling Line 3	Uncontrolled, Stack S-3d		9.37	4.95	4.95					0.07			
EU-3b4 Casting/Mold Cooling Line 4													
EU-4a Casting Shakeout Line 3	DC-3 (Stack S-15)	Casting and Finishing: Casting Shakeout	9.02	5.50	5.50	0	0			0.07			
EU-4b Casting Shakeout Line 4	DC-4 (Stack S-4)												
EU-5a (Line 1 and Line 2 Casting Shakeout)	DC-5 (Stack S-5) and DC-11 (Stack S-11)		14.63	6.60	6.60					0.07			
EU-5bc Return Sand System	DC-5 (Stack S-5) and DC-8 (Stack S-8)	Raw Material Handling and Preparation: Sand Handling				0	0	0	0		0	0	0
EU-1 Sand System & Mullers for Lines 1 & 2	DC-1 (Stack S-1)		2.80	2.80	2.80					0			
EU-1 Sand System & Mullers for Lines 3 & 4	DC-10 (Stack S-10)												
EU-17 Shot Blast	DC-7 (Stack S-8)	Casting and Finishing: Blasting	4.16	4.16	4.16	0	0	0	0	0	0	0	0
EU-19 Shot Blast													
EU1b Sample Blast	vented internally		5.58	0.56	0.56								
EU-6 Re-blast	DC-8 (Stack S-8)		0.66	0.66	0.66								
EU-7 Grinding	vented internally and DC-7 (Stack S-8)	Casting and Finishing: Grinding	0.45	0.45	0.45	0	0	0	0	0	0	0	0
EU-20 DIC Station	DC-20 (Stack S-20)	Magnesium Treatment	24.90	14.90	14.90	0	0	0	0	0	0	0	0
EU-30a PUCB Sand Silo	bin vent filter	Mold & Core Production	11.75	6.61	4.06	0	0	0	0	0	0	0	0
EU-30b PUCB core mixing	no control					0	0	15.62	0	0	0	0	0
EU-30c PUCB core making (DMIPA)	Acid Scrubber SC-1 (Stack SC-1)					0	0	3.94E-03	0	0	0	0	0
EU-31a PUCB Sand Silo	(BV-2)	Mold and Core Production (EU-31)	23.65	3.55	3.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EU-31b PUCB core mixer	no control		0.00	0.00	0.00	0.00	0.00	8.08	0.00	0.00	0.00	0.00	0.00
EU-31c PUCB core machine (DMIPA)	Acid Scrubber SC-1 (Stack SC-1)		0.00	0.00	0.00	0.00	0.00	4.07	0.00	0.00	0.00	0.00	0.00
PUCB Drying Oven (EU-31e)	no control		0.00	0.01	0.01	0.00	0.17	0.01	0.14	0.00	0.00	0.00	0.00
Natural Gas Combustion - PUCB dryer oven			0.01	0.05	0.05	0.00	0.64	0.04	0.54	0.00	0.00	0.01	0.00
Natural Gas Combustion - air makeup, ladle torches, hot shots			0.72	2.87	2.87	0.23	37.75	2.08	31.71	0.00	0.00	0.71	0.00
Emergency Generator			0.20	0.11	0.11	1.15	6.81	0.20	1.56	0.00	0.00	0.00	0.00
Fugitive Emissions			1.46	0.28	0.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		Total Limited PTE	**210.11**	**141.61**	**139.07**	**15.02**	**51.33**	**257.06**	**706.30**	**0.93**	**1.18E-04**	**52.37**	**71.64**
												124.01	**Total HAPs**

PSD BACT Iron production throughput, PM, PM10, VOC, CO limits, pursuant to original TV permit T033-21760-00042, issued on August 29, 2008
PSD Minor limits for PM, PM10, VOC and Pb

Methodology

*Limited Production Capacity for all melt = 750 tons/day or 220,000 tons/year
This production limit is the total for all EIF melting furnaces. Therefore, each Line (1 through 4) will have a production limit of 1/4 of the total melt production, or 55,000 tons/yr. Any limits combining two (2) lines out of the total four (4) lines will then divide the production capacity by half.
Limited PM and PM10 (tons/yr) = Limited PM and PM10 (lb/ton) * Limited Production Capacity (ton/yr) * 1 ton/2,000 lb
Limited PM (tons/yr) = [PM Limit (Filterable) (lb/hr) * 8,760 hr/yr / Limited Production Capacity (ton/yr)] * Limited Production Capacity (ton/yr) * 1 ton/2,000 lb
PM is filterable PM only.
PM10 is filterable and condensable PM10 combined.
PM10 emissions are surrogate for PM2.5 emissions.
PM2.5 is filterable and condensable PM2.5 combined.
For EU-16 through EU-19 shot blast and EU-1b Sample Blast and EU-6 Re-blast, PM limits are in lb/hr. hrs/yr * 1 ton/2,000 lbs
Methodology: Limited PM/PM10/PM2.5 (tons/yr) = Limited PM/PM10/PM2.5 (lb/hr) * 8,760 hrs/yr
EU-20 DIC Station Limited PTE based on controlled lb/ton limits for PM and PM10 and melt rate for ductile iron limitation.
EU-7 Grinding Limited PTE based on grain loading limit and air flow rate of control device.
For Emission Units without specific pollutant limits listed on the following page, the methodology is the same as Unlimited PTE.

Appendix A: Emissions Calculations
Emissions Summary - Detailed Permit Limits

Company Name: Metal Technologies Auburn, LLC
Source Address: 1537 West Auburn Drive, Auburn, IN 46706
TVOP Renewal Permit No: T033-45841-00042
Significant Source Modification No.: 033-47516-00042
Significant Permit Modification No.: 033-47542-00042
Reviewer: Omar El-Rjoob

Detailed Permit Limits

Total Iron Production Limit	
tons/day	tons/yr
750	220,000

This production limit is the total for all EIF melting furnaces. Therefore, each Line (1 through 4) will have a production limit of 1/4 of the total melt production, or 55,000 tons/yr in determining potential to emit after limitations.

Limit	Type of Foundry Process	Emission Unit(s)	Permit Limits			
			Control / Stack ID	PM and PM10 (Filterable) (gr/dscf)	PM and PM10 (Filterable) (lbs/hr)	PM10 (Filterable and Condensable) (lbs/ton)
PSD - BACT for PM, PM10 (T033-21760-00042)	Metal Melting: Electric Induction Furnaces	EU-2 (3 EIF furnaces total)	Baghouses DC-2 and DC-8 (Stacks S-2 and S-8)	0.003	3.6	0.06
	Casting and Finishing: Pouring/Casting	EU-3a1 Pouring & Casting Line 1	Baghouse DC-8 (Stack S-8)			
		EU-3a2 Pouring & Casting Line 2				
		EU-3a3 Pouring & Casting Line 3				
		EU-3a4 Pouring & Casting Line 4				
	Casting and Finishing: Blasting	EU-6 Re-blast	Baghouse DC-8 (Stack S-8)	0.003	0.15	-
	Raw Material Handling and Preparation: Sand Handling	EU-5bc Return Sand System	Baghouse DC-5 (Stack S-5) and Baghouse DC-8 (Stack S-8)	0.003	3.34	0.12
	Casting and Finishing: Casting Shakeout	EU-5a (Line 1 and Line 2 Casting Shakeout Line)	Baghouse DC-5 (Stack S-5) and Baghouse DC-11 (Stack S-11)			
		EU-4b Casting Shakeout Line 4	Baghouse DC-4 (Stack S-4)	0.003	2.06	0.10
		EU-4a Casting Shakeout Line 3	Baghouse DC-3 (Stack S-15)			
	Casting and Finishing: Blasting	EU-17 Shot Blast ***	Baghouse DC-7 (Stack S-8)	0.003	0.95	-
		EU-19 Shot Blast ***				
	Raw Material Handling and Preparation: Sand Handling	EU-1a Sand System & Mullers for Lines 1 & 2 ***	Baghouse DC-1 (Stack S-1)	0.003	0.64	-
		EU-1a Sand System & Mullers for Lines 3 & 4 ***	Baghouse DC-10 (Stack S-10)			
	Casting and Finishing: Grinding	EU-7 Grinding ***	Internally vented dust collectors	0.003	-	-
	Castings and Finishing: Casting Cooling	EU-3b1 Casting/Mold Cooling Line 1	No control (Stack S-3b)	0.01	2.14	0.09
		EU-3b2 Casting/Mold Cooling Line 2				
		EU-3b3 Casting/Mold Cooling Line 3	No control (Stack S-3d)	0.01	2.14	0.09
		EU-3b4 Casting/Mold Cooling Line 4				

*** Limited emissions (lb/hr) are filterable and condensable PM10

				lb/hr limit:	
326 IAC 6-3-2	Casting and Finishing --- Blasting	EU1b Sample Blast	Internally vented dust collector	0.75	Process Weight Rate = 0.08 tons/hr
326 IAC 6-3-2	Scrap and Charge handling	-	no control, indoors	40.04	Process Weight Rate = 30 tons/hr

PSD BACT for PM (gr/dscf) limited calculation				Limited & Controlled PTE	
		Dust Collector Air Flow Rate (cfm)	Limit, Filterable PM/PM10 (gr/dscf)	(lbs/hr)	(tons/yr)
Casting and Finishing: Grinding	EU-7 Grinding ***	4,000	0.003	0.10	0.45

Methodology
PTE of PM (lbs/hr) = Air Flow Rate (acfm) * Outlet Grain Loading (gr/dscf) * 60 min/hr * 1 lb/7,000 gr
PTE of PM (tons/yr) = Air Flow Rate (acfm) * Outlet Grain Loading (gr/dscf) * 60 min/hr * 1 lb/7,000 gr * 8,760 hrs/yr * 1 ton/2,000 lbs

		VOC BACT Limits		CO BACT Limits	Lead PSD Minor Limits
		lb/ton greensand molds w/out cores	lb/ton greensand molds with cores	lb/ton of metal	lb/ton of iron produced
	EU-2 (3 EIF furnaces total)	-	-	-	
Pouring, Cooling, and Shakeout	EU-3a1 Pouring & Casting Line 1	0.8	1.7	6.0	0.003
	EU-3a2 Pouring & Casting Line 2				
	EU-3a3 Pouring & Casting Line 3				
	EU-3a4 Pouring & Casting Line 4				
	EU-3b1 Casting/Mold Cooling Line 1				0.0012
	EU-3b2 Casting/Mold Cooling Line 2				
	EU-3b3 Casting/Mold Cooling Line 3				0.0012
	EU-3b4 Casting/Mold Cooling Line 4				
	EU-4b Casting Shakeout Line 4				0.0012
	EU-4a Casting Shakeout Line 3				
	EU-5a (Line 1 and Line 2 Casting Shakeout)				0.0012
	EU-5bc Return Sand System	-	-	-	

PSD Minor Limit for EU-20		Limited (ton/yr)			Uncontrolled (lb/ton)		Controlled (lb/ton)		326 IAC 6-3-2 Limit (lb/hour)
Emission Unit	Control	PM	PM10	Capture Efficiency (%)	PM	PM10	PM	PM10	PM
EU-20 DIC Station	DC-20 (Stack S-20)	24.90	14.90	70.00%	0.32	0.29	0.0023	0.0023	39.96

PSD Minor Limit for Mold & Core Production		lb/ton of core throughput limit			326 IAC 6-3-2 Limit (lb/hour)
Emission Unit	Sand throughput (tons/yr)	PM	PM10	PM2.5	PM
EU-30a PUCB Sand Silo	25,404	0.925	0.52	0.32	8.37

PSD Minor Limit for Thermal Chip Dryer	
Emission Un	Limited VOC Emissions (ton/yr)
EU-32 Thermal Chip Dryer	39.58

326 IAC 8-1-6 Limit for Thermal Chip Dryer		lb/ton of metal chips and
Emission Unit	Maximum Metal Chip Throughput (tons/yr)	VOC
EU-32 Thermal Chip Dryer	131,400	0.16

PSD Minor Limit for Thermal	Limited (ton/yr)			326 IAC 6-3-2 Limit (lb/hour)
Emission Unit	PM	PM10	PM2.5	PM
EU-32 Thermal Chip Dryer and EU-32A Chip Screening Process	9.47	9.47	9.47	25.16

Appendix A: Emissions Calculations
Mold and Core Production (EU-31)

Company Name: **Metal Technologies Auburn, LLC**
Source Address: **1537 West Auburn Drive, Auburn, IN 46706**
TVOP Renewal Permit No: **T033-45841-00042**
Significant Source Modification No.: **033-47516-00042**
Significant Permit Modification No.: **033-47542-00042**
Reviewer: **Omar El-Rjoob**

Mold and Core Production		Emission Unit ID(s)	Nominal Throughput (tons/yr)	Uncontrolled Emission Factors (lb/ton)											
				PM	PM10	PM2.5	SO2	NOx	VOC(1)	CO	GHGs as CO2e	Lead	Beryllium (Be)	Organic HAPs	Metallic HAPs
PUCB Core Production (EU-31) (1.5 ton/hr)	Sand Handling (SCC 3-04-003-50)	EU-31a PUCB Sand Silo	13140.00	3.60	0.54	0.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Core Making (SCC 3-04-003-19)	EU-31b PUCB core sand mixer		0.00	0.00	0.00	0.00	0.00	1.23	0.00	0.00	0.00	0.00	0.00	0.00
		EU-31c PUCB core machine (DMIPA)							0.62						
		lbs/hr	lbs/yr	tons/year											
	Part 1 and Part 2 PUCB Resins	36.90	323244.00	161.62	based on resin at 1.23% of core weight										
	DMIPA Catalyst Gas	0.93	8146.80	4.07	based on DMIPA at 0.031% of core weight										

Notes
Emission factors from AP-42 Chapter 12.10 Gray Iron Foundries and US EPA Fire Version 6.25, except as otherwise noted
(1) Site-specific emission factors for VOC. Uncontrolled VOC emissions from the core resins and catalyst gas are based on a mass balance assuming 5% VOC loss from the core resins, 100% of the loss of DMIPA catalyst gas, and the specific ratios of resins and catalyst gas that will be used for the PUCB cores.
(1) The 5% VOC loss from the core resins based on OCMA VOC EMISSIONS TEST (Sigma CureTM 7211/7621MEX Shimadzu UX6200H Electronic Balance 1.00% (B.O.S.); 55/45 Part 1/Part 2 Ratio (B.O.B.) Wedron 730 Sand) January 26, 2005

Methodology
Core Resin Usage (lb/hr) = 1.23% * Nominal Throughput of Core Making (ton/hr) * 2,000 lb/ton
Core Resin Usage (lb/yr) = Core Resin Usage (lb/hr) * 8,760 hr/yr
Core Resin Usage (ton/yr) = Core Resin Usage (lb/hr) * 8,760 hr/yr * 1 ton/2,000 lb

Mold and Core Production		Uncontrolled Potential to Emit (tons/yr)											
		PM	PM10	PM2.5	SO2	NOx	VOC	CO	GHGs as CO2e	Lead	Beryllium (Be)	Organic HAPs	Metallic HAPs
PUCB Core Production (EU-31)	EU-31a PUCB Sand Silo	23.65	3.55	3.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	EU-31b PUCB core mixer	0.00	0.00	0.00	0.00	0.00	8.08	0.00	0.00	0.00	0.00	0.00	0.00
	EU-31c PUCB core machine (DMIPA)	0.00	0.00	0.00	0.00	0.00	4.1	0.00	0.00	0.00	0.00	0.00	0.00
	Totals	**23.65**	**3.55**	**3.55**	**0.00**	**0.00**	**12.15**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Methodology
Uncontrolled PTE (tons/yr) = Throughput (tons/yr) * Emission Factor (lb/ton) * 1 ton/2,000 lbs

The OCMA test process is a modified EPA Method 24 VOC content determination method developed specifically for chemically reactive "urethane-type" foundry binder systems, and in our view provides the most accurate available means of estimating resin-related VOC emissions from sand mixing and core/mold making operations for these binders. The test involves mixing weighed resin components together with sand in the ratios to be used in production operations and measuring the loss in weight over a standard 12-hour test period. Since the volatile components of the urethane binder systems are hydrocarbons, the results are interpreted directly as VOC emissions from the process. OCMA tests mimic sand mixing and core/mold making operations, so the emissions estimates provided by these results should be applied solely to those production operations. When used for urethane-type cold box binder systems the amine catalyst emissions must be estimated separately, as the OCMA test does not include gassing the test specimen with the amine catalyst. Emissions from other foundry operations, like pouring, cooling and shakeout operations, must also be estimated separately.

The 12-hour test period was established at the time of method development and represents the typical period from the time sand is mixed until cores/molds are used in the subsequent pouring/cooling shakeout

HAI conducted OCMA testing January 26, 2005 for a similarly-formulated binder system sold here in the US, known as our Sigmacure 7211/7621MEX system. Weight loss at the standard 12-hour test period was

Appendix C: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
PUCB Drying Oven (EU-31e)

Company Name: Metal Technologies Auburn, LLC
Source Address: 1537 West Auburn Drive, Auburn, IN 46706
TVOP Renewal Permit No: T033-45841-00042
Significant Source Modification No.: 033-47516-00042
Significant Permit Modification No.: 033-47542-00042
Reviewer: Omar El-Rjoob

Heat Input Capacity MMBtu/hr	HHV mmBtu mmscf	Potential Throughput MMCF/yr
0.4	1020	3.4

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	7.6	0.6	100	5.5	84
					**see below		
Potential Emission in tons/yr	0.00	0.01	0.01	0.00	0.17	0.01	0.14

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

	HAPs - Organics				
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	0.0021	0.0012	0.075	1.8	0.0034
Potential Emission in tons/yr	3.61E-06	2.06E-06	1.29E-04	3.09E-03	5.84E-06

	HAPs - Metals				
	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	0.0005	0.0011	0.0014	0.00038	0.0021
Potential Emission in tons/yr					
	8.58824E-07	1.88941E-06	2.40471E-06	6.52706E-07	3.60706E-06

Worst HAP
3.09E-03
(Hexane)

Total HAPs
3.24E-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.

Methodology
All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,020 MMBtu
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
Emission Factors are from AP 42, Table 1.4-2 SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03.
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Appendix A: Emissions Calculations
Casting and Finishing

Company Name: Metal Technologies Auburn, LLC
Source Address: 1537 West Auburn Drive, Auburn, IN 46706
TVOP Renewal Permit No: T033-45841-00042
Significant Source Modification No.: 033-47516-00042
Significant Permit Modification No.: 033-47542-00042
Reviewer: Omar El-Rjoob

Casting and Finishing		Emission Unit ID(s)	Nominal Throughput (tons/yr)	Uncontrolled Emission Factors (lb/ton)											
				PM	PM10	PM2.5	SO_2	NOx	VOC[1]	CO[1]	GHGs as CO_2e[2]	Lead[3]	Beryllium (Be)	Organic HAPs[4]	Metallic HAPs[5]
Pouring/Casting	(SCC 3-04-003-20)	EU-3a1 Pouring & Casting Line 1	367,920.00	4.20	2.06	2.06	0.02	0.01	1.70	6.00	10	0.0063	0.00	0.28	0.336
		EU-3a2 Pouring & Casting Line 2													
		EU-3a3 Pouring & Casting Line 3													
		EU-3a4 Pouring & Casting Line 4													
Casting Cooling	(SCC 3-04-003-25)	EU-3b1 Casting/Mold Cooling Line 1	367,920.00	1.40	1.40	1.40	0	0							0
		EU-3b2 Casting/Mold Cooling Line 2													
		EU-3b3 Casting/Mold Cooling Line 3													
		EU-3b4 Casting/Mold Cooling Line 4													
Casting Shakeout	(SCC 3-04-003-31)	EU-4a Casting Shakeout Line 3	367,920.00	3.20	2.24	2.24	0	0							0
		EU-4b Casting Shakeout Line 4													
		Casting Shakeout Line 1 and Line 2													
Grinding[6]	(SCC 3-04-003-40)	EU-7	157,680.00	17.00	1.70	1.70	0	0	0	0	0	0	0	0	0
Blasting[6]	(SCC 3-04-003-40)	EU-17 Shot Blast	157,680.00	17.00	1.70	1.70	0	0	0	0	0	0	0	0	0
		EU-19 Shot Blast													
		EU1b Sample Blast													
		EU-6 Re-blast													

Notes
Emission factors from AP-42 Chapter 12.10 Gray Iron Foundries and US EPA Fire Version 6.25, except as otherwise noted
(1) VOC and CO emission factors are based on the proposed BACT emission limits for the combined pouring, cooling, and shakeout processes.
(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)
(3) Lead and Organic HAPs emissions from Casting Emission Reduction Program (CERP) data. Uncontrolled lead emissions from the pouring, cooling and shakeout processes are based on a factor of 0.18% of the PM emissions
(4) Organic HAPs emissions from Casting Emission Reduction Program (CERP) data, combined for pouring, cooling, and shakeout processes.
(5) Metallic HAPs based on assumption that 8% of PM emissions are metallic HAPs, consistent with the ratio of emissions from the Iron and Steel Foundry MACT Standard (40 CFR 63, Subpart EEEEE)
(6) Amount of metal finished (Grinding and Blasting) is equal to 60% of the total metal melted.

Summary of Emissions (Uncontrolled)

Casting and Finishing		Uncontrolled Potential to Emit (tons/yr)											
		PM	PM10	PM2.5	SO_2	NOx	VOC	CO	GHGs as CO_2e	Lead	Beryllium (Be)	Organic HAPs	Metallic HAPs
Pouring/Casting	EU-3a1 Pouring & Casting Line 1	772.63	378.96	378.96	3.68	1.84	312.73	1,103.76	1,839.60	1.16	0.00	51.51	61.81
	EU-3a2 Pouring & Casting Line 2												
	EU-3a3 Pouring & Casting Line 3												
	EU-3a4 Pouring & Casting Line 4												
Casting Cooling	EU-3b1 Casting/Mold Cooling Line 1	257.54	257.54	257.54	0.00	0.00							0.00
	EU-3b2 Casting/Mold Cooling Line 2												
	EU-3b3 Casting/Mold Cooling Line 3												
	EU-3b4 Casting/Mold Cooling Line 4												
Casting Shakeout	EU-4a Casting Shakeout Line 3	588.67	412.07	412.07	0.00	0.00							0.00
	EU-4b Casting Shakeout Line 4												
	EU-5a Casting Shakeout Line 1 and 2												
Grinding/Cleaning	EU-7	1,340.28	134.03	134.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Blasting	EU-17 Shot Blast	1,340.28	134.03	134.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	EU-19 Shot Blast												
	EU1b Sample Blast												
	EU-6 Re-blast												
	Totals	**4,299.41**	**1,316.63**	**1,316.63**	**3.68**	**1.84**	**312.73**	**1,103.76**	**1,839.60**	**1.16**	**0.00**	**51.51**	**61.81**

Methodology
Uncontrolled PTE (tons/yr) = Maximum Throughput (tons/yr) * Emission Factor (lb/ton) * 1 ton/2,000 lbs

Appendix A: Emissions Calculations
Emissions Units Summary

Company Name: Metal Technologies Auburn, LLC
Source Address: 1537 West Auburn Drive, Auburn, IN 46706
TVOP Renewal Permit No: T033-45841-00042
Significant Source Modification No.: 033-47516-00042
Significant Permit Modification No.: 033-47542-00042
Reviewer: Omar El-Rjoob

Summary of Emission Units

Process Description		Emission Unit ID(s)	Control / Stack ID	Nominal Throughput (ton/hour)	Nominal Throughput (lb/hour)	Nominal Throughput (tons/yr)
Raw Material Handling and Preparation	Scrap and Charge Handling	Scrap and charge handling	No control; indoors	30.00	60,000	262,800
	Sand Handling	EU-5bc Return SandWaste Sand System	Baghouse DC-5 (Stack S-5) and Baghouse DC-8 (Stack S-8)	220.00	440,000	1,927,200
		EU-1a Sand System & Mullers for Lines 1 & 2	Baghouse DC-1 (Stack S-1)			
		EU-1a Sand System & Mullers for Lines 3 & 4	Baghouse DC-10 (Stack S-10)			
	Magnesium Treatment	EU-20 (Ductile Iron Conversion Process)	Baghouse DC-20 (Stack S-20)	30.00	60,000	262,800
	Thermal Chip Dryer	EU-32	Cyclone DC-32a, Thermal Oxidizer DC-32b, and Baghouse DC-32c (Stack S-32b)	15.00	30,000.00	131,400
	Chip Sreening Process	EU-32A	Baghouse DC-32c (Stack S-32b)	15.00	30,000.00	131,400
Metal Melting	Electric Induction Furnaces	EU-2 (3 EIF furnaces total)	Baghouses DC-2 and DC-8 (Stacks S-2 and S-8)	30.00	60,000	262,800
Casting and Finishing	Pouring/Casting	EU-3a1 Pouring & Casting Line 1	Baghouse DC-8 (Stack S-8)	10.00	84,000	367,920
		EU-3a2 Pouring & Casting Line 2		10.00		
		EU-3a3 Pouring & Casting Line 3		11.00		
		EU-3a4 Pouring & Casting Line 4		11.00		
	Casting/Mold Cooling	EU-3b1 Casting/Mold Cooling Line 1	No control (Stack S-3b)	10.00	84,000	367,920
		EU-3b2 Casting/Mold Cooling Line 2		10.00		
		EU-3b3 Casting/Mold Cooling Line 3	No control (Stack S-3d)	11.00		
		EU-3b4 Casting/Mold Cooling Line 4		11.00		
	Casting Shakeout	EU-4a Casting Shakeout Line 3	Baghouse DC-3 (Stack S-15)	11.00	84,000	367,920
		EU-4b Casting Shakeout Line 4	Baghouse DC-4 (Stack S-4)	11.00		
		EU-5a (Line 1 and Line 2 Casting Shakeout)	Baghouse DC-5 (Stack S-5) and DC-11 (Stack S-11)	20.00		
	Grinding*	EU-7 Grinding	Internally vented dust collectors and Baghouse DC-7 (Stack S-8)	24.00	36,000	157,680
	Blasting*	EU-17 Shot Blast	Baghouse DC-7 (Stack S-8)	27.00	36,000	157,680
		EU-19 Shot Blast				
		EU-1b Sample Blast	Internally vented dust collector	0.08		
		EU-6 Re-blast	Baghouse DC-8 (Stack S-8)	1.12		
Mold and Core Production	Core Making	EU-30a PUCB Sand Silo	bin vent filter, indoors	2.90	5,800	25,404
		EU-30b PUCB core making	dust collector, indoors			
		EU-30c PUCB core making (DMPA)	Acid Scrubber SC-1 (Stack SC-1)			
				Heat Input Capacity (MMBtu/hr)		Total Heat Input Capacity (MMBtu/hr)
Natural Gas Combustion		PUCB drying oven	no control	1.50		**1.50**
		Thermal Chip Dryer Retort Burners (Low-NOx)	no control (Stack S-32a)	9.50		**16.05**
		Smoke Hood and Thermal Oxidizer Burners	Thermal Oxidizer DC-32b and Baghouse DC-32c (Stack S-32b)	6.55		
		Airmakeup units and twelve (12) ladle heater torches and three (3) hot shots	no control	87.91		**87.91**
				Output Horsepower Rating (hp)		
Emergency Generator		Emergency Generator	no control (Stacks S-EG-1 & S-EG-2)	1135		

Notes
* Amount of metal finished (Grinding and Blasting) is equal to 60% of the total metal melted.

Methodology
Nominal Throughput (lb/hour) = Nominal Throughput (ton/hr) * 2,000 lb/ton
Nominal Throughput (ton/yr) = Nominal Throughput (ton/hr) * 8,760 hours/year

Appendix A: Emissions Calculations
Raw Material Handling and Preparation

Company Name: Metal Technologies Auburn, LLC
Source Address: 1537 West Auburn Drive, Auburn, IN 46706
TVOP Renewal Permit No: T033-45841-00042
Significant Source Modification No.: 033-47516-00042
Significant Permit Modification No.: 033-47542-00042
Reviewer: Omar El-Rjoob

Emission Factors

Raw Material Handling and Preparation		Emission Unit ID(s)	Nominal Throughput (tons/yr)	Uncontrolled Emission Factors (lb/ton)											
				PM	PM10	PM2.5	SO_2	NOx	VOC	CO	GHGs as CO2e	Lead	Beryllium (Be)	Organic HAPs	Metallic HAPs
Scrap and Charge Handling	(SCC 3-04-003-15)	Scrap and charge handling	262,800	0.6	0.6	0.6	0	0	0	0	0	0	0	0	0
Sand Handling	(SCC 3-04-003-50)	EU-5bc Return Sand/Waste Sand System	1,927,200	3.60	0.54	0.54	0	0	0	0	0	0	0	0	0
		EU-1a Sand System & Mullers for Lines 1 & 2													
		EU-1a Sand System & Mullers for Lines 3 & 4													
Magnesium Treatment	(SCC 3-04-003-21)	EU-20 (Ductile Iron Conversion Process)	262,800	1.80	1.80	1.80	0	0	0	0	0	0	0	0	0

Notes
Emission factors from AP-42 Chapter 12.10 Gray Iron Foundries and US EPA Fire Version 6.25, except as otherwise noted

Summary of Emissions (Uncontrolled)

Raw Material Handling and Preparation		Uncontrolled Potential to Emit (tons/yr)											
		PM	PM10	PM2.5	SO_2	NOx	VOC	CO	GHGs as CO2e	Lead	Beryllium (Be)	Organic HAPs	Metallic HAPs
Scrap and Charge Handling	Scrap and charge handling	78.84	78.84	78.84	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sand Handling	EU-5bc Return Sand/Waste Sand System	3,468.96	520.34	520.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	EU-1a Sand System & Mullers for Lines 1 & 2												
	EU-1a Sand System & Mullers for Lines 3 & 4												
Magnesium Treatment	EU-20 (Ductile Iron Conversion Process)	236.52	236.52	236.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Totals	3,784.32	835.70	835.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Methodology
Uncontrolled PTE (tons/yr) = Maximum Throughput (tons/yr) * Emission Factor (lb/ton) * 1 ton/2,000 lbs

Appendix A: Emissions Calculations
Process Emissions - Thermal Chip Dryer

Company Name: Metal Technologies Auburn, LLC
Source Address: 1537 West Auburn Drive, Auburn, IN 46706
TVOP Renewal Permit No: T033-45841-00042
Significant Source Modification No.: 033-47516-00042
Significant Permit Modification No.: 033-47542-00042
Reviewer: Omar El-Rjoob

Process	Emission Unit ID	Maximum Chip and Oil Throughput (tons/hr)	Combustible Organic Content (Oil) On Chips (By Weight)[1] (%)	Percent VOC of Oil[2] (%)	Maximum Oil Throughput (kgal/hr)	Particulate Control Efficiency (%)	VOC Destruction Efficiency (%)	CO Destruction Efficiency (%)
Thermal Chip Dryer	EU-32	15.00	1.00%	40.00%	0.04	99.00%	98.00%	95.00%

A =	Weight % Ash =	0.65
L =	Weight % Lead =	0.04
S =	Weight % Sulfur =	0.5

	PM[4]	PM10[4]	PM2.5[4]	Condensable PM[5]	SO_2	VOC	CO	Lead	Arsenic	Cadmium	Chromium	Cobalt	Nickel	Combined HAPs
Uncontrolled Emission Factors (lb/kgal)[3]	NA	NA	NA	1.50	73.5 *(147S)*	NA	5.0	2.2000 *(55L)*	1.1E-01	9.3E-03	2.0E-02	2.1E-04	1.1E-02	2.3505
Uncontrolled Emission Factors (lb/ton)	14.00	14.30	14.30	0.004	0.17	8.00	0.012	5.18E-03	2.59E-04	2.19E-05	4.71E-05	4.94E-07	2.59E-05	5.53E-03

Summary of Emissions (Uncontrolled)

	Uncontrolled Potential to Emit (tons/yr)												
Process	PM	PM10	PM2.5	SO_2	VOC	CO	Lead	Arsenic	Cadmium	Chromium	Cobalt	Nickel	Combined HAPs
Thermal Chip Dryer	919.80	939.74	939.74	11.36	525.60	0.77	0.34	0.02	1.44E-03	3.09E-03	3.25E-05	1.70E-03	0.36
Totals	**919.80**	**939.74**	**939.74**	**11.36**	**525.60**	**0.77**	**0.34**	**0.02**	**1.44E-03**	**3.09E-03**	**3.25E-05**	**1.70E-03**	**0.36**

	Controlled Potential to Emit (tons/yr)												
Process	PM[6]	PM10[6]	PM2.5[6]	SO_2	VOC[7]	CO	Lead	Arsenic	Cadmium	Chromium	Cobalt	Nickel	Combined HAPs
Thermal Chip Dryer	0.46	4.53	4.53	11.36	2.10	0.04	3.40E-03	1.70E-04	1.44E-05	3.09E-05	3.25E-07	1.70E-05	3.63E-03
Totals	**0.46**	**4.53**	**4.53**	**11.36**	**2.10**	**0.04**	**3.40E-03**	**1.70E-04**	**1.44E-05**	**3.09E-05**	**3.25E-07**	**1.70E-05**	**3.63E-03**

Notes
(1) 1% is max operating design of dryer
(2) Based on OmniSource Ft. Wayne permit 29387. Actual expected 15%-30%, using 40% to be conservative
(3) No emission factors exist for thermal chip drying. Therefore, source has used the emission factors for waste oil combustion found in AP-42, Chapter 1.11, SCC 1-03-013-02 (Supplement B 10/96). Source is assuming emissions generated by the dryer are a function of the amount of oil on the chips.
(4) Uncontrolled emission factors for PM, PM10 and PM2.5 based on results of uncontrolled stack test performed May 9, 2017 in order to determine accurate alternative EFs since there are none in AP-42.
(5) AP-42 1.3 "Fuel Oil Combustion" used for condensables due to lack of "Waste Oil Combustion" CPM EF
(6) Controlled emission factors (lb/ton) for PM (0.007), PM10/PM2.5 (including condensaible PM) (0.069) based on results of stack test performed May 9, 2017 in order to demonstrate compliance with PM, PM10, PM2.5 emission limits to render 326 IAC 2-2 (PSD) not applicable.
(7) Controlled emission factor (lb/ton) for VOC (0.004) based on stack test performed July 22, 2016 in order to demonstrate compliance with VOC emission limit to render 326 IAC 2-2 (PSD) not applicable.

Methodology
Maximum Oil Throughput (kgal/hr) = Max. Chip & Oil Throughput (tons/hr) * Combustible Organic Content (Oil) On Chips (% By Weight) * 2,000 (lb/tons) / 8.5 (lbs/gal of oil) / 1,000 (kgal/gal)
Uncontrolled Emission Factors (lb/ton) = Maximum Oil Throughput (kgal/hr) * Uncontrolled Emission Factors (lb/kgal) / Max. Chip & Oil Throughput (tons/hr)
Uncontrolled PTE (tons/yr) = Max. Chip & Oil Throughput (tons/hr) * Emission Factor (lb/ton) * 8,760 (hrs/yr) * 1 ton/2,000 lbs

Appendix A: Emissions Calculations
Thermal Chip Dryer Screening Process

Company Name: **Metal Technologies Auburn, LLC**
Source Address: **1537 West Auburn Drive, Auburn, IN 46706**
TVOP Renewal Permit No: **T033-45841-00042**
Significant Source Modification No.: **033-47516-00042**
Significant Permit Modification No.: **033-47542-00042**
Reviewer: **Omar El-Rjoob**

Process	Emission Unit ID	Maximum Chip Throughput (tons/hr)	PM/PM10/PM2.5 Emission Factor (lb/ton metal)*	Uncontrolled PM/PM10/PM2.5 (lb/hr)	Uncontrolled PM/PM10/PM2.5 (tons/year)	Particulate Control Efficiency (%)	Controlled PM/PM10/PM2.5 (lb/hr)	Controlled PM/PM10/PM2.5 (tons/year)
Chip Screening Process	EU-32A	15.00	1.00	15.00	65.70	99.00%	0.15	0.66

Notes
*Emissions estimated based on data provided by screen manufacturer.
The chip screening process is controlled by baghouse (DC-32c)

Methodology
Uncontrolled PTE (lb/hr) = Max. Chip Throughput (tons/hr) * Emission Factor (lb/ton)
Uncontrolled PTE (tons/yr) = Max. Chip Throughput (tons/hr) * Emission Factor (lb/ton) * 8,760 (hrs/yr) * 1 ton/2,000 lbs
Controlled PTE (lb/hr) = Uncontrolled PTE (lb/hr) * (1-CE%)
Controlled PTE (ton/yr) = Uncontrolled PTE (ton/yr) * (1-CE%)

Appendix A: Emissions Calculations
Metal Melting

Company Name: Metal Technologies Auburn, LLC
Source Address: 1537 West Auburn Drive, Auburn, IN 46706
TVOP Renewal Permit No: T033-45841-00042
Significant Source Modification No.: 033-47516-00042
Significant Permit Modification No.: 033-47542-00042
Reviewer: Omar El-Rjoob

Emission Factors

Metal Melting		Emission Unit ID(s)	Nominal Throughput (tons/yr)	Uncontrolled Emission Factors (lb/ton)											
				PM	PM10	PM2.5	SO_2	NOx	VOC	CO	GHGs as CO2e	Lead	Beryllium (Be)[1]	Organic HAPs	Metallic HAPs[2]
Electric Induction Furnaces	(SCC-3-04-003-03)	EU-2 (3 EIF furnaces total)	262,800.00	0.90	0.86	0.86	0	0	0	0	0	4.25E-02	9.00E-07	0	7.20E-02

Notes
Emission factors from AP-42 Chapter 12.10 Gray Iron Foundries and US EPA Fire Version 6.25, except as otherwise noted
(1) Uncontrolled Beryllium emissions are based on 0.0001% of the uncontrolled PM emission factor per data from the 1998 foundry ICR.
(2) Metallic HAPs based on assumption that 8% of PM emissions are metallic HAPs, consistent with the ratio of emissions from the Iron and Steel Foundry MACT Standard (40 CFR 63, Subpart EEEEE)
For the collective emission unit (EU-2), only the three (3) induction furnaces have quantifible emissions. The electric holding furnace houses the molten iron from the induction furnace until the material is transferred to the ladle for casting process. This unit is covered and maintains only enough heat to keep the iron liquefied.

Summary of Emissions (Uncontrolled)

Metal Melting		Uncontrolled Potential to Emit (tons/yr)											
		PM	PM10	PM2.5	SO_2	NOx	VOC	CO	GHGs as CO2e	Lead	Beryllium (Be)	Organic HAPs	Metallic HAPs
Electric Induction Furnaces	(SCC-3-04-003-03)	118.26	113.00	113.00	0.00	0.00	0.00	0.00	0.00	5.58	1.18E-04	0.00	9.46
Totals		**118.26**	**113.00**	**113.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**5.58**	**1.18E-04**	**0.00**	**9.46**

Methodology
Uncontrolled PTE (tons/yr) = Maximum Throughput (tons/yr) * Emission Factor (lb/ton) * 1 ton/2,000 lbs

Appendix A: Emissions Calculations
Mold and Core Production

Company Name: Metal Technologies Auburn, LLC
Source Address: 1537 West Auburn Drive, Auburn, IN 46706
TVOP Renewal Permit No: T033-45841-00042
Significant Source Modification No.: 033-47516-00042
Significant Permit Modification No.: 033-47542-00042
Reviewer: Omar El-Rjoob

Mold and Core Production		Emission Unit ID(s)	Nominal Throughput (tons/yr)	Uncontrolled Emission Factors (lb/ton)											
				PM	PM10	PM2.5	SO_2	NOx	VOC[1]	CO	GHGs as CO2e	Lead	Beryllium (Be)	Organic HAPs	Metallic HAPs
PUCB Core Production	Sand Handling (SCC 3-04-003-50)	EU-30a PUCB Sand Silo	25,404.00	3.6	0.54	0.54	0	0	0	0	0	0	0	0	0
	Core Making (SCC 3-04-003-19)	EU-30b PUCB core mixing		0	0	0	0	0.0	1.23	0	0	0	0	0	0
		EU-30c PUCB core making (DMIPA)							0.00031						

	lbs/hr	lbs/yr	tons/year	
Part 1 and Part 2 PUCB Resins	71.340	624,938.40	312	based on resin at 1.23% of core weight
DMIPA Catalyst Gas	1.798	15,750.48	7.88	based on DMIPA at 0.031% of core weight

Notes
Emission factors from AP-42 Chapter 12.10 Gray Iron Foundries and US EPA Fire Version 6.25, except as otherwise noted
(1) Site-specific emission factors for VOC. Uncontrolled VOC emissions from the core resins and catalyst gas are based on a mass balance assuming 5% VOC loss from the core resins, 100% of the loss of DMIPA catalyst gas, and the specific ratios of resins and catalyst gas that will be used for the PUCB cores.

Methodology
Core Resin Usage (lb/hr) = 1.23% * Nominal Throughput of Core Making (ton/hr) * 2,000 lb/ton
Core Resin Usage (lb/yr) = Core Resin Usage (lb/hr) * 8,760 hr/yr
Core Resin Usage (ton/yr) = Core Resin Usage (lb/hr) * 8,760 hr/yr * 1 ton/2,000 lb

Summary of Emissions (Uncontrolled)

Mold and Core Production		Uncontrolled Potential to Emit (tons/yr)											
		PM	PM10	PM2.5	SO_2	NOx	VOC	CO	GHGs as CO2e	Lead	Beryllium (Be)	Organic HAPs	Metallic HAPs
PUCB Core Production	EU-30a PUCB Sand Silo	45.73	6.86	6.86	0	0	0	0	0	0	0	0	0
	EU-30b PUCB core mixing	0	0	0	0	0	15.62	0	0	0	0	0	0
	EU-30c PUCB core making (DMIPA)	0	0	0	0	0	3.94E-03	0	0	0	0	0	0
	Totals	45.73	6.86	6.86	0.00	0.00	15.63	0.00	0.00	0.00	0.00	0.00	0.00

Methodology
Uncontrolled PTE (tons/yr) = Throughput (tons/yr) * Emission Factor (lb/ton) * 1 ton/2,000 lbs

Controlled VOC Emissions

		Throughput (lb/year)	VOC emissions		Controlled VOC PTE (tons/yr)*
EU-W9 PUCB Core Production	Core Making Resins	624,938	0.05	lb/lb resin	15.62
	Core Making Catalyst Gas	15,750	0.01	lb/lb DMIPA	7.88E-02
				Sum:	**15.70**

Notes
*Control device: SC-1 Acid Scrubber (Stack SC-1), for catalyst gas

Methodology
Core Resin Usage throughput methodology is the same as above.
Limited VOC PTE (tons/year) = Throughput (lb/year) * VOC Limit (lb/lb) * 1 ton/2,000 lb

Mold and Core Production Limited PTE

PSD Minor Limit for Mold & Core Production		lb/ton of core throughput limit		
Emission Unit	**Sand throughput (tons/yr)**	**PM**	**PM10**	**PM2.5**
EU-30a PUCB Sand Silo	25,404	0.925	0.52	0.32

Summary of Emissions (Limited)

Mold and Core Production		Limited Potential to Emit (tons/yr)											
		PM	PM10	PM2.5	SO_2	NOx	VOC	CO	GHGs as CO2e	Lead	Beryllium (Be)	Organic HAPs	Metallic HAPs
PUCB Core Production	EU-30a PUCB Sand Silo	11.75	6.61	4.06	0	0	0	0	0	0	0	0	0
	EU-30b PUCB core mixing				0	0	15.62	0	0	0	0	0	0
	EU-30c PUCB core making (DMIPA)				0	0	3.94E-03	0	0	0	0	0	0
	Totals	**11.75**	**6.61**	**4.06**	**0.00**	**0.00**	**15.63**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2012 Modification: Significant Source Modification No. 033-31731-00042, issued on July 20, 2012 and Significant Permit Modification No. 033-31732-00042, issued on August 7, 2012

Plantwide ATPA (Projected Actual - Baseline - Could Have Accomodated Emissions)	1.28	1.33	1.33	0.01	0.90	15.75	0.76
Combustion units	0.01	0.05	0.05	0.00	0.64	0.04	0.54
Total	13.04	7.98	5.44	0.01	1.54	31.41	1.30
PSD Significant Threshold	**25**	**15**	**10**	**40**	**40**	**40**	**100**

See Technical Support document to Significant Permit Modification No. 033-31732-00042 for ATPA analysis for this modification.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
PUCB Drying Oven (EU-30e)

Company Name: **Metal Technologies Auburn, LLC**
Source Address: **1537 West Auburn Drive, Auburn, IN 46706**
TVOP Renewal Permit No: **T033-45841-00042**
Significant Source Modification No.: **033-47516-00042**
Significant Permit Modification No.: **033-47542-00042**
Reviewer: **Omar El-Rjoob**

Heat Input Capacity MMBtu/hr	HHV mmBtu/mmscf	Potential Throughput MMCF/yr
1.5	1020	12.9

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	7.6	0.6	100 **see below	5.5	84
Potential Emission in tons/yr	0.01	0.05	0.05	0.00	0.64	0.04	0.54

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

	HAPs - Organics				
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	1.353E-05	7.729E-06	4.831E-04	1.159E-02	2.190E-05

	HAPs - Metals				
	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	3.221E-06	7.085E-06	9.018E-06	2.448E-06	1.353E-05

Worst HAP
1.159E-02
(Hexane)

Total HAPs
1.216E-02

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

Methodology
All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,020 MMBtu
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
Emission Factors are from AP 42, Table 1.4-2 SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03.
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Appendix A: Emission Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Thermal Chip Dryer

Company Name: Metal Technologies Auburn, LLC
Source Address: 1537 West Auburn Drive, Auburn, IN 46706
TVOP Renewal Permit No: T033-45841-00042
Significant Source Modification No.: 033-47516-00042
Significant Permit Modification No.: 033-47542-00042
Reviewer: Omar El-Rjoob

1. Process Description

Emission Unit ID	Heat Input Capacity (MMBtu/hr)
Chip Dryer Retort Burners (Low-NOx)	9.50
Smoke Hood and Thermal Oxidizer Burners	6.545
Total	**16.05**

2. Combustion Emissions - Criteria Pollutants

		Emission Factor (lbs/MMCF)						
NOx Burner Type	Fuel Heat Value (MMBtu/MMCF)	PM*	PM10*	direct PM2.5	SO_2	NOx**	VOC	CO
Low-NOx Burners	1,020	1.9	7.6	7.6	0.6	50	5.5	84.0
Ordinary Burners	1,020	1.9	7.6	7.6	0.6	100	5.5	84.0

* PM emission factor is for filterable PM only. PM10 emission factor is for condensable PM10 and filterable PM combined.
** Emission factors for NOx: Uncontrolled = 100 lbs/MMCF, Low NOx Burners = 50 lbs/MMCF
Emission factors are from AP 42, Chapter 1.4, Tables 1.4-1, and 1.4-2, SCC 1-01-006-02, 1-02-006-02, 1-03-006-02, 1-03-006-03. (7/98)

		Potential To Emit (tons/yr)						
Emission Unit ID	Potential Throughput (MMCF/yr)	PM	PM10	direct PM2.5	SO_2	NOx	VOC	CO
Chip Dryer Retort Burners (Low-NOx)	81.59	0.08	0.31	0.31	0.02	2.04	0.22	3.43
Smoke Hood and Thermal Oxidizer Burners	56.21	0.05	0.21	0.21	0.02	2.81	0.15	2.36
Total	**137.80**	**0.13**	**0.52**	**0.52**	**0.04**	**4.85**	**0.38**	**5.79**

Methodology
Maximum Potential Throughput (MMCF/yr) = Heat Input Capacity (MMBtu/hr) x 8,760 (hrs/yr) x 1 MMCF/1,000 MMBtu
Potential To Emit (tons/year) = Throughput (MMCF/yr) x Emission Factor (lbs/MMCF) x 1 ton/2,000 lbs

3. Combustion Emissions - HAP Pollutants

	Emission Factor (lbs/MMCF)									
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene	Cadmium	Chromium	Manganese	Mercury	Nickel
	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03	1.1E-03	1.4E-03	3.8E-04	2.6E-04	2.1E-03

	Potential To Emit (tons/yr)									
Emission Unit ID	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene	Cadmium	Chromium	Manganese	Mercury	Nickel
Chip Dryer Retort Burners (Low-NOx)	8.57E-05	4.90E-05	3.06E-03	7.34E-02	1.39E-04	4.49E-05	5.71E-05	1.55E-05	1.06E-05	8.57E-05
Smoke Hood and Thermal Oxidizer Burners	5.90E-05	3.37E-05	2.11E-03	5.06E-02	9.56E-05	3.09E-05	3.93E-05	1.07E-05	7.31E-06	5.90E-05
Total	**1.45E-04**	**8.27E-05**	**5.17E-03**	**1.24E-01**	**2.34E-04**	**7.58E-05**	**9.65E-05**	**2.62E-05**	**1.79E-05**	**1.45E-04**

HAP emission factors are from AP 42, Chapter 1.4, Tables 1.4-3 and 1.4-4. (7/98)

Total HAP =	**0.13**
Highest Single HAP =	**1.24E-01**
	Hexane

Methodology
Potential To Emit (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lbs/MMCF) x 1 ton/2,000 lbs

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

Company Name: Metal Technologies Auburn, LLC
Source Address: 1537 West Auburn Drive, Auburn, IN 46706
TVOP Renewal Permit No: T033-45841-00042
Significant Source Modification No.: 033-47516-00042
Significant Permit Modification No.: 033-47542-00042
Reviewer: Omar El-Rjoob

Heat Input Capacity MMBtu/hr	HHV mmBtu / mmscf	Potential Throughput MMCF/yr
87.9	1020	755.0

Unit type	Unit ID	Heat input
Twelve (12) Ladle Preheater Torches and Three (3) hot shots	portable, used intermittently for heating ladles - no IDs	10 MMBtu/hr for all fifteen (15)
Air Makeup unit	#1 AMU	6.75
Air Makeup unit	#2 AMU	6.75
Air Makeup unit	#3 AMU	6.75
Air Makeup unit	#4 AMU	6.75
Air Makeup unit	#5 AMU	6.75
Air Makeup unit	#6 AMU	6.75
Air Makeup unit	#7 AMU	6.75
Air Makeup unit	#8 AMU	5
Air Makeup unit	#9 AMU	5.13
Air Makeup unit	#10 AMU	5.13
Air Makeup unit	#11 AMU	7.7
Air Makeup unit	#12 AMU	7.7
Total		**87.91**

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	7.6	0.6	100 **see below	5.5	84
Potential Emission in tons/yr	0.72	2.87	2.87	0.23	37.75	2.08	31.71

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

Methodology
All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,020 MMBtu
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Hazardous Air Pollutants (HAPs)

	HAPs - Organics					
	Benzene	Dichlorobenzen	Formaldehyde	Hexane	Toluene	**Total - Organics**
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03	
Potential Emission in tons/yr	7.9E-04	4.5E-04	2.8E-02	0.68	1.3E-03	**0.71**

	HAPs - Metals					
	Lead	Cadmium	Chromium	Manganese	Nickel	**Total - Metals**
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03	
Potential Emission in tons/yr	1.9E-04	4.2E-04	5.3E-04	1.4E-04	7.9E-04	**2.1E-03**
					Total HAPs	**0.71**
					Worst HAP	**0.68**

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

Appendix A: Emission Calculations
Large Reciprocating Internal Combustion Engines - Diesel Fuel
Output Rating (>600 HP)

Company Name: **Metal Technologies Auburn, LLC**
Source Address: **1537 West Auburn Drive, Auburn, IN 46706**
TVOP Renewal Permit No: **T033-45841-00042**
Significant Source Modification No.: **033-47516-00042**
Significant Permit Modification No.: **033-47542-00042**
Reviewer: **Omar El-Rjoob**

Emissions calculated based on output rating (hp)

Output Horsepower Rating (hp)	1135.0
Maximum Hours Operated per Year	500
Potential Throughput (hp-hr/yr)	567,500
Sulfur Content (S) of Fuel (% by weight)	0.500

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	7.00E-04	4.01E-04	4.01E-04	4.05E-03 *(.00809S)*	2.40E-02 **see below	7.05E-04	5.50E-03
Potential Emission in tons/yr	0.20	0.11	0.11	1.15	6.81	0.20	1.56

*PM10 emission factor in lb/hp-hr was calculated using the emission factor in lb/MMBtu and a brake specific fuel consumption of 7,000 Btu / hp-hr (AP-42 Table 3.3-1).
**NOx emission factor: uncontrolled = 0.024 lb/hp-hr, controlled by ignition timing retard = 0.013 lb/hp-hr

Hazardous Air Pollutants (HAPs)

	Pollutant						
	Benzene	Toluene	Xylene	Formaldehyde	Acetaldehyde	Acrolein	Total PAH HAPs***
Emission Factor in lb/hp-hr****	5.43E-06	1.97E-06	1.35E-06	5.52E-07	1.76E-07	5.52E-08	1.48E-06
Potential Emission in tons/yr	1.54E-03	5.58E-04	3.83E-04	1.57E-04	5.01E-05	1.57E-05	4.21E-04

***PAH = Polyaromatic Hydrocarbon (PAHs are considered HAPs, since they are considered Polycyclic Organic Matter)
****Emission factors in lb/hp-hr were calculated using emission factors in lb/MMBtu and a brake specific fuel consumption of 7,000 Btu / hp-hr (AP-42 Table 3.3-1).

Potential Emission of Total HAPs (tons/yr)	**3.13E-03**

Methodology
Emission Factors are from AP 42 (Supplement B 10/96) Tables 3.4-1 , 3.4-2, 3.4-3, and 3.4-4.
Potential Throughput (hp-hr/yr) = [Output Horsepower Rating (hp)] * [Maximum Hours Operated per Year]
Potential Emission (tons/yr) = [Potential Throughput (hp-hr/yr)] * [Emission Factor (lb/hp-hr)] / [2,000 lb/ton]

Appendix A: Fugitive Emissions
Emissions Summary and Truck Dumping

Company Name: Metal Technologies Auburn, LLC
Source Address: 1537 West Auburn Drive, Auburn, IN 46706
TVOP Renewal Permit No: T033-45841-00042
Significant Source Modification No.: 033-47516-00042
Significant Permit Modification No.: 033-47542-00042
Reviewer: Omar El-Rjoob

Total Fugitives (ton/yr)	PM	PM10
Truck Dumping	4.12E-04	1.95E-04
Paved Roads	1.45	0.28
Storage Piles	8.65E-04	4.09E-04
Storage Pile Handling	7.02E-07	3.32E-07
Total	**1.46**	**0.28**

Truck Dumping (see AP-42 for more information)
Waste sand is the only material dumped on-site. All other materials are either unloaded indoors or unloaded into a silo.

E = k(0.0032) * (U/5)^1.3 / (M/2)^1.4 AP-42 Chapter 13.2.4, Equation 1

E =	Emission Factor (lbs/ton)	
k =	0.35	particle size multiplier for PM-10
	0.74	particle size multiplier for PM
U =	1	mean wind speed (mph)
M =	7.4	material moisture content (fraction)

PM Emission Factor:
E = 4.6799E-05 lb/ton

PM-10 Emission Factor:
E = (0.35)(0.0032) * (12.7/5)^1.3 / (10%/2)^1.4
E = 2.2135E-05 lb/ton

Annual potential amount of dry material delivered by truck = 17,600 tpy

Potential PM Emissions (tons/year) = Emission factor (lb/ton) * Gypsum delivered (tpy) / 2000 (lbs/ton)
Potential PM Emissions (tons/year) = **0.00041183 tpy**

Potential PM-10 Emissions (tons/year) = Emission factor (lb/ton) * Gypsum delivered (tpy) / 2000 (lbs/ton)
Potential PM-10 Emissions (tons/year) = **0.00019479 tpy**

Paved Roads (see AP-42 for more information)

Maximum Vehicular Speed: 10 mph
Average Distance of Haul: 0.25 miles

Vehicle Type	No. of One Way Trips per Hour	Weight
Dump Truck	8	40
total	8	

Weighted Average Gross Weight: 40 tons

Calculations:
E = k(sL/2)^0.65 * (W/3)^1.5 AP-42 Chapter 13.2.1, Equation 1

E =	Emission factor (lbs/vehicle miles traveled(VMT))	
k =	0.016	particle size multiplier for PM-10
	0.082	particle size multiplier for PM
sL	0.015	road surface silt content (g/m^2)
W	40	weighted average vehicle weight (tons) (calculate from table above)

source: AP-42, chapter 13.2.1, p. 13.2.1-6.

VMT= 17520 (miles/yr)

PM
E = 0.16596319 lbs/VMT

Potential PM Emissions (ton/yr) = Emission factor (lbs/VMT) * VMT / 2000 (lbs/ton)
Potential PM Emissions (ton/yr) = **1.45 tpy**

PM-10
E = 0.03238306 lbs/VMT

Potential PM-10 Emissions (ton/yr) = Emission factor (lbs/VMT) * VMT / 2000 (lbs/ton)
Potential PM-10 Emissions (ton/yr) = **0.28 tpy**

Storage Piles (if applicable) (see AP-42 for more information)

The section that discusses storage piles, AP-42 Section 13.2.4, indicates that the largest contriubution to emissions from the storage pile is the loading into the pile. An equation for the storage pile was not available. Therefore, it is assumed that the emissions from the storage pile is equal to the emissions from the truck dumping.

Potential PM Emissions (tons/year) = **0.00086485 tpy**
Potential PM-10 Emissions (tons/year) = **0.00040905 tpy**

Storage Pile Handling (if applicable) (see AP-42 for more information)

EF (lb/ton) = k * (0.0032) * (U/5)^1.3 / (M/2)^1.4

where:

k value for:

PM	PM10
0.74	0.35

U value =	1	mph
M value =	7.4	%
Storage capacity =	60	tons
PM EF =	4.68E-05	lb/ton
PM10 EF =	2.21E-05	lb/ton

PM Emissions (ton/yr) = EF (lb/ton) * Storage Capacity (tons) * use rate (1/year) * 1/2000 ton/lb
PM Emissions (ton/yr) = 7.02E-07

PM10 Emissions (ton/yr) = EF (lb/ton) * Storage Capacity (tons) * use rate (1/year) * 1/2000 ton/lb
PM10 Emissions (ton/yr) = 3.32E-07

Appendix B - PSD Emissions Increase Evaluation

Indiana Department of Environmental Management
Office of Air Quality

Source Description and Location

Source Name:	**Metal Technologies Auburn, LLC**
Source Location:	**1537 West Auburn Drive, Auburn, IN 46706**
County:	**DeKalb**
SIC Code:	**3321 (Gray and Ductile Iron Foundries)**
Operation Permit No.:	**T 033-45841-00042**
Operation Permit Issuance Date:	**May 16, 2023**
Significant Source Modification No.:	**033-47516-00042**
Significant Permit Modification No.:	**033-47542-00042**
Permit Reviewer:	**Omar El-Rjoob**

Description of Proposed Modification

The Office of Air Quality (OAQ) has reviewed an application, submitted by Metal Technologies Auburn, LLC. on February 9, 2024, relating to the following:

(a) Construction of new casting shakeout operations that will replace (1) casting shakeout.

Below is the new replacement casting shakeout operation:

One (1) Line 1 and Line 2 casting shakeout operation, identified as EU-5a, approved in 2024 for construction, with a nominal capacity of 20 tons of metal and 110 tons of sand per hour, using baghouse DC-5 and baghouse DC-11 as control, and exhausting to stacks S-5 and S-11.

The EU-5a casting shakeout operation is shared by Line 1 and Line 2; they merge into one (1) line for casting cooling, controlled by a baghouse (DC-11), and exhausting to stack S-11.

This EU-5a casting shakeout operation replaces an existing casting shakeout operation installed in 1995.

See Appendix C of this Technical Support Document for the PTE calculations of these casting shakeout operations.

Below is the existing casting shakeout operation being replaced:

~~One (1) Line 1 and Line 2 casting shakeout operation, identified as EU-5a, constructed in 1995 with a nominal capacity of 20 tons of metal and 110 tons of sand per hour, particulate emissions are controlled by baghouse DC-5, which exhausts to stack S-5.~~

~~This EU-5a casting shakeout operation is shared by Line 1 and Line 2.~~

This change is considered to be functionally equivalent and will be considered a replacement for the purpose of this PSD Emission Increase Evaluation:

(i) Similar location:

The 2 replacement Line 1 casting shakeout and Line 2 casting shakeout operations are going to be located in the same place where the existing single Line 1 and Line 2 casting shakeout is currently located.

(ii) Similar function and process:

The 2 replacement Line 1 casting shakeout and Line 2 casting shakeout operations will perform the same functions as the existing single Line 1 and Line 2 casting shakeout. The overall process of the casting shakeout line remains the same, which is not changing as a result of replacing casting shakeout line.

(iii) The same maximum capacity:

The 2 replacement Line 1 casting shakeout and Line 2 casting shakeout operations will have a combined maximum throughput that is the same as the existing single Line 1 and Line 2 casting shakeout that is being replaced.

(iv) The same control:

The 2 replacement Line 1 casting shakeout and Line 2 casting shakeout operations will use the same control currently being used by the existing single Line 1 and Line 2 casting shakeout that is being replaced.

(b) Modification of one (1) existing one (1) shot blast system by:

(i) Removing one (1) shot blasting unit (EU-16), and

(ii) Modifying the existing shot blast unit (EU-17) to blast castings from Lines 1 and 2.

Since EU-16 is being removed, the castings from Line 1 are going to be routed to the existing EU-17. There is no change in the nominal capacity of the existing shot blast system.

See Appendix C of this Technical Support Document for the PTE calculations of the shotblast.

With this modification, the description of the existing shot blast system is revised as follows:

One (1) shot blast system, consisting of **the following** ~~three (3)~~ **two (2)** shot blast units, ~~identified as EU-16,~~ EU-17, and EU-19, constructed in 1999, modified in 2012 **and approved in 2024 for modification**, with a total nominal capacity of 27 tons of iron castings per hour, with all particulate emissions controlled by baghouse DC-7, which exhausts to stack S-8.

Stack S-8 is a common stack for Baghouse DC-8 and Baghouse DC-7.

Shot Blast System Unit	Line Served	**Modification Date**
~~EU-16~~	Line 1	**EU-17 is approved in 2024 to blast castings from Lines 1 and 2.**
EU-17	Line 2	
	Line 3	EU-19 is approved in 2021 to blast castings from both Lines 3 and 4.
EU-19	Line 4	

Project Aggregation Evaluation

Metal Technologies Auburn, LLC. provided the following information to justify that under 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), the following projects (2024 and 2023 Projects) are separate and independent of each other and therefore should not be aggregated:

The current 2024 and 2023 projects are independent, and have no impact on one another from an operational or utilization standpoint. Furthermore, the 2023 and 2024 projects were not treated by Metal Technologies Auburn, LLC. as a single project are separate and independent of each other and therefore should not be aggregated:

2023 Project - MSM 033-45942-00042, issued on November 3, 2023

This 2023 project is the addition of One (1) phenolic urethane cold box (PUCB), identified as EU-31.

2024 Projects:

The 2024 projects consist of the following, which are explained in details above:

(a) Replacement of one (1) casting shakeout for Line 1 and Line 2 with 2 shakeout operation for Line 1 and Line 2.

(b) Modification of the existing one (1) shot blast system.

The 2023 project is to provide MTA the ability to make more cores inhouse instead of purchasing the cores from outside venders. The new core machine did not debottleneck the processes before or after.

The 2024 projects are to accommodate aging equipment. Furthermore, the 2023 and 2024 projects were not treated by MTA as a single project financially- funding decisions for the projects were completely separate, and the projects are not dependent on one another to be financially viable.

The 2023 and 2024 projects would have been proposed and completed without the other project taking place and are independent from each other. Based on these, they should not be aggregated as one project.

Conclusion:

Based on the information presented, IDEM, OAQ will consider the 2023 and 2024 projects independent, and emissions will not be aggregated for the purpose of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) review.

PSD Emissions Increase

(a) Actual to Projected Actual (ATPA) Applicability Test
Since this project only involves existing emissions units, an Actual to Projected Actual (ATPA) test, specified in 326 IAC 2-2-2(d)(3), is used to determine if the project results in a Significant Emissions Increase.

(b) Existing Emissions Units Affected by the Modification
This project only involves existing emissions units affected by the modification. The following emissions units will be considered existing for the purpose of this ATPA test:
(A) Replacement emissions units. A new emissions unit, that replaces an existing emissions unit and is identical to or functionally equivalent to the replaced emissions unit is a replacement unit. A replacement emissions unit is an existing emissions unit. [326 IAC 2-2-1(tt)]
(B) Modified emissions units.

Based on the definitions mentioned above:

(A) The following proposed replacement unit(s) will be considered as existing emissions units for this evaluation.

~~One (1) Line 1 and Line 2 casting shakeout operation, identified as EU-5a, constructed in 1995 with a nominal capacity of 20 tons of metal and 110 tons of sand per hour, particulate emissions are controlled by baghouse DC-5, which exhausts to stack S-5.~~

~~This EU-5a casting shakeout operation is shared by Line 1 and Line 2.~~

One (1) Line 1 and Line 2 casting shakeout operation, identified as EU-5a, approved in 2024 for construction, with a nominal capacity of 20 tons of metal and 110 tons of sand per hour, using baghouse DC-5 and baghouse DC-11 as control, and exhausting to stacks S-5 and S-11.

The EU-5a casting shakeout operation is shared by Line 1 and Line 2; they merge into one (1) line for casting cooling, controlled by a baghouse (DC-11), and exhausting to stack S-11.

This EU-5a casting shakeout operation replaces an existing casting shakeout operation installed in 1995.

(B) The following emissions unit(s) will be considered as modified existing emissions units for this evaluation:

One (1) shot blast system, consisting of **the following** ~~three (3)~~ **two (2)** shot blast units, ~~identified as EU-16,~~ EU-17, and EU-19, constructed in 1999, modified in 2012 **and approved in 2024 for modification**, with a total nominal capacity of 27 tons of iron castings per hour, with all particulate emissions controlled by baghouse DC-7, which exhausts to stack S-8.

Stack S-8 is a common stack for Baghouse DC-8 and Baghouse DC-7.

Shot Blast System Unit	Line Served	**Modification Date**
~~EU-16~~	Line 1	**EU-17 is approved in 2024 to blast castings from Lines 1 and 2.**
EU-17	Line 2	
	Line 3	EU-19 is approved in 2021 to blast castings from both Lines 3 and 4.
EU-19	Line 4	

(c) Baseline Actual Emissions
The baseline actual emissions from the existing emissions units involved in this ATPA applicability test are based on their emissions from the highest two years 2014 and 2015.

See Appendix C of this Technical Support Document for details.

(d) Actual to Projected Actual (ATPA) Summary
The Emissions Increase of the project is the sum of the difference between the Projected Actual Emissions and the baseline emissions for **each existing emissions unit.**

Pursuant to 326 IAC 2-2-1(pp)(2)(B), in lieu of determining the Projected Actual Emissions, a source may elect to use the emissions unit's potential to emit (PTE). When using the an emissions unit's PTE in lieu of using the Projected Actual Emissions, the source can NOT use Could Have Accomodated Emissions/Demand Growth Exclusions.

$ATP_{(existing\ unit)} = PTE_{(existing\ unit)}$ - Baseline Emissions

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

(1) Replacement Unit:

Line 1 Casting Shakeout & Line 2 Casting Shakeout ATPA (tons/year)							
Process/Emissions Unit	**PM**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**NO_X**	**VOC**	**CO**
Projected Actual Emissions of Line 1 Casting Shakeout	1.75	1.25	1.25	0.0	0.0	46.8	165.0
Projected Actual Emissions of Line 2 Casting Shakeout	1.75	1.25	1.25	0.0	0.0	46.8	165.0
Baseline Actual Emissions of Line 1 and Line 2 Casting Shakeout	3.10	2.20	2.20	0.0	0.0	81.8	288.8
Actual to Projected Actual	0.40	0.30	0.30	0.0	0.0	11.7	41.2

(2) Modified Unit:

EU-17 ATPA (tons/year)							
	PM	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**NO_X**	**VOC**	**CO**
Projected Actual Emissions	13.4	1.3	1.3	0.0	0.0	0.0	0.0
Baseline Actual Emissions	9.9	1.0	1.0	0.0	0.0	0.0	0.0
Actual to Projected Actual	3.6	0.4	0.4	0.0	0.0	0.0	0.0

(3) Project Emissions Increase:

Project Emissions Increase (tons/year)							
Process/Emissions Unit	**PM**	**PM_{10}**	**$PM_{2.5}$***	**SO_2**	**NO_X**	**VOC**	**CO**
Line 1 Casting Shakeout & Line 2 Casting Shakeout (ATPA)	0.40	0.30	0.30	0.0	0.0	11.7	41.2
EU-17 (ATPA)	3.6	0.40	0.40	0.0	0.0	0.0	0.0
Project Emissions Increase	**4.0**	**0.70**	**0.70**	**0.0**	**0.0**	**11.7**	**41.2**
Significant Levels	25	15	10	40	40	40	100
*PM2.5 listed is direct PM2.5.							

(e) Upstream/Downstream Increased Utilization
The modification of one (1) shotblast machine (EU-17) to blast castings from Lines 1 and 2, and replacement line 1 casting shakeout and line 2 casting shakeout with existing casting shakeout Lines 1 and 2 (EU-5a) will not result in any increased utilization.

(f) Conclusion
The Permittee has provided information as part of the application for this approval that based on Actual to Projected Actual test in 326 IAC 2-2-2 that this modification to an existing major PSD stationary source will not be major because the Emissions Increase of each PSD regulated pollutant is less than the PSD significant levels levels (i.e., the modification does not cause a Significant Emissions Increase). The applicant will be required to keep records and report in accordance with 326 IAC 2-2-8 (Prevention of Significant Deterioration (PSD) Requirements: Source Obligation).

Appendix C: Emission Calculations
ATPA

Source Name: Metal Technologies Auburn, LLC
Source Location: 1537 West Auburn Drive, Auburn, IN 46706
Significant Source Modification No.: 033-47516-00042
Significant Permit Modification No.: 033-47542-00042
Permit Reviewer: Omar El-Rjoob

Project Emissions Increase (tons/year)							
Process/Emissions Unit	PM	PM10	PM2.5	SO2	NOx	VOC	CO
EU-5a Line 1 and Line 2 Casting Shakeout (ATPA)	0.4	0.3	0.3	0.00	0.00	11.7	41.2
EU-16 & EU-17 (ATPA)	3.6	0.4	0.4	0.00	0.00	0.00	0.00
Project Emissions Increase	**4.0**	**0.7**	**0.7**	**0.00**	**0.00**	**11.7**	**41.2**
Significant Levels	25.00	15.00	10.00	40.00	40.00	40.00	100.00

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Production Data of Casting Shakeout EU-5a

	from Line 1	from Line 2
Baseline Actual Years	Total	Total
	tons/yr	tons/yr
1/2014 - 12/2014	49246	49246
1/2015 - 12/2015	47017	47017
1/2016 - 12/2016	45520	45520
1/2017 - 12/2017	42037.5	42037.5
1/2018 - 12/2018	43738.5	43738.5
1/2019 - 12/2019	42914.5	42914.5
1/2020 - 12/2020	38294.5	38294.5
1/2021 - 12/2021	41462.5	41462.5
1/2022 - 12/2022	39515.5	39515.5
1/2023 - 12/2023	40009.5	40009.5

Highest 24-month Period (tons/yr) of EU-5a	96263	96263
Average ton/year	48131	48131

Production Data for 2014 to 2015 of EU-5a

Baseline Actual Months	from Line 1 (tons)	from Line 2 (tons)
1/12/2014	4,092	4,092
2/12/2014	3,843	3,843
3/1/2014	4,843	4,843
4/1/2014	4,235	4,235
5/1/2014	4,044	4,044
6/1/2014	3,977	3,977
7/1/2014	4,366	4,366
8/1/2014	4,282	4,282
9/1/2014	3,315	3,315
10/1/2014	4,615	4,615
11/1/2014	3,857	3,857
12/1/2014	3,778	3,778
2014 Total	49,246	49,246
1/1/2015	4,111	4,111
2/15/2015	3,442	3,442
3/15/2015	4,308	4,308
4/1/2015	3,954	3,954
5/1/2015	3,115	3,115
6/1/2015	4,089	4,089
7/15/2015	3,944	3,944
8/15/2015	4,136	4,136
9/15/2015	4,159	4,159
10/15/2015	4,315	4,315
11/15/2015	4,128	4,128
12/15/2015	3,319	3,319
2015 Total	47,017	47016.5

Shaded cells are the data used for baseline actual emissions.

Baseline Emissions of EU-5a (tons/yr)

	Totals (tons/yr)						
	PM	PM10	PM2.5	SO2	NOx	VOC*	CO*
EF (lbs/ton) before control	3.2	2.24	2.24	0	0	1.7	6.0
Control Efficency**	98%	98%	98%				
EU-5a from Line 1	1.5	1.1	1.1	0.0	0.0	40.9	144.4
EU-5a from Line 2	1.5	1.1	1.1	0.0	0.0	40.9	144.4
Total	**3.1**	**2.2**	**2.2**	**0.0**	**0.0**	**81.8**	**288.8**

Emission factors from AP-42 Chapter 12.10 Gray Iron Foundries and US EPA Fire Version 6.25
*VOC & CO Emission factor for pouring/cooling includes shakeout
**Baghouse controlled 98% overall control efficiency for particulates.
Methodology:
Baseline Actual Emission (tons/year) = Emission Factor (lb/ton) * Material throughput (ton/year) * 1/2000 ton/lb
For PM, PM10 and PM2.5 Baseline Actual Emission (tons/year) = Emission Factor (lb/ton) * (1-CE%) * Material throughput (ton/year) * 1/2000 ton/lb

Projected Throughput (tons/year)	Line 1 casting shakeout	Line 2 casting shakeout
	55,000	55,000

Projected Actual Emissions

	Totals (tons/yr)						
	PM	PM10	PM2.5	SO2	NOx	VOC*	CO
EF (lbs/ton) before control	3.2	2.24	2.24	0	0	1.7	6.0
Control Efficency**	98%	98%	98%				
EU-5a from Line 1	1.8	1.2	1.2	0.0	0.0	46.8	165.0
EU-5a from Line 2	1.8	1.2	1.2	0.0	0.0	46.8	165.0
Total	**3.5**	**2.5**	**2.5**	**0.0**	**0.0**	**93.5**	**330.0**

Methodology:
Projected actual emissions (tons/year) = Limited Throughput (ton/yr) * Emission Factor (lb/ton) * 1/2000 ton/lb
For PM, PM10 and PM2.5 Projected actual emissions (tons/year) = Limited Throughput (ton/yr) * (1-CE%) * Emission Factor (lb/ton) * 1/2000 ton/lb
Emission factors from AP-42 Chapter 12.10 Gray Iron Foundries and US EPA Fire Version 6.25
*VOC & CO Emission factor for pouring/cooling includes shakeout
**Baghouse controlled 98% overall control efficiency for particulates.

ATPA

	Tons/yr						
	PM	PM10	PM2.5	SO2	NOx	VOC	CO
Projected Actual Emissions	3.5	2.5	2.5	0.0	0.0	93.5	330.0
Baseline Actual Emissions	3.1	2.2	2.2	0.0	0.0	81.8	288.8
Actual to Projected Actual	**0.4**	**0.3**	**0.3**	**0.0**	**0.0**	**11.7**	**41.2**
Significant Threshold	25	15	10	40	40	40	100

ATPA (ton/yr) = Projected Actual Emissions (ton/yr) - Baseline Emissions (ton/yr)

Appendix C: Emission Calculations
ATPA
Source Name: Metal Technologies Auburn, LLC
Source Location: 1537 West Auburn Drive, Auburn, IN 46706
Significant Source Modification No.: 033-47516-00042
Significant Permit Modification No.: 033-47542-00042
Permit Reviewer: Omar El-Rjoob

Production Data

	Shotblast EU-16	Shotblast EU-17
	tons	tons
1/2014 - 12/2014	29548	29548
1/2015 - 12/2015	28210	28210
1/2016 - 12/2016	27312	27312
1/2017 - 12/2017	25223	25223
1/2018 - 12/2018	26243	26243
1/2019 - 12/2019	25749	25749
1/2020 - 12/2020	22977	22977
1/2021 - 12/2021	24877	24877
1/2022 - 12/2022	23709	23709
1/2023 - 12/2023	24006	24006

Highest 24-month Period (tons/yr)	57758	57758
Average ton/year	28879	28879

Production Data for 2014 to 2015

Baseline Actual Months	Shotblast EU-16 (tons)	Shotblast EU-17 (tons)
1/12/2014	2,455	2,455
2/12/2014	2,306	2,306
3/1/2014	2,906	2,906
4/1/2014	2,541	2,541
5/1/2014	2,427	2,427
6/1/2014	2,386	2,386
7/1/2014	2,620	2,620
8/1/2014	2,569	2,569
9/1/2014	1,989	1,989
10/1/2014	2,769	2,769
11/1/2014	2,314	2,314
12/1/2014	2,267	2,267
2014 Total	29,548	29,548
1/1/2015	2,466	2,466
2/15/2015	2,065	2,065
3/15/2015	2,585	2,585
4/1/2015	2,372	2,372
5/1/2015	1,869	1,869
6/1/2015	2,453	2,453
7/15/2015	2,366	2,366
8/15/2015	2,481	2,481
9/15/2015	2,495	2,495
10/15/2015	2,589	2,589
11/15/2015	2,477	2,477
12/15/2015	1,991	1,991
2015 Total	28,210	28209.9

Shaded cells are the data used for baseline actual emissions.

Baseline Actual Emissions	**Totals (tons/yr)**						
	PM	PM10	PM2.5	SO2	NOx	VOC	CO
EF (lbs/ton) before control	17	1.7	1.7	0	0	0	0.0
Control Efficency*	98%	98%	98%				
Shotblast EU-16	4.9	0.5	0.5	0.0	0.0	0.0	0.0
Shotblast EU-17	4.9	0.5	0.5	0.0	0.0	0.0	0.0
Total	**9.8**	**1.0**	**1.0**	**0.0**	**0.0**	**0.0**	**0.0**

*Baghouse controlled 98% overall control efficiency for particulates.
Emission factors from AP-42 Chapter 12.10 Gray Iron Foundries and US EPA Fire Version 6.25
Methodology:
Baseline Actual Emission (tons/year) = Emission Factor (lb/ton) * Material throughput (ton/year) * 1/2000 ton/lb
For PM, PM10 and PM2.5 Baseline Actual Emission (tons/year) = Emission Factor (lb/ton) * (1-CE%) * Material throughput (ton/year) * 1/2000 ton/lb

Projected Throughput (tons/yr)	Modified (EU-17)
	78,840

Proejcted Actual Emissions

	Totals (tons/yr)						
	PM	PM10	PM2.5	SO2	NOx	VOC	CO
EF (lbs/ton) before control	17	1.7	1.7	0	0	0	0.0
Control Efficency*	98%	98%	98%				
Modified (EU-17)	**13.4**	**1.3**	**1.3**	**0.0**	**0.0**	**0.0**	**0.0**

*Baghouse controlled 98% overall control efficiency for particulates.
Emission factors from AP-42 Chapter 12.10 Gray Iron Foundries and US EPA Fire Version 6.25
Methodology:
Projected actual emissions (tons/year) = Limited Throughput (ton/yr) * Emission Factor (lb/ton) * 1/2000 ton/lb
For PM, PM10 and PM2.5 Projected actual emissions (tons/year) = Limited Throughput (ton/yr) * (1-CE%) * Emission Factor (lb/ton) * 1/2000 ton/lb

ATPA	**Tons/yr**						
	PM	PM10	PM2.5	SO2	NOx	VOC	CO
Projected Actual Emissions	13.4	1.3	1.3	0.0	0.0	0.0	0.0
Baseline Actual Emissions	9.8	1.0	1.0	0.0	0.0	0.0	0.0
Actual to Projected Actual	**3.6**	**0.4**	**0.4**	**0.0**	**0.0**	**0.0**	**0.0**
Significant Threshold	25	15	10	40	40	40	100

Methodology:
ATPA (ton/yr) = Projected Actual Emissions (ton/yr) - Baseline Emissions (ton/yr)

Appendix C: Emission Calculations
PTE Modification 2024

Source Name: Metal Technologies Auburn, LLC
Source Location: 1537 West Auburn Drive, Auburn, IN 46706
Significant Source Modification No.: 033-47516-00042
Significant Permit Modification No.: 033-47542-00042
Permit Reviewer: Omar El-Rjoob

Casting and Finishing		Emission Unit ID(s)	Nominal Throughput (tons/yr)	Uncontrolled Emission Factors (lb/ton)											
				PM	PM10	PM2.5	SO_2	NOx	VOC[1]	CO[1]	GHGs as CO_2e[2]	Lead[3]	Beryllium (Be)	Organic HAPs[4]	Metallic HAPs[5]
Casting Shakeout		Line 1 and Line 22 casting shakeout	175,200.00	3.20	2.24	2.24	0	0	1.70	6.00	10	0.0063	0.00	0.28	0
Blasting[6]	(SCC 3-04-003-40)	EU-17 Shot Blast	157,680.00	17.00	1.70	1.70	0	0	0	0	0	0	0	0	0

Notes
Emission factors from AP-42 Chapter 12.10 Gray Iron Foundries and US EPA Fire Version 6.25, except as otherwise noted
(1) VOC and CO emission factors are based on the proposed BACT emission limits for the combined pouring, cooling, and shakeout processes.
(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)
(3) Lead and Organic HAPs emissions from Casting Emission Reduction Program (CERP) data. Uncontrolled lead emissions from the pouring, cooling and shakeout processes are based on a factor of 0.18% of the PM emissions
(4) Organic HAPs emissions from Casting Emission Reduction Program (CERP) data, combined for pouring, cooling, and shakeout processes.
(5) Metallic HAPs based on assumption that 8% of PM emissions are metallic HAPs, consistent with the ratio of emissions from the Iron and Steel Foundry MACT Standard (40 CFR 63, Subpart EEEEE)
(6) Amount of metal finished (Grinding and Blasting) is equal to 60% of the total metal melted.

Summary of Emissions (Uncontrolled)

Casting and Finishing		Uncontrolled Potential to Emit (tons/yr)											
		PM	PM10	PM2.5	SO_2	NOx	VOC	CO	GHGs as CO2e	Lead	Beryllium (Be)	Organic HAPs	Metallic HAPs
Casting Shakeout	Line 1 and Line 2 casting shakeout	280.32	196.22	196.22	0.00	0.00	148.92	525.60	876.00	0.55	0.00	24.53	0.00
Blasting	EU-17 Shot Blast	1,340.28	134.03	134.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Total	**1,620.60**	**330.25**	**330.25**	**0.00**	**0.00**	**148.92**	**525.60**	**876.00**	**0.55**	**0.00**	**24.53**	**0.00**

Methodology
Uncontrolled PTE (tons/yr) = Maximum Throughput (tons/yr) * Emission Factor (lb/ton) * 1 ton/2,000 lbs