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

Michael R. Pence
Governor

Thomas W. Easterly
Commissioner

TO: Interested Parties / Applicant

DATE: September 27, 2013

RE: Gartland Foundry / 167-32794-00007

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

Notice of Decision: Approval – Effective Immediately

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

If you wish to challenge this decision, IC 4-21.5-3-7 and IC 13-15-6-1(b) or IC 13-15-6-1(a) require that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Suite N 501E, Indianapolis, IN 46204.

For an **initial Title V Operating Permit**, a petition for administrative review must be submitted to the Office of Environmental Adjudication within **thirty (30)** days from the receipt of this notice provided under IC 13-15-5-3, pursuant to IC 13-15-6-1(b).

For a **Title V Operating Permit renewal**, a petition for administrative review must be submitted to the Office of Environmental Adjudication within **fifteen (15)** days from the receipt of this notice provided under IC 13-15-5-3, pursuant to IC 13-15-6-1(a).

The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:
(1) the date the document is delivered to the Office of Environmental Adjudication (OEA);
(2) the date of the postmark on the envelope containing the document, if the document is mailed to OEA by U.S. mail; or
(3) The date on which the document is deposited with a private carrier, as shown by receipt issued by the carrier, if the document is sent to the OEA by private carrier.

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

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

Pursuant to 326 IAC 2-7-18(d), any person may petition the U.S. EPA to object to the issuance of an initial Title V operating permit, permit renewal, or modification within sixty (60) days of the end of the forty-five (45) day EPA review period. Such an objection must be based only on issues that were raised with reasonable specificity during the public comment period, unless the petitioner demonstrates that it was impractible to raise such issues, or if the grounds for such objection arose after the comment period.

To petition the U.S. EPA to object to the issuance of a Title V operating permit, contact:

U.S. Environmental Protection Agency
401 M Street
Washington, D.C. 20406

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

Enclosures

IDEM

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

Michael R. Pence
Governor

Thomas W. Easterly
Commissioner

Part 70 Operating Permit Renewal
OFFICE OF AIR QUALITY

Gartland Foundry Co., Inc.
330 Grant St.
Terre Haute, Indiana 47802

(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. This permit also addresses certain new source review requirements for existing equipment and is intended to fulfill the new source review procedures pursuant to 326 IAC 2-7-10.5, applicable to those conditions

Operation Permit No.: T167-32794-00007	
Issued by: Iryn Calilung Iryn Calilung, Section Chief Permits Branch Office of Air Quality	Issuance Date: September 27, 2013 Expiration Date: September 27, 2018

TABLE OF CONTENTS

SECTION A SOURCE SUMMARY

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

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

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

Source Address:	330 Grant St., Terre Haute, Indiana 47802
General Source Phone Number:	(812) 232-0226
SIC Code:	3321 (Gray and Ductile Iron Foundries)
County Location:	Vigo
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Operating Permit Program Major Source, under PSD Rules Minor 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:

<u>Metal Melting</u>

(a) One (1) Electric Induction Furnace #3, identified as EU130, constructed in 1995, with a maximum capacity of 5.0 tons of metal per hour, using Steelcraft baghouse, identified as BH1, for control, and exhausting to stack SC-2.

Under 40 CFR 63, Subpart ZZZZZ, this process is considered an existing affected unit.

(b) One (1) Electric Induction Furnace #4, identified as EU140, constructed in 1995, with a maximum capacity of 5.0 tons of metal per hour, using Steelcraft baghouse, identified as BH1, for control, and exhausting to stack SC-2.

Under 40 CFR 63, Subpart ZZZZZ, this process is considered an existing affected unit.

Note: Baghouse BH1 (exhausting to stack SC-2) is common to both Electric Induction Furnaces (EU130 and EU14).

<u>Raw Material Handling and Preparation</u>

(c) One (1) scrap/charge handling operation for the electric induction furnaces, identified as EU120, constructed in 1995, with a maximum capacity of 10 tons of metal per hour, utilizing no control, and exhausting indoors.

Under 40 CFR 63, Subpart ZZZZZ, this facility is considered an existing affected facility.

(d) Sand handling systems with a maximum capacity of 100 tons per hour, using Hosakawa baghouse (BH5) for control, and exhausting to stack SC-5, consisting of the following:

(1) One (1) sand muller, identified as EU591, constructed in 1997, and

(2) One (1) sand conveyor, constructed in 1970, identified as EU592.

Note: The Hosakawa baghouse, identified as BH5, is common to the Didion Drum, sand muller (EU591), sand conveyor (EU592), and four (4) Snag Grinders (EU640).

(e) Magnesium treatment (Inoculation) operation, identified as EU150, constructed in 1986, with a maximum capacity of 10 tons of metal per hour, utilizing a closed ladle, with no control, and exhausting indoors.

Mold Making

(f) Mold making process including:

(1) Two (2) Squeezer mold machines, collectively identified as EU520, constructed in 1902;

(2) Three (3) Rotolift mold machines, collectively identified as EU521, constructed in 1902;

(3) One (1) Sinto #1 mold machine, identified as EU530, constructed in 2000;

Note: The mold machines EU520, EU521 and EU530 have a combined maximum capacity of 68.49 tons of sand per year.

(4) One (1) Sinto #2 mold machine, constructed in 2008, identified as EU531, with a maximum capacity of 26.4 tons of sand molds per hour, utilizing no control, and exhausting indoors.

Pouring, Cooling, and Shakeout

(g) One (1) Floor pouring/cooling process, identified as EU540, constructed in 1902, with a maximum capacity of 11.0 tons of metal per hour, with no control, and exhausting indoors.

(h) One (1) Sinto pouring/cooling process, identified as EU550, constructed in 1999, with a maximum capacity of 5.0 tons of metal per hour, with no control, and exhausting indoors

(i) One (1) Sinto pouring/cooling process, constructed in 2008, identified as EU560, with a maximum capacity of 6.0 tons of metal per hour, with no control, and exhausting indoors.

(j) Casting shakeout system, identified as EU570, with a maximum capacity of 80 tons of sand per hour and 18 tons of metal per hour, including:

(1) Handling equipment, constructed in 2001, using Wheelabrator-88 baghouse, identified as BH3, for control, and exhausting to stack SC-4.

(2) One (1) Didion Drum, with a nominal capacity of 18 tons of metal per hour, constructed in 2012, using Hosakawa baghouse, identified as BH5, for control, and exhausting to stack SC-5.

Note: The Hosakawa baghouse, identified as BH5, is common to the Didion Drum, sand muller (EU591), sand conveyor (EU592), and four (4) Snag Grinders (EU640).

Finishing Operations

(k) One (1) Spin Blast, identified as EU610, constructed in 1986, with a maximum capacity of 5 tons per hour of metal castings, using Wheelabrator-35 baghouse, identified as BH2, for control, and exhausting to stack SC-7.

(l) One (1) Tumbler, identified as EU630, constructed in 1989, with a maximum capacity of 1 ton per hour of metal castings, using Wheelabrator-35 baghouse, identified as BH2, for control, and exhausting to stack SC-7.

Note: Wheelabrator-35 baghouse, identified as BH2, is common the Spin Blast (EU610) and Tumbler (EU630).

(m) One (1) Tumble Blast, identified as EU660, with a nominal capacity of 5 tons per hour of metal castings per hour, constructed in 2012, using Siemens baghouse, identified as BH6, for control, and exhausting to stack SC-6.

(n) Six (6) self-contained finish grinders, identified as EU650, constructed in 1990, each with a maximum capacity of 2 tons per hour of metal castings, with downdraft tables using baffles for control, and exhausting to general ventilation.

(o) Four (4) Snag Grinders, identified as EU640, one constructed in 1985, one constructed in 1991, and two constructed in 2008, each with a maximum capacity of 2 tons per hour of metal castings, using Hosakawa baghouse, identified as BH5, for control, and exhausting to stack SC-5.

Note: The Hosakawa baghouse, identified as BH5, is common to the Didion Drum, sand muller (EU591), sand conveyor (EU592), and four (4) Snag Grinders (EU640).

(p) One (1) electrostatic spray booth, identified as prime paint line EU710, constructed in 1983, with a maximum capacity of 500 gray iron castings per hour, with dry filters for control of particulate matter overspray, and exhausting to stack SC-6.

Core Making

(q) Core making systems including:

(1) Two (2) Shell Core Machines, identified as EU320 and EU321, constructed in 1979, each with a maximum capacity of 1 ton per hour of sand, using no controls, and exhausting to general ventilation;

(2) One (1) Oil Core Making Process, identified as EU410, constructed in 1902, utilizing a mixer and associated core boxes with a maximum capacity of 0.25 tons per hour of sand, using no control, and exhausting to general ventilation; and

(3) Core Wash Process, identified as EU730, constructed in 1902, with a maximum capacity of 1 ton per hour of sand, using no control, and exhausting to general ventilation.

(r) Isocure Core making systems including:

(1) Isocure Core Machine, identified as CB-22, constructed in 1994, fed by Cold Box Mixer, with a maximum capacity of 0.525 tons of sand/resin mixture per hour, a

maximum of 21 pounds of resin per hour, and a maximum of 1.05 pounds of DMIPA per hour, controlled by an acid scrubber, and exhausting to stack SC-8.

(2) Cold Box (Isocure) Core Machine, identified as Gaylord-1, constructed in 2003, fed by Cold Box Mixer, with a maximum capacity of 1 ton of sand/resin mixture per hour, a maximum of 40 pounds of resin per hour, and a maximum of 2 pounds of DMIPA per hour, controlled by an acid scrubber, and exhausting to stack SC-8.

(3) Cold Box (Isocure) Core Machine, identified as Gaylord-2, constructed in 2003, fed by Cold Box Mixer, with a maximum capacity of 1 ton of sand/resin mixture per hour, a maximum of 40 pounds of resin per hour, and a maximum of 2 pounds of DMIPA per hour, controlled by an acid scrubber, and exhausting to stack SC-8.

(4) One (1) core machine, identified as Cold Box (Isocure) Core Machine (CBCM-3), approved for construction in 2013, fed by existing mixer (identified as Cold Box Mixer), with a maximum capacity of 2.7 tons of sand/resin mixture per hour, a maximum of 108 pounds of resin per hour, and a maximum of 4.22 pounds of amine catalyst per hour, with emissions controlled by an existing acid scrubber, exhausting to stack SC-8.

(5) Sand Mixer, identified as Cold Box Mixer, constructed in 2003, approved for modification in 2013, with a maximum capacity of 5.225 tons of sand/resin mixture per hour, using no control, and exhausting indoors.

(6) Sand heater, constructed in 1978, using no control, and exhausting indoors.

(7) Sand Silo, with a maximum capacity of 165 tons of sand, loaded via pneumatic conveying system including an integral bin vent, utilizing no control, and exhausting indoors.

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

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

(a) One (1) emergency diesel generator, identified as EU800, constructed in 2011, rated at 346 horsepower, with an engine displacement volume less than 10 liters per cylinder and exhausting to the atmosphere.

Under 40 CFR Part 60, Subpart IIII, and 40 CFR Part 63, Subpart ZZZZ, this facility is considered an affected unit.

(b) The following equipment related to manufacturing activities not resulting in the emission of HAPs; brazing equipment, cutting torches, soldering equipment, welding equipment. [326 IAC 6-3-2]

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

(d) Grinding and machining operations controlled with fabric filters, scrubbers, mist collectors, wet collectors and electrostatic precipitators with a design grain loading of less than or equal to 0.03 grains per actual cubic foot and a gas flow rate less than or equal to 4000 actual cubic feet per minute, including the following: deburring; buffing; polishing; abrasive blasting; pneumatic conveying; and woodworking operations. [326 IAC 6-3-2]

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, T167-32794-00007, is issued for a fixed term of five (5) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date of this permit.

(b) If IDEM, OAQ, upon receiving a timely and complete renewal permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect, including any permit shield provided in 326 IAC 2-7-15, until the renewal permit has been issued or denied.

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

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

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

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

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

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

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

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

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

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

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

(a) The Permittee shall furnish to IDEM, OAQ, within a reasonable time, any information that IDEM, OAQ may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. Upon request, the Permittee shall also furnish to IDEM, OAQ copies of records required to be kept by this permit.

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

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

(a) A certification required by this permit meets the requirements of 326 IAC 2-7-6(1) if:

(1) it contains a certification by a "responsible official" as defined by 326 IAC 2-7-1(35), and

(2) the certification states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

(b) The Permittee may use the attached Certification Form, or its equivalent with each submittal requiring certification. One (1) certification may cover multiple forms in one (1) submittal.

(c) A "responsible official" is defined at 326 IAC 2-7-1(35).

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

(a) The Permittee shall annually submit a compliance certification report which addresses the status of the source's compliance with the terms and conditions contained in this permit, including emission limitations, standards, or work practices. 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 V
Air and Radiation Division, Air Enforcement Branch - Indiana (AE-17J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

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

(c) The annual compliance certification report shall include the following:

(1) The appropriate identification of each term or condition of this permit that is the basis of the certification;

(2) The compliance status;

(3) Whether compliance was continuous or intermittent;

(4) The methods used for determining the compliance status of the source, currently and over the reporting period consistent with 326 IAC 2-7-5(3); and

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

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

B.10 Preventive Maintenance Plan [326 IAC 2-7-5(12)][326 IAC 1-6-3]

(a) 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, within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

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

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

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

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

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

(A) A description of the emergency;

(B) Any steps taken to mitigate the emissions; and

(C) Corrective actions taken.

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

(6) The Permittee immediately took all reasonable steps to correct the emergency.

(c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.

(d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.

(e) The Permittee seeking to establish the occurrence of an emergency shall make records available upon request to ensure that failure to implement a PMP did not cause or contribute to an exceedance of any limitations on emissions. However, IDEM, OAQ may require that the Preventive Maintenance Plans required under 326 IAC 2-7-4(c)(8) be revised in response to an emergency.

(f) Failure to notify IDEM, OAQ by telephone or facsimile of an emergency lasting more than one (1) hour in accordance with (b)(4) and (5) of this condition shall constitute a violation of 326 IAC 2-7 and any other applicable rules.

(g) If the emergency situation causes a deviation from a technology-based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.

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

(a) Pursuant to 326 IAC 2-7-15, the Permittee has been granted a permit shield. The permit shield provides that compliance with the conditions of this permit shall be deemed compliance with any applicable requirements as of the date of permit issuance, provided that either the applicable requirements are included and specifically identified in this permit or the permit contains an explicit determination or concise summary of a determination that other specifically identified requirements are not applicable. The Indiana statutes from IC 13 and rules from 326 IAC, referenced in conditions in this permit, are those applicable at the time the permit was issued. The issuance or possession of this permit shall not alone constitute a defense against an alleged violation of any law, regulation or standard, except for the requirement to obtain a Part 70 permit under 326 IAC 2-7 or for applicable requirements for which a permit shield has been granted.

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

(b) If, after issuance of this permit, it is determined that the permit is in nonconformance with an applicable requirement that applied to the source on the date of permit issuance, IDEM, OAQ, shall immediately take steps to reopen and revise this permit and issue a compliance order to the Permittee to ensure expeditious compliance with the applicable requirement until the permit is reissued. The permit shield shall continue in effect so long as the Permittee is in compliance with the compliance order.

(c) No permit shield shall apply to any permit term or condition that is determined after issuance of this permit to have been based on erroneous information supplied in the permit application. Erroneous information means information that the Permittee knew to be false, or in the exercise of reasonable care should have been known to be false, at the time the information was submitted.

(d) Nothing in 326 IAC 2-7-15 or in this permit shall alter or affect the following:

(1) The provisions of Section 303 of the Clean Air Act (emergency orders), including the authority of the U.S. EPA under Section 303 of the Clean Air Act;

(2) The liability of the Permittee for any violation of applicable requirements prior to or at the time of this permit's issuance;

(3) The applicable requirements of the acid rain program, consistent with Section 408(a) of the Clean Air Act; and

(4) The ability of U.S. EPA to obtain information from the Permittee under Section 114 of the Clean Air Act.

(e) This permit shield is not applicable to any change made under 326 IAC 2-7-20(b)(2) (Sections 502(b)(10) of the Clean Air Act changes) and 326 IAC 2-7-20(c)(2) (trading based on State Implementation Plan (SIP) provisions).

(f) This permit shield is not applicable to modifications eligible for group processing until after IDEM, OAQ, has issued the modifications. [326 IAC 2-7-12(c)(7)]

(g) This permit shield is not applicable to minor Part 70 permit modifications until after IDEM, OAQ, has issued the modification. [326 IAC 2-7-12(b)(8)]

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

(a) All terms and conditions of permits established prior to T167-32794-00007 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 combined permit, all previous registrations and permits are superseded by this combined new source review and part 70 operating permit.

B.14 Termination of Right to Operate [326 IAC 2-7-10][326 IAC 2-7-4(a)]

The Permittee's right to operate this source terminates with the expiration of this permit unless a timely and complete renewal application is submitted at least nine (9) months prior to the date of expiration of the source’s existing permit, consistent with 326 IAC 2-7-3 and 326 IAC 2-7-4(a).

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

(a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a Part 70 Operating Permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any condition of this permit. [326 IAC 2-7-5(6)(C)] The notification by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

(b) This permit shall be reopened and revised under any of the circumstances listed in IC 13-15-7-2 or if IDEM, OAQ determines any of the following:

(1) That this permit contains a material mistake.

(2) That inaccurate statements were made in establishing the emissions standards or other terms or conditions.

(3) That this permit must be revised or revoked to assure compliance with an applicable requirement. [326 IAC 2-7-9(a)(3)]

(c) Proceedings by IDEM, OAQ to reopen and revise this permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of this permit for which cause to reopen exists. Such reopening and revision shall be made as expeditiously as practicable. [326 IAC 2-7-9(b)]

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

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

(a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ and shall include the information specified in 326 IAC 2-7-4. Such information shall be included in the application for each emission unit at this source, except those emission units included on the trivial or insignificant activities list contained in 326 IAC 2-7-1(21) and 326 IAC 2-7-1(40). The renewal application does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

Request for renewal shall be submitted to:

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

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

(1) Submitted at least nine (9) months prior to the date of the expiration of this permit; and

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

(c) If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-7 until IDEM, OAQ takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified, pursuant to 326 IAC 2-7-4(a)(2)(D), in writing by IDEM, OAQ any additional information identified as being needed to process the application.

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

(a) Permit amendments and modifications are governed by the requirements of 326 IAC 2-7-11 or 326 IAC 2-7-12 whenever the Permittee seeks to amend or modify this permit.

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

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

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

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

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

(a) No Part 70 permit revision or notice shall be required under any approved economic incentives, marketable Part 70 permits, emissions trading, and other similar programs or processes for changes that are provided for in a Part 70 permit.

(b) Notwithstanding 326 IAC 2-7-12(b)(1) and 326 IAC 2-7-12(c)(1), minor Part 70 permit modification procedures may be used for Part 70 modifications involving the use of economic incentives, marketable Part 70 permits, emissions trading, and other similar approaches to the extent that such minor Part 70 permit modification procedures are explicitly provided for in the applicable State Implementation Plan (SIP) or in applicable requirements promulgated or approved by the U.S. EPA.

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

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

(1) The changes are not modifications under any provision of Title I of the Clean Air Act;

(2) Any preconstruction approval required by 326 IAC 2-7-10.5 has been obtained;

(3) The changes do not result in emissions which exceed the limitations provided in this permit (whether expressed herein as a rate of emissions or in terms of total emissions);

(4) The Permittee notifies the:

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

and

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

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

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

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

(b) The Permittee may make Section 502(b)(10) of the Clean Air Act changes (this term is defined at 326 IAC 2-7-1(36)) without a permit revision, subject to the constraint of 326 IAC 2-7-20(a). For each such Section 502(b)(10) of the Clean Air Act change, the required written notification shall include the following:

(1) A brief description of the change within the source;

(2) The date on which the change will occur;

(3) Any change in emissions; and

(4) Any permit term or condition that is no longer applicable as a result of the change.

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

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

(d) Alternative Operating Scenarios [326 IAC 2-7-20(d)]
The Permittee may make changes at the source within the range of alternative operating scenarios that are described in the terms and conditions of this permit in accordance with 326 IAC 2-7-5(9). No prior notification of IDEM, OAQ, or U.S. EPA is required.

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

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

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

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

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

(a) Enter upon the Permittee's premises where a Part 70 source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;

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

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

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

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

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

(a) The Permittee must comply with the requirements of 326 IAC 2-7-11 whenever the Permittee seeks to change the ownership or operational control of the source and no other change in the permit is necessary.

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

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

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

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

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

(a) The Permittee shall pay annual fees to IDEM, OAQ within thirty (30) calendar days of receipt of a billing. Pursuant to 326 IAC 2-7-19(b), if the Permittee does not receive a bill from IDEM, OAQ the applicable fee is due April 1 of each year.

(b) Except as provided in 326 IAC 2-7-19(e), failure to pay may result in administrative enforcement action or revocation of this permit.

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

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

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

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

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

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

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

C.2 Opacity [326 IAC 5-1]

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

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

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

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

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

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

The Permittee shall not operate an incinerator except as provided in 326 IAC 4-2 or in this permit. The Permittee shall not operate a refuse incinerator or refuse burning equipment except as provided in 326 IAC 9-1-2 or in this permit.

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

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

C.6 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(2).

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

All required notifications shall be submitted to:

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

The notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project. The notifications do not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

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

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

(g) Indiana Licensed Asbestos Inspector
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Licensed Asbestos Inspector to

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

Testing Requirements [326 IAC 2-7-6(1)]

C.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) 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 or of initial start-up, whichever is later, 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 or the date of initial startup, whichever is later, 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).

Unless otherwise specified in the approval for the new emission unit(s), compliance monitoring for new emission units or emission units added through a source modification shall be implemented when operation begins.

(b) 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.

(c) 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(12)] [40 CFR 68]

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

C.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 QIP. The Permittee shall develop and implement a QIP if notified to in writing by the EPA or IDEM, OAQ.

(d) Elements of a QIP:
The Permittee shall maintain a written QIP, if required, and have it available for inspection. The plan shall conform to 40 CFR 64.8 b (2).

(e) If a QIP is required, the Permittee shall develop and implement a QIP as expeditiously as practicable and shall notify the IDEM, OAQ if the period for completing the improvements contained in the QIP exceeds 180 days from the date on which the need to implement the QIP was determined.

(f) Following implementation of a QIP, upon any subsequent determination pursuant to paragraph (II)(a)(2) of this condition the EPA or the IDEM, OAQ may require that the Permittee make reasonable changes to the QIP if the QIP is found to have:

(1) Failed to address the cause of the control device performance problems; or

(2) Failed to provide adequate procedures for correcting control device performance problems as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions.

(g) Implementation of a QIP shall not excuse the Permittee from compliance with any existing emission limitation or standard, or any existing monitoring, testing, reporting or recordkeeping requirement that may apply under federal, state, or local law, or any other applicable requirements under the Act.

(h) *CAM recordkeeping requirements.*

(1) The Permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan required pursuant to paragraph (II)(a)(2) of this condition and any activities undertaken to implement a quality improvement plan, and other supporting information required to be maintained under this condition (such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions). Section C - General Record Keeping Requirements of this permit contains the Permittee's obligations with regard to the records required by this condition.

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

C.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)(3), starting in 2006 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(32) (“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] [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.

(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: Electric Induction Furnaces

Metal Melting

(a) One (1) Electric Induction Furnace #3, identified as EU130, constructed in 1995, with a maximum capacity of 5.0 tons of metal per hour, using Steelcraft baghouse, identified as BH1, for control, and exhausting to stack SC-2.

Under 40 CFR 63, Subpart ZZZZZ, this process is considered an existing affected unit.

(b) One (1) Electric Induction Furnace #4, identified as EU140, constructed in 1995, with a maximum capacity of 5.0 tons of metal per hour, using Steelcraft baghouse, identified as BH1, for control, and exhausting to stack SC-2.

Under 40 CFR 63, Subpart ZZZZZ, this process is considered an existing affected unit.

Note: Baghouse BH1 (exhausting to stack SC-2) is common to both Electric Induction Furnaces (EU130 and EU14).

(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 Prevention of Significant Deterioration (PSD) Minor Limit for Equipment Existing Prior to 2008 [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 (PSD) not applicable, the following conditions shall apply:

(a) The input of metal to the electric induction furnaces (EU130 and EU140 combined) shall not exceed 18,000 tons per 12 consecutive month period with compliance determined at the end of each month.

(b) The PM emissions after control from the electric induction furnaces (#3 and #4) shall not exceed 1.0 pounds per ton of metal melted.

(c) The PM10 emissions after control from the electric induction furnaces (#3 and #4) shall not exceed 1.0 pounds per ton of metal melted.

(d) The PM2.5 emissions after control from the electric induction furnaces (#3 and #4) shall not exceed 1.0 pounds per ton of metal melted.

Compliance with these limits, in conjunction with Conditions D.2.1, D.3.1, D.4.1, D.5.1, D.6.1, D.7.1, D.9.1, D.11.1, and D.12.1, shall limit the potential PM, PM10 and PM2.5 emissions to less than 100 tons per 12 consecutive month period and renders 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable to the emission units constructed before 2008.

D.1.2 Particulate Matter Limitations [326 IAC 6.5-1-2]

(a) Pursuant to 326 IAC 6.5-1-2(e)(2), the PM emissions from the induction furnace #3 (EU130) shall not exceed 0.07 grain per dry standard cubic foot.

(b) Pursuant to 326 IAC 6.5-1-2(e)(2), the PM emissions from the induction furnace #4

(EU140) shall not exceed 0.07 grain per dry standard cubic foot.

D.1.3 Hazardous Air Pollutant (HAP) Emissions [326 IAC 2-4.1] [40 CFR 63]

Pursuant to 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP)) and in order to render 40 CFR 63, Subpart EEEEE not applicable, the Permittee shall comply with the following:

Combined with the metal melting throughput limit in Condition D.1.1(a), the combined Metallic HAP emissions (chromium compounds, cobalt compounds, nickel compounds, arsenic compounds, cadmium compounds, selenium compounds, manganese compounds, and antimony compounds) from the electric induction furnaces (#3 and #4) shall not exceed 0.02843 pounds per ton of metal melted.

Compliance with these limits, in conjunction with Conditions D.3.3, D.4.3, D.5.4, D.7.3, D.8.3, D.9.3, D.10.3, and D.13.1, shall limit the source wide potential to emit of each individual HAP to less than 10 tons per year and shall limit source wide combined HAPs to less than 25 tons per year and renders 40 CFR 63, Subpart EEEEE not applicable.

D.1.4 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 obligation with regard to the preventive maintenance plan required by this condition

Compliance Determination Requirements

D.1.5 Testing Requirements [326 IAC 2-7-6(1), (6)] [326 IAC 2-1.1-11]

In order to demonstrate the compliance status with Condition D.1.1, the Permittee shall perform PM, PM10 and PM2.5 testing on Electric Induction Furnaces #3 and #4, utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's obligations with regard to the performance testing required by this condition.

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

D.1.6 Particulate Matter Control

In order to comply with Conditions D.1.1, D.1.2 and D.1.3,

(a) The baghouse BH1 for PM, PM10 and PM2.5 control shall be in operation and control emissions from the Electric Induction Furnaces #3 and #4 at all times they are in operation.

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

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

D.1.7 Visible Emissions Notations

(a) Visible emission notations of the Electric Induction Furnace stack (SC-2) exhaust shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

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

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

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

(e) If abnormal emissions are observed, the Permittee shall take reasonable response steps. Observation of abnormal emissions that do not violate an applicable opacity limit is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit. Section C – Response to Excursions or Exceedances contains the Permittee's obligations with regard to responding to the reasonable response steps required by this condition.

D.1.8 Parametric Monitoring

The Permittee shall record the pressure drop across the Steelcraft baghouse (BH1) used in conjunction with the Electric Induction Furnaces #3 and #4, at least once per day when either Electric Induction Furnace is in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 1.0 and 6.0 inches of water or a range established during the latest stack test, the Permittee shall take a reasonable response steps. Section C – Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

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

D.1.9 Broken or Failed Bag Detection

(a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated processes 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 emissions unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Bag failure can be indicated by a significant drop in the 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.1.10 Record Keeping Requirements

(a) To document the compliance status with Condition D.1.1, the Permittee shall maintain monthly records of the weight of metal melted in the electric induction furnaces #3 and #4.

The records shall be complete and sufficient to establish compliance with the throughput limitations in Condition D.1.1.

(b) To document the compliance status with Condition D.1.7, the Permittee shall maintain records of visible emission notations of the Electric Induction Furnace stack exhaust once per day. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g., the process did not operate that day).

(c) To document the compliance status with Condition D.1.8, the Permittee shall maintain records once per day of the pressure drop during normal operation. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of pressure drop reading (e.g., the process did not operate that day).

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

D.1.11 Reporting Requirements

A quarterly summary of the information to document the compliance status with Condition D.1.1 shall be submitted not later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a “responsible official” as defined by 326 IAC 2-7-1(34).

SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description: Scrap/Charge Handling

Raw Material Handling and Preparation

(c) One (1) scrap/charge handling operation for the electric induction furnaces, identified as EU120, constructed in 1995, with a maximum capacity of 10 tons of metal per hour, utilizing no control, and exhausting indoors.

Under 40 CFR 63, Subpart ZZZZZ, this facility is considered an existing affected facility.

(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 Prevention of Significant Deterioration (PSD) Minor Limit for Equipment Existing Prior to 2008 [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 (PSD) not applicable, the following conditions shall apply:

Combined with the metal input limit to the electric induction furnaces (EU130 and EU140 combined) in Condition D.1.1(a):

(a) The PM emissions from the scrap/charge handling system, identified as EU120, shall not exceed 0.60 pounds per ton of metal.

(b) The PM10 emissions from the scrap/charge handling system, identified as EU120, shall not exceed 0.36 pound per ton of metal.

(c) The PM2.5 emissions from the scrap/charge handling system, identified as EU120, shall not exceed 0.36 pound per ton of metal.

Compliance with these limits, in conjunction with Conditions D.1.1, D.3.1, D.4.1, D.5.1, D.6.1, D.7.1, D.9.1, D.11.1, and D.12.1, shall limit the potential PM, PM10 and PM2.5 emissions to less than 100 tons per 12 consecutive month period and renders 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable to the emission units constructed before 2008.

D.2.2 Particulate Matter Limitations [326 IAC 6.5-1-2]

Pursuant to 326 IAC 6.5-1-2(a), the PM emissions from the scrap and charge handling (EU120) shall each not exceed 0.03 grains per dry standard cubic foot.

D.2.3 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 obligation with regard to the preventive maintenance plan required by this condition.

SECTION D.3 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description: Baghouse BH5

Raw Material Handling and Preparation

(d) Sand handling systems with a maximum capacity of 100 tons per hour, using Hosakawa baghouse (BH5) for control, and exhausting to stack SC-5, consisting of the following:

(1) One (1) sand muller, identified as EU591, constructed in 1997, and

(2) One (1) sand conveyor, constructed in 1970, identified as EU592.

Note: The Hosakawa baghouse, identified as BH5, is common to the Didion Drum, sand muller (EU591), sand conveyor (EU592), and four (4) Snag Grinders (EU640).

Shakeout

(j) Casting shakeout system, identified as EU570, with a maximum capacity of 80 tons of sand per hour and 18 tons of metal per hour, including:

(1) Handling equipment - Section D.7

(2) One (1) Didion Drum, with a nominal capacity of 18 tons of metal per hour, constructed in 2012, using Hosakawa baghouse, identified as BH5, for control, and exhausting to stack SC-5.

Note: The Hosakawa baghouse, identified as BH5, is common to the Didion Drum, sand conveyor (EU592), and four (4) Snag Grinders (EU640).

Finishing Operations

(o) Four (4) Snag Grinders, identified as EU640, one constructed in 1985, one constructed in 1991, and two constructed in 2008, each with a maximum capacity of 2 tons per hour of metal castings, using Hosakawa baghouse, identified as BH5, for control, and exhausting to stack SC-5.

Note: The Hosakawa baghouse, identified as BH5, is common to the Didion Drum, sand muller (EU591), sand conveyor (EU592), and four (4) Snag Grinders (EU640).

(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 Prevention of Significant Deterioration (PSD) Minor Limits for Equipment Existing Prior to 2008 [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 (PSD) not applicable, the following conditions shall apply:

(a) The PM emissions from the Hosakawa baghouse (BH5) shall not exceed 6.0 pounds per hour.

(b) The PM10 emissions from the Hosakawa baghouse (BH5) shall not exceed 8.0 pounds per hour.

(c) The PM2.5 emissions from the Hosakawa baghouse (BH5) shall not exceed 8.0 pounds per hour.

Note: The Hosakawa baghouse, identified as BH5, is common to the Didion Drum, sand muller (EU591), sand conveyor (EU592), and four (4) Snag Grinders (EU640). The Didion Drum was routed to the Hosakawa baghouse BH5 in 2013.

Compliance with these limits, in conjunction with Conditions D.1.1, D.2.1, D.4.1, D.5.1, D.6.1, D.7.1, D.9.1, D.11.1, and D.12.1, shall limit the potential PM, PM10 and PM2.5 emissions to less than 100 tons per 12 consecutive month periodand renders 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable to the emission units constructed before 2008.

D.3.2 Particulate Matter (PM) Limitations [326 IAC 6.5-1-2]

Pursuant to 326 IAC 6.5-1-2, the PM emissions from the Hosakawa baghouse (BH5) controlling the Casting Shakeout Didion Drum (EU570), sand muller (EU591), sand conveyor (EU592), and four (4) Snag Grinders (EU640) shall not exceed 0.03 grains per dry standard cubic foot.

D.3.3 Hazardous Air Pollutant (HAP) Emissions [326 IAC 2-4.1] [40 CFR 63]

Pursuant to 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP)) and in order to render 40 CFR 63, Subpart EEEEE not applicable, the Permittee shall comply with the following:

(a) Combined with the finishing metal throughput limit in Condition D.10.1(a), the combined Metallic HAP emissions (chromium compounds, cobalt compounds, nickel compounds, arsenic compounds, cadmium compounds, selenium compounds, manganese compounds, and antimony compounds) from the four (4) Snag Grinders (EU640) shall not exceed 0.0001 pounds per ton of metal.

(b) See Condition D.5.4 for the Casting Shakeout HAPs limits.

Compliance with these limits, in conjunction with Conditions D.1.3, D.4.3, D.5.4, D.7.3, D.8.3, D.9.3, D.10.3, and D.13.1, shall limit the potential to emit of HAPs to less than 10 tons per 12 consecutive month period for a single HAP and less than 25 tons per 12 consecutive month period for total HAPs. Compliance with this limit renders 40 CFR 63, Subpart EEEEE not applicable.

D.3.4 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

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

Compliance Determination Requirements

D.3.5 Particulate Matter Control

In order to comply with Conditions D.3.1, D.3.2 and D.3.3,

(a) The Hosakawa baghouse (BH5) for PM, PM10 and PM2.5 control from the Casting Shakeout Didion Drum (EU570), sand muller (EU591), sand conveyor (EU592), and four (4) Snag Grinders (EU640) shall be in operation at all times when the Casting Shakeout Didion Drum (EU570), sand muller (EU591), sand conveyor (EU592), or four (4) Snag Grinders (EU640) 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.3.6 Testing Requirements [326 IAC 2-7-6(1), (6)] [326 IAC 2-1.1-11]

Not later than 180 days after re-routing the Didion Drum to the Hosawaka baghouse (BH5), in order to determine the compliance status with Condition D.3.1, the Permittee shall perform PM, PM10 and PM2.5 testing on the Hosakawa baghouse (BH5) controlling the Casting Shakeout Didion Drum (EU570), sand muller (EU591), sand conveyor (EU592), and four (4) Snag Grinders (EU640), utilizing methods as approved by the Commissioner. This test 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.

The above mentioned operations shall all be in operation when the tests are conducted since a total limit (in lb/hour) is specified for the one stack involved (SC-5).

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

D.3.7 Visible Emissions Notations [40 CFR 64]

Pursuant to 40 CFR 64,

(a) Visible emission notations of each of the Hosakawa baghouse (BH5) stack exhaust shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

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

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

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

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

D.3.8 Parametric Monitoring [40 CFR 64]

Pursuant to 40 CFR 64,

(a) The Permittee shall record the pressure drop across the Hosakawa baghouse (BH5), used in conjunction the Casting Shakeout Didion Drum (EU570), sand muller (EU591), sand conveyor (EU592), and four (4) Snag Grinders (EU640), at least once per day when the Casting Shakeout Didion Drum (EU570), sand muller (EU591), sand conveyor (EU592), or four (4) Snag Grinders (EU640) are in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 1.0 and 6.0 inches of water or a range established during the latest stack test, the Permittee shall take a reasonable response. Section C – Response to Excursions or Exceedances contains the

Permittee's obligation with regard to the reasonable response steps required by this condition. 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 instruments used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated or replaced at least once every six (6) months.

D.3.9 Broken Bag or Failure 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 processes 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 emissions unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Bag failure can be indicated by a significant drop in the 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.3.10 Record Keeping Requirements

(a) To document the compliance status with Condition D.3.7, the Permittee shall maintain records of visible emission notations taken each day of the baghouse BH5 stack exhaust. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g., the process did not operate that day).

(b) To document the compliance status with Condition D.3.8, the Permittee shall maintain records of the baghouse pressure drop readings. 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) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the records required by this condition.

SECTION D.4 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description: Magnesium Treatment

Raw Material Handling and Preparation

(e) Magnesium treatment (Inoculation) operation, identified as EU150, constructed in 1986, with a maximum capacity of 10 tons of metal per hour, utilizing a closed ladle, with no control, and exhausting indoors.

(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 Prevention of Significant Deterioration (PSD) Minor Limit for Equipment Existing Prior to 2008 [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 (PSD) not applicable, the following conditions shall apply:

(a) The input of metal to the Magnesium Treatment, identified as EU150, shall not exceed 9,000 tons of iron per 12 consecutive month period with compliance determined at the end of each month.

(b) The PM emissions from Magnesium Treatment, identified as EU150, shall not exceed 1.8 pounds per ton of metal.

(c) The PM10 emissions from Magnesium Treatment, identified as EU150, shall not exceed 1.8 pounds per ton of metal.

(d) The PM2.5 emissions from Magnesium Treatment, identified as EU150, shall not exceed 1.8 pounds per ton of metal.

Compliance with these limits, in conjunction with Conditions D.1.1, D.2.1, D.3.1, D.5.1, D.6.1, D.7.1, D.9.1, D.11.1, and D.12.1, shall limit the potential PM, PM10 and PM2.5 emissions to less than 100 tons per 12 consecutive month period and renders 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable to the emission units constructed before 2008.

D.4.2 Particulate Matter Limitations [326 IAC 6.5-1-2]

Pursuant to 326 IAC 6.5-1-2(a), the PM emissions from the magnesium treatment process (EU150) shall each not exceed 0.03 grains per dry standard cubic foot.

D.4.3 Hazardous Air Pollutant (HAP) Emissions [326 IAC 2-4.1] [40 CFR 63]

Pursuant to 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP)) and in order to render 40 CFR 63, Subpart EEEEE not applicable, the Permittee shall comply with the following:

Combined with the finishing metal throughput limit in Condition D.4.1(a), the combined Metallic HAP emissions (chromium compounds, cobalt compounds, nickel compounds, arsenic compounds, cadmium compounds, selenium compounds, manganese compounds, and antimony compounds) from Magnesium Treatment (Inoculation) shall not exceed 0.05684 pounds per ton of metal.

Compliance with these limits, in conjunction with Conditions D.1.3, D.3.3, D.5.4, D.7.3, D.8.3, D.9.3, D.10.3, and D.13.1, shall limit the source wide potential to emit of each individual HAP to less than 10 tons per year, and to limit source wide combined HAPs to less than 25 tons per year and renders 40 CFR 63, Subpart EEEEE not applicable.

D.4.4 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 obligation with regard to the preventive maintenance plan required by this condition

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

D.4.10 Record Keeping Requirements

(a) To document the compliance status with Conditions D.4.1 and D.4.3, the Permittee shall maintain monthly records of the weight of iron throughput to the magnesium treatment (inoculation) process (EU150).

The records shall be complete and sufficient to establish compliance with the throughput limitations in Condition D.4.1.

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

D.4.11 Reporting Requirements

A quarterly summary of the information to document the compliance status with Condition D.4.1 shall be submitted not later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a “responsible official” as defined by 326 IAC 2-7-1(34).

SECTION D.5 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description: Mold Making & Pouring and Cooling

Mold Making

(f) Mold making process including:

(1) Two (2) Squeezer mold machines, collectively identified as EU520, constructed in 1902;

(2) Three (3) Rotolift mold machines, collectively identified as EU521, constructed in 1902;

(3) One (1) Sinto #1 mold machine, identified as EU530, constructed in 2000;

Note: The mold machines EU520, EU521 and EU530 have a combined maximum capacity of 68.49 tons of sand per year.

(4) One (1) Sinto #2 mold machine, constructed in 2008, identified as EU531, with a maximum capacity of 26.4 tons of sand molds per hour, utilizing no control, and exhausting indoors.

Pouring and Cooling

(g) One (1) Floor pouring/cooling process, identified as EU540, constructed in 1902, with a maximum capacity of 11.0 tons of metal per hour, with no control, and exhausting indoors.

(h) One (1) Sinto pouring/cooling process, identified as EU550, constructed in 1999, with a maximum capacity of 5.0 tons of metal per hour, with no control, and exhausting indoors

(i) One (1) Sinto pouring/cooling process, constructed in 2008, identified as EU560, with a maximum capacity of 6.0 tons of metal per hour, with no control, and exhausting indoors.

(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 Prevention of Significant Deterioration (PSD) Minor Limits for Equipment Existing Prior to 2008 [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 (PSD) not applicable, the following conditions shall apply:

Mold Making Process

(a) The throughput of sand to the mold machines, identified as EU520, EU521 and EU530, shall not exceed 350,000 tons per 12 consecutive month period with compliance determined at the end of each month.

(b) The PM emissions from the mold machines, identified as EU520, EU521, and EU530, shall not exceed 0.0162 pound per ton of sand.

(c) The PM10 emissions from the mold machines, identified as EU520, EU521, and EU530, shall not exceed 0.0072 pound per ton of sand.

(d) The PM2.5 emissions from the mold machines, identified as EU520, EU521, and EU530, shall not exceed 0.0072 pound per ton of sand.

Floor Pouring/Cooling

Combined with the metal input limit to the electric induction furnaces (EU130 and EU140 combined) in Condition D.1.1(a):

(e) The PM emissions from the Floor pouring/cooling process, identified as EU540, shall not exceed 0.8200 pounds per ton of metal.

(f) The PM10 emissions from the Floor pouring/cooling process, identified as EU540, shall not exceed 0.2676 pounds per ton of metal.

(g) The PM2.5 emissions from the Floor pouring/cooling process, identified as EU540, shall not exceed 0.2676 pounds per ton of metal.

(h) The VOC emissions from the Floor pouring/cooling process, identified as EU540, shall not exceed 1.64 pounds per ton of metal.

(i) The CO emissions from the Floor pouring/cooling process, identified as EU540, shall not exceed 3.786 pounds per ton of metal.

Sinto Pouring/Cooling

Combined with the metal input limit to the electric induction furnaces (EU130 and EU140 combined) in Condition D.1.1(a):

(j) The PM emissions from the Sinto pouring/cooling process, identified as EU550, shall not exceed 0.8200 pounds per ton of metal.

(k) The PM10 emissions from the Sinto pouring/cooling process, identified as EU550, shall not exceed 0.2676 pounds per ton of metal.

(l) The PM2.5 emissions from the Sinto pouring/cooling process, identified as EU550, shall not exceed 0.2676 pounds per ton of metal.

(m) The VOC emissions from the Sinto pouring/cooling process, identified as EU550, shall not exceed 1.64 pounds per ton of metal.

(n) The CO emissions from the Sinto pouring/cooling process, identified as EU550, shall not exceed 3.786 pounds per ton of metal.

Compliance with these limits, in conjunction with Conditions D.1.1, D.2.1, D.3.1, D.4.1, D.6.1, D.7.1, D.9.1, D.10.1, D.11.1, and D.12.1, shall limit the potential PM, PM10, PM2.5, VOC and CO emissions to less than 100 tons per 12 consecutive month period and renders 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable to the emission units constructed before 2008.

D.5.2 Prevention of Significant Deterioration (PSD) Minor Limits for 2008 Modification [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 (PSD) not applicable to the 2008 modification, the following conditions shall apply:

Sinto #2 Mold Machine

(a) The throughput of sand to the Sinto #2 Mold Machine, identified as EU531, shall not exceed 231,264 tons per 12 consecutive month period with compliance determined at the end of each month.

(b) The PM emissions from the Sinto #2 mold machine, identified as EU531, shall not exceed 0.0162 pounds per ton of sand.

(c) The PM10 emissions from the Sinto #2 mold machine, identified as EU531, shall not exceed 0.0072 pounds per ton of sand.

(d) The PM2.5 emissions from the Sinto #2 mold machine, identified as EU531, shall not exceed 0.0072 pounds per ton of sand.

Sinto Pouring/Cooling

Combined with the metal input limit to the electric induction furnaces (EU130 and EU140 combined) in Condition D.1.1(a):

(e) The PM emissions from the Sinto pouring/cooling process, identified as EU560, shall not exceed 0.8781 pounds per ton of metal.

(f) The PM10 emissions from the Sinto pouring/cooling process, identified as EU560, shall not exceed 0.2676 pounds per ton of metal.

(g) The PM2.5 emissions from the Sinto pouring/cooling process, identified as EU560, shall not exceed 0.2676 pounds per ton of metal.

(h) The VOC emissions from the Sinto pouring/cooling process, identified as EU560, shall not exceed 1.743 pounds per ton of metal.

(i) The CO emissions from the Sinto pouring/cooling process, identified as EU560, shall not exceed 3.786 pounds per ton of metal.

Compliance with these limits shall limit the potential to emit of regulated pollutants to less than 100 tons per year for modification No. T167-26842-00007, issued in 2008. Compliance with these limits makes modification No. T167-26842-00007 a minor modification to an existing minor source, and renders the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable to the modification approved under T167-26842-00007. The VOC limit also makes 326 IAC 8-1-6 not applicable to the pouring and cooling process.

D.5.3 Particulate Matter (PM) Limitations [326 IAC 6.5-1-2]

Pursuant to 326 IAC 6.5-1-2, the following conditions shall apply:

(a) The PM emissions from the mold machine (EU520) shall not exceed 0.03 grain per dry standard cubic foot.

(b) The PM emissions from the mold machine (EU521) shall not exceed 0.03 grain per dry standard cubic foot.

(c) The PM emissions from the mold machines (EU530) shall not exceed 0.03 grain per dry standard cubic foot.

(d) The PM emissions from the Sinto #2 mold machine (EU531) shall not exceed 0.03 grain per dry standard cubic foot.

(e) The PM emissions from the Floor pouring/cooling process (EU540) shall not exceed 0.03 grains per dry standard cubic foot.

(f) The PM emissions from the Sinto pouring/cooling process (EU550) shall not exceed 0.03 grains per dry standard cubic foot.

(g) The PM emissions from the Sinto pouring/cooling process (EU560) shall not exceed 0.03 grains per dry standard cubic foot.

D.5.4 Hazardous Air Pollutant (HAP) Emissions [326 IAC 2-4.1] [40 CFR 63]

Pursuant to 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP)) and in order to render 40 CFR 63, Subpart EEEEE not applicable, the Permittee shall comply with the following:

Combined with the metal input limit to the electric induction furnaces (EU130 and EU140 combined) in Condition D.1.1(a):

(a) The combined Metallic HAP emissions (chromium compounds, cobalt compounds, nickel compounds, arsenic compounds, cadmium compounds, selenium compounds, manganese compounds, and antimony compounds) from the Casting Shakeout System (listed in Section D.3) shall not exceed 0.002 pounds per ton of metal.

(b) The Phenol emissions from Pouring, Cooling, and Casting Shakeout combined shall not exceed 0.0718 pounds per ton of metal.

(c) The Benzene emissions from Pouring, Cooling, and Casting Shakeout combined shall not exceed 0.1643 pounds per ton of metal.

(d) The Analine emissions from Pouring, Cooling, and Casting Shakeout combined shall not exceed 0.0366 pounds per ton of metal.

(e) The o-Cresol emissions from Pouring, Cooling, and Casting Shakeout combined shall not exceed 0.0185 pounds per ton of metal.

(f) The Naphthalene emissions from Pouring, Cooling, and Casting Shakeout combined shall not exceed 0.0048 pounds per ton of metal.

(g) The N,N - Dimethylaniline emissions from Pouring, Cooling, and Casting Shakeout combined shall not exceed 0.0085 pounds per ton of metal.

(h) The Toluene emissions from Pouring, Cooling, and Casting Shakeout combined shall not exceed 0.0647 pounds per ton of metal.

(i) The m,p -Cresol emissions from Pouring, Cooling, and Casting Shakeout combined shall not exceed 0.0059 pounds per ton of metal.

(j) The m,p -Xylene emissions from Pouring, Cooling, and Casting Shakeout combined shall not exceed 0.0044 pounds per ton of metal.

(k) The Xylene (Total) emissions from Pouring, Cooling, and Casting Shakeout combined shall not exceed 0.0383 pounds per ton of metal.

(l) The Acetaldehyde emissions from Pouring, Cooling, and Casting Shakeout combined shall not exceed 0.0100 pounds per ton of metal.

(m) The Ethylbenzene emissions from Pouring, Cooling, and Casting Shakeout combined shall not exceed 0.0070 pounds per ton of metal.

(n) The Formaldehyde emissions from Pouring, Cooling, and Casting Shakeout combined shall not exceed 0.0011 pounds per ton of metal.

(o) The hexane emissions from Pouring, Cooling, and Casting Shakeout combined shall not exceed 0.0046 pounds per ton of metal.

(p) The other HAP emissions from Pouring, Cooling, and Casting Shakeout combined shall not exceed 0.0070 pounds per ton of metal.

(q) The total organic HAP emissions from Pouring, Cooling, and Casting Shakeout combined shall not exceed 0.4475 pounds per ton of metal.

Compliance with these limits, conjunction with Conditions D.1.3, D.3.3, D.4.3, D.7.3, D.8.3, D.9.3, D.10.3, and D.13.1, shall limit the potential to emit of HAPs to less than 10 tons per 12 consecutive month period for a single HAP and less than 25 tons per 12 consecutive month period for total HAPs. Compliance with this limit renders 40 CFR 63, Subpart EEEEE not applicable.

D.5.5 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

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

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

D.5.6 Record Keeping Requirements

(a) To document the compliance status with Condition D.5.1(a), the Permittee shall maintain records of the weight of sand throughput to the mold machines (EU520, EU521 and EU530) each month. The records shall be complete and sufficient to establish compliance with the throughput limitations in Condition D.5.1(a).

(b) To document the compliance status with Condition D.5.2(a), the Permittee shall maintain records of the weight of sand throughput to the Sinto #2 mold machine (EU531) each month. The records shall be complete and sufficient to establish compliance with the throughput limitations in Condition D.5.2(a).

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

D.5.7 Reporting Requirements

A quarterly summary of the information to document the compliance status with Conditions D.5.1(a) and D.5.2(a) shall be submitted not later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition. The 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(34).

SECTION D.6 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description: Baghouse BH3

Shakeout

(j) Casting shakeout system, identified as EU570, with a maximum capacity of 80 tons of sand per hour and 18 tons of metal per hour, including:

(1) Handling equipment, constructed in 2001, using Wheelabrator-88 baghouse, identified as BH3, for control, and exhausting to stack SC-4.

(2) One (1) Didion Drum -- Section D.3

(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 Prevention of Significant Deterioration (PSD) Minor Limits for Equipment Existing Prior to 2008 [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 (PSD) not applicable, the following conditions shall apply:

Combined with the metal input limit to the electric induction furnaces (EU130 and EU140 combined) in Condition D.1.1(a):

(a) The PM emissions from the baghouse BH3 controlling the handling for the casting shakeout system, identified as EU570, shall not exceed 1.0 pound per ton of metal.

(b) The PM10 emissions from the baghouse BH3 controlling the handling for the casting shakeout system, identified as EU570, shall not exceed 1.0 pound per ton of metal.

(c) The PM2.5 emissions from the baghouse BH3 controlling the handling for the casting shakeout system, identified as EU570, shall not exceed 1.0 pound per ton of metal.

(d) The CO emissions from the casting shakeout system, identified as EU570, shall not exceed 2.0 pounds per ton of metal.

(e) The VOC emissions from the casting shakeout system, identified as EU570, shall not exceed 1.2 pounds per ton of metal.

Compliance with these limits, in conjunction with Conditions D.1.1, D.2.1, D.3.1, D.4.1, D.5.1, D.7.1, D.9.1, D.10.1, D.11.1, and D.12.1, shall limit the potential PM, PM10, PM2.5, VOC and CO emissions to less than 100 tons per 12 consecutive month period and renders 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable to the emission units constructed before 2008.

D.6.2 Particulate Matter (PM) Limitations [326 IAC 6.5-1-2]

Pursuant to 326 IAC 6.5-1-2, the PM emissions from the Wheelabrator-88 baghouse (BH3) controlling portions of the casting shakeout shall not exceed 0.03 grains per dry standard cubic foot.

D.6.3 Hazardous Air Pollutant (HAP) Emissions [326 IAC 2-4.1] [40 CFR 63]

See Condition D.5.4.

D.6.4 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

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

Compliance Determination Requirements

D.6.5 Testing Requirements [326 IAC 2-7-6(1), (6)] [326 IAC 2-1.1-11]

Not later than 180 days after the issuance of Renewal No. T167-32794-00007, in order to demonstrate the compliance status with Condition D.6.1, the Permittee shall perform PM, PM10 and PM2.5 testing on the Wheelabrator-88 baghouse BH3 (controlling portions of the casting shakeout system, identified as EU570), utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's obligations with regard to the performance testing required by this condition.

D.6.6 Particulate Matter Control

In order to comply with Conditions D. 6.1 and D.6.2,

(a) The Wheelabrator-88 baghouse (BH3) for PM, PM10 and PM2.5 control from portions of the casting shakeout shall be in operation at all times when the casting shakeout system 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.

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

D.6.7 Visible Emissions Notations [40 CFR 64]

Pursuant to 40 CFR 64,

(a) Visible emission notations of the Wheelabrator-88 baghouse (BH3) exhaust shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

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

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

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

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

D.6.8 Parametric Monitoring [40 CFR 64]

Pursuant to 40 CFR 64,

(a) The Permittee shall record the pressure drop across the Wheelabrator-88 baghouse (BH3), used in conjunction with portions of the casting shakeout (EU570), at least once per day when the casting shakeout system is in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 1.0 and 6.0 inches of water or a range established during the latest stack test, the Permittee shall take a reasonable response. Section C – Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. 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 instruments used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated or replaced at least once every six (6) months.

D.6.9 Broken Bag or Failure 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 processes 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 emissions unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Bag failure can be indicated by a significant drop in the 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.6.10 Record Keeping Requirements

(a) To document the compliance status with Condition D.6.7, the Permittee shall maintain records of visible emission notations taken each day of the baghouse BH3 stack exhaust. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g., the process did not operate that day).

(b) To document the compliance status with Condition D.6.8, the Permittee shall maintain records of the baghouse pressure drop readings. 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) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the records required by this condition.

SECTION D.7 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description: Baghouse BH2

Finishing Operations

(k) One (1) Spin Blast, identified as EU610, constructed in 1986, with a maximum capacity of 5 tons per hour of metal castings, using Wheelabrator-35 baghouse, identified as BH2, for control, and exhausting to stack SC-7.

(l) One (1) Tumbler, identified as EU630, constructed in 1989, with a maximum capacity of 1 ton per hour of metal castings, using Wheelabrator-35 baghouse, identified as BH2, for control, and exhausting to stack SC-7.

Note: Wheelabrator-35 baghouse, identified as BH2, is common the Spin Blast (EU610) and Tumbler (EU630).

(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 Prevention of Significant Deterioration (PSD) Minor Limits for Equipment Existing Prior to 2008 [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 (PSD) not applicable, the following conditions shall apply:

(a) The PM emissions from the Wheelabrator-35 baghouse (BH2), controlling the Spin Blast (EU610) and Tumbler (EU630), shall not exceed 3.45 pounds per hour.

(b) The PM10 emissions from the Wheelabrator-35 baghouse (BH2), controlling the Spin Blast (EU610) and Tumbler (EU630), shall not exceed 4.5 pounds per hour.

(c) The PM2.5 emissions from the Wheelabrator-35 baghouse (BH2), controlling the Spin Blast (EU610) and Tumbler (EU630), shall not exceed 4.5 pounds per hour.

Compliance with these limits, in conjunction with Conditions D.1.1, D.2.1, D.3.1, D.4.1, D.5.1, D.6.1, D.9.1, D.11.1, and D.12.1 shall limit the potential PM, PM10 and PM2.5 emissions to less than 100 tons per 12 consecutive month period and renders 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable to the emission units constructed before 2008.

D.7.2 Particulate Matter (PM) Limitations [326 IAC 6.5-1-2]

Pursuant to 326 IAC 6.5-1-2, the PM emissions from the Wheelabrator-35 baghouse (BH2) controlling the Spin Blast (EU610) and Tumbler (EU630) shall not exceed 0.03 grains per dry standard cubic foot.

D.7.3 Hazardous Air Pollutant (HAP) Emissions [326 IAC 2-4.1] [40 CFR 63]

Pursuant to 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP)) and in order to render 40 CFR 63, Subpart EEEEE not applicable, the Permittee shall comply with the following:

Combined with the finishing metal throughput limit in Condition D.9.1(a):

(a) The combined Metallic HAP emissions (chromium compounds, cobalt compounds, nickel compounds, arsenic compounds, cadmium compounds, selenium compounds, manganese compounds, and antimony compounds) from the Spin Blast (EU610) shall not exceed 0.1467 pounds per ton of metal.

(b) The combined Metallic HAP emissions (chromium compounds, cobalt compounds, nickel compounds, arsenic compounds, cadmium compounds, selenium compounds, manganese compounds, and antimony compounds) from the Tumbler (EU630) shall not exceed 0.1467 pounds per ton of metal.

Compliance with these limits, in conjunction with Conditions D.1.3, D.3.3, D.4.3, D.5.4, D.8.3, D.9.3, D.10.3, and D.13.1, shall limit the potential to emit of HAPs to less than 10 tons per 12 consecutive month period for a single HAP and less than 25 tons per 12 consecutive month period for total HAPs and renders 40 CFR 63, Subpart EEEEE not applicable.

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

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

Compliance Determination Requirements

D.7.5 Testing Requirements [326 IAC 2-7-6(1), (6)] [326 IAC 2-1.1-11]

Not later than 180 days after the issuance of Renewal No. T167-32794-00007, in order to demonstrate the compliance status with Condition D.7.1, the Permittee shall perform PM, PM10 and PM2.5 testing on the Wheelabrator-35 baghouse (BH2) (controlling the Spin Blast (EU610) and Tumbler (EU630)), utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's obligations with regard to the performance testing required by this condition.

Both the Spin Blast (EU610) and Tumbler (EU630) shall all be in operation when the tests are conducted since a combined limit (in lb/hr) is specified for the operations involved.

D.7.6 Particulate Matter Control

In order to comply with Conditions D.7.1, D.7.2 and D.7.3,

(a) The Wheelabrator-35 baghouse (BH2) for PM, PM10 and PM2.5 control from the Spin Blast (EU610) and Tumbler (EU630) shall be in operation at all times when the Spin Blast (EU610) or Tumbler (EU630) 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.

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

D.7.7 Visible Emissions Notations [40 CFR 64]

Pursuant to 40 CFR 64,

(a) Visible emission notations of the Wheelabrator-35 baghouse (BH2) stack exhaust shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

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

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

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

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

D.7.8 Parametric Monitoring [40 CFR 64]

Pursuant to 40 CFR 64,

(a) The Permittee shall record the pressure drop across the Wheelabrator-35 baghouse (BH2) used in conjunction with the Spin Blast (EU610) and Tumbler (EU630), at least once per day when the Spin Blast (EU610) or Tumbler (EU630) is in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 1.0 and 6.0 inches of water or a range established during the latest stack test, the Permittee shall take a reasonable response. Section C – Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. 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 instruments used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated or replaced at least once every six (6) months.

D.7.9 Broken Bag or Failure 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 processes 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 emissions unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Bag failure can be indicated by a significant drop in the 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.7.10 Record Keeping Requirements

(a) To document the compliance status with Condition D.7.7, the Permittee shall maintain records of visible emission notations taken each day of the baghous BH2 stack exhaust. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g., the process did not operate that day).

(b) To document the compliance status with Condition D.7.8, the Permittee shall maintain records of the baghouse pressure drop readings. 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) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the records required by this condition.

SECTION D.8 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description: Baghouse BH6

Finishing Operations

(m) One (1) Tumble Blast, identified as EU660, with a nominal capacity of 5 tons per hour of metal castings per hour, constructed in 2012, using Siemens baghouse, identified as BH6, for control, and exhausting to stack SC-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.8.1 Prevention of Significant Deterioration (PSD) Minor Limits for 2012 Modification [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 (PSD) not applicable to the 2012 modification, the following conditions shall apply:

(a) The PM emissions from the Siemens baghouse (BH6), controlling emissions from the Tumble Blast, shall not exceed 5.68 pound per hour.

(b) The PM10 emissions from the Siemens baghouse (BH6), controlling emissions from the Tumble Blast, shall not exceed 3.40 pound per hour.

(c) The PM2.5 emissions from the Siemens baghouse (BH6), controlling emissions from the Tumble Blast, shall not exceed 2.26 pound per hour.

Compliance with these emission limits will ensure that the potential to emit from this modification is less than twenty-five (25) tons of PM per year, less than fifteen (15) tons of PM10 per year and less than ten (10) tons of PM2.5 per year, and therefore will render the requirements of 326 IAC 2-2 (PSD) not applicable to the Tumble Blast.

D.8.2 Particulate Matter (PM) Limitations [326 IAC 6.5-1-2]

Pursuant to 326 IAC 6.5-1-2, the PM emissions from the baghouse (BH6) controlling the Tumble Blast (EU660) shall not exceed 0.03 grains per dry standard cubic foot.

D.8.3 Hazardous Air Pollutant (HAP) Emissions [326 IAC 2-4.1] [40 CFR 63]

Pursuant to 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP)) and in order to render 40 CFR 63, Subpart EEEEE not applicable, the Permittee shall comply with the following:

Combined with the finishing metal throughput limit in Condition D.9.1(a), the combined Metallic HAP emissions (chromium compounds, cobalt compounds, nickel compounds, arsenic compounds, cadmium compounds, selenium compounds, manganese compounds, and antimony compounds) from the Tumble Blast (EU660) shall not exceed 0.1467 pounds per ton of metal.

Compliance with these limits, in conjunction with Conditions D.1.3, D.3.3, D.4.3, D.5.4, D.7.3, D.9.3, D.10.3, and D.13.1, shall limit the potential to emit of HAPs to less than 10 tons per 12 consecutive month period for a single HAP and less than 25 tons per 12 consecutive month period for total HAPs. Compliance with this limit renders 40 CFR 63, Subpart EEEEE not applicable.

D.8.4 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

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

Compliance Determination Requirements

D.8.5 Particulate Matter Control

In order to comply with Conditions D.8.1, D.8.2 and D.8.3,

(a) The Siemens baghouse (BH6) for PM, PM10 and PM2.5 control from the Tumble Blast shall be in operation at all times when the Tumble Blast 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.8.6 Testing Requirements [326 IAC 2-7-6(1), (6)] [326 IAC 2-1.1-11]

In order to determine the compliance status with Condition D.8.1, the Permittee shall perform PM, PM10 and PM2.5 testing on the Siemens Baghouse (BH6) controlling the Tumble Blast within sixty (60) days of reaching maximum capacity but no later than one hundred and eighty 180 days after startup, utilizing methods as approved by the Commissioner. This test shall be repeated at least once every five years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's obligations 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.8.7 Visible Emissions Notations [40 CFR 64]

Pursuant to 40 CFR 64,

(a) Visible emission notations of each of the Siemens Baghouse (BH6) stack exhaust shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

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

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

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

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

D.8.8 Parametric Monitoring [40 CFR 64]

Pursuant to 40 CFR 64,

(a) The Permittee shall record the pressure drop across the Siemens baghouse (BH6) used in conjunction with the Tumble Blast (EU660), at least once per day when theTumble Blast (EU660) is in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 1.0 and 6.0 inches of water or a range established during the latest stack test, the Permittee shall take a reasonable response. Section C – Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. 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 instruments used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated or replaced at least once every six (6) months.

D.8.9 Broken Bag or Failure 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 processes 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 emissions unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Bag failure can be indicated by a significant drop in the 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.8.10 Record Keeping Requirements

(a) To document the compliance status with Condition D.8.7, the Permittee shall maintain records of visible emission notations taken each day of the baghouse BH6 stack exhaust. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g., the process did not operate that day).

(b) To document the compliance status with Condition D.8.8, the Permittee shall maintain records of the baghouse pressure drop readings. 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) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the records required by this condition.

SECTION D.9 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description: Finish Grinders

Finishing Operations

(n) Six (6) self-contained finish grinders, identified as EU650, constructed in 1990, each with a maximum capacity of 2 tons per hour of metal castings, with downdraft tables using baffles for control, and exhausting to general ventilation.

(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 Prevention of Significant Deterioration (PSD) Minor Limits for Equipment Existing Prior to 2008 [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 (PSD) not applicable, the following conditions shall apply:

(a) The input of metal to the six (6) finish grinders, identified as EU650, shall not exceed 12,000 tons per 12 consecutive month period with compliance determined at the end of each month.

(b) The PM emissions from the six (6) finish grinders, identified as EU650, shall not exceed 1.0 pound per ton metal.

(c) The PM10 emissions from the six (6) finish grinders, identified as EU650, shall not exceed 1.0 pound per ton metal.

(d) The PM2.5 emissions from the six (6) finish grinders, identified as EU650, shall not exceed 1.0 pound per ton metal.

Compliance with these limits, in conjunction with Conditions D.2.1, D.3.1, D.4.1, D.5.1, D.6.1, D.7.1, D.11.1, and D.12.1, shall limit the potential PM, PM10 and PM2.5 emissions to less than 100 tons per 12 consecutive month period and renders 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable to the emission units constructed before 2008.

D.9.2 Particulate Matter (PM) Limitations [326 IAC 6.5-1-2]

Pursuant to 326 IAC 6.5-1-2, the PM emissions from the finish grinders (EU650) shall not exceed 0.03 grains per dry standard cubic foot.

D.9.3 Hazardous Air Pollutant (HAP) Emissions [326 IAC 2-4.1] [40 CFR 63]

Pursuant to 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP)) and in order to render 40 CFR 63, Subpart EEEEE not applicable, the Permittee shall comply with the following:

Combined with the finishing metal throughput limit in Condition D.9.1(a), the combined Metallic HAP emissions (chromium compounds, cobalt compounds, nickel compounds, arsenic compounds, cadmium compounds, selenium compounds, manganese compounds, and antimony compounds) from the six (6) finish grinders (EU650) shall not exceed 0.0001 pounds per ton of metal.

Compliance with these limits, in conjunction with Conditions D.1.3, D.3.3, D.4.3, D.5.4, D.7.3, D.8.3, D.10.3, and D.13.1, shall limit the potential to emit of HAPs to less than 10 tons per 12 consecutive month period for a single HAP and less than 25 tons per 12 consecutive month period for total HAPs. Compliance with this limit renders 40 CFR 63, Subpart EEEEE not applicable.

D.9.4 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

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

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.9.1(a), the Permittee shall maintain records of the metal input to the six (6) finish grinders (EU650) each month. The records shall be complete and sufficient to establish compliance with the throughput limitations in Condition D.9.1(a).

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

D.9.6 Reporting Requirements

A quarterly summary of the information to document the compliance status with Condition D.9.1(a) shall be submitted not later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition. The 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(34).

SECTION D.10 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description: Electrostatic Spray Booth

<u>Finishing Operations</u>

(p) One (1) electrostatic spray booth, identified as prime paint line EU710, constructed in 1983, with a maximum capacity of 500 gray iron castings per hour, with dry filters for control of particulate matter overspray, and exhausting to stack SC-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.10.1 Prevention of Significant Deterioration (PSD) Minor Limit for Equipment Existing Prior to 2008 [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 (PSD) not applicable, the VOC input to the electrostatic spray booth (EU710) shall not exceed 47.0 tons per 12 consecutive month period with compliance determined at the end of each month.

Compliance with this limit, in conjunction with Conditions D.5.1, D.11.1, and D.12.1, shall limit the potential VOC emissions to less than 100 tons per 12 consecutive month period and renders 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable to the emission units constructed before 2008.

D.10.2 Particulate Matter (PM) Limitations [326 IAC 6.5-1-2]

Pursuant to 326 IAC 6.5-1-2(a), particulate matter (PM) emissions from the electrostatic spray booth (EU710) shall not exceed 0.03 grain per dry standard cubic foot of exhaust air.

D.10.3 Hazardous Air Pollutant (HAP) Limit [326 IAC 2-4.1] [40 CFR 63]

Pursuant to 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP)) and in order to render 40 CFR 63, Subpart EEEEE not applicable, the Xylene input to the electrostatic spray booth (EU710) shall not exceed 9.645 tons per 12 consecutive month period with compliance determined at the end of each month.

Compliance with this limit, in conjunction with Conditions D.1.3, D.3.3, D.4.3, D.5.4, D.7.3, D.8.3, D.9.3, and D.13.1, shall limit the potential to emit of HAPs to less than 10 tons per 12 consecutive month period for a single HAP and less than 25 tons per 12 consecutive month period for total HAPs and renders 40 CFR 63, Subpart EEEEE not applicable.

D.10.4 Volatile Organic Compounds (VOC) [326 IAC 8-2-9]

(a) Pursuant to 326 IAC 8-2-9, when coating metal, the Permittee shall not allow the discharge into the atmosphere of VOC in excess of three (3.5) pounds of VOC per gallon of coating, excluding water, as delivered to the applicator, for extreme performance coatings.

(b) Pursuant to 326 IAC 8-2-9(f), work practices shall be used to minimize VOC emissions from mixing operations, storage tanks, and other containers, and handling operations for coatings, thinners, cleaning materials, and waste materials. Work practices shall include, but not limited to, the following:

(1) Store all VOC containing coatings, thinners, coating related waste, and cleaning materials in closed containers.

(2) Ensure that mixing and storage containers used for VOC containing coatings, thinners, coating related waste, and cleaning materials are kept closed at all times except when depositing or removing these materials.

(3) Minimize spills of VOC containing coatings, thinners, coating related waste, and cleaning materials.

(4) Convey VOC containing coatings, thinners, coating related waste, and cleaning materials from one (1) location to another in closed containers or pipes.

(5) Minimize VOC emissions from the cleaning application, storage, mixing, and conveying equipment by ensuring that equipment cleaning is performed without atomizing the cleaning solvent and all spent solvent is captured in closed containers.

D.10.5 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

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

Compliance Determination Requirements

D.10.6 Volatile Organic Compounds (VOC)

Compliance with the VOC usage limitations in Condition D.10.4 shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a)(7) by preparing or obtaining from the manufacturer the copies of the as supplied and as applied VOC data sheets. IDEM, OAQ, reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

D.10.7 Particulate Matter Control

In order to comply with Condition D.10.2, the dry filters for PM overspray control from Spray Booth EU710 shall be in operation at all times when the spray booth is in operation and the Permittee shall operate the control device in accordance with manufacturer's specifications.

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

D.10.8 Monitoring

(a) Daily inspections shall be performed to verify the placement, integrity and particle loading of the filters. To monitor the performance of the dry filters, weekly observations shall be made of the overspray from the spray booth stack (SC-6) while the spray booth is in operation. If a condition exists which should result in a response step, the Permittee shall take a reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee’s obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

(b) Monthly inspections shall be performed of the coating emissions from the stack (SC-6) and the presence of overspray on the rooftops and the nearby ground. When there is a noticeable change in overspray emissions, or when evidence of overspray emissions is observed, the Permittee shall take reasonable response steps. Section C - Response to Excursions or Exceedances contains the Permittee’s obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

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

D.10.9 Record Keeping Requirements

(a) To document the compliance status with Conditions D.10.1 and D.10.4, the Permittee shall maintain records in accordance with (1) through (4) below. Records maintained for (1) through (4) shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC usage limits and/or the VOC emission limits established in Condition D.10.1 and D.10.4. Records necessary to demonstrate compliance shall be available no later than 30 days of the end of each compliance period.

(1) The VOC content of each coating material and solvent used.

(2) The amount of coating material and solvent less water used on monthly basis.

(A) Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used.

(B) Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents;

(3) The cleanup solvent usage for each month; and

(4) The total VOC usage for each month

(b) To document the compliance status with Condition D.10.3, the Permittee shall maintain records in accordance with (1) through (4) below. Records maintained for (1) through (4) shall be taken monthly and shall be complete and sufficient to establish compliance with the HAP usage limits and/or the HAP emission limits established in Condition D.10.3. Records necessary to demonstrate compliance shall be available no later than 30 days of the end of each compliance period.

(1) The HAP content of each coating material and solvent used.

(2) The amount of coating material and solvent less water used on monthly basis.

(A) Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used.

(B) Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents;

(3) The cleanup solvent usage for each month; and

(4) The total HAP usage for each month

(c) To document the compliance status with Condition D.10.8, the Permittee shall maintain a log of weekly overspray observations, and daily and monthly inspections.

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

D.10.10 Reporting Requirements

A quarterly summary of the information to document the compliance status with Conditions D.10.1 and D.10.3 shall be submitted not later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

SECTION D.11 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description: Core Making

Core Making

(q) Core making systems including:

(1) Two (2) Shell Core Machines, identified as EU320 and EU321, constructed in 1979, each with a maximum capacity of 1 ton per hour of sand, using no controls, and exhausting to general ventilation;

(2) One (1) Oil Core Making Process, identified as EU410, constructed in 1902, utilizing a mixer and associated core boxes with a maximum capacity of 0.25 tons per hour of sand, using no control, and exhausting to general ventilation; and

(3) Core Wash Process, identified as EU730, constructed in 1902, with a maximum capacity of 1 ton per hour of sand, using no control, and exhausting to general ventilation.

(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.11.1 Prevention of Significant Deterioration (PSD) Minor Limit for Equipment Existing Prior to 2008 [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 (PSD) not applicable, the following conditions shall apply:

Shell Core Making

(a) The input of core sand to the Shell Core Machines EU320 and EU321 combined shall not exceed 1,000 tons per 12 consecutive month period with compliance determined at the end of each month.

(b) The PM emissions from the Shell Core Machines EU320 and EU321 combined shall not exceed 0.9 pound per ton sand.

(c) The PM10 emissions from the Shell Core Machines EU320 and EU321 combined shall not exceed 0.9 pound per ton sand.

(d) PM2.5 emissions from the Shell Core Machines EU320 and EU321 combined shall not exceed 0.9 pound per ton sand.

(e) The VOC emissions from the Shell Core Machines EU320 and EU321 combined shall not exceed 0.254 pound per ton sand.

Oil Core Making

(f) The input of core sand to the oil core making process, identified as EU410, shall not exceed 1,000 tons per 12 consecutive month period with compliance determined at the end of each month.

(g) The PM emissions from the oil core making process, identified as EU410, shall not exceed 0.9 pound per ton sand.

(h) The PM10 emissions from the oil core making process, identified as EU410, shall not exceed 0.9 pound per ton sand.

(i) The PM2.5 emissions from the oil core making process, identified as EU410, shall not exceed 0.9 pound per ton sand.

(j) The VOC emissions from the oil core making process, identified as EU410, shall not exceed 3.05 pound per ton sand.

Core Wash Process

(k) The input of core wash material to the core wash process, identified as EU730, shall not exceed 1,000 gallons per 12 consecutive month period with compliance determined at the end of each month.

(l) The VOC emissions (including emissions from the core wash and release agents) from the core wash process, identified as EU730, shall not exceed 2.1 pounds per gallon of core wash material.

Compliance with these limits, in conjunction with Conditions D.2.1, D.3.1, D.4.1, D.5.1, D.6.1, D.7.1, D.9.1, D.10.1, and D.12.1, shall limit the potential PM, PM10, PM2.5, and VOC emissions to less than 100 tons per 12 consecutive month period and renders 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable to the emission units constructed before 2008.

D.11.2 Particulate Matter (PM) Limitations [326 IAC 6.5-1-2]

Pursuant to 326 IAC 6.5-1-2, the following conditions shall apply:

(a) The PM emissions from the oil core making process (EU410) shall not exceed 0.03 grains per dry standard cubic foot.

(b) The PM emissions from the shell core machine (EU320) shall not exceed 0.03 grains per dry standard cubic foot.

(b) The PM emissions from the shell core machine (EU321) shall not exceed 0.03 grains per dry standard cubic foot.

(b) The PM emissions from the shell core machine (EU322) shall not exceed 0.03 grains per dry standard cubic foot.

D.11.3 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

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

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

D.11.4 Record Keeping Requirements

(a) To document the compliance status with Condition D.11.1(a), the Permittee shall maintain monthly records of the sand throughput to the shell core making process. The records shall be complete and sufficient to establish compliance with the usage limitation in Condition D.11.1(a).

(b) To document the compliance status with Condition D.11.1(f), the Permittee shall maintain monthly records of the sand throughput to the oil core making process. The records shall be complete and sufficient to establish compliance with the usage limitation in Condition D.11.1(f).

(c) To document the compliance status with Condition D.11.1(k), the Permittee shall maintain monthly records of the core wash material throughput to the core wash process. The records shall be complete and sufficient to establish compliance with the usage limitation in Condition D.11.1(k).

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

D.11.5 Reporting Requirements

A quarterly summary of the information to document the compliance status with Conditions D.11.1(a), D.11.1(f) and D.11.1 (k) shall be submitted not later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

SECTION D.12 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description: Isocure Core Making

Core Making

(r) Isocure Core making systems including:

(1) Isocure Core Machine, identified as CB-22, constructed in 1994, fed by Cold Box Mixer, with a maximum capacity of 0.525 tons of sand/resin mixture per hour, a maximum of 21 pounds of resin per hour, and a maximum of 1.05 pounds of DMIPA per hour, controlled by an acid scrubber, and exhausting to stack SC-8.

(2) Cold Box (Isocure) Core Machine, identified as Gaylord-1, constructed in 2003, fed by Cold Box Mixer, with a maximum capacity of 1 ton of sand/resin mixture per hour, a maximum of 40 pounds of resin per hour, and a maximum of 2 pounds of DMIPA per hour, controlled by an acid scrubber, and exhausting to stack SC-8.

(3) Cold Box (Isocure) Core Machine, identified as Gaylord-2, constructed in 2003, fed by Cold Box Mixer, with a maximum capacity of 1 ton of sand/resin mixture per hour, a maximum of 40 pounds of resin per hour, and a maximum of 2 pounds of DMIPA per hour, controlled by an acid scrubber, and exhausting to stack SC-8.

(4) One (1) core machine, identified as Cold Box (Isocure) Core Machine (CBCM-3), approved for construction in 2013, fed by existing mixer (identified as Cold Box Mixer), with a maximum capacity of 2.7 tons of sand/resin mixture per hour, a maximum of 108 pounds of resin per hour, and a maximum of 4.22 pounds of amine catalyst per hour, with emissions controlled by an existing acid scrubber, exhausting to stack SC-8.

(5) Sand Mixer, identified as Cold Box Mixer, constructed in 2003, approved for modification in 2013, with a maximum capacity of 5.225 tons of sand/resin mixture per hour, using no control, and exhausting indoors.

(6) Sand heater, constructed in 1978, using no control, and exhausting indoors.

(7) Sand Silo, with a maximum capacity of 165 tons of sand, loaded via pneumatic conveying system including an integral bin vent, utilizing no control, and exhausting indoors.

(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.12.1 Prevention of Significant Deterioration (PSD) Minor Limit for Equipment Constructed Prior to 2008 [326 IAC 2-2]

In order to render 326 IAC 2-2 not applicable, the following conditions shall apply:

(a) The toal production of cores in the isocure machines (CB-22, Gaylord-1 and Gaylord-2 combined) shall not exceed 1,100 tons per 12 consecutive month period with compliance determined at the end of each month.

(b) The total VOC emissions, including dimethylisopropylamine (DMIPA), from the isocure machines (CB-22, Gaylord-1 and Gaylord-2) shall not exceed 10.0 pounds per ton of core.

(c) The PM emissions from the sand silo shall not exceed 0.5 pounds per ton of core.

(d) The PM10 emissions from the sand silo shall not exceed 0.5 pounds per ton of core.

(e) The PM2.5 emissions from the sand silo shall not exceed 0.5 pounds per ton of core.

Compliance with these limits, in conjunction with Conditions D.2.1, D.3.1, D.4.1, D.5.1, D.6.1, D.7.1, D.9.1, D.10.1 and D.11.1, shall limit the potential PM, PM10, PM2.5 and VOC emissions to less than 100 tons per 12 consecutive month period and renders 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable to the emission units constructed before 2008.

In addition, compliance with Conditions D.12.1(a) and D.12.1(b) renders 326 IAC 8-1-6 not applicable to the CB-22, Gaylord-1 and Gaylord-2.

D.12.2 Prevention of Significant Deterioration (PSD) Minor Limit for 2013 Modification [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable to the 2013 Modification, the Permittee shall comply with the following:

(a) The input of sand to the Cold Box (Isocure) Core Machine, identified as CBCM-3, shall not exceed 13,833 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) The PM emissions from the Cold Box (Isocure) Core Machine, identified as CBCM-3, shall not exceed 3.6 pounds per ton of sand.

Compliance with this limit shall limit the potential to emit of PM from the 2013 Modification to less than 25 tons per 12 consecutive month period and shall render 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

D.12.3 Particulate Matter (PM) Limitations [326 IAC 6.5-1-2]

Pursuant to 326 IAC 6.5-1-2(a) PM emissions from the Sand Silo shall not exceed 0.03 grain per dry standard cubic foot.

D.12.4 Volatile Organic Compounds (VOC) [326 IAC 8-1-6]

In order to render the requirements of 326 IAC 8-1-6 not applicable, the VOC emissions before controls from the Cold Box (Isocure) Core Machine CBCM-3 shall not exceed 24.9 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with this limits, shall limit the potential to emit VOC from the Cold Box (Isocure) Core Machine CBCM-3 to less than twenty-five (25) tons per 12 consecutive month period and shall render 326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities) not applicable.

D.12.5 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

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

Compliance Determination Requirements

D.12.6 Acid Scrubber Control

In order to comply with Condition D.12.1(b), the acid scrubbers shall be in operation at all times any of the associated Cold Box Core Machines (CB-22, Gaylord-1, Gaylord-2, and Cold Box Core Machine 3) is in operation.

D.12.7 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

(a) In order to demonstrate the compliance status with the total VOC limits in Condition D.12.1, the Permittee shall perform total VOC testing for the Cold Box Core Machines CB-22, Gaylord-1, and Gaylord-2 utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

The above mentioned operations shall all be in operation when the tests are conducted since a total limit (in lb/ton) is specified for the operations involved. These tests are to be conducted after control.

(b) Not later than 180 days after the initial startup of the Cold Box Core Machine CBCM-3, in order to demonstrate compliance with Condition D.12.4, the Permittee shall perform one-time VOC testing for the Cold Box Core Machine CBCM-3 utilizing methods as approved by the Commissioner. 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.

This test is to be conducted before control.

D.12.8 VOC Emissions

In order to comply with Condition D.12.4, the Permittee shall limit sand and catalyst usage in the Cold Box Core Machine CBCM-3 according to the following formula:

$$V = \frac{S*(E_R) + (U_c*D_c*D_w)}{2{,}000 \text{ lbs/ton}}$$

where:

V = tons of VOC emissions for a 12-month consecutive period from CBCM-3
S = tons of sand used in the last 12 months in CBCM-3*
E_R = 1.00 pounds of VOC from resin evaporation per ton of sand
U_C = gallons of catalyst used for a 12-month consecutive period in CBCM-3
D_c = relative density of catalyst used in CBCM-3
D_w = density of water = 8.34 lbs/gallon

*Note: At no time shall S exceed 13,833 tons per 12 consecutive month period, pursuant to Condition D.12.2(a).

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

D.12.9 Acid Scrubber Monitoring

(a) The Permittee shall record the scrubbing liquor flow rate through both acid scrubbers controlling the core making machines, at least once per day when the scrubber is in operation. When for any one reading, the flow rate through the scrubber is below the minimum 120 gallons per minute or a minimum established during the latest stack test, the Permittee shall take a reasonable response. Section C – Response to Excursions or

Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. 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 Permittee shall record the scrubbing liquid pH in both acid scrubbers controlling the core making machines, at least once per day when the scrubber is in operation. When for any one reading, the scrubbing liquid pH is above the maximum 4.5 or a maximum established during the latest stack test, the Permittee shall take a reasonable response. Section C – Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. 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.

(c) The Permittee shall record the pressure drop across both acid scrubbers controlling the core making machines, at least once per day when the scrubber is in operation. When for any one reading, the pressure drop across the scrubber is outside the normal range of 1.0 and 6.0 inches of water or a range established during the latest stack test, the Permittee shall take a reasonable response. Section C – Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

(d) The instruments used for determining the scrubbing liquid flow rate, pH, and 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.

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

D.12.10 Record Keeping Requirements

(a) To document the compliance status with Condition D.12.1(a), the Permittee shall maintain records of the weight of cores produced each month. The records shall be complete and sufficient to establish compliance with the core production limitation in Condition D.12.1(a).

(b) To document the compliance status with Conditions D.12.2 and D.12.4, the Permittee shall maintain records in accordance with (1) and (2) below. Records maintained for (1) and (2) shall be taken monthly and shall be complete and sufficient to establish compliance with the PM and VOC emission limits established in Conditions D.12.2 and D.12.4.

(1) The amount and VOC content of catalyst used in the Cold Box Core Machine CBCM-3 for each month. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used;

(2) The amount of sand used in the sand mixer and Cold Box Core Machine CBCM-3 per month.

(c) To document the compliance status with Condition 12.9, the Permittee shall maintain a daily record of the pressure drop across both acid scrubbers, scrubbing liquid flow rate, and scrubbing liquid pH. The Permittee shall include in its daily record when a visible emission notation, a pressure drop reading, a scrubber liquid flow rate reading, or a scrubbing liquid pH reading is not taken and the reason for the lack of a visible emission notation, a pressure drop reading, a scrubber liquid flow rate reading, or a scrubbing liquid pH reading (e.g., the process did not operate that day).

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

D.12.11 Reporting Requirements

(a) A quarterly summary of the information to document the compliance status with Condition D.12.1(a) shall be submitted using the reporting forms located at the end of this permit, or their equivalent, not later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

(b) A quarterly summary of the information to document the compliance status with Conditions D.12.2 and D.12.4 shall be submitted using the reporting forms located at the end of this permit, or their equivalent, 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 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-7-1(34).

SECTION D.13 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description: Emergency Generator

Insignificant Activities

(a) One (1) emergency diesel generator, identified as EU800, constructed in 2011, rated at 346 horsepower, with an engine displacement volume less than 10 liters per cylinder and exhausting to the atmosphere.

Under 40 CFR Part 60, Subpart IIII, and 40 CFR Part 63, Subpart ZZZZ, this facility is considered an affected unit.

(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.13.1 Hazardous Air Pollutant (HAP) Emissions Minor Limit [326 IAC 2-4.1] [40 CFR 63]

Pursuant to 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP)) and in order to render 40 CFR 63, Subpart EEEEE not applicable, the hours of operation for Emergency Generator EU800 shall not exceed 40 hours per consecutive 12 month period.

Compliance with these limits, in conjunction with Conditions D.1.3, D.3.3, D.4.3, D.5.4, D.7.3, D.8.3, D.9.3, and D.10.3, shall limit the potential to emit of HAPs to less than 10 tons per 12 consecutive month period for a single HAP and less than 25 tons per 12 consecutive month period for total HAPs and renders 40 CFR 63, Subpart EEEEE not applicable.

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

D.13.2 Record Keeping Requirements

(a) To document the compliance status with Condition D.13.1, the Permittee shall maintain monthly records of the hours of operation for Emergency Generator EU800. The records shall be complete and sufficient to establish compliance with the limitations in Condition D.13.1.

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

D.13.3 Reporting Requirements

A quarterly summary of the information to document the compliance status with Condition D.13.1 shall be submitted not later than thirty (30) days after the end of the quarter being reported. Section C - General Reporting contains the Permittee's obligation with regard to the reporting required by this condition. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(34).

SECTION E.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

Metal Melting

(a) One (1) Electric Induction Furnace #3, identified as EU130, constructed in 1995, with a maximum capacity of 5.0 tons of metal per hour, using Steelcraft baghouse, identified as BH1, for control, and exhausting to stack SC-2.

Under 40 CFR 63, Subpart ZZZZZ, this process is considered an existing affected unit.

(b) One (1) Electric Induction Furnace #4, identified as EU140, constructed in 1995, with a maximum capacity of 5.0 tons of metal per hour, using Steelcraft baghouse, identified as BH1, for control, and exhausting to stack SC-2.

Under 40 CFR 63, Subpart ZZZZZ, this process is considered an existing affected unit.

Note: Baghouse BH1 (exhausting to stack SC-2) is common to both Electric Induction Furnaces (EU130 and EU14).

Raw Material Handling and Preparation

(c) One (1) scrap/charge handling operation for the electric induction furnaces, identified as EU120, constructed in 1995, with a maximum capacity of 10 tons of metal per hour, utilizing no control, and exhausting indoors.

Under 40 CFR 63, Subpart ZZZZZ, this facility is considered an existing affected facility.

(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

E.1.1 General Provisions Relating to NESHAP ZZZZZ [326 IAC 20-80-1] [40 CFR Part 63, Subpart A]

Pursuant to 40 CFR 63.10890(i), the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A - General Provisions.

E.1.2 National Emission Standards for Hazardous Air Pollutants for Iron and Steel Foundries Area Sources [40 CFR Part 63, Subpart ZZZZZ]

The Permittee who operates an iron or steel foundry that is an area source of hazardous air pollutants (HAPs) shall comply with the following provisions of 40 CFR Part 63, Subpart ZZZZZ, included as Attachment A of this permit, with a compliance date of January 2, 2009 for the pollution prevention management practices for metallic scrap and January 4, 2010 for the pollution prevention management practices for mercury:

Nonapplicable portions of the NESHAP will not be included in the permit. The source is subject to the following portions of Subpart ZZZZZ:

(1) 40 CFR 63.10880 (a), (b), (b)(1), (c), and (f)
(2) 40 CFR 63.10881 (a), (a)(1), (a)(2), (d), (d)(1), and (d)(1)(i)
(3) 40 CFR 63.10885 (a), (a)(1), (a)(2), (a)(2)(i), (b), (b)(1), (b)(1)(i-ii), (b)(1)(ii)(A-D), (b)(1)(iii-v), (b)(2), (b)(2)(i-iv), (b)(2)(iv)(A-C), and (b)(3-4)

(4) 40 CFR 63.10890 (a-c), (c)(1-2), (d-e), (e)(1-3), (e)(3)(i-ii), (e)(4), (e)(6-7), and (f-i)
(5) 40 CFR 63.10897 (a), (a)(1), (a)(1)(i-ii), (d), (d)(1), (d)(1)(i-vii), (d)(2), (d)(2)(i-vi), (d)(3), (d)(3)(i-vi), and (e-g)
(6) 40 CFR 63.10899 (a-b), (b)(1-2), (b)(2)(i-ii), (b)(3), (b)(5-6), (b)(9), (b)(9)(i-iii), (b)(10-13), (b)(13)(i), (c), and (c)(1-3)
(7) 40 CFR 63.10905 (a-c) and (c)(1-6)
(8) 40 CFR 63.10906

SECTION E.2 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

Insignificant Activities

(a) One (1) emergency diesel generator, identified as EU800, constructed in 2011, rated at 346 horsepower, with an engine displacement volume less than 10 liters per cylinder and exhausting to the atmosphere.

Under 40 CFR Part 60, Subpart IIII, and 40 CFR Part 63, Subpart ZZZZ, this facility is considered an affected unit.

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

Standards of Performance for New Stationary Sources (NSPS)

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

The provisions of 40 CFR Part 60, Subpart A - General Provisions, which are incorporated as 326 IAC 12-1, apply to the facilities described in this section except when otherwise specified in 40 CFR Part 60, Subpart IIII.

E.2.2 Stationary Compression Ignition Internal Combustion Engines NSPS Requirements [40 CFR Part 60, Subpart IIII] [326 IAC 12]

Pursuant to 40 CFR Part 60, Subpart IIII, (included as Attachment B of this permit), the Permittee which shall comply with the provisions of 40 CFR Part 60, Subpart IIII, for the emergency diesel generator as follows:

(1) 40 CFR 60.4200(a)(2)(i)
(2) 40 CFR 60.4202(a)(2)
(3) 40 CFR 60.4205(b)
(4) 40 CFR 60.4206
(5) 40 CFR 60.4207(a) and (b)
(6) 40 CFR 60.4208(a)
(7) 40 CFR 60.4209(a)
(8) 40 CFR 60.4211(f)
(9) 40 CFR 60.4214(b) and (d)
(10) 40 CFR 60.4218
(11) 40 CFR 60.4219
(12) Table 8

SECTION E.3 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

Insignificant Activities

(a) One (1) emergency diesel generator, identified as EU800, constructed in 2011, rated at 346 horsepower, with an engine displacement volume less than 10 liters per cylinder and exhausting to the atmosphere.

Under 40 CFR Part 60, Subpart IIII, and 40 CFR Part 63, Subpart ZZZZ, this facility is considered an affected unit.

(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

E.3.1 General Provisions Relating to NESHAP ZZZZ [326 IAC 20-82-1] [40 CFR Part 63, Subpart A]

Pursuant to 40 CFR 63.10890(i), the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A - General Provisions.

E.3.2 National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines [40 CFR Part 63, Subpart ZZZZ]

Pursuant to 40 CFR Part 63, Subpart ZZZZ, (included as Attachment B of this permit), the Permittee which shall comply with the provisions of 40 CFR Part 63, Subpart ZZZZ, for the emergency diesel generator as follows:

(1) 40 CFR 63.6580
(2) 40 CFR 63.6585(a), (c), and (d)
(3) 40 CFR 63.6590(a)(2)(iii) and (c)(1)
(4) 40 CFR 63.6665
(5) 40 CFR 63.6670
(6) 40 CFR 63.6675

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

Source Name: Gartland Foundry Co., Inc.
Source Address: 330 Grant St., Terre Haute, Indiana 47802
Part 70 Permit No.: T167-32794-00007

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

Please check what document is being certified:

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

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

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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

PART 70 OPERATING PERMIT
EMERGENCY OCCURRENCE REPORT

Source Name: Gartland Foundry Co., Inc.
Source Address: 330 Grant St., Terre Haute, Indiana 47802
Part 70 Permit No.: T167-32794-00007

This form consists of 2 pages **Page 1 of 2**

☐ This is an emergency as defined in 326 IAC 2-7-1(12)

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

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

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

If any of the following are not applicable, mark N/A **Page 2 of 2**

Date/Time Emergency started:
Date/Time Emergency was corrected:
Was the facility being properly operated at the time of the emergency? Y N
Type of Pollutants Emitted: TSP, PM-10, SO_2, VOC, NO_X, CO, Pb, other:
Estimated amount of pollutant(s) emitted during emergency:
Describe the steps taken to mitigate the problem:
Describe the corrective actions/response steps taken:
Describe the measures taken to minimize emissions:
If applicable, describe the reasons why continued operation of the facilities are necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw materials of substantial economic value:

Form Completed by:______________________________

Title / Position: ______________________________

Date:______________________________

Phone: ______________________________

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

Part 70 Quarterly Report

Source Name: Gartland Foundry Co., Inc.
Source Address: 330 Grant St., Terre Haute, Indiana 47802
Part 70 Permit No.: T167-32794-00007
Facility: Electric Induction Furnaces (EU130 and EU140)
Parameter: Combined metal input
Limit: The input of metal to the electric induction furnaces (EU130 and EU140 combined) shall not exceed 18,000 tons per 12 consecutive month period with compliance determined at the end of each month.

QUARTER : YEAR:

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

☐ No deviation occurred in this quarter.

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

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

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

Part 70 Quarterly Report

Source Name:	Gartland Foundry Co., Inc.
Source Address:	330 Grant St., Terre Haute, Indiana 47802
Part 70 Permit No.:	T167-32794-00007
Facility:	Magnesium Treatment
Parameter:	Metal input
Limit:	The input of metal to the Magnesium Treatment, identified as EU150, shall not exceed 9,000 tons of iron per 12 consecutive month period with compliance determined at the end of each month.

QUARTER : YEAR:

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

☐ No deviation occurred in this quarter.

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

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

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

Part 70 Quarterly Report

Source Name:	Gartland Foundry Co., Inc.
Source Address:	330 Grant St., Terre Haute, Indiana 47802
Part 70 Permit No.:	T167-32794-00007
Facility:	Mold Making Process including two (2) Squeezer mold machines (EU520), three (3) Rotolift mold machines (EU521), and one (1) Sinto #1 mold machine (EU530)
Parameter:	Combined sand input
Limit:	The throughput of sand to the mold machines, identified as EU520, EU521 and EU530, shall not exceed 350,000 tons per 12 consecutive month period with compliance determined at the end of each month.

QUARTER : YEAR:

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

☐ No deviation occurred in this quarter.

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

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

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

Part 70 Quarterly Report

Source Name:	Gartland Foundry Co., Inc.
Source Address:	330 Grant St., Terre Haute, Indiana 47802
Part 70 Permit No.:	T167-32794-00007
Facility:	Sinto #2 Mold Machine (EU531)
Parameter:	Throughput of sand
Limit:	The throughput of sand to the Sinto #2 Mold Machine shall not exceed 231,264 tons per 12 consecutive month period with compliance determined at the end of each month.

QUARTER : YEAR:

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

☐ No deviation occurred in this quarter.

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

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

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

Part 70 Quarterly Report

Source Name:	Gartland Foundry Co., Inc.
Source Address:	330 Grant St., Terre Haute, Indiana 47802
Part 70 Permit No.:	T167-32794-00007
Facility:	Six (6) Finish Grinders (EU650)
Parameter:	Metal input
Limit:	The input of metal to the six (6) finish grinders, identified as EU650, shall not exceed 12,000 tons per 12 consecutive month period with compliance determined at the end of each month.

QUARTER :   YEAR:

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

☐ No deviation occurred in this quarter.

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

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

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

Part 70 Quarterly Report

Source Name:	Gartland Foundry Co., Inc.
Source Address:	330 Grant St., Terre Haute, Indiana 47802
Part 70 Permit No.:	T167-32794-00007
Facility:	Electrostatic Paint Booth (EU710)
Parameter:	VOC Input
Limit:	The VOC input to the electrostatic spray booth, identified as EU710, shall not exceed 47.0 tons per 12 consecutive month period with compliance determined at the end of each month.

QUARTER : YEAR:

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

☐ No deviation occurred in this quarter.

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

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

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

Part 70 Quarterly Report

Source Name:	Gartland Foundry Co., Inc.
Source Address:	330 Grant St., Terre Haute, Indiana 47802
Part 70 Permit No.:	T167-32794-00007
Facility:	Electrostatic Paint Booth (EU710)
Parameter:	HAP Input
Limit:	The Xylene input to the electrostatic spray booth (EU710) shall not exceed 9.645 tons per 12 consecutive month period with compliance determined at the end of each month.

QUARTER : YEAR:

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

☐ No deviation occurred in this quarter.

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

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

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

Part 70 Quarterly Report

Source Name: Gartland Foundry Co., Inc.
Source Address: 330 Grant St., Terre Haute, Indiana 47802
Part 70 Permit No.: T167-32794-00007
Facility: Shell Core Making
Parameter: Sand input
Limit: The input of core sand to the Shell Core Machines EU320 and EU321 combined shall not exceed 1,000 tons per 12 consecutive month period with compliance determined at the end of each month.

QUARTER : YEAR:

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

☐ No deviation occurred in this quarter.

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

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

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

Part 70 Quarterly Report

Source Name: Gartland Foundry Co., Inc.
Source Address: 330 Grant St., Terre Haute, Indiana 47802
Part 70 Permit No.: T167-32794-00007
Facility: Oil Core Making
Parameter: Sand input
Limit: The input of core sand to the oil core making process, identified as EU410, shall not exceed 1,000 tons per 12 consecutive month period with compliance determined at the end of each month.

QUARTER : YEAR:

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

☐ No deviation occurred in this quarter.

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

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

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

Part 70 Quarterly Report

Source Name:	Gartland Foundry Co., Inc.
Source Address:	330 Grant St., Terre Haute, Indiana 47802
Part 70 Permit No.:	T167-32794-00007
Facility:	Core Wash Process
Parameter:	Core wash material input
Limit:	The input of core wash material to the core wash process, identified as EU730, shall not exceed 1,000 gallons per 12 consecutive month period with compliance determined at the end of each month.

QUARTER :   YEAR:

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

☐ No deviation occurred in this quarter.

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

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

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

Part 70 Quarterly Report

Source Name:	Gartland Foundry Co., Inc.
Source Address:	330 Grant St., Terre Haute, Indiana 47802
Part 70 Permit No.:	T167-32794-00007
Facility:	Isocure Core Making (CB-22, Gaylord-1, and Gaylord-2)
Parameter:	Combined Core Production
Limit:	The production of cores in the isocure machines (CB-22, Gaylord-1 and Gaylord-2 combined) shall not exceed 1,100 tons per 12 consecutive month period with compliance determined at the end of each month.

QUARTER :   YEAR:

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

☐ No deviation occurred in this quarter.

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

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

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

Part 70 Quarterly Report

Source Name:	Gartland Foundry Co., Inc.
Source Address:	330 Grant St., Terre Haute, Indiana 47802
Part 70 Permit No.:	T167-32794-00007
Facility:	Cold Box Core Machine CBCM-3
Parameter:	Sand input
Limit:	The input of sand from the Cold Box Mixer to the Cold Box (Isocure) Core Machine, identified as CBCM-3, shall not exceed 13,833 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

QUARTER : YEAR:

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

☐ No deviation occurred in this quarter.

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

Submitted by: ______________________________________
Title / Position: ______________________________________
Signature:____
Date: ____
Phone: ____

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

Part 70 Quarterly Report

Source Name: Gartland Foundry Co., Inc.
Source Address: 330 Grant St., Terre Haute, Indiana 47802
Part 70 Permit No.: T167-32794-00007
Facility: Cold Box Core Machine CBCM-3
Parameter: VOC Emissions
Limit: In order to render the requirements of 326 IAC 8-1-6 not applicable, the VOC emissions from the Cold Box (Isocure) Core Machine CBCM-3 shall not exceed 24.9 tons per twelve (12) consecutive month period, before controls, with compliance determined at the end of each month.

QUARTER : YEAR:

Month	Input (units)	This Month	Previous 11 Months	12-Month Period	Total VOC Emissions (tons per 12 consecutive month period)
Month 1	Sand (tons)				
	Catalyst (gallons)				
Month 2	Sand (tons)				
	Catalyst (gallons)				
Month 3	Sand (tons)				
	Catalyst (gallons)				

☐ 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: Gartland Foundry Co., Inc.
Source Address: 330 Grant St., Terre Haute, Indiana 47802
Part 70 Permit No.: T167-32794-00007
Facility: Emergency Generator EU800
Parameter: Hours Operated
Limit: The hours of operation for Emergency Generator EU800 shall not exceed 40 hours per consecutive 12 month period.

QUARTER : YEAR:

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

☐ No deviation occurred in this quarter.

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

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

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: Gartland Foundry Co., Inc.
Source Address: 330 Grant St., Terre Haute, Indiana 47802
Part 70 Permit No.: T167-32794-00007

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: ____

Attachment A
National Emission Standards for Hazardous Air Pollutants for Iron and Steel Foundries Area Sources [40 CFR 63, Subpart ZZZZZ]

Source Description and Location

Source Name:	Gartland Foundry Co., Inc.
Source Location:	330 Grant St., Terre Haute, IN 47802
County:	Vigo
SIC Code:	3321 (Gray and Ductile Iron Foundries)
Permit Renewal No.:	T167-32794-00007
Permit Reviewer:	Sarah Street

NESHAP [40 CFR Part 63, Subpart ZZZZZ]

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

Applicability and Compliance Dates

§ 63.10880 Am I subject to this subpart?

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

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

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

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

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

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

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

(f) If you own or operate an existing affected source, you must determine the initial applicability of the requirements of this subpart to a small foundry or a large foundry based on your facility's metal melt production for calendar year 2008. If the metal melt production for calendar year 2008 is 20,000 tons or less, your area source is a small foundry. If your metal melt production for calendar year 2008 is greater than 20,000 tons, your area source is a large foundry. You must submit a written notification to the

Administrator that identifies your area source as a small foundry or a large foundry no later than January 2, 2009.

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

§ 63.10881 What are my compliance dates?

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

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

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

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

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

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

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

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

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

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

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

reclassification. If the annual metal melt production exceeds 20,000 tons during a subsequent year, you must submit a notification of reclassification to the Administrator within 30 days and comply with the requirements for a large foundry no later than the date you notify the Administrator of the reclassification.

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

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

(2) If your facility is initially classified as a large foundry (or your small foundry subsequently becomes a large foundry), you must comply with the requirements for a large foundry for at least 3 years before reclassifying your facility as a small foundry. After 3 years, you may reclassify your facility as a small foundry provided your most recent annual metal melt capacity is 10,000 tons or less. If you reclassify your large foundry as a small foundry, you must notify the Administrator within 30 days and comply with the requirements for a small foundry no later than the date your melting equipment was removed or taken out of service, if applicable, or the date of issuance for your revised State or Federal operating permit.

Pollution Prevention Management Practices for New and Existing Affected Sources

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

§ 63.10886 What are my management practices for binder formulations?

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

Requirements for New and Existing Affected Sources Classified as Small Foundries

§ 63.10890 What are my management practices and compliance requirements?

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(h) Following the initial determination for an existing affected source as a small foundry, if the annual metal melt production exceeds 20,000 tons during the preceding year, you must comply with the requirements for large foundries by the applicable dates in § 63.10881(d)(1)(i) or (d)(1)(ii). Following the initial determination for a new affected source as a small foundry, if you increase the annual metal melt capacity to exceed 10,000 tons, you must comply with the requirements for a large foundry by the applicable dates in § 63.10881(e)(1).

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

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

§ 63.10895 What are my standards and management practices?

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

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

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

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

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

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

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

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

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

§ 63.10896 What are my operation and maintenance requirements?

(a) You must prepare and operate at all times according to a written operation and maintenance (O&M) plan for each control device for an emissions source subject to a PM, metal HAP, or opacity emissions limit in § 63.10895. You must maintain a copy of the O&M plan at the facility and make it available for review upon request. At a minimum, each plan must contain the following information:

(1) General facility and contact information;

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

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

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

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

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

§ 63.10897 What are my monitoring requirements?

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

(1) For the initial inspection of each baghouse, you must visually inspect the system ductwork and baghouse units for leaks. You must also inspect the inside of each baghouse for structural integrity and

fabric filter condition. Following the initial inspections, you must inspect and maintain each baghouse according to the requirements in paragraphs (a)(1)(i) and (ii) of this section.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(d) If you own or operate an existing affected source, you may install, operate, and maintain a bag leak detection system for each negative pressure baghouse or positive pressure baghouse as an alternative to the baghouse inspection requirements in paragraph (a)(1) of this section. If you own or operate a new affected source, you must install, operate, and maintain a bag leak detection system for each negative pressure baghouse or positive pressure baghouse. You must install, operate, and maintain each bag leak detection system according to the requirements in paragraphs (d)(1) through (3) of this section.

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

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

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

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

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

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

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

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

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

(i) Installation of the bag leak detection system.

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

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

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

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

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

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

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

(ii) Sealing off defective bags or filter media.

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

(iv) Sealing off a defective baghouse department.

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

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

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

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

(g) In the event of an exceedance of an established emissions limitation (including an operating limit), you must restore operation of the emissions source (including the control device and associated capture system) to its normal or usual manner or operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the exceedance. You must record the date and time correction action was initiated, the correction action taken, and the date corrective action was completed.

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

§ 63.10898 What are my performance test requirements?

(a) You must conduct a performance test to demonstrate initial compliance with the applicable emissions limits for each metal melting furnace or group of all metal melting furnaces that is subject to an emissions limit in § 63.10895(c) and for each building or structure housing foundry operations that is subject to the opacity limit for fugitive emissions in § 63.10895(e). You must conduct the test within 180 days of your compliance date and report the results in your notification of compliance status.

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

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

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

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

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

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

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

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

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

Where:

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

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

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

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

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

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

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

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

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

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

Where:

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

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

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

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

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

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

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

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

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

Where:

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

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

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

$$E_{p1released} = E_{p1i} \times \left(1 - \frac{\%\ \text{reduction}}{100}\right) \qquad (\text{Eq. } 4)$$

Where:

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

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

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

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

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

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

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

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

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

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

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

§ 63.10899 What are my recordkeeping and reporting requirements?

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

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

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

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

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

(ii) Submit semiannual reports of the number of mercury switches removed or the weight of mercury recovered from the switches and properly managed, the estimated number of vehicles processed, an estimate of the percent of mercury switches recovered, and a certification that the recovered mercury switches were recycled at RCRA-permitted facilities. The semiannual reports must include a certification that you have conducted periodic inspections or taken other means of corroboration as required under

§ 63.10885(b)(1)(ii)(C). You must identify which option in § 63.10885(b) applies to each scrap provider, contract, or shipment. You may include this information in the semiannual compliance reports required under paragraph (c) of this section.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Other Requirements and Information

§ 63.10905 Who implements and enforces this subpart?

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

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

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

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

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

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

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

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

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

§ 63.10906 What definitions apply to this subpart?

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Responsible official means responsible official as defined in § 63.2.

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

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

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

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

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

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

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

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

For. . .	You must. . .	According to the following requirements. . .
		during times when the cupola is on blast.
		v. For electric arc and electric induction metal melting furnaces, sample PM or total metal HAP only during normal melt production conditions, which may include, but are not limited to the following operations: Charging, melting, alloying, refining, slagging, and tapping.
		vi. Determine and record the total combined weight of tons of metal charged during the duration of each test run. You must compute the process-weighted mass emissions of PM according to Equation 1 of § 63.10898(d) for an individual furnace or Equation 2 of § 63.10898(e) for the group of all metal melting furnaces at the foundry.
2. Fugitive emissions from buildings or structures housing any iron and steel foundry emissions sources subject to opacity limit in § 63.10895(e)	a. Using a certified observer, conduct each opacity test according to EPA Method 9 (40 CFR part 60, appendix A-4) and 40 CFR 63.6(h)(5)	i. The certified observer may identify a limited number of openings or vents that appear to have the highest opacities and perform opacity observations on the identified openings or vents in lieu of performing observations for each opening or vent from the building or structure. Alternatively, a single opacity observation for the entire building or structure may be performed, if the fugitive release points afford such an observation.
		ii. During testing intervals when PM or total metal HAP performance tests, if applicable, are being conducted, conduct the opacity test such that the opacity observations are recorded during the PM or total metal HAP performance tests.
	b. As alternative to Method 9 performance test, conduct visible emissions test by Method 22 (40 CFR part 60, appendix A-7). The test is successful if no visible emissions are observed for 90 percent of the readings over 1 hour. If VE is observed greater than 10 percent of the time over 1 hour, then the facility must conduct another performance test as soon as possible, but no later than 15 calendar days after the Method 22 test, using Method 9 (40 CFR part 60, appendix A-4)	i. The observer may identify a limited number of openings or vents that appear to have the highest visible emissions and perform observations on the identified openings or vents in lieu of performing observations for each opening or vent from the building or structure. Alternatively, a single observation for the entire building or structure may be performed, if the fugitive release points afford such an observation. ii. During testing intervals when PM or total metal HAP performance tests, if applicable, are being conducted, conduct

For. . .	You must. . .	According to the following requirements. . .
		the visible emissions test such that the observations are recorded during the PM or total metal HAP performance tests.

[1] You may also use as an alternative to EPA Method 3B (40 CFR part 60, appendix A), the manual method for measuring the oxygen, carbon dioxide, and carbon monoxide content of exhaust gas, ANSI/ASME PTC 19.10-1981, "Flue and Exhaust Gas Analyses" (incorporated by reference—see § 63.14).

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

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

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

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

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

Citation	Subject	Applies to large foundry?	Explanation
63.1	Applicability	Yes.	
63.2	Definitions	Yes.	
63.3	Units and abbreviations	Yes.	
63.4	Prohibited activities	Yes.	
63.5	Construction/reconstruction	Yes.	
63.6(a)-(g)	Compliance with standards and maintenance requirements	Yes.	

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

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

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

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

Attachment B
Standards of Performance for
Stationary Compression Ignition Internal Combustion Engines
[40 CFR 60, Subpart IIII]

Source Description and Location

Source Name:	Gartland Foundry Co., Inc.
Source Location:	330 Grant St., Terre Haute, IN 47802
County:	Vigo
SIC Code:	3321 (Gray and Ductile Iron Foundries)
Permit Renewal No.:	T167-32794-00007
Permit Reviewer:	Sarah Street

NSPS 40 CFR Part 60, Subpart IIII

Title 40: Protection of the Environment

Part 60 - Standards of Performance for New Stationary Sources

Subpart IIII—Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

SOURCE: 71 FR 39172, July 11, 2006, unless otherwise noted.

What This Subpart Covers

§ 60.4200 Am I subject to this subpart?

(a) The provisions of this subpart are applicable to manufacturers, owners, and operators of stationary compression ignition (CI) internal combustion engines (ICE) and other persons as specified in paragraphs (a)(1) through (4) of this section. For the purposes of this subpart, the date that construction commences is the date the engine is ordered by the owner or operator.

(1) Manufacturers of stationary CI ICE with a displacement of less than 30 liters per cylinder where the model year is:

(i) 2007 or later, for engines that are not fire pump engines;

(ii) The model year listed in Table 3 to this subpart or later model year, for fire pump engines.

(2) Owners and operators of stationary CI ICE that commence construction after July 11, 2005, where the stationary CI ICE are:

(i) Manufactured after April 1, 2006, and are not fire pump engines, or

(ii) Manufactured as a certified National Fire Protection Association (NFPA) fire pump engine after July 1, 2006.

(3) Owners and operators of any stationary CI ICE that are modified or reconstructed after July 11, 2005 and any person that modifies or reconstructs any stationary CI ICE after July 11, 2005.

(4) The provisions of § 60.4208 of this subpart are applicable to all owners and operators of stationary CI ICE that commence construction after July 11, 2005.

(b) The provisions of this subpart are not applicable to stationary CI ICE being tested at a stationary CI ICE test cell/stand.

(c) If you are an owner or operator of an area source subject to this subpart, you are exempt from the obligation to obtain a permit under 40 CFR part 70 or 40 CFR part 71, provided you are not required to obtain a permit under 40 CFR 70.3(a) or 40 CFR 71.3(a) for a reason other than your status as an area source under this subpart. Notwithstanding the previous sentence, you must continue to comply with the provisions of this subpart applicable to area sources.

(d) Stationary CI ICE may be eligible for exemption from the requirements of this subpart as described in 40 CFR part 1068, subpart C (or the exemptions described in 40 CFR part 89, subpart J and 40 CFR part 94, subpart J, for engines that would need to be certified to standards in those parts), except that owners and operators, as well as manufacturers, may be eligible to request an exemption for national security.

(e) Owners and operators of facilities with CI ICE that are acting as temporary replacement units and that are located at a stationary source for less than 1 year and that have been properly certified as meeting the standards that would be applicable to such engine under the appropriate nonroad engine provisions, are not required to meet any other provisions under this subpart with regard to such engines.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37967, June 28, 2011]

Emission Standards for Manufacturers

§ 60.4201 What emission standards must I meet for non-emergency engines if I am a stationary CI internal combustion engine manufacturer?

(a) Stationary CI internal combustion engine manufacturers must certify their 2007 model year and later non-emergency stationary CI ICE with a maximum engine power less than or equal to 2,237 kilowatt (KW) (3,000 horsepower (HP)) and a displacement of less than 10 liters per cylinder to the certification emission standards for new nonroad CI engines in 40 CFR 89.112, 40 CFR 89.113, 40 CFR 1039.101, 40 CFR 1039.102, 40 CFR 1039.104, 40 CFR 1039.105, 40 CFR 1039.107, and 40 CFR 1039.115, as applicable, for all pollutants, for the same model year and maximum engine power.

(b) Stationary CI internal combustion engine manufacturers must certify their 2007 through 2010 model year non-emergency stationary CI ICE with a maximum engine power greater than 2,237 KW (3,000 HP) and a displacement of less than 10 liters per cylinder to the emission standards in table 1 to this subpart, for all pollutants, for the same maximum engine power.

(c) Stationary CI internal combustion engine manufacturers must certify their 2011 model year and later non-emergency stationary CI ICE with a maximum engine power greater than 2,237 KW (3,000 HP) and a displacement of less than 10 liters per cylinder to the certification emission standards for new nonroad CI engines in 40 CFR 1039.101, 40 CFR 1039.102, 40 CFR 1039.104, 40 CFR 1039.105, 40 CFR 1039.107, and 40 CFR 1039.115, as applicable, for all pollutants, for the same maximum engine power.

(d) Stationary CI internal combustion engine manufacturers must certify the following non-emergency stationary CI ICE to the certification emission standards for new marine CI engines in 40 CFR 94.8, as applicable, for all pollutants, for the same displacement and maximum engine power:

(1) Their 2007 model year through 2012 non-emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder;

(2) Their 2013 model year non-emergency stationary CI ICE with a maximum engine power greater than or equal to 3,700 KW (4,958 HP) and a displacement of greater than or equal to 10 liters per cylinder and less than 15 liters per cylinder; and

(3) Their 2013 model year non-emergency stationary CI ICE with a displacement of greater than or equal to 15 liters per cylinder and less than 30 liters per cylinder.

(e) Stationary CI internal combustion engine manufacturers must certify the following non-emergency stationary CI ICE to the certification emission standards and other requirements for new marine CI engines in 40 CFR 1042.101, 40 CFR 1042.107, 40 CFR 1042.110, 40 CFR 1042.115, 40 CFR 1042.120, and 40 CFR 1042.145, as applicable, for all pollutants, for the same displacement and maximum engine power:

(1) Their 2013 model year non-emergency stationary CI ICE with a maximum engine power less than 3,700 KW (4,958 HP) and a displacement of greater than or equal to 10 liters per cylinder and less than 15 liters per cylinder; and

(2) Their 2014 model year and later non-emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder.

(f) Notwithstanding the requirements in paragraphs (a) through (c) of this section, stationary non-emergency CI ICE identified in paragraphs (a) and (c) may be certified to the provisions of 40 CFR part 94 or, if Table 1 to 40 CFR 1042.1 identifies 40 CFR part 1042 as being applicable, 40 CFR part 1042, if the engines will be used solely in either or both of the following locations:

(1) Areas of Alaska not accessible by the Federal Aid Highway System (FAHS); and

(2) Marine offshore installations.

(g) Notwithstanding the requirements in paragraphs (a) through (f) of this section, stationary CI internal combustion engine manufacturers are not required to certify reconstructed engines; however manufacturers may elect to do so. The reconstructed engine must be certified to the emission standards specified in paragraphs (a) through (e) of this section that are applicable to the model year, maximum engine power, and displacement of the reconstructed stationary CI ICE.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37967, June 28, 2011]

§ 60.4202 What emission standards must I meet for emergency engines if I am a stationary CI internal combustion engine manufacturer?

(a) Stationary CI internal combustion engine manufacturers must certify their 2007 model year and later emergency stationary CI ICE with a maximum engine power less than or equal to 2,237 KW (3,000 HP) and a displacement of less than 10 liters per cylinder that are not fire pump engines to the emission standards specified in paragraphs (a)(1) through (2) of this section.

(1) For engines with a maximum engine power less than 37 KW (50 HP):

(i) The certification emission standards for new nonroad CI engines for the same model year and maximum engine power in 40 CFR 89.112 and 40 CFR 89.113 for all pollutants for model year 2007 engines, and

(ii) The certification emission standards for new nonroad CI engines in 40 CFR 1039.104, 40 CFR 1039.105, 40 CFR 1039.107, 40 CFR 1039.115, and table 2 to this subpart, for 2008 model year and later engines.

(2) For engines with a maximum engine power greater than or equal to 37 KW (50 HP), the certification emission standards for new nonroad CI engines for the same model year and maximum engine power in 40 CFR 89.112 and 40 CFR 89.113 for all pollutants beginning in model year 2007.

(b) Stationary CI internal combustion engine manufacturers must certify their 2007 model year and later emergency stationary CI ICE with a maximum engine power greater than 2,237 KW (3,000 HP) and a displacement of less than 10 liters per cylinder that are not fire pump engines to the emission standards specified in paragraphs (b)(1) through (2) of this section.

(1) For 2007 through 2010 model years, the emission standards in table 1 to this subpart, for all pollutants, for the same maximum engine power.

(2) For 2011 model year and later, the certification emission standards for new nonroad CI engines for engines of the same model year and maximum engine power in 40 CFR 89.112 and 40 CFR 89.113 for all pollutants.

(c) [Reserved]

(d) Beginning with the model years in table 3 to this subpart, stationary CI internal combustion engine manufacturers must certify their fire pump stationary CI ICE to the emission standards in table 4 to this subpart, for all pollutants, for the same model year and NFPA nameplate power.

(e) Stationary CI internal combustion engine manufacturers must certify the following emergency stationary CI ICE that are not fire pump engines to the certification emission standards for new marine CI engines in 40 CFR 94.8, as applicable, for all pollutants, for the same displacement and maximum engine power:

(1) Their 2007 model year through 2012 emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder;

(2) Their 2013 model year and later emergency stationary CI ICE with a maximum engine power greater than or equal to 3,700 KW (4,958 HP) and a displacement of greater than or equal to 10 liters per cylinder and less than 15 liters per cylinder;

(3) Their 2013 model year emergency stationary CI ICE with a displacement of greater than or equal to 15 liters per cylinder and less than 30 liters per cylinder; and

(4) Their 2014 model year and later emergency stationary CI ICE with a maximum engine power greater than or equal to 2,000 KW (2,682 HP) and a displacement of greater than or equal to 15 liters per cylinder and less than 30 liters per cylinder.

(f) Stationary CI internal combustion engine manufacturers must certify the following emergency stationary CI ICE to the certification emission standards and other requirements applicable to Tier 3 new marine CI engines in 40 CFR 1042.101, 40 CFR 1042.107, 40 CFR 1042.115, 40 CFR 1042.120, and 40 CFR 1042.145, for all pollutants, for the same displacement and maximum engine power:

(1) Their 2013 model year and later emergency stationary CI ICE with a maximum engine power less than 3,700 KW (4,958 HP) and a displacement of greater than or equal to 10 liters per cylinder and less than 15 liters per cylinder; and

(2) Their 2014 model year and later emergency stationary CI ICE with a maximum engine power less than 2,000 KW (2,682 HP) and a displacement of greater than or equal to 15 liters per cylinder and less than 30 liters per cylinder.

(g) Notwithstanding the requirements in paragraphs (a) through (d) of this section, stationary emergency CI internal combustion engines identified in paragraphs (a) and (c) may be certified to the provisions of 40 CFR part 94 or, if Table 2 to 40 CFR 1042.101 identifies Tier 3 standards as being applicable, the requirements applicable to Tier 3 engines in 40 CFR part 1042, if the engines will be used solely in either or both of the following locations:

(1) Areas of Alaska not accessible by the FAHS; and

(2) Marine offshore installations.

(h) Notwithstanding the requirements in paragraphs (a) through (f) of this section, stationary CI internal combustion engine manufacturers are not required to certify reconstructed engines; however manufacturers may elect to do so. The reconstructed engine must be certified to the emission standards specified in paragraphs (a) through (f) of this section that are applicable to the model year, maximum engine power and displacement of the reconstructed emergency stationary CI ICE.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37968, June 28, 2011]

§ 60.4203 How long must my engines meet the emission standards if I am a manufacturer of stationary CI internal combustion engines?

Engines manufactured by stationary CI internal combustion engine manufacturers must meet the emission standards as required in §§ 60.4201 and 60.4202 during the certified emissions life of the engines.

[76 FR 37968, June 28, 2011]

Emission Standards for Owners and Operators

§ 60.4204 What emission standards must I meet for non-emergency engines if I am an owner or operator of a stationary CI internal combustion engine?

(a) Owners and operators of pre-2007 model year non-emergency stationary CI ICE with a displacement of less than 10 liters per cylinder must comply with the emission standards in table 1 to this subpart. Owners and operators of pre-2007 model year non-emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder must comply with the emission standards in 40 CFR 94.8(a)(1).

(b) Owners and operators of 2007 model year and later non-emergency stationary CI ICE with a displacement of less than 30 liters per cylinder must comply with the emission standards for new CI engines in § 60.4201 for their 2007 model year and later stationary CI ICE, as applicable.

(c) Owners and operators of non-emergency stationary CI engines with a displacement of greater than or equal to 30 liters per cylinder must meet the following requirements:

(1) For engines installed prior to January 1, 2012, limit the emissions of NO_x in the stationary CI internal combustion engine exhaust to the following:

(i) 17.0 grams per kilowatt-hour (g/KW-hr) (12.7 grams per horsepower-hr (g/HP-hr)) when maximum engine speed is less than 130 revolutions per minute (rpm);

(ii) $45 \cdot n^{-0.2}$ g/KW-hr ($34 \cdot n^{-0.2}$ g/HP-hr) when maximum engine speed is 130 or more but less than 2,000 rpm, where n is maximum engine speed; and

(iii) 9.8 g/KW-hr (7.3 g/HP-hr) when maximum engine speed is 2,000 rpm or more.

(2) For engines installed on or after January 1, 2012 and before January 1, 2016, limit the emissions of NO_x in the stationary CI internal combustion engine exhaust to the following:

(i) 14.4 g/KW-hr (10.7 g/HP-hr) when maximum engine speed is less than 130 rpm;

(ii) $44 \cdot n^{-0.23}$ g/KW-hr ($33 \cdot n^{-0.23}$ g/HP-hr) when maximum engine speed is greater than or equal to 130 but less than 2,000 rpm and where n is maximum engine speed; and

(iii) 7.7 g/KW-hr (5.7 g/HP-hr) when maximum engine speed is greater than or equal to 2,000 rpm.

(3) For engines installed on or after January 1, 2016, limit the emissions of NO_x in the stationary CI internal combustion engine exhaust to the following:

(i) 3.4 g/KW-hr (2.5 g/HP-hr) when maximum engine speed is less than 130 rpm;

(ii) $9.0 \cdot n^{-0.20}$ g/KW-hr ($6.7 \cdot n^{-0.20}$ g/HP-hr) where n (maximum engine speed) is 130 or more but less than 2,000 rpm; and

(iii) 2.0 g/KW-hr (1.5 g/HP-hr) where maximum engine speed is greater than or equal to 2,000 rpm.

(4) Reduce particulate matter (PM) emissions by 60 percent or more, or limit the emissions of PM in the stationary CI internal combustion engine exhaust to 0.15 g/KW-hr (0.11 g/HP-hr).

(d) Owners and operators of non-emergency stationary CI ICE with a displacement of less than 30 liters per cylinder who conduct performance tests in-use must meet the not-to-exceed (NTE) standards as indicated in § 60.4212.

(e) Owners and operators of any modified or reconstructed non-emergency stationary CI ICE subject to this subpart must meet the emission standards applicable to the model year, maximum engine power, and displacement of the modified or reconstructed non-emergency stationary CI ICE that are specified in paragraphs (a) through (d) of this section.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37968, June 28, 2011]

§ 60.4205 What emission standards must I meet for emergency engines if I am an owner or operator of a stationary CI internal combustion engine?

(a) Owners and operators of pre-2007 model year emergency stationary CI ICE with a displacement of less than 10 liters per cylinder that are not fire pump engines must comply with the emission standards in Table 1 to this subpart. Owners and operators of pre-2007 model year emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder that are not fire pump engines must comply with the emission standards in 40 CFR 94.8(a)(1).

(b) Owners and operators of 2007 model year and later emergency stationary CI ICE with a displacement of less than 30 liters per cylinder that are not fire pump engines must comply with the emission standards for new nonroad CI engines in § 60.4202, for all pollutants, for the same model year and maximum engine power for their 2007 model year and later emergency stationary CI ICE.

(c) Owners and operators of fire pump engines with a displacement of less than 30 liters per cylinder must comply with the emission standards in table 4 to this subpart, for all pollutants.

(d) Owners and operators of emergency stationary CI engines with a displacement of greater than or equal to 30 liters per cylinder must meet the requirements in this section.

(1) For engines installed prior to January 1, 2012, limit the emissions of NO_x in the stationary CI internal combustion engine exhaust to the following:

(i) 17.0 g/KW-hr (12.7 g/HP-hr) when maximum engine speed is less than 130 rpm;

(ii) $45 \cdot n^{-0.2}$ g/KW-hr ($34 \cdot n^{-0.2}$ g/HP-hr) when maximum engine speed is 130 or more but less than 2,000 rpm, where n is maximum engine speed; and

(iii) 9.8 g/kW-hr (7.3 g/HP-hr) when maximum engine speed is 2,000 rpm or more.

(2) For engines installed on or after January 1, 2012, limit the emissions of NO_x in the stationary CI internal combustion engine exhaust to the following:

(i) 14.4 g/KW-hr (10.7 g/HP-hr) when maximum engine speed is less than 130 rpm;

(ii) $44 \cdot n^{-0.23}$ g/KW-hr ($33 \cdot n^{-0.23}$ g/HP-hr) when maximum engine speed is greater than or equal to 130 but less than 2,000 rpm and where n is maximum engine speed; and

(iii) 7.7 g/KW-hr (5.7 g/HP-hr) when maximum engine speed is greater than or equal to 2,000 rpm.

(3) Limit the emissions of PM in the stationary CI internal combustion engine exhaust to 0.40 g/KW-hr (0.30 g/HP-hr).

(e) Owners and operators of emergency stationary CI ICE with a displacement of less than 30 liters per cylinder who conduct performance tests in-use must meet the NTE standards as indicated in § 60.4212.

(f) Owners and operators of any modified or reconstructed emergency stationary CI ICE subject to this subpart must meet the emission standards applicable to the model year, maximum engine power, and displacement of the modified or reconstructed CI ICE that are specified in paragraphs (a) through (e) of this section.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37969, June 28, 2011]

§ 60.4206 How long must I meet the emission standards if I am an owner or operator of a stationary CI internal combustion engine?

Owners and operators of stationary CI ICE must operate and maintain stationary CI ICE that achieve the emission standards as required in §§ 60.4204 and 60.4205 over the entire life of the engine.

[76 FR 37969, June 28, 2011]

Fuel Requirements for Owners and Operators

§ 60.4207 What fuel requirements must I meet if I am an owner or operator of a stationary CI internal combustion engine subject to this subpart?

(a) Beginning October 1, 2007, owners and operators of stationary CI ICE subject to this subpart that use diesel fuel must use diesel fuel that meets the requirements of 40 CFR 80.510(a).

(b) Beginning October 1, 2010, owners and operators of stationary CI ICE subject to this subpart with a displacement of less than 30 liters per cylinder that use diesel fuel must use diesel fuel that meets the requirements of 40 CFR 80.510(b) for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to October 1, 2010, may be used until depleted.

(c) [Reserved]

(d) Beginning June 1, 2012, owners and operators of stationary CI ICE subject to this subpart with a displacement of greater than or equal to 30 liters per cylinder are no longer subject to the requirements of paragraph (a) of this section, and must use fuel that meets a maximum per-gallon sulfur content of 1,000 parts per million (ppm).

(e) Stationary CI ICE that have a national security exemption under § 60.4200(d) are also exempt from the fuel requirements in this section.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37969, June 28, 2011; 78 FR 6695, Jan. 30, 2013]

Other Requirements for Owners and Operators

§ 60.4208 What is the deadline for importing or installing stationary CI ICE produced in previous model years?

(a) After December 31, 2008, owners and operators may not install stationary CI ICE (excluding fire pump engines) that do not meet the applicable requirements for 2007 model year engines.

(b) After December 31, 2009, owners and operators may not install stationary CI ICE with a maximum engine power of less than 19 KW (25 HP) (excluding fire pump engines) that do not meet the applicable requirements for 2008 model year engines.

(c) After December 31, 2014, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 19 KW (25 HP) and less than 56 KW (75 HP) that do not meet the applicable requirements for 2013 model year non-emergency engines.

(d) After December 31, 2013, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 56 KW (75 HP) and less than 130 KW (175 HP) that do not meet the applicable requirements for 2012 model year non-emergency engines.

(e) After December 31, 2012, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 130 KW (175 HP), including those above 560 KW (750 HP), that do not meet the applicable requirements for 2011 model year non-emergency engines.

(f) After December 31, 2016, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 560 KW (750 HP) that do not meet the applicable requirements for 2015 model year non-emergency engines.

(g) After December 31, 2018, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power greater than or equal to 600 KW (804 HP) and less than 2,000 KW (2,680 HP) and a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder that do not meet the applicable requirements for 2017 model year non-emergency engines.

(h) In addition to the requirements specified in §§ 60.4201, 60.4202, 60.4204, and 60.4205, it is prohibited to import stationary CI ICE with a displacement of less than 30 liters per cylinder that do not meet the applicable requirements specified in paragraphs (a) through (g) of this section after the dates specified in paragraphs (a) through (g) of this section.

(i) The requirements of this section do not apply to owners or operators of stationary CI ICE that have been modified, reconstructed, and do not apply to engines that were removed from one existing location and reinstalled at a new location.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37969, June 28, 2011]

§ 60.4209 What are the monitoring requirements if I am an owner or operator of a stationary CI internal combustion engine?

If you are an owner or operator, you must meet the monitoring requirements of this section. In addition, you must also meet the monitoring requirements specified in § 60.4211.

(a) If you are an owner or operator of an emergency stationary CI internal combustion engine that does not meet the standards applicable to non-emergency engines, you must install a non-resettable hour meter prior to startup of the engine.

(b) If you are an owner or operator of a stationary CI internal combustion engine equipped with a diesel particulate filter to comply with the emission standards in § 60.4204, the diesel particulate filter must be installed with a backpressure monitor that notifies the owner or operator when the high backpressure limit of the engine is approached.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37969, June 28, 2011]

Compliance Requirements

§ 60.4210 What are my compliance requirements if I am a stationary CI internal combustion engine manufacturer?

(a) Stationary CI internal combustion engine manufacturers must certify their stationary CI ICE with a displacement of less than 10 liters per cylinder to the emission standards specified in § 60.4201(a) through (c) and § 60.4202(a), (b) and (d) using the certification procedures required in 40 CFR part 89, subpart B, or 40 CFR part 1039, subpart C, as applicable, and must test their engines as specified in those parts. For the purposes of this subpart, engines certified to the standards in table 1 to this subpart shall be subject to the same requirements as engines certified to the standards in 40 CFR part 89. For the purposes of this subpart, engines certified to the standards in table 4 to this subpart shall be subject to the same requirements as engines certified to the standards in 40 CFR part 89, except that engines with NFPA nameplate power of less than 37 KW (50 HP) certified to model year 2011 or later standards shall be subject to the same requirements as engines certified to the standards in 40 CFR part 1039.

(b) Stationary CI internal combustion engine manufacturers must certify their stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder to the emission standards specified in § 60.4201(d) and (e) and § 60.4202(e) and (f) using the certification procedures required in 40 CFR part 94, subpart C, or 40 CFR part 1042, subpart C, as applicable, and must test their engines as specified in 40 CFR part 94 or 1042, as applicable.

(c) Stationary CI internal combustion engine manufacturers must meet the requirements of 40 CFR 1039.120, 1039.125, 1039.130, and 1039.135, and 40 CFR part 1068 for engines that are certified to the emission standards in 40 CFR part 1039. Stationary CI internal combustion engine manufacturers must meet the corresponding provisions of 40 CFR part 89, 40 CFR part 94 or 40 CFR part 1042 for engines that would be covered by that part if they were nonroad (including marine) engines. Labels on such engines must refer to stationary engines, rather than or in addition to nonroad or marine engines, as appropriate. Stationary CI internal combustion engine manufacturers must label their engines according to paragraphs (c)(1) through (3) of this section.

(1) Stationary CI internal combustion engines manufactured from January 1, 2006 to March 31, 2006 (January 1, 2006 to June 30, 2006 for fire pump engines), other than those that are part of certified engine families under the nonroad CI engine regulations, must be labeled according to 40 CFR 1039.20.

(2) Stationary CI internal combustion engines manufactured from April 1, 2006 to December 31, 2006 (or, for fire pump engines, July 1, 2006 to December 31 of the year preceding the year listed in table 3 to this subpart) must be labeled according to paragraphs (c)(2)(i) through (iii) of this section:

(i) Stationary CI internal combustion engines that are part of certified engine families under the nonroad regulations must meet the labeling requirements for nonroad CI engines, but do not have to meet the labeling requirements in 40 CFR 1039.20.

(ii) Stationary CI internal combustion engines that meet Tier 1 requirements (or requirements for fire pumps) under this subpart, but do not meet the requirements applicable to nonroad CI engines must be labeled according to 40 CFR 1039.20. The engine manufacturer may add language to the label clarifying that the engine meets Tier 1 requirements (or requirements for fire pumps) of this subpart.

(iii) Stationary CI internal combustion engines manufactured after April 1, 2006 that do not meet Tier 1 requirements of this subpart, or fire pumps engines manufactured after July 1, 2006 that do not meet the requirements for fire pumps under this subpart, may not be used in the U.S. If any such engines are manufactured in the U.S. after April 1, 2006 (July 1, 2006 for fire pump engines), they must be exported or must be brought into compliance with the appropriate standards prior to initial operation. The export provisions of 40 CFR 1068.230 would apply to engines for export and the manufacturers must label such engines according to 40 CFR 1068.230.

(3) Stationary CI internal combustion engines manufactured after January 1, 2007 (for fire pump engines, after January 1 of the year listed in table 3 to this subpart, as applicable) must be labeled according to paragraphs (c)(3)(i) through (iii) of this section.

(i) Stationary CI internal combustion engines that meet the requirements of this subpart and the corresponding requirements for nonroad (including marine) engines of the same model year and HP must be labeled according to the provisions in 40 CFR parts 89, 94, 1039 or 1042, as appropriate.

(ii) Stationary CI internal combustion engines that meet the requirements of this subpart, but are not certified to the standards applicable to nonroad (including marine) engines of the same model year and HP must be labeled according to the provisions in 40 CFR parts 89, 94, 1039 or 1042, as appropriate, but the words “stationary” must be included instead of “nonroad” or “marine” on the label. In addition, such engines must be labeled according to 40 CFR 1039.20.

(iii) Stationary CI internal combustion engines that do not meet the requirements of this subpart must be labeled according to 40 CFR 1068.230 and must be exported under the provisions of 40 CFR 1068.230.

(d) An engine manufacturer certifying an engine family or families to standards under this subpart that are identical to standards applicable under 40 CFR parts 89, 94, 1039 or 1042 for that model year may certify any such family that contains both nonroad (including marine) and stationary engines as a single engine family and/or may include any such family containing stationary engines in the averaging, banking and trading provisions applicable for such engines under those parts.

(e) Manufacturers of engine families discussed in paragraph (d) of this section may meet the labeling requirements referred to in paragraph (c) of this section for stationary CI ICE by either adding a separate label containing the information required in paragraph (c) of this section or by adding the words “and stationary” after the word “nonroad” or “marine,” as appropriate, to the label.

(f) Starting with the model years shown in table 5 to this subpart, stationary CI internal combustion engine manufacturers must add a permanent label stating that the engine is for stationary emergency use only to each new emergency stationary CI internal combustion engine greater than or equal to 19 KW (25 HP) that meets all the emission standards for emergency engines in § 60.4202 but does not meet all the emission standards for non-emergency engines in § 60.4201. The label must be added according to the labeling requirements specified in 40 CFR 1039.135(b). Engine manufacturers must specify in the owner's manual that operation of emergency engines is limited to emergency operations and required maintenance and testing.

(g) Manufacturers of fire pump engines may use the test cycle in table 6 to this subpart for testing fire pump engines and may test at the NFPA certified nameplate HP, provided that the engine is labeled as “Fire Pump Applications Only”.

(h) Engine manufacturers, including importers, may introduce into commerce uncertified engines or engines certified to earlier standards that were manufactured before the new or changed standards took effect until inventories are depleted, as long as such engines are part of normal inventory. For example, if the engine manufacturers' normal industry practice is to keep on hand a one-month supply of engines based on its projected sales, and a new tier of standards starts to apply for the 2009 model year, the engine manufacturer may manufacture engines based on the normal inventory requirements late in the 2008 model year, and sell those engines for installation. The engine manufacturer may not circumvent the provisions of §§ 60.4201 or 60.4202 by stockpiling engines that are built before new or changed standards take effect. Stockpiling of such engines beyond normal industry practice is a violation of this subpart.

(i) The replacement engine provisions of 40 CFR 89.1003(b)(7), 40 CFR 94.1103(b)(3), 40 CFR 94.1103(b)(4) and 40 CFR 1068.240 are applicable to stationary CI engines replacing existing equipment that is less than 15 years old.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37969, June 28, 2011]

§ 60.4211 What are my compliance requirements if I am an owner or operator of a stationary CI internal combustion engine?

(a) If you are an owner or operator and must comply with the emission standards specified in this subpart, you must do all of the following, except as permitted under paragraph (g) of this section:

(1) Operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's emission-related written instructions;

(2) Change only those emission-related settings that are permitted by the manufacturer; and

(3) Meet the requirements of 40 CFR parts 89, 94 and/or 1068, as they apply to you.

(b) If you are an owner or operator of a pre-2007 model year stationary CI internal combustion engine and must comply with the emission standards specified in §§ 60.4204(a) or 60.4205(a), or if you are an owner or operator of a CI fire pump engine that is manufactured prior to the model years in table 3 to this subpart and must comply with the emission standards specified in § 60.4205(c), you must demonstrate compliance according to one of the methods specified in paragraphs (b)(1) through (5) of this section.

(1) Purchasing an engine certified according to 40 CFR part 89 or 40 CFR part 94, as applicable, for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's specifications.

(2) Keeping records of performance test results for each pollutant for a test conducted on a similar engine. The test must have been conducted using the same methods specified in this subpart and these methods must have been followed correctly.

(3) Keeping records of engine manufacturer data indicating compliance with the standards.

(4) Keeping records of control device vendor data indicating compliance with the standards.

(5) Conducting an initial performance test to demonstrate compliance with the emission standards according to the requirements specified in § 60.4212, as applicable.

(c) If you are an owner or operator of a 2007 model year and later stationary CI internal combustion engine and must comply with the emission standards specified in § 60.4204(b) or § 60.4205(b), or if you are an owner or operator of a CI fire pump engine that is manufactured during or after the model year that applies to your fire pump engine power rating in table 3 to this subpart and must comply with the emission standards specified in § 60.4205(c), you must comply by purchasing an engine certified to the emission standards in § 60.4204(b), or § 60.4205(b) or (c), as applicable, for the same model year and maximum (or in the case of fire pumps, NFPA nameplate) engine power. The engine must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in paragraph (g) of this section.

(d) If you are an owner or operator and must comply with the emission standards specified in § 60.4204(c) or § 60.4205(d), you must demonstrate compliance according to the requirements specified in paragraphs (d)(1) through (3) of this section.

(1) Conducting an initial performance test to demonstrate initial compliance with the emission standards as specified in § 60.4213.

(2) Establishing operating parameters to be monitored continuously to ensure the stationary internal combustion engine continues to meet the emission standards. The owner or operator must petition the Administrator for approval of operating parameters to be monitored continuously. The petition must include the information described in paragraphs (d)(2)(i) through (v) of this section.

(i) Identification of the specific parameters you propose to monitor continuously;

(ii) A discussion of the relationship between these parameters and NO_x and PM emissions, identifying how the emissions of these pollutants change with changes in these parameters, and how limitations on these parameters will serve to limit NO_x and PM emissions;

(iii) A discussion of how you will establish the upper and/or lower values for these parameters which will establish the limits on these parameters in the operating limitations;

(iv) A discussion identifying the methods and the instruments you will use to monitor these parameters, as well as the relative accuracy and precision of these methods and instruments; and

(v) A discussion identifying the frequency and methods for recalibrating the instruments you will use for monitoring these parameters.

(3) For non-emergency engines with a displacement of greater than or equal to 30 liters per cylinder, conducting annual performance tests to demonstrate continuous compliance with the emission standards as specified in § 60.4213.

(e) If you are an owner or operator of a modified or reconstructed stationary CI internal combustion engine and must comply with the emission standards specified in § 60.4204(e) or § 60.4205(f), you must demonstrate compliance according to one of the methods specified in paragraphs (e)(1) or (2) of this section.

(1) Purchasing, or otherwise owning or operating, an engine certified to the emission standards in § 60.4204(e) or § 60.4205(f), as applicable.

(2) Conducting a performance test to demonstrate initial compliance with the emission standards according to the requirements specified in § 60.4212 or § 60.4213, as appropriate. The test must be conducted within 60 days after the engine commences operation after the modification or reconstruction.

(f) If you own or operate an emergency stationary ICE, you must operate the emergency stationary ICE according to the requirements in paragraphs (f)(1) through (3) of this section. In order for the engine to be considered an emergency stationary ICE under this subpart, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (f)(1) through (3) of this section, is prohibited. If you do not operate the engine according to the requirements in paragraphs (f)(1) through (3) of this section, the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines.

(1) There is no time limit on the use of emergency stationary ICE in emergency situations.

(2) You may operate your emergency stationary ICE for any combination of the purposes specified in paragraphs (f)(2)(i) through (iii) of this section for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraph (f)(3) of this section counts as part of the 100 hours per calendar year allowed by this paragraph (f)(2).

(i) Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year.

(ii) Emergency stationary ICE may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies (incorporated by reference, see § 60.17), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3.

(iii) Emergency stationary ICE may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency.

(3) Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in paragraph (f)(2) of this section. Except as provided in paragraph (f)(3)(i) of this section, the 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

(i) The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met:

(A) The engine is dispatched by the local balancing authority or local transmission and distribution system operator;

(B) The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region.

(C) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines.

(D) The power is provided only to the facility itself or to support the local transmission and distribution system.

(E) The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator.

(ii) [Reserved]

(g) If you do not install, configure, operate, and maintain your engine and control device according to the manufacturer's emission-related written instructions, or you change emission-related settings in a way that is not permitted by the manufacturer, you must demonstrate compliance as follows:

(1) If you are an owner or operator of a stationary CI internal combustion engine with maximum engine power less than 100 HP, you must keep a maintenance plan and records of conducted maintenance to demonstrate compliance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, if you do not install and configure the engine and control device according to the manufacturer's emission-related written instructions, or you change the emission-related settings in a way that is not permitted by the manufacturer, you must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of such action.

(2) If you are an owner or operator of a stationary CI internal combustion engine greater than or equal to 100 HP and less than or equal to 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission-related settings in a way that is not permitted by the manufacturer.

(3) If you are an owner or operator of a stationary CI internal combustion engine greater than 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission-related settings in a way that is not permitted by the manufacturer. You must conduct subsequent performance testing every 8,760 hours of engine operation or 3 years, whichever comes first, thereafter to demonstrate compliance with the applicable emission standards.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37970, June 28, 2011; 78 FR 6695, Jan. 30, 2013]

Testing Requirements for Owners and Operators

§ 60.4212 What test methods and other procedures must I use if I am an owner or operator of a stationary CI internal combustion engine with a displacement of less than 30 liters per cylinder?

Owners and operators of stationary CI ICE with a displacement of less than 30 liters per cylinder who conduct performance tests pursuant to this subpart must do so according to paragraphs (a) through (e) of this section.

(a) The performance test must be conducted according to the in-use testing procedures in 40 CFR part 1039, subpart F, for stationary CI ICE with a displacement of less than 10 liters per cylinder, and according to 40 CFR part 1042, subpart F, for stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder.

(b) Exhaust emissions from stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR part 1039 must not exceed the not-to-exceed (NTE) standards for the same model year and maximum engine power as required in 40 CFR 1039.101(e) and 40 CFR 1039.102(g)(1), except as specified in 40 CFR 1039.104(d). This requirement starts when NTE requirements take effect for nonroad diesel engines under 40 CFR part 1039.

(c) Exhaust emissions from stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR 89.112 or 40 CFR 94.8, as applicable, must not exceed the NTE numerical requirements, rounded to the same number of decimal places as the applicable standard in 40 CFR 89.112 or 40 CFR 94.8, as applicable, determined from the following equation:

$$\text{NTE requirement for each pollutant} = (1.25) \times (\text{STD}) \qquad \text{(Eq. 1)}$$

Where:

STD = The standard specified for that pollutant in 40 CFR 89.112 or 40 CFR 94.8, as applicable.

Alternatively, stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR 89.112 or 40 CFR 94.8 may follow the testing procedures specified in § 60.4213 of this subpart, as appropriate.

(d) Exhaust emissions from stationary CI ICE that are complying with the emission standards for pre-2007 model year engines in § 60.4204(a), § 60.4205(a), or § 60.4205(c) must not exceed the NTE numerical requirements, rounded to the same number of decimal places as the applicable standard in § 60.4204(a), § 60.4205(a), or § 60.4205(c), determined from the equation in paragraph (c) of this section.

Where:

STD = The standard specified for that pollutant in § 60.4204(a), § 60.4205(a), or § 60.4205(c).

Alternatively, stationary CI ICE that are complying with the emission standards for pre-2007 model year engines in § 60.4204(a), § 60.4205(a), or § 60.4205(c) may follow the testing procedures specified in § 60.4213, as appropriate.

(e) Exhaust emissions from stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR part 1042 must not exceed the NTE standards for the same model year and maximum engine power as required in 40 CFR 1042.101(c).

[71 FR 39172, July 11, 2006, as amended at 76 FR 37971, June 28, 2011]

§ 60.4213 What test methods and other procedures must I use if I am an owner or operator of a stationary CI internal combustion engine with a displacement of greater than or equal to 30 liters per cylinder?

Owners and operators of stationary CI ICE with a displacement of greater than or equal to 30 liters per cylinder must conduct performance tests according to paragraphs (a) through (f) of this section.

(a) Each performance test must be conducted according to the requirements in § 60.8 and under the specific conditions that this subpart specifies in table 7. The test must be conducted within 10 percent of 100 percent peak (or the highest achievable) load.

(b) You may not conduct performance tests during periods of startup, shutdown, or malfunction, as specified in § 60.8(c).

(c) You must conduct three separate test runs for each performance test required in this section, as specified in § 60.8(f). Each test run must last at least 1 hour.

(d) To determine compliance with the percent reduction requirement, you must follow the requirements as specified in paragraphs (d)(1) through (3) of this section.

(1) You must use Equation 2 of this section to determine compliance with the percent reduction requirement:

$$\frac{C_i - C_o}{C_i} \times 100 = R \qquad \text{(Eq. 2)}$$

Where:

C_i = concentration of NO_x or PM at the control device inlet,

C_o = concentration of NO_x or PM at the control device outlet, and

R = percent reduction of NO_x or PM emissions.

(2) You must normalize the NO_x or PM concentrations at the inlet and outlet of the control device to a dry basis and to 15 percent oxygen (O_2) using Equation 3 of this section, or an equivalent percent carbon dioxide (CO_2) using the procedures described in paragraph (d)(3) of this section.

$$C_{adj} = C_d \frac{5.9}{20.9 - \% O_2} \quad \text{(Eq. 3)}$$

Where:

C_{adj} = Calculated NO_x or PM concentration adjusted to 15 percent O_2 .

C_d = Measured concentration of NO_x or PM, uncorrected.

5.9 = 20.9 percent O_2 −15 percent O_2 , the defined O_2 correction value, percent.

$\%O_2$ = Measured O_2 concentration, dry basis, percent.

(3) If pollutant concentrations are to be corrected to 15 percent O_2 and CO_2 concentration is measured in lieu of O_2 concentration measurement, a CO_2 correction factor is needed. Calculate the CO_2 correction factor as described in paragraphs (d)(3)(i) through (iii) of this section.

(i) Calculate the fuel-specific F_o value for the fuel burned during the test using values obtained from Method 19, Section 5.2, and the following equation:

$$F_o = \frac{0.209 F_d}{F_c} \quad \text{(Eq. 4)}$$

Where:

F_o = Fuel factor based on the ratio of O_2 volume to the ultimate CO_2 volume produced by the fuel at zero percent excess air.

0.209 = Fraction of air that is O_2 , percent/100.

F_d = Ratio of the volume of dry effluent gas to the gross calorific value of the fuel from Method 19, dsm^3 /J (dscf/10^6 Btu).

F_c = Ratio of the volume of CO_2 produced to the gross calorific value of the fuel from Method 19, dsm^3 /J (dscf/10^6 Btu).

(ii) Calculate the CO_2 correction factor for correcting measurement data to 15 percent O_2 , as follows:

$$X_{CO_2} = \frac{5.9}{F_o} \quad \text{(Eq. 5)}$$

Where:

X_{CO2} = CO_2 correction factor, percent.

5.9 = 20.9 percent O_2 −15 percent O_2 , the defined O_2 correction value, percent.

(iii) Calculate the NO_x and PM gas concentrations adjusted to 15 percent O_2 using CO_2 as follows:

$$C_{adj} = C_d \frac{X_{CO_2}}{\%CO_2} \quad \text{(Eq. 6)}$$

Where:

C_{adj} = Calculated NO_x or PM concentration adjusted to 15 percent O_2 .

C_d = Measured concentration of NO_x or PM, uncorrected.

$\%CO_2$ = Measured CO_2 concentration, dry basis, percent.

(e) To determine compliance with the NO_x mass per unit output emission limitation, convert the concentration of NO_x in the engine exhaust using Equation 7 of this section:

$$ER = \frac{C_d \times 1.912 \times 10^{-3} \times Q \times T}{\text{KW-hour}} \qquad \text{(Eq. 7)}$$

Where:

ER = Emission rate in grams per KW-hour.

C_d = Measured NO_x concentration in ppm.

1.912×10^{-3} = Conversion constant for ppm NO_x to grams per standard cubic meter at 25 degrees Celsius.

Q = Stack gas volumetric flow rate, in standard cubic meter per hour.

T = Time of test run, in hours.

KW-hour = Brake work of the engine, in KW-hour.

(f) To determine compliance with the PM mass per unit output emission limitation, convert the concentration of PM in the engine exhaust using Equation 8 of this section:

$$ER = \frac{C_{adj} \times Q \times T}{\text{KW-hour}} \qquad \text{(Eq. 8)}$$

Where:

ER = Emission rate in grams per KW-hour.

C_{adj} = Calculated PM concentration in grams per standard cubic meter.

Q = Stack gas volumetric flow rate, in standard cubic meter per hour.

T = Time of test run, in hours.

KW-hour = Energy output of the engine, in KW.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37971, June 28, 2011]

Notification, Reports, and Records for Owners and Operators

§ 60.4214 What are my notification, reporting, and recordkeeping requirements if I am an owner or operator of a stationary CI internal combustion engine?

(a) Owners and operators of non-emergency stationary CI ICE that are greater than 2,237 KW (3,000 HP), or have a displacement of greater than or equal to 10 liters per cylinder, or are pre-2007 model year engines that are greater than 130 KW (175 HP) and not certified, must meet the requirements of paragraphs (a)(1) and (2) of this section.

(1) Submit an initial notification as required in § 60.7(a)(1). The notification must include the information in paragraphs (a)(1)(i) through (v) of this section.

(i) Name and address of the owner or operator;

(ii) The address of the affected source;

(iii) Engine information including make, model, engine family, serial number, model year, maximum engine power, and engine displacement;

(iv) Emission control equipment; and

(v) Fuel used.

(2) Keep records of the information in paragraphs (a)(2)(i) through (iv) of this section.

(i) All notifications submitted to comply with this subpart and all documentation supporting any notification.

(ii) Maintenance conducted on the engine.

(iii) If the stationary CI internal combustion is a certified engine, documentation from the manufacturer that the engine is certified to meet the emission standards.

(iv) If the stationary CI internal combustion is not a certified engine, documentation that the engine meets the emission standards.

(b) If the stationary CI internal combustion engine is an emergency stationary internal combustion engine, the owner or operator is not required to submit an initial notification. Starting with the model years in table 5 to this subpart, if the emergency engine does not meet the standards applicable to non-emergency engines in the applicable model year, the owner or operator must keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The owner must record the time of operation of the engine and the reason the engine was in operation during that time.

(c) If the stationary CI internal combustion engine is equipped with a diesel particulate filter, the owner or operator must keep records of any corrective action taken after the backpressure monitor has notified the owner or operator that the high backpressure limit of the engine is approached.

(d) If you own or operate an emergency stationary CI ICE with a maximum engine power more than 100 HP that operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in § 60.4211(f)(2)(ii) and (iii) or that operates for the purposes specified in § 60.4211(f)(3)(i), you must submit an annual report according to the requirements in paragraphs (d)(1) through (3) of this section.

(1) The report must contain the following information:

(i) Company name and address where the engine is located.

(ii) Date of the report and beginning and ending dates of the reporting period.

(iii) Engine site rating and model year.

(iv) Latitude and longitude of the engine in decimal degrees reported to the fifth decimal place.

(v) Hours operated for the purposes specified in § 60.4211(f)(2)(ii) and (iii), including the date, start time, and end time for engine operation for the purposes specified in § 60.4211(f)(2)(ii) and (iii).

(vi) Number of hours the engine is contractually obligated to be available for the purposes specified in § 60.4211(f)(2)(ii) and (iii).

(vii) Hours spent for operation for the purposes specified in § 60.4211(f)(3)(i), including the date, start time, and end time for engine operation for the purposes specified in § 60.4211(f)(3)(i). The report must also identify the entity that dispatched the engine and the situation that necessitated the dispatch of the engine.

(2) The first annual report must cover the calendar year 2015 and must be submitted no later than March 31, 2016. Subsequent annual reports for each calendar year must be submitted no later than March 31 of the following calendar year.

(3) The annual report must be submitted electronically using the subpart specific reporting form in the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (*www.epa.gov/cdx*). However, if the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, the written report must be submitted to the Administrator at the appropriate address listed in § 60.4.

[71 FR 39172, July 11, 2006, as amended at 78 FR 6696, Jan. 30, 2013]

Special Requirements

§ 60.4215 What requirements must I meet for engines used in Guam, American Samoa, or the Commonwealth of the Northern Mariana Islands?

(a) Stationary CI ICE with a displacement of less than 30 liters per cylinder that are used in Guam, American Samoa, or the Commonwealth of the Northern Mariana Islands are required to meet the applicable emission standards in §§ 60.4202 and 60.4205.

(b) Stationary CI ICE that are used in Guam, American Samoa, or the Commonwealth of the Northern Mariana Islands are not required to meet the fuel requirements in § 60.4207.

(c) Stationary CI ICE with a displacement of greater than or equal to 30 liters per cylinder that are used in Guam, American Samoa, or the Commonwealth of the Northern Mariana Islands are required to meet the following emission standards:

(1) For engines installed prior to January 1, 2012, limit the emissions of NO_x in the stationary CI internal combustion engine exhaust to the following:

(i) 17.0 g/KW-hr (12.7 g/HP-hr) when maximum engine speed is less than 130 rpm;

(ii) $45 \cdot n^{-0.2}$ g/KW-hr ($34 \cdot n^{-0.2}$ g/HP-hr) when maximum engine speed is 130 or more but less than 2,000 rpm, where n is maximum engine speed; and

(iii) 9.8 g/KW-hr (7.3 g/HP-hr) when maximum engine speed is 2,000 rpm or more.

(2) For engines installed on or after January 1, 2012, limit the emissions of NO_x in the stationary CI internal combustion engine exhaust to the following:

(i) 14.4 g/KW-hr (10.7 g/HP-hr) when maximum engine speed is less than 130 rpm;

(ii) 44 · $n^{-0.23}$ g/KW-hr (33 · $n^{-0.23}$ g/HP-hr) when maximum engine speed is greater than or equal to 130 but less than 2,000 rpm and where n is maximum engine speed; and

(iii) 7.7 g/KW-hr (5.7 g/HP-hr) when maximum engine speed is greater than or equal to 2,000 rpm.

(3) Limit the emissions of PM in the stationary CI internal combustion engine exhaust to 0.40 g/KW-hr (0.30 g/HP-hr).

[71 FR 39172, July 11, 2006, as amended at 76 FR 37971, June 28, 2011]

§ 60.4216 What requirements must I meet for engines used in Alaska?

(a) Prior to December 1, 2010, owners and operators of stationary CI ICE with a displacement of less than 30 liters per cylinder located in areas of Alaska not accessible by the FAHS should refer to 40 CFR part 69 to determine the diesel fuel requirements applicable to such engines.

(b) Except as indicated in paragraph (c) of this section, manufacturers, owners and operators of stationary CI ICE with a displacement of less than 10 liters per cylinder located in areas of Alaska not accessible by the FAHS may meet the requirements of this subpart by manufacturing and installing engines meeting the requirements of 40 CFR parts 94 or 1042, as appropriate, rather than the otherwise applicable requirements of 40 CFR parts 89 and 1039, as indicated in sections §§ 60.4201(f) and 60.4202(g) of this subpart.

(c) Manufacturers, owners and operators of stationary CI ICE that are located in areas of Alaska not accessible by the FAHS may choose to meet the applicable emission standards for emergency engines in § 60.4202 and § 60.4205, and not those for non-emergency engines in § 60.4201 and § 60.4204, except that for 2014 model year and later non-emergency CI ICE, the owner or operator of any such engine that was not certified as meeting Tier 4 PM standards, must meet the applicable requirements for PM in § 60.4201 and § 60.4204 or install a PM emission control device that achieves PM emission reductions of 85 percent, or 60 percent for engines with a displacement of greater than or equal to 30 liters per cylinder, compared to engine-out emissions.

(d) The provisions of § 60.4207 do not apply to owners and operators of pre-2014 model year stationary CI ICE subject to this subpart that are located in areas of Alaska not accessible by the FAHS.

(e) The provisions of § 60.4208(a) do not apply to owners and operators of stationary CI ICE subject to this subpart that are located in areas of Alaska not accessible by the FAHS until after December 31, 2009.

(f) The provisions of this section and § 60.4207 do not prevent owners and operators of stationary CI ICE subject to this subpart that are located in areas of Alaska not accessible by the FAHS from using fuels mixed with used lubricating oil, in volumes of up to 1.75 percent of the total fuel. The sulfur content of the used lubricating oil must be less than 200 parts per million. The used lubricating oil must meet the on-specification levels and properties for used oil in 40 CFR 279.11.

[76 FR 37971, June 28, 2011]

§ 60.4217 What emission standards must I meet if I am an owner or operator of a stationary internal combustion engine using special fuels?

Owners and operators of stationary CI ICE that do not use diesel fuel may petition the Administrator for approval of alternative emission standards, if they can demonstrate that they use a fuel that is not the fuel on which the manufacturer of the engine certified the engine and that the engine cannot meet the applicable standards required in § 60.4204 or § 60.4205 using such fuels and that use of such fuel is appropriate and reasonably necessary, considering cost, energy, technical feasibility, human health and environmental, and other factors, for the operation of the engine.

[76 FR 37972, June 28, 2011]

General Provisions

§ 60.4218 What parts of the General Provisions apply to me?

Table 8 to this subpart shows which parts of the General Provisions in §§ 60.1 through 60.19 apply to you.

DEFINITIONS

§ 60.4219 What definitions apply to this subpart?

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

Certified emissions life means the period during which the engine is designed to properly function in terms of reliability and fuel consumption, without being remanufactured, specified as a number of hours of operation or calendar years, whichever comes first. The values for certified emissions life for stationary CI ICE with a displacement of less than 10 liters per cylinder are given in 40 CFR 1039.101(g). The values for certified emissions life for stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder are given in 40 CFR 94.9(a).

Combustion turbine means all equipment, including but not limited to the turbine, the fuel, air, lubrication and exhaust gas systems, control systems (except emissions control equipment), and any ancillary components and sub-components comprising any simple cycle combustion turbine, any regenerative/recuperative cycle combustion turbine, the combustion turbine portion of any cogeneration cycle combustion system, or the combustion turbine portion of any combined cycle steam/electric generating system.

Compression ignition means relating to a type of stationary internal combustion engine that is not a spark ignition engine.

Date of manufacture means one of the following things:

(1) For freshly manufactured engines and modified engines, date of manufacture means the date the engine is originally produced.

(2) For reconstructed engines, date of manufacture means the date the engine was originally produced, except as specified in paragraph (3) of this definition.

(3) Reconstructed engines are assigned a new date of manufacture if the fixed capital cost of the new and refurbished components exceeds 75 percent of the fixed capital cost of a comparable entirely new

facility. An engine that is produced from a previously used engine block does not retain the date of manufacture of the engine in which the engine block was previously used if the engine is produced using all new components except for the engine block. In these cases, the date of manufacture is the date of reconstruction or the date the new engine is produced.

Diesel fuel means any liquid obtained from the distillation of petroleum with a boiling point of approximately 150 to 360 degrees Celsius. One commonly used form is number 2 distillate oil.

Diesel particulate filter means an emission control technology that reduces PM emissions by trapping the particles in a flow filter substrate and periodically removes the collected particles by either physical action or by oxidizing (burning off) the particles in a process called regeneration.

Emergency stationary internal combustion engine means any stationary reciprocating internal combustion engine that meets all of the criteria in paragraphs (1) through (3) of this definition. All emergency stationary ICE must comply with the requirements specified in § 60.4211(f) in order to be considered emergency stationary ICE. If the engine does not comply with the requirements specified in § 60.4211(f), then it is not considered to be an emergency stationary ICE under this subpart.

(1) The stationary ICE is operated to provide electrical power or mechanical work during an emergency situation. Examples include stationary ICE used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary ICE used to pump water in the case of fire or flood, etc.

(2) The stationary ICE is operated under limited circumstances for situations not included in paragraph (1) of this definition, as specified in § 60.4211(f).

(3) The stationary ICE operates as part of a financial arrangement with another entity in situations not included in paragraph (1) of this definition only as allowed in § 60.4211(f)(2)(ii) or (iii) and § 60.4211(f)(3)(i).

Engine manufacturer means the manufacturer of the engine. See the definition of “manufacturer” in this section.

Fire pump engine means an emergency stationary internal combustion engine certified to NFPA requirements that is used to provide power to pump water for fire suppression or protection.

Freshly manufactured engine means an engine that has not been placed into service. An engine becomes freshly manufactured when it is originally produced.

Installed means the engine is placed and secured at the location where it is intended to be operated.

Manufacturer has the meaning given in section 216(1) of the Act. In general, this term includes any person who manufactures a stationary engine for sale in the United States or otherwise introduces a new stationary engine into commerce in the United States. This includes importers who import stationary engines for sale or resale.

Maximum engine power means maximum engine power as defined in 40 CFR 1039.801.

Model year means the calendar year in which an engine is manufactured (see “date of manufacture”), except as follows:

(1) Model year means the annual new model production period of the engine manufacturer in which an engine is manufactured (see “date of manufacture”), if the annual new model production period is different than the calendar year and includes January 1 of the calendar year for which the model year is named. It may not begin before January 2 of the previous calendar year and it must end by December 31 of the named calendar year.

(2) For an engine that is converted to a stationary engine after being placed into service as a nonroad or other non-stationary engine, model year means the calendar year or new model production period in which the engine was manufactured (see “date of manufacture”).

Other internal combustion engine means any internal combustion engine, except combustion turbines, which is not a reciprocating internal combustion engine or rotary internal combustion engine.

Reciprocating internal combustion engine means any internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work.

Rotary internal combustion engine means any internal combustion engine which uses rotary motion to convert heat energy into mechanical work.

Spark ignition means relating to a gasoline, natural gas, or liquefied petroleum gas fueled engine or any other type of engine with a spark plug (or other sparking device) and with operating characteristics significantly similar to the theoretical Otto combustion cycle. Spark ignition engines usually use a throttle to regulate intake air flow to control power during normal operation. Dual-fuel engines in which a liquid fuel (typically diesel fuel) is used for CI and gaseous fuel (typically natural gas) is used as the primary fuel at an annual average ratio of less than 2 parts diesel fuel to 100 parts total fuel on an energy equivalent basis are spark ignition engines.

Stationary internal combustion engine means any internal combustion engine, except combustion turbines, that converts heat energy into mechanical work and is not mobile. Stationary ICE differ from mobile ICE in that a stationary internal combustion engine is not a nonroad engine as defined at 40 CFR 1068.30 (excluding paragraph (2)(ii) of that definition), and is not used to propel a motor vehicle, aircraft, or a vehicle used solely for competition. Stationary ICE include reciprocating ICE, rotary ICE, and other ICE, except combustion turbines.

Subpart means 40 CFR part 60, subpart IIII.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37972, June 28, 2011; 78 FR 6696, Jan. 30, 2013]

Table 1 to Subpart IIII of Part 60—Emission Standards for Stationary Pre-2007 Model Year Engines With a Displacement of <10 Liters per Cylinder and 2007-2010 Model Year Engines >2,237 KW (3,000 HP) and With a Displacement of <10 Liters per Cylinder

[As stated in §§ 60.4201(b), 60.4202(b), 60.4204(a), and 60.4205(a), you must comply with the following emission standards]

Maximum engine power	Emission standards for stationary pre-2007 model year engines with a displacement of <10 liters per cylinder and 2007-2010 model year engines >2,237 KW (3,000 HP) and with a displacement of <10 liters per cylinder in g/KW-hr (g/HP-hr)				
	NMHC + NO_X	HC	NO_X	CO	PM
KW<8 (HP<11)	10.5 (7.8)			8.0 (6.0)	1.0 (0.75)

8≤KW<19 (11≤HP<25)	9.5 (7.1)			6.6 (4.9)	0.80 (0.60)
19≤KW<37 (25≤HP<50)	9.5 (7.1)			5.5 (4.1)	0.80 (0.60)
37≤KW<56 (50≤HP<75)			9.2 (6.9)		
56≤KW<75 (75≤HP<100)			9.2 (6.9)		
75≤KW<130 (100≤HP<175)			9.2 (6.9)		
130≤KW<225 (175≤HP<300)		1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)
225≤KW<450 (300≤HP<600)		1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)
450≤KW≤560 (600≤HP≤750)		1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)
KW>560 (HP>750)		1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)

Table 2 to Subpart IIII of Part 60—Emission Standards for 2008 Model Year and Later Emergency Stationary CI ICE <37 KW (50 HP) With a Displacement of <10 Liters per Cylinder

[As stated in § 60.4202(a)(1), you must comply with the following emission standards]

Engine power	Emission standards for 2008 model year and later emergency stationary CI ICE <37 KW (50 HP) with a displacement of <10 liters per cylinder in g/KW-hr (g/HP-hr)			
	Model year(s)	**NO_X+ NMHC**	**CO**	**PM**
KW<8 (HP<11)	2008+	7.5 (5.6)	8.0 (6.0)	0.40 (0.30)
8≤KW<19 (11≤HP<25)	2008+	7.5 (5.6)	6.6 (4.9)	0.40 (0.30)
19≤KW<37 (25≤HP<50)	2008+	7.5 (5.6)	5.5 (4.1)	0.30 (0.22)

Table 3 to Subpart IIII of Part 60—Certification Requirements for Stationary Fire Pump Engines

As stated in § 60.4202(d), you must certify new stationary fire pump engines beginning with the following model years:

Engine power	Starting model year engine manufacturers must certify new stationary fire pump

	engines according to § 60.4202(d)[1]
KW<75 (HP<100)	2011
75≤KW<130 (100≤HP<175)	2010
130≤KW≤560 (175≤HP≤750)	2009
KW>560 (HP>750)	2008

[1]Manufacturers of fire pump stationary CI ICE with a maximum engine power greater than or equal to 37 kW (50 HP) and less than 450 KW (600 HP) and a rated speed of greater than 2,650 revolutions per minute (rpm) are not required to certify such engines until three model years following the model year indicated in this Table 3 for engines in the applicable engine power category.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37972, June 28, 2011]

Table 4 to Subpart IIII of Part 60—Emission Standards for Stationary Fire Pump Engines

[As stated in §§ 60.4202(d) and 60.4205(c), you must comply with the following emission standards for stationary fire pump engines]

Maximum engine power	Model year(s)	NMHC + NO_X	CO	PM
KW<8 (HP<11)	2010 and earlier	10.5 (7.8)	8.0 (6.0)	1.0 (0.75)
	2011+	7.5 (5.6)		0.40 (0.30)
8≤KW<19 (11≤HP<25)	2010 and earlier	9.5 (7.1)	6.6 (4.9)	0.80 (0.60)
	2011+	7.5 (5.6)		0.40 (0.30)
19≤KW<37 (25≤HP<50)	2010 and earlier	9.5 (7.1)	5.5 (4.1)	0.80 (0.60)
	2011+	7.5 (5.6)		0.30 (0.22)
37≤KW<56 (50≤HP<75)	2010 and earlier	10.5 (7.8)	5.0 (3.7)	0.80 (0.60)
	2011+ [1]	4.7 (3.5)		0.40 (0.30)
56≤KW<75 (75≤HP<100)	2010 and earlier	10.5 (7.8)	5.0 (3.7)	0.80 (0.60)
	2011+ [1]	4.7 (3.5)		0.40 (0.30)
75≤KW<130 (100≤HP<175)	2009 and earlier	10.5 (7.8)	5.0 (3.7)	0.80 (0.60)
	2010+ [2]	4.0 (3.0)		0.30 (0.22)
130≤KW<225 (175≤HP<300)	2008 and earlier	10.5 (7.8)	3.5 (2.6)	0.54 (0.40)
	2009+ [3]	4.0 (3.0)		0.20 (0.15)
225≤KW<450 (300≤HP<600)	2008 and earlier	10.5 (7.8)	3.5 (2.6)	0.54 (0.40)

	2009+ [3]	4.0 (3.0)		0.20 (0.15)
450≤KW≤560 (600≤HP≤750)	2008 and earlier	10.5 (7.8)	3.5 (2.6)	0.54 (0.40)
	2009+	4.0 (3.0)		0.20 (0.15)
KW>560 (HP>750)	2007 and earlier	10.5 (7.8)	3.5 (2.6)	0.54 (0.40)
	2008+	6.4 (4.8)		0.20 (0.15)

[1] For model years 2011-2013, manufacturers, owners and operators of fire pump stationary CI ICE in this engine power category with a rated speed of greater than 2,650 revolutions per minute (rpm) may comply with the emission limitations for 2010 model year engines.

[2] For model years 2010-2012, manufacturers, owners and operators of fire pump stationary CI ICE in this engine power category with a rated speed of greater than 2,650 rpm may comply with the emission limitations for 2009 model year engines.

[3] In model years 2009-2011, manufacturers of fire pump stationary CI ICE in this engine power category with a rated speed of greater than 2,650 rpm may comply with the emission limitations for 2008 model year engines.

Table 5 to Subpart IIII of Part 60—Labeling and Recordkeeping Requirements for New Stationary Emergency Engines

[You must comply with the labeling requirements in § 60.4210(f) and the recordkeeping requirements in § 60.4214(b) for new emergency stationary CI ICE beginning in the following model years:]

Engine power	Starting model year
19≤KW<56 (25≤HP<75)	2013
56≤KW<130 (75≤HP<175)	2012
KW≥130 (HP≥175)	2011

Table 6 to Subpart IIII of Part 60—Optional 3-Mode Test Cycle for Stationary Fire Pump Engines

[As stated in § 60.4210(g), manufacturers of fire pump engines may use the following test cycle for testing fire pump engines:]

Mode No.	Engine speed [1]	Torque (percent) [2]	Weighting factors
1	Rated	100	0.30
2	Rated	75	0.50
3	Rated	50	0.20

[1] Engine speed: ±2 percent of point.

[2] Torque: NFPA certified nameplate HP for 100 percent point. All points should be ±2 percent of engine percent load value.

Table 7 to Subpart IIII of Part 60—Requirements for Performance Tests for Stationary CI ICE With a Displacement of ≥30 Liters per Cylinder

[As stated in § 60.4213, you must comply with the following requirements for performance tests for stationary CI ICE with a displacement of ≥30 liters per cylinder:]

For each	Complying with the requirement to	You must	Using	According to the following requirements
1. Stationary CI internal combustion engine with a displacement of ≥30 liters per cylinder	a. Reduce NO_X emissions by 90 percent or more	i. Select the sampling port location and the number of traverse points;	(1) Method 1 or 1A of 40 CFR part 60, appendix A	(a) Sampling sites must be located at the inlet and outlet of the control device.
		ii. Measure O_2 at the inlet and outlet of the control device;	(2) Method 3, 3A, or 3B of 40 CFR part 60, appendix A	(b) Measurements to determine O_2 concentration must be made at the same time as the measurements for NO_X concentration.
		iii. If necessary, measure moisture content at the inlet and outlet of the control device; and,	(3) Method 4 of 40 CFR part 60, appendix A, Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03 (incorporated by reference, see § 60.17)	(c) Measurements to determine moisture content must be made at the same time as the measurements for NO_X concentration.
		iv. Measure NO_X at the inlet and outlet of the control device	(4) Method 7E of 40 CFR part 60, appendix A, Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03 (incorporated by reference, see § 60.17)	(d) NO_X concentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.
	b. Limit the concentration of NO_X in the stationary CI internal combustion	i. Select the sampling port location and the number of traverse points;	(1) Method 1 or 1A of 40 CFR part 60, appendix A	(a) If using a control device, the sampling site must be located at the outlet of the control device.

For each	Complying with the requirement to	You must	Using	According to the following requirements
	engine exhaust.			
		ii. Determine the O_2concentration of the stationary internal combustion engine exhaust at the sampling port location; and,	(2) Method 3, 3A, or 3B of 40 CFR part 60, appendix A	(b) Measurements to determine O_2concentration must be made at the same time as the measurement for NO_Xconcentration.
		iii. If necessary, measure moisture content of the stationary internal combustion engine exhaust at the sampling port location; and,	(3) Method 4 of 40 CFR part 60, appendix A, Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03 (incorporated by reference, see § 60.17)	(c) Measurements to determine moisture content must be made at the same time as the measurement for NO_Xconcentration.
		iv. Measure NO_Xat the exhaust of the stationary internal combustion engine	(4) Method 7E of 40 CFR part 60, appendix A, Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03 (incorporated by reference, see § 60.17)	(d) NO_Xconcentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.
	c. Reduce PM emissions by 60 percent or more	i. Select the sampling port location and the number of traverse points;	(1) Method 1 or 1A of 40 CFR part 60, appendix A	(a) Sampling sites must be located at the inlet and outlet of the control device.
		ii. Measure O_2at the inlet and outlet of the control device;	(2) Method 3, 3A, or 3B of 40 CFR part 60, appendix A	(b) Measurements to determine O_2concentration must be made at the same time as the measurements for PM concentration.
		iii. If necessary, measure moisture content at the inlet and outlet of the control device; and	(3) Method 4 of 40 CFR part 60, appendix A	(c) Measurements to determine and moisture content must be made at the same time as the measurements for PM concentration.
		iv. Measure PM at the inlet and outlet of the control device	(4) Method 5 of 40 CFR part 60, appendix A	(d) PM concentration must be at 15 percent O_2, dry basis. Results of

For each	Complying with the requirement to	You must	Using	According to the following requirements
				this test consist of the average of the three 1-hour or longer runs.
	d. Limit the concentration of PM in the stationary CI internal combustion engine exhaust	i. Select the sampling port location and the number of traverse points;	(1) Method 1 or 1A of 40 CFR part 60, appendix A	(a) If using a control device, the sampling site must be located at the outlet of the control device.
		ii. Determine the O_2 concentration of the stationary internal combustion engine exhaust at the sampling port location; and	(2) Method 3, 3A, or 3B of 40 CFR part 60, appendix A	(b) Measurements to determine O_2 concentration must be made at the same time as the measurements for PM concentration.
		iii. If necessary, measure moisture content of the stationary internal combustion engine exhaust at the sampling port location; and	(3) Method 4 of 40 CFR part 60, appendix A	(c) Measurements to determine moisture content must be made at the same time as the measurements for PM concentration.
		iv. Measure PM at the exhaust of the stationary internal combustion engine	(4) Method 5 of 40 CFR part 60, appendix A	(d) PM concentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.

Table 8 to Subpart IIII of Part 60—Applicability of General Provisions to Subpart IIII

[As stated in § 60.4218, you must comply with the following applicable General Provisions:]

General Provisions citation	Subject of citation	Applies to subpart	Explanation
§ 60.1	General applicability of the General Provisions	Yes	
§ 60.2	Definitions	Yes	Additional terms defined in § 60.4219.
§ 60.3	Units and abbreviations	Yes	
§ 60.4	Address	Yes	
§ 60.5	Determination of construction or modification	Yes	
§ 60.6	Review of plans	Yes	
§ 60.7	Notification and Recordkeeping	Yes	Except that § 60.7 only applies as specified in § 60.4214(a).
§ 60.8	Performance tests	Yes	Except that § 60.8 only applies to stationary CI ICE with a displacement of (≥30 liters per cylinder and engines that are not certified.
§ 60.9	Availability of information	Yes	
§ 60.10	State Authority	Yes	
§ 60.11	Compliance with standards and maintenance requirements	No	Requirements are specified in subpart IIII.
§ 60.12	Circumvention	Yes	
§ 60.13	Monitoring requirements	Yes	Except that § 60.13 only applies to stationary CI ICE with a displacement of (≥30 liters per cylinder.
§ 60.14	Modification	Yes	
§ 60.15	Reconstruction	Yes	
§ 60.16	Priority list	Yes	
§ 60.17	Incorporations by reference	Yes	
§ 60.18	General control device requirements	No	
§ 60.19	General notification and reporting requirements	Yes	

Attachment C

National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines [40 CFR 63, Subpart ZZZZ]

Source Description and Location

Source Name:	Gartland Foundry Co., Inc.
Source Location:	330 Grant St., Terre Haute, IN 47802
County:	Vigo
SIC Code:	3321 (Gray and Ductile Iron Foundries)
Permit Renewal No.:	T167-32794-00007
Permit Reviewer:	Sarah Street

NESHAP [40 CFR Part 63, Subpart ZZZZ]

Title 40: Protection of Environment

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

Subpart ZZZZ—National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

SOURCE: 69 FR 33506, June 15, 2004, unless otherwise noted.

What This Subpart Covers

§ 63.6580 What is the purpose of subpart ZZZZ?

Subpart ZZZZ establishes national emission limitations and operating limitations for hazardous air pollutants (HAP) emitted from stationary reciprocating internal combustion engines (RICE) located at major and area sources of HAP emissions. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations and operating limitations.

[73 FR 3603, Jan. 18, 2008]

§ 63.6585 Am I subject to this subpart?

You are subject to this subpart if you own or operate a stationary RICE at a major or area source of HAP emissions, except if the stationary RICE is being tested at a stationary RICE test cell/stand.

(a) A stationary RICE is any internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work and which is not mobile. Stationary RICE differ from mobile RICE in that a stationary RICE is not a non-road engine as defined at 40 CFR 1068.30, and is not used to propel a motor vehicle or a vehicle used solely for competition.

(b) A major source of HAP emissions is a plant site that emits or has the potential to emit any single HAP at a rate of 10 tons (9.07 megagrams) or more per year or any combination of HAP at a rate of 25 tons (22.68 megagrams) or more per year, except that for oil and gas production facilities, a major source of HAP emissions is determined for each surface site.

(c) An area source of HAP emissions is a source that is not a major source.

(d) If you are an owner or operator of an area source subject to this subpart, your status as an entity subject to a standard or other requirements under this subpart does not subject you to the obligation to obtain a permit under 40 CFR part 70 or 71, provided you are not required to obtain a permit under 40 CFR 70.3(a) or 40 CFR 71.3(a) for a reason other than your status as an area source under this subpart. Notwithstanding the previous sentence, you must continue to comply with the provisions of this subpart as applicable.

(e) If you are an owner or operator of a stationary RICE used for national security purposes, you may be eligible to request an exemption from the requirements of this subpart as described in 40 CFR part 1068, subpart C.

(f) The emergency stationary RICE listed in paragraphs (f)(1) through (3) of this section are not subject to this subpart. The stationary RICE must meet the definition of an emergency stationary RICE in § 63.6675, which includes operating according to the provisions specified in § 63.6640(f).

(1) Existing residential emergency stationary RICE located at an area source of HAP emissions that do not operate or are not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in § 63.6640(f)(2)(ii) and (iii) and that do not operate for the purpose specified in § 63.6640(f)(4)(ii).

(2) Existing commercial emergency stationary RICE located at an area source of HAP emissions that do not operate or are not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in § 63.6640(f)(2)(ii) and (iii) and that do not operate for the purpose specified in § 63.6640(f)(4)(ii).

(3) Existing institutional emergency stationary RICE located at an area source of HAP emissions that do not operate or are not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in § 63.6640(f)(2)(ii) and (iii) and that do not operate for the purpose specified in § 63.6640(f)(4)(ii).

[69 FR 33506, June 15, 2004, as amended at 73 FR 3603, Jan. 18, 2008; 78 FR 6700, Jan. 30, 2013]

§ 63.6590 What parts of my plant does this subpart cover?

This subpart applies to each affected source.

(a) *Affected source.* An affected source is any existing, new, or reconstructed stationary RICE located at a major or area source of HAP emissions, excluding stationary RICE being tested at a stationary RICE test cell/stand.

(1) *Existing stationary RICE.*

(i) For stationary RICE with a site rating of more than 500 brake horsepower (HP) located at a major source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before December 19, 2002.

(ii) For stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before June 12, 2006.

(iii) For stationary RICE located at an area source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before June 12, 2006.

(iv) A change in ownership of an existing stationary RICE does not make that stationary RICE a new or reconstructed stationary RICE.

(2) *New stationary RICE.* (i) A stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions is new if you commenced construction of the stationary RICE on or after December 19, 2002.

(ii) A stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions is new if you commenced construction of the stationary RICE on or after June 12, 2006.

(iii) A stationary RICE located at an area source of HAP emissions is new if you commenced construction of the stationary RICE on or after June 12, 2006.

(3) *Reconstructed stationary RICE.* (i) A stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions is reconstructed if you meet the definition of reconstruction in § 63.2 and reconstruction is commenced on or after December 19, 2002.

(ii) A stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions is reconstructed if you meet the definition of reconstruction in § 63.2 and reconstruction is commenced on or after June 12, 2006.

(iii) A stationary RICE located at an area source of HAP emissions is reconstructed if you meet the definition of reconstruction in § 63.2 and reconstruction is commenced on or after June 12, 2006.

(b) *Stationary RICE subject to limited requirements.* (1) An affected source which meets either of the criteria in paragraphs (b)(1)(i) through (ii) of this section does not have to meet the requirements of this subpart and of subpart A of this part except for the initial notification requirements of § 63.6645(f).

(i) The stationary RICE is a new or reconstructed emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions that does not operate or is not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in § 63.6640(f)(2)(ii) and (iii).

(ii) The stationary RICE is a new or reconstructed limited use stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions.

(2) A new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis must meet the initial notification requirements of § 63.6645(f) and the requirements of §§ 63.6625(c), 63.6650(g), and 63.6655(c). These stationary RICE do not have to meet the emission limitations and operating limitations of this subpart.

(3) The following stationary RICE do not have to meet the requirements of this subpart and of subpart A of this part, including initial notification requirements:

(i) Existing spark ignition 2 stroke lean burn (2SLB) stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;

(ii) Existing spark ignition 4 stroke lean burn (4SLB) stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;

(iii) Existing emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions that does not operate or is not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in § 63.6640(f)(2)(ii) and (iii).

(iv) Existing limited use stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;

(v) Existing stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis;

(c) *Stationary RICE subject to Regulations under 40 CFR Part 60.* An affected source that meets any of the criteria in paragraphs (c)(1) through (7) of this section must meet the requirements of this part by meeting the requirements of 40 CFR part 60 subpart IIII, for compression ignition engines or 40 CFR part 60 subpart JJJJ, for spark ignition engines. No further requirements apply for such engines under this part.

(1) A new or reconstructed stationary RICE located at an area source;

(2) A new or reconstructed 2SLB stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;

(3) A new or reconstructed 4SLB stationary RICE with a site rating of less than 250 brake HP located at a major source of HAP emissions;

(4) A new or reconstructed spark ignition 4 stroke rich burn (4SRB) stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;

(5) A new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis;

(6) A new or reconstructed emergency or limited use stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;

(7) A new or reconstructed compression ignition (CI) stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3604, Jan. 18, 2008; 75 FR 9674, Mar. 3, 2010; 75 FR 37733, June 30, 2010; 75 FR 51588, Aug. 20, 2010; 78 FR 6700, Jan. 30, 2013]

§ 63.6595 When do I have to comply with this subpart?

(a) *Affected sources.* (1) If you have an existing stationary RICE, excluding existing non-emergency CI stationary RICE, with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the applicable emission limitations, operating limitations and other requirements no later than June 15, 2007. If you have an existing non-emergency CI stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, an existing stationary CI RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, or an existing stationary CI RICE located at an area source of HAP emissions, you must comply with the applicable emission limitations, operating limitations, and other requirements no later than May 3, 2013. If you have an existing stationary SI RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, or an existing stationary SI RICE located at an area source of HAP emissions, you must comply with the applicable emission limitations, operating limitations, and other requirements no later than October 19, 2013.

(2) If you start up your new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions before August 16, 2004, you must comply with the applicable emission limitations and operating limitations in this subpart no later than August 16, 2004.

(3) If you start up your new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions after August 16, 2004, you must comply with the applicable emission limitations and operating limitations in this subpart upon startup of your affected source.

(4) If you start up your new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions before January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart no later than January 18, 2008.

(5) If you start up your new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions after January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart upon startup of your affected source.

(6) If you start up your new or reconstructed stationary RICE located at an area source of HAP emissions before January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart no later than January 18, 2008.

(7) If you start up your new or reconstructed stationary RICE located at an area source of HAP emissions after January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart upon startup of your affected source.

(b) *Area sources that become major sources.* If you have an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP, the compliance dates in paragraphs (b)(1) and (2) of this section apply to you.

(1) Any stationary RICE for which construction or reconstruction is commenced after the date when your area source becomes a major source of HAP must be in compliance with this subpart upon startup of your affected source.

(2) Any stationary RICE for which construction or reconstruction is commenced before your area source becomes a major source of HAP must be in compliance with the provisions of this subpart that are applicable to RICE located at major sources within 3 years after your area source becomes a major source of HAP.

(c) If you own or operate an affected source, you must meet the applicable notification requirements in § 63.6645 and in 40 CFR part 63, subpart A.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3604, Jan. 18, 2008; 75 FR 9675, Mar. 3, 2010; 75 FR 51589, Aug. 20, 2010; 78 FR 6701, Jan. 30, 2013]

Emission and Operating Limitations

§ 63.6600 What emission limitations and operating limitations must I meet if I own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions?

Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in § 63.6620 and Table 4 to this subpart.

(a) If you own or operate an existing, new, or reconstructed spark ignition 4SRB stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations in Table 1a to this subpart and the operating limitations in Table 1b to this subpart which apply to you.

(b) If you own or operate a new or reconstructed 2SLB stationary RICE with a site rating of more than 500 brake HP located at major source of HAP emissions, a new or reconstructed 4SLB stationary RICE with a site rating of more than 500 brake HP located at major source of HAP emissions, or a new or reconstructed CI stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations in Table 2a to this subpart and the operating limitations in Table 2b to this subpart which apply to you.

(c) If you own or operate any of the following stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the emission limitations in Tables 1a, 2a, 2c, and 2d to this subpart or operating limitations in Tables 1b and 2b to this subpart: an existing 2SLB stationary RICE; an existing 4SLB stationary RICE; a stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis; an emergency stationary RICE; or a limited use stationary RICE.

(d) If you own or operate an existing non-emergency stationary CI RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations in Table 2c to this subpart and the operating limitations in Table 2b to this subpart which apply to you.

[73 FR 3605, Jan. 18, 2008, as amended at 75 FR 9675, Mar. 3, 2010]

§ 63.6601 What emission limitations must I meet if I own or operate a new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 brake HP and less than or equal to 500 brake HP located at a major source of HAP emissions?

Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in § 63.6620 and Table 4 to this subpart. If you own or operate a new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at major source of HAP emissions manufactured on or after January 1, 2008, you must comply with the emission limitations in Table 2a to this subpart and the operating limitations in Table 2b to this subpart which apply to you.

[73 FR 3605, Jan. 18, 2008, as amended at 75 FR 9675, Mar. 3, 2010; 75 FR 51589, Aug. 20, 2010]

§ 63.6602 What emission limitations and other requirements must I meet if I own or operate an existing stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions?

If you own or operate an existing stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations and other requirements in Table 2c to this subpart which apply to you. Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in § 63.6620 and Table 4 to this subpart.

[78 FR 6701, Jan. 30, 2013]

§ 63.6603 What emission limitations, operating limitations, and other requirements must I meet if I own or operate an existing stationary RICE located at an area source of HAP emissions?

Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in § 63.6620 and Table 4 to this subpart.

(a) If you own or operate an existing stationary RICE located at an area source of HAP emissions, you must comply with the requirements in Table 2d to this subpart and the operating limitations in Table 2b to this subpart that apply to you.

(b) If you own or operate an existing stationary non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP that meets either paragraph (b)(1) or (2) of this section, you do not have to meet the numerical CO emission limitations specified in Table 2d of this subpart. Existing stationary non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP that meet either paragraph (b)(1) or (2) of this section must meet the management practices that are shown for stationary non-emergency CI RICE with a site rating of less than or equal to 300 HP in Table 2d of this subpart.

(1) The area source is located in an area of Alaska that is not accessible by the Federal Aid Highway System (FAHS).

(2) The stationary RICE is located at an area source that meets paragraphs (b)(2)(i), (ii), and (iii) of this section.

(i) The only connection to the FAHS is through the Alaska Marine Highway System (AMHS), or the stationary RICE operation is within an isolated grid in Alaska that is not connected to the statewide electrical grid referred to as the Alaska Railbelt Grid.

(ii) At least 10 percent of the power generated by the stationary RICE on an annual basis is used for residential purposes.

(iii) The generating capacity of the area source is less than 12 megawatts, or the stationary RICE is used exclusively for backup power for renewable energy.

(c) If you own or operate an existing stationary non-emergency CI RICE with a site rating of more than 300 HP located on an offshore vessel that is an area source of HAP and is a nonroad vehicle that is an Outer Continental Shelf (OCS) source as defined in 40 CFR 55.2, you do not have to meet the numerical CO emission limitations specified in Table 2d of this subpart. You must meet all of the following management practices:

(1) Change oil every 1,000 hours of operation or annually, whichever comes first. Sources have the option to utilize an oil analysis program as described in § 63.6625(i) in order to extend the specified oil change requirement.

(2) Inspect and clean air filters every 750 hours of operation or annually, whichever comes first, and replace as necessary.

(3) Inspect fuel filters and belts, if installed, every 750 hours of operation or annually, whichever comes first, and replace as necessary.

(4) Inspect all flexible hoses every 1,000 hours of operation or annually, whichever comes first, and replace as necessary.

(d) If you own or operate an existing non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP emissions that is certified to the Tier 1 or Tier 2 emission standards in Table 1 of 40 CFR 89.112 and that is subject to an enforceable state or local standard that requires the engine to be replaced no later than June 1, 2018, you may until January 1, 2015, or 12 years after the installation date of the engine (whichever is later), but not later than June 1, 2018, choose to comply with the management practices that are shown for stationary non-emergency CI RICE with a site rating of less than or equal to 300 HP in Table 2d of this subpart instead of the applicable emission limitations in Table 2d, operating limitations in Table 2b, and crankcase ventilation system requirements in § 63.6625(g). You must comply with the emission limitations in Table 2d and operating limitations in Table 2b that apply for non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP emissions by January 1, 2015, or 12 years after the installation date of the engine (whichever is later), but not later than June 1, 2018. You must also comply with the crankcase ventilation system requirements in § 63.6625(g) by January 1, 2015, or 12 years after the installation date of the engine (whichever is later), but not later than June 1, 2018.

(e) If you own or operate an existing non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP emissions that is certified to the Tier 3 (Tier 2 for engines above 560 kilowatt (kW)) emission standards in Table 1 of 40 CFR 89.112, you may comply with the requirements under this part by meeting the requirements for Tier 3 engines (Tier 2 for engines above 560 kW) in 40 CFR part 60 subpart IIII instead of the emission limitations and other requirements that would otherwise apply under this part for existing non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP emissions.

(f) An existing non-emergency SI 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at area sources of HAP must meet the definition of remote stationary RICE in § 63.6675 on the initial compliance date for the engine, October 19, 2013, in order to be considered a remote stationary RICE under this subpart. Owners and operators of existing non-emergency SI 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at area sources of HAP that meet the definition of remote stationary RICE in § 63.6675 of this subpart as of October 19, 2013 must evaluate the status of their stationary RICE every 12 months. Owners and operators must keep records of the initial and annual evaluation of the status of the engine. If the evaluation indicates that the stationary RICE no longer meets the definition of remote stationary RICE in § 63.6675 of this subpart, the owner or operator must comply with all of the requirements for existing non-emergency SI 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at area sources of HAP that are not remote stationary RICE within 1 year of the evaluation.

[75 FR 9675, Mar. 3, 2010, as amended at 75 FR 51589, Aug. 20, 2010; 76 FR 12866, Mar. 9, 2011; 78 FR 6701, Jan. 30, 2013]

§ 63.6604 What fuel requirements must I meet if I own or operate a stationary CI RICE?

(a) If you own or operate an existing non-emergency, non-black start CI stationary RICE with a site rating of more than 300 brake HP with a displacement of less than 30 liters per cylinder that uses diesel fuel, you must use diesel fuel that meets the requirements in 40 CFR 80.510(b) for nonroad diesel fuel.

(b) Beginning January 1, 2015, if you own or operate an existing emergency CI stationary RICE with a site rating of more than 100 brake HP and a displacement of less than 30 liters per cylinder that uses diesel fuel and operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in § 63.6640(f)(2)(ii) and (iii) or that operates for the purpose specified in § 63.6640(f)(4)(ii), you must use diesel fuel that meets the requirements in 40 CFR 80.510(b) for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to January 1, 2015, may be used until depleted.

(c) Beginning January 1, 2015, if you own or operate a new emergency CI stationary RICE with a site rating of more than 500 brake HP and a displacement of less than 30 liters per cylinder located at a major source of HAP that uses diesel fuel and operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in § 63.6640(f)(2)(ii) and (iii), you must use diesel fuel that meets the requirements in 40 CFR 80.510(b) for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to January 1, 2015, may be used until depleted.

(d) Existing CI stationary RICE located in Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, at area sources in areas of Alaska that meet either § 63.6603(b)(1) or § 63.6603(b)(2), or are on offshore vessels that meet § 63.6603(c) are exempt from the requirements of this section.

[78 FR 6702, Jan. 30, 2013]

General Compliance Requirements

§ 63.6605 What are my general requirements for complying with this subpart?

(a) You must be in compliance with the emission limitations, operating limitations, and other requirements in this subpart that apply to you at all times.

(b) At all times you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

[75 FR 9675, Mar. 3, 2010, as amended at 78 FR 6702, Jan. 30, 2013]

Testing and Initial Compliance Requirements

§ 63.6610 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions?

If you own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions you are subject to the requirements of this section.

(a) You must conduct the initial performance test or other initial compliance demonstrations in Table 4 to this subpart that apply to you within 180 days after the compliance date that is specified for your stationary RICE in § 63.6595 and according to the provisions in § 63.7(a)(2).

(b) If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004 and own or operate stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must demonstrate initial compliance with either the proposed emission limitations or the promulgated emission limitations no later than February 10, 2005 or no later than 180 days after startup of the source, whichever is later, according to § 63.7(a)(2)(ix).

(c) If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004 and own or operate stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, and you chose to comply with the proposed emission limitations when demonstrating initial compliance, you must conduct a second performance test to demonstrate compliance with the promulgated emission limitations by December 13, 2007 or after startup of the source, whichever is later, according to § 63.7(a)(2)(ix).

(d) An owner or operator is not required to conduct an initial performance test on units for which a performance test has been previously conducted, but the test must meet all of the conditions described in paragraphs (d)(1) through (5) of this section.

(1) The test must have been conducted using the same methods specified in this subpart, and these methods must have been followed correctly.

(2) The test must not be older than 2 years.

(3) The test must be reviewed and accepted by the Administrator.

(4) Either no process or equipment changes must have been made since the test was performed, or the owner or operator must be able to demonstrate that the results of the performance test, with or without adjustments, reliably demonstrate compliance despite process or equipment changes.

(5) The test must be conducted at any load condition within plus or minus 10 percent of 100 percent load.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3605, Jan. 18, 2008]

§ 63.6611 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate a new or reconstructed 4SLB SI stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at a major source of HAP emissions?

If you own or operate a new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at a major source of HAP emissions, you must conduct an initial performance test within 240 days after the compliance date that is specified for your stationary RICE in § 63.6595 and according to the provisions specified in Table 4 to this subpart, as appropriate.

[73 FR 3605, Jan. 18, 2008, as amended at 75 FR 51589, Aug. 20, 2010]

§ 63.6612 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate an existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing stationary RICE located at an area source of HAP emissions?

If you own or operate an existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing stationary RICE located at an area source of HAP emissions you are subject to the requirements of this section.

(a) You must conduct any initial performance test or other initial compliance demonstration according to Tables 4 and 5 to this subpart that apply to you within 180 days after the compliance date that is specified for your stationary RICE in § 63.6595 and according to the provisions in § 63.7(a)(2).

(b) An owner or operator is not required to conduct an initial performance test on a unit for which a performance test has been previously conducted, but the test must meet all of the conditions described in paragraphs (b)(1) through (4) of this section.

(1) The test must have been conducted using the same methods specified in this subpart, and these methods must have been followed correctly.

(2) The test must not be older than 2 years.

(3) The test must be reviewed and accepted by the Administrator.

(4) Either no process or equipment changes must have been made since the test was performed, or the owner or operator must be able to demonstrate that the results of the performance test, with or without adjustments, reliably demonstrate compliance despite process or equipment changes.

[75 FR 9676, Mar. 3, 2010, as amended at 75 FR 51589, Aug. 20, 2010]

§ 63.6615 When must I conduct subsequent performance tests?

If you must comply with the emission limitations and operating limitations, you must conduct subsequent performance tests as specified in Table 3 of this subpart.

§ 63.6620 What performance tests and other procedures must I use?

(a) You must conduct each performance test in Tables 3 and 4 of this subpart that applies to you.

(b) Each performance test must be conducted according to the requirements that this subpart specifies in Table 4 to this subpart. If you own or operate a non-operational stationary RICE that is subject to performance testing, you do not need to start up the engine solely to conduct the performance test. Owners and operators of a non-operational engine can conduct the performance test when the engine is started up again. The test must be conducted at any load condition within plus or minus 10 percent of 100 percent load for the stationary RICE listed in paragraphs (b)(1) through (4) of this section.

(1) Non-emergency 4SRB stationary RICE with a site rating of greater than 500 brake HP located at a major source of HAP emissions.

(2) New non-emergency 4SLB stationary RICE with a site rating of greater than or equal to 250 brake HP located at a major source of HAP emissions.

(3) New non-emergency 2SLB stationary RICE with a site rating of greater than 500 brake HP located at a major source of HAP emissions.

(4) New non-emergency CI stationary RICE with a site rating of greater than 500 brake HP located at a major source of HAP emissions.

(c) [Reserved]

(d) You must conduct three separate test runs for each performance test required in this section, as specified in § 63.7(e)(3). Each test run must last at least 1 hour, unless otherwise specified in this subpart.

(e)(1) You must use Equation 1 of this section to determine compliance with the percent reduction requirement:

$$\frac{C_i - C_o}{C_i} \times 100 = R \quad (Eq.\ 1)$$

Where:

C_i = concentration of carbon monoxide (CO), total hydrocarbons (THC), or formaldehyde at the control device inlet,

C_o = concentration of CO, THC, or formaldehyde at the control device outlet, and

R = percent reduction of CO, THC, or formaldehyde emissions.

(2) You must normalize the CO, THC, or formaldehyde concentrations at the inlet and outlet of the control device to a dry basis and to 15 percent oxygen, or an equivalent percent carbon dioxide (CO_2). If pollutant concentrations are to be corrected to 15 percent oxygen and CO_2 concentration is measured in lieu of oxygen concentration measurement, a CO_2 correction factor is needed. Calculate the CO_2 correction factor as described in paragraphs (e)(2)(i) through (iii) of this section.

(i) Calculate the fuel-specific F_o value for the fuel burned during the test using values obtained from Method 19, Section 5.2, and the following equation:

$$F_o = \frac{0.209\ F_d}{F_c} \quad (Eq.\ 2)$$

Where:

F_o = Fuel factor based on the ratio of oxygen volume to the ultimate CO_2 volume produced by the fuel at zero percent excess air.

0.209 = Fraction of air that is oxygen, percent/100.

F_d = Ratio of the volume of dry effluent gas to the gross calorific value of the fuel from Method 19, dsm^3 /J ($dscf/10^6$ Btu).

F_c = Ratio of the volume of CO_2 produced to the gross calorific value of the fuel from Method 19, dsm^3 /J ($dscf/10^6$ Btu)

(ii) Calculate the CO_2 correction factor for correcting measurement data to 15 percent O_2 , as follows:

$$X_{CO2} = \frac{5.9}{F_O} \quad (Eq. 3)$$

Where:

X_{CO2} = CO_2 correction factor, percent.

5.9 = 20.9 percent O_2 —15 percent O_2 , the defined O_2 correction value, percent.

(iii) Calculate the CO, THC, and formaldehyde gas concentrations adjusted to 15 percent O_2 using CO_2 as follows:

$$C_{adj} = C_d \frac{X_{CO2}}{\%CO_2} \quad (Eq. 4)$$

Where:

C_{adj} = Calculated concentration of CO, THC, or formaldehyde adjusted to 15 percent $O_{2.}$

C_d = Measured concentration of CO, THC, or formaldehyde, uncorrected.

X_{CO2} = CO_2 correction factor, percent.

$\%CO_2$ = Measured CO_2 concentration measured, dry basis, percent.

(f) If you comply with the emission limitation to reduce CO and you are not using an oxidation catalyst, if you comply with the emission limitation to reduce formaldehyde and you are not using NSCR, or if you comply with the emission limitation to limit the concentration of formaldehyde in the stationary RICE exhaust and you are not using an oxidation catalyst or NSCR, you must petition the Administrator for operating limitations to be established during the initial performance test and continuously monitored thereafter; or for approval of no operating limitations. You must not conduct the initial performance test until after the petition has been approved by the Administrator.

(g) If you petition the Administrator for approval of operating limitations, your petition must include the information described in paragraphs (g)(1) through (5) of this section.

(1) Identification of the specific parameters you propose to use as operating limitations;

(2) A discussion of the relationship between these parameters and HAP emissions, identifying how HAP emissions change with changes in these parameters, and how limitations on these parameters will serve to limit HAP emissions;

(3) A discussion of how you will establish the upper and/or lower values for these parameters which will establish the limits on these parameters in the operating limitations;

(4) A discussion identifying the methods you will use to measure and the instruments you will use to monitor these parameters, as well as the relative accuracy and precision of these methods and instruments; and

(5) A discussion identifying the frequency and methods for recalibrating the instruments you will use for monitoring these parameters.

(h) If you petition the Administrator for approval of no operating limitations, your petition must include the information described in paragraphs (h)(1) through (7) of this section.

(1) Identification of the parameters associated with operation of the stationary RICE and any emission control device which could change intentionally (*e.g.,* operator adjustment, automatic controller adjustment, etc.) or unintentionally (*e.g.,* wear and tear, error, etc.) on a routine basis or over time;

(2) A discussion of the relationship, if any, between changes in the parameters and changes in HAP emissions;

(3) For the parameters which could change in such a way as to increase HAP emissions, a discussion of whether establishing limitations on the parameters would serve to limit HAP emissions;

(4) For the parameters which could change in such a way as to increase HAP emissions, a discussion of how you could establish upper and/or lower values for the parameters which would establish limits on the parameters in operating limitations;

(5) For the parameters, a discussion identifying the methods you could use to measure them and the instruments you could use to monitor them, as well as the relative accuracy and precision of the methods and instruments;

(6) For the parameters, a discussion identifying the frequency and methods for recalibrating the instruments you could use to monitor them; and

(7) A discussion of why, from your point of view, it is infeasible or unreasonable to adopt the parameters as operating limitations.

(i) The engine percent load during a performance test must be determined by documenting the calculations, assumptions, and measurement devices used to measure or estimate the percent load in a specific application. A written report of the average percent load determination must be included in the notification of compliance status. The following information must be included in the written report: the engine model number, the engine manufacturer, the year of purchase, the manufacturer's site-rated brake horsepower, the ambient temperature, pressure, and humidity during the performance test, and all assumptions that were made to estimate or calculate percent load during the performance test must be clearly explained. If measurement devices such as flow meters, kilowatt meters, beta analyzers, stain gauges, etc. are used, the model number of the measurement device, and an estimate of its accurate in percentage of true value must be provided.

[69 FR 33506, June 15, 2004, as amended at 75 FR 9676, Mar. 3, 2010; 78 FR 6702, Jan. 30, 2013]

§ 63.6625 What are my monitoring, installation, collection, operation, and maintenance requirements?

(a) If you elect to install a CEMS as specified in Table 5 of this subpart, you must install, operate, and maintain a CEMS to monitor CO and either O_2 or CO_2 according to the requirements in paragraphs (a)(1) through (4) of this section. If you are meeting a requirement to reduce CO emissions, the CEMS must be installed at both the inlet and outlet of the control device. If you are meeting a requirement to limit the concentration of CO, the CEMS must be installed at the outlet of the control device.

(1) Each CEMS must be installed, operated, and maintained according to the applicable performance specifications of 40 CFR part 60, appendix B.

(2) You must conduct an initial performance evaluation and an annual relative accuracy test audit (RATA) of each CEMS according to the requirements in § 63.8 and according to the applicable performance specifications of 40 CFR part 60, appendix B as well as daily and periodic data quality checks in accordance with 40 CFR part 60, appendix F, procedure 1.

(3) As specified in § 63.8(c)(4)(ii), each CEMS must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period. You must have at least two data points, with each representing a different 15-minute period, to have a valid hour of data.

(4) The CEMS data must be reduced as specified in § 63.8(g)(2) and recorded in parts per million or parts per billion (as appropriate for the applicable limitation) at 15 percent oxygen or the equivalent CO_2 concentration.

(b) If you are required to install a continuous parameter monitoring system (CPMS) as specified in Table 5 of this subpart, you must install, operate, and maintain each CPMS according to the requirements in paragraphs (b)(1) through (6) of this section. For an affected source that is complying with the emission limitations and operating limitations on March 9, 2011, the requirements in paragraph (b) of this section are applicable September 6, 2011.

(1) You must prepare a site-specific monitoring plan that addresses the monitoring system design, data collection, and the quality assurance and quality control elements outlined in paragraphs (b)(1)(i) through (v) of this section and in § 63.8(d). As specified in § 63.8(f)(4), you may request approval of monitoring system quality assurance and quality control procedures alternative to those specified in paragraphs (b)(1) through (5) of this section in your site-specific monitoring plan.

(i) The performance criteria and design specifications for the monitoring system equipment, including the sample interface, detector signal analyzer, and data acquisition and calculations;

(ii) Sampling interface (*e.g.,* thermocouple) location such that the monitoring system will provide representative measurements;

(iii) Equipment performance evaluations, system accuracy audits, or other audit procedures;

(iv) Ongoing operation and maintenance procedures in accordance with provisions in § 63.8(c)(1)(ii) and (c)(3); and

(v) Ongoing reporting and recordkeeping procedures in accordance with provisions in § 63.10(c), (e)(1), and (e)(2)(i).

(2) You must install, operate, and maintain each CPMS in continuous operation according to the procedures in your site-specific monitoring plan.

(3) The CPMS must collect data at least once every 15 minutes (see also § 63.6635).

(4) For a CPMS for measuring temperature range, the temperature sensor must have a minimum tolerance of 2.8 degrees Celsius (5 degrees Fahrenheit) or 1 percent of the measurement range, whichever is larger.

(5) You must conduct the CPMS equipment performance evaluation, system accuracy audits, or other audit procedures specified in your site-specific monitoring plan at least annually.

(6) You must conduct a performance evaluation of each CPMS in accordance with your site-specific monitoring plan.

(c) If you are operating a new or reconstructed stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, you must monitor and record your fuel usage daily with separate fuel meters to measure the volumetric flow rate of each fuel. In addition, you must operate your stationary RICE in a manner which reasonably minimizes HAP emissions.

(d) If you are operating a new or reconstructed emergency 4SLB stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at a major source of HAP emissions, you must install a non-resettable hour meter prior to the startup of the engine.

(e) If you own or operate any of the following stationary RICE, you must operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions:

(1) An existing stationary RICE with a site rating of less than 100 HP located at a major source of HAP emissions;

(2) An existing emergency or black start stationary RICE with a site rating of less than or equal to 500 HP located at a major source of HAP emissions;

(3) An existing emergency or black start stationary RICE located at an area source of HAP emissions;

(4) An existing non-emergency, non-black start stationary CI RICE with a site rating less than or equal to 300 HP located at an area source of HAP emissions;

(5) An existing non-emergency, non-black start 2SLB stationary RICE located at an area source of HAP emissions;

(6) An existing non-emergency, non-black start stationary RICE located at an area source of HAP emissions which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis.

(7) An existing non-emergency, non-black start 4SLB stationary RICE with a site rating less than or equal to 500 HP located at an area source of HAP emissions;

(8) An existing non-emergency, non-black start 4SRB stationary RICE with a site rating less than or equal to 500 HP located at an area source of HAP emissions;

(9) An existing, non-emergency, non-black start 4SLB stationary RICE with a site rating greater than 500 HP located at an area source of HAP emissions that is operated 24 hours or less per calendar year; and

(10) An existing, non-emergency, non-black start 4SRB stationary RICE with a site rating greater than 500 HP located at an area source of HAP emissions that is operated 24 hours or less per calendar year.

(f) If you own or operate an existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing emergency stationary RICE located at an area source of HAP emissions, you must install a non-resettable hour meter if one is not already installed.

(g) If you own or operate an existing non-emergency, non-black start CI engine greater than or equal to 300 HP that is not equipped with a closed crankcase ventilation system, you must comply with either paragraph (g)(1) or paragraph (2) of this section. Owners and operators must follow the manufacturer's specified maintenance requirements for operating and maintaining the open or closed crankcase ventilation systems and replacing the crankcase filters, or can request the Administrator to approve different maintenance requirements that are as protective as manufacturer requirements. Existing CI engines located at area sources in areas of Alaska that meet either § 63.6603(b)(1) or § 63.6603(b)(2) do not have to meet the requirements of this paragraph (g). Existing CI engines located on offshore vessels that meet § 63.6603(c) do not have to meet the requirements of this paragraph (g).

(1) Install a closed crankcase ventilation system that prevents crankcase emissions from being emitted to the atmosphere, or

(2) Install an open crankcase filtration emission control system that reduces emissions from the crankcase by filtering the exhaust stream to remove oil mist, particulates and metals.

(h) If you operate a new, reconstructed, or existing stationary engine, you must minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the emission standards applicable to all times other than startup in Tables 1a, 2a, 2c, and 2d to this subpart apply.

(i) If you own or operate a stationary CI engine that is subject to the work, operation or management practices in items 1 or 2 of Table 2c to this subpart or in items 1 or 4 of Table 2d to this subpart, you have the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d to this subpart. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Base Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30 percent of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 business days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 business days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine.

(j) If you own or operate a stationary SI engine that is subject to the work, operation or management practices in items 6, 7, or 8 of Table 2c to this subpart or in items 5, 6, 7, 9, or 11 of Table 2d to this subpart, you have the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d to this subpart. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Acid Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Acid Number increases by more than 3.0 milligrams of potassium hydroxide (KOH) per gram from Total Acid Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 business days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 business days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3606, Jan. 18, 2008; 75 FR 9676, Mar. 3, 2010; 75 FR 51589, Aug. 20, 2010; 76 FR 12866, Mar. 9, 2011; 78 FR 6703, Jan. 30, 2013]

§ 63.6630 How do I demonstrate initial compliance with the emission limitations, operating limitations, and other requirements?

(a) You must demonstrate initial compliance with each emission limitation, operating limitation, and other requirement that applies to you according to Table 5 of this subpart.

(b) During the initial performance test, you must establish each operating limitation in Tables 1b and 2b of this subpart that applies to you.

(c) You must submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in § 63.6645.

(d) Non-emergency 4SRB stationary RICE complying with the requirement to reduce formaldehyde emissions by 76 percent or more can demonstrate initial compliance with the formaldehyde emission limit by testing for THC instead of formaldehyde. The testing must be conducted according to the requirements in Table 4 of this subpart. The average reduction of emissions of THC determined from the performance test must be equal to or greater than 30 percent.

(e) The initial compliance demonstration required for existing non-emergency 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at an area source of HAP that are not remote stationary RICE and that are operated more than 24 hours per calendar year must be conducted according to the following requirements:

(1) The compliance demonstration must consist of at least three test runs.

(2) Each test run must be of at least 15 minute duration, except that each test conducted using the method in appendix A to this subpart must consist of at least one measurement cycle and include at least 2 minutes of test data phase measurement.

(3) If you are demonstrating compliance with the CO concentration or CO percent reduction requirement, you must measure CO emissions using one of the CO measurement methods specified in Table 4 of this subpart, or using appendix A to this subpart.

(4) If you are demonstrating compliance with the THC percent reduction requirement, you must measure THC emissions using Method 25A, reported as propane, of 40 CFR part 60, appendix A.

(5) You must measure O_2 using one of the O_2 measurement methods specified in Table 4 of this subpart. Measurements to determine O_2 concentration must be made at the same time as the measurements for CO or THC concentration.

(6) If you are demonstrating compliance with the CO or THC percent reduction requirement, you must measure CO or THC emissions and O_2 emissions simultaneously at the inlet and outlet of the control device.

[69 FR 33506, June 15, 2004, as amended at 78 FR 6704, Jan. 30, 2013]

Continuous Compliance Requirements

§ 63.6635 How do I monitor and collect data to demonstrate continuous compliance?

(a) If you must comply with emission and operating limitations, you must monitor and collect data according to this section.

(b) Except for monitor malfunctions, associated repairs, required performance evaluations, and required quality assurance or control activities, you must monitor continuously at all times that the stationary RICE is operating. 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) You may not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities in data averages and calculations used to report emission or operating levels. You must, however, use all the valid data collected during all other periods.

[69 FR 33506, June 15, 2004, as amended at 76 FR 12867, Mar. 9, 2011]

§ 63.6640 How do I demonstrate continuous compliance with the emission limitations, operating limitations, and other requirements?

(a) You must demonstrate continuous compliance with each emission limitation, operating limitation, and other requirements in Tables 1a and 1b, Tables 2a and 2b, Table 2c, and Table 2d to this subpart that apply to you according to methods specified in Table 6 to this subpart.

(b) You must report each instance in which you did not meet each emission limitation or operating limitation in Tables 1a and 1b, Tables 2a and 2b, Table 2c, and Table 2d to this subpart that apply to you. These instances are deviations from the emission and operating limitations in this subpart. These deviations must be reported according to the requirements in § 63.6650. If you change your catalyst, you must reestablish the values of the operating parameters measured during the initial performance test. When you reestablish the values of your operating parameters, you must also conduct a performance test to demonstrate that you are meeting the required emission limitation applicable to your stationary RICE.

(c) The annual compliance demonstration required for existing non-emergency 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at an area source of HAP that are not remote stationary RICE and that are operated more than 24 hours per calendar year must be conducted according to the following requirements:

(1) The compliance demonstration must consist of at least one test run.

(2) Each test run must be of at least 15 minute duration, except that each test conducted using the method in appendix A to this subpart must consist of at least one measurement cycle and include at least 2 minutes of test data phase measurement.

(3) If you are demonstrating compliance with the CO concentration or CO percent reduction requirement, you must measure CO emissions using one of the CO measurement methods specified in Table 4 of this subpart, or using appendix A to this subpart.

(4) If you are demonstrating compliance with the THC percent reduction requirement, you must measure THC emissions using Method 25A, reported as propane, of 40 CFR part 60, appendix A.

(5) You must measure O_2 using one of the O_2 measurement methods specified in Table 4 of this subpart. Measurements to determine O_2 concentration must be made at the same time as the measurements for CO or THC concentration.

(6) If you are demonstrating compliance with the CO or THC percent reduction requirement, you must measure CO or THC emissions and O_2 emissions simultaneously at the inlet and outlet of the control device.

(7) If the results of the annual compliance demonstration show that the emissions exceed the levels specified in Table 6 of this subpart, the stationary RICE must be shut down as soon as safely possible, and appropriate corrective action must be taken (e.g., repairs, catalyst cleaning, catalyst replacement). The stationary RICE must be retested within 7 days of being restarted and the emissions must meet the levels specified in Table 6 of this subpart. If the retest shows that the emissions continue to exceed the specified levels, the stationary RICE must again be shut down as soon as safely possible, and the stationary RICE may not operate, except for purposes of startup and testing, until the owner/operator demonstrates through testing that the emissions do not exceed the levels specified in Table 6 of this subpart.

(d) For new, reconstructed, and rebuilt stationary RICE, deviations from the emission or operating limitations that occur during the first 200 hours of operation from engine startup (engine burn-in period) are not violations. Rebuilt stationary RICE means a stationary RICE that has been rebuilt as that term is defined in 40 CFR 94.11(a).

(e) You must also report each instance in which you did not meet the requirements in Table 8 to this subpart that apply to you. If you own or operate a new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions (except new or reconstructed 4SLB engines greater than or equal to 250 and less than or equal to 500 brake HP), a new or reconstructed stationary RICE located at an area source of HAP emissions, or any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in Table 8 to this subpart: An existing 2SLB stationary RICE, an existing 4SLB stationary RICE, an existing emergency stationary RICE, an existing limited use stationary RICE, or an existing stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis. If you own or operate any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in Table 8 to this subpart, except for the initial notification requirements: a new or reconstructed stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, a new or reconstructed emergency stationary RICE, or a new or reconstructed limited use stationary RICE.

(f) If you own or operate an emergency stationary RICE, you must operate the emergency stationary RICE according to the requirements in paragraphs (f)(1) through (4) of this section. In order for the engine to be considered an emergency stationary RICE under this subpart, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (f)(1) through (4) of this section, is prohibited. If you do not operate the engine according to the requirements in paragraphs (f)(1) through (4) of this section, the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines.

(1) There is no time limit on the use of emergency stationary RICE in emergency situations.

(2) You may operate your emergency stationary RICE for any combination of the purposes specified in paragraphs (f)(2)(i) through (iii) of this section for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraphs (f)(3) and (4) of this section counts as part of the 100 hours per calendar year allowed by this paragraph (f)(2).

(i) Emergency stationary RICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency RICE beyond 100 hours per calendar year.

(ii) Emergency stationary RICE may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies (incorporated by reference, see § 63.14), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3.

(iii) Emergency stationary RICE may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency.

(3) Emergency stationary RICE located at major sources of HAP may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in paragraph (f)(2) of this section. The 50 hours per year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

(4) Emergency stationary RICE located at area sources of HAP may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in paragraph (f)(2) of this section. Except as provided in paragraphs (f)(4)(i) and (ii) of this section, the 50 hours per year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

(i) Prior to May 3, 2014, the 50 hours per year for non-emergency situations can be used for peak shaving or non-emergency demand response to generate income for a facility, or to otherwise supply power as part of a financial arrangement with another entity if the engine is operated as part of a peak shaving (load management program) with the local distribution system operator and the power is provided only to the facility itself or to support the local distribution system.

(ii) The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met:

(A) The engine is dispatched by the local balancing authority or local transmission and distribution system operator.

(B) The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region.

(C) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines.

(D) The power is provided only to the facility itself or to support the local transmission and distribution system.

(E) The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator.

[69 FR 33506, June 15, 2004, as amended at 71 FR 20467, Apr. 20, 2006; 73 FR 3606, Jan. 18, 2008; 75 FR 9676, Mar. 3, 2010; 75 FR 51591, Aug. 20, 2010; 78 FR 6704, Jan. 30, 2013]

Notifications, Reports, and Records

§ 63.6645 What notifications must I submit and when?

(a) You must submit all of the notifications in §§ 63.7(b) and (c), 63.8(e), (f)(4) and (f)(6), 63.9(b) through (e), and (g) and (h) that apply to you by the dates specified if you own or operate any of the following;

(1) An existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions.

(2) An existing stationary RICE located at an area source of HAP emissions.

(3) A stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions.

(4) A new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 HP located at a major source of HAP emissions.

(5) This requirement does not apply if you own or operate an existing stationary RICE less than 100 HP, an existing stationary emergency RICE, or an existing stationary RICE that is not subject to any numerical emission standards.

(b) As specified in § 63.9(b)(2), if you start up your stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions before the effective date of this subpart, you must submit an Initial Notification not later than December 13, 2004.

(c) If you start up your new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions on or after August 16, 2004, you must submit an Initial Notification not later than 120 days after you become subject to this subpart.

(d) As specified in § 63.9(b)(2), if you start up your stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions before the effective date of this subpart and you are required to submit an initial notification, you must submit an Initial Notification not later than July 16, 2008.

(e) If you start up your new or reconstructed stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions on or after March 18, 2008 and you are required to submit an initial notification, you must submit an Initial Notification not later than 120 days after you become subject to this subpart.

(f) If you are required to submit an Initial Notification but are otherwise not affected by the requirements of this subpart, in accordance with § 63.6590(b), your notification should include the information in § 63.9(b)(2)(i) through (v), and a statement that your stationary RICE has no additional requirements and explain the basis of the exclusion (for example, that it operates exclusively as an emergency stationary RICE if it has a site rating of more than 500 brake HP located at a major source of HAP emissions).

(g) If you are required to conduct a performance test, you must submit a Notification of Intent to conduct a performance test at least 60 days before the performance test is scheduled to begin as required in § 63.7(b)(1).

(h) If you are required to conduct a performance test or other initial compliance demonstration as specified in Tables 4 and 5 to this subpart, you must submit a Notification of Compliance Status according to § 63.9(h)(2)(ii).

(1) For each initial compliance demonstration required in Table 5 to this subpart that does not include a performance test, you must submit the Notification of Compliance Status before the close of business on the 30th day following the completion of the initial compliance demonstration.

(2) For each initial compliance demonstration required in Table 5 to this subpart that includes a performance test conducted according to the requirements in Table 3 to this subpart, you must submit the Notification of Compliance Status, including the performance test results, before the close of business on the 60th day following the completion of the performance test according to § 63.10(d)(2).

(i) If you own or operate an existing non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP emissions that is certified to the Tier 1 or Tier 2 emission standards in Table 1 of 40 CFR 89.112 and subject to an enforceable state or local standard requiring engine replacement and you intend to meet management practices rather than emission limits, as specified in § 63.6603(d), you must submit a notification by March 3, 2013, stating that you intend to use the provision in § 63.6603(d) and identifying the state or local regulation that the engine is subject to.

[73 FR 3606, Jan. 18, 2008, as amended at 75 FR 9677, Mar. 3, 2010; 75 FR 51591, Aug. 20, 2010; 78 FR 6705, Jan. 30, 2013]

§ 63.6650 What reports must I submit and when?

(a) You must submit each report in Table 7 of this subpart that applies to you.

(b) Unless the Administrator has approved a different schedule for submission of reports under § 63.10(a), you must submit each report by the date in Table 7 of this subpart and according to the requirements in paragraphs (b)(1) through (b)(9) of this section.

(1) For semiannual Compliance reports, the first Compliance report must cover the period beginning on the compliance date that is specified for your affected source in § 63.6595 and ending on June 30 or

December 31, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for your source in § 63.6595.

(2) For semiannual Compliance reports, the first Compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date follows the end of the first calendar half after the compliance date that is specified for your affected source in § 63.6595.

(3) For semiannual Compliance reports, each subsequent Compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

(4) For semiannual Compliance reports, each subsequent Compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period.

(5) For each stationary RICE that is subject to permitting regulations pursuant to 40 CFR part 70 or 71, and if the permitting authority has established dates for submitting semiannual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6 (a)(3)(iii)(A), you may submit the first and subsequent Compliance reports according to the dates the permitting authority has established instead of according to the dates in paragraphs (b)(1) through (b)(4) of this section.

(6) For annual Compliance reports, the first Compliance report must cover the period beginning on the compliance date that is specified for your affected source in § 63.6595 and ending on December 31.

(7) For annual Compliance reports, the first Compliance report must be postmarked or delivered no later than January 31 following the end of the first calendar year after the compliance date that is specified for your affected source in § 63.6595.

(8) For annual Compliance reports, each subsequent Compliance report must cover the annual reporting period from January 1 through December 31.

(9) For annual Compliance reports, each subsequent Compliance report must be postmarked or delivered no later than January 31.

(c) The Compliance report must contain the information in paragraphs (c)(1) through (6) of this section.

(1) Company name and address.

(2) Statement by a responsible official, with that official's name, title, and signature, certifying the accuracy of the content of the report.

(3) Date of report and beginning and ending dates of the reporting period.

(4) If you had a malfunction during the reporting period, the compliance report must include the number, duration, and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. The report must also include a description of actions taken by an owner or operator during a malfunction of an affected source to minimize emissions in accordance with § 63.6605(b), including actions taken to correct a malfunction.

(5) If there are no deviations from any emission or operating limitations that apply to you, a statement that there were no deviations from the emission or operating limitations during the reporting period.

(6) If there were no periods during which the continuous monitoring system (CMS), including CEMS and CPMS, was out-of-control, as specified in § 63.8(c)(7), a statement that there were no periods during which the CMS was out-of-control during the reporting period.

(d) For each deviation from an emission or operating limitation that occurs for a stationary RICE where you are not using a CMS to comply with the emission or operating limitations in this subpart, the Compliance report must contain the information in paragraphs (c)(1) through (4) of this section and the information in paragraphs (d)(1) and (2) of this section.

(1) The total operating time of the stationary RICE at which the deviation occurred during the reporting period.

(2) Information on the number, duration, and cause of deviations (including unknown cause, if applicable), as applicable, and the corrective action taken.

(e) For each deviation from an emission or operating limitation occurring for a stationary RICE where you are using a CMS to comply with the emission and operating limitations in this subpart, you must include information in paragraphs (c)(1) through (4) and (e)(1) through (12) of this section.

(1) The date and time that each malfunction started and stopped.

(2) The date, time, and duration that each CMS was inoperative, except for zero (low-level) and high-level checks.

(3) The date, time, and duration that each CMS was out-of-control, including the information in § 63.8(c)(8).

(4) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of malfunction or during another period.

(5) A summary of the total duration of the deviation during the reporting period, and the total duration as a percent of the total source operating time during that reporting period.

(6) A breakdown of the total duration of the deviations during the reporting period into those that are due to control equipment problems, process problems, other known causes, and other unknown causes.

(7) A summary of the total duration of CMS downtime during the reporting period, and the total duration of CMS downtime as a percent of the total operating time of the stationary RICE at which the CMS downtime occurred during that reporting period.

(8) An identification of each parameter and pollutant (CO or formaldehyde) that was monitored at the stationary RICE.

(9) A brief description of the stationary RICE.

(10) A brief description of the CMS.

(11) The date of the latest CMS certification or audit.

(12) A description of any changes in CMS, processes, or controls since the last reporting period.

(f) Each affected source that has obtained a title V operating permit pursuant to 40 CFR part 70 or 71 must report all deviations as defined in this subpart in the semiannual monitoring report required by 40 CFR 70.6 (a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A). If an affected source submits a Compliance report pursuant to Table 7 of this subpart along with, or as part of, the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), and the Compliance report includes all required information concerning deviations from any emission or operating limitation in this subpart, submission of the Compliance report shall be deemed to satisfy any obligation to report the same deviations in the semiannual monitoring report. However, submission of a Compliance report shall not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the permit authority.

(g) If you are operating as a new or reconstructed stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, you must submit an annual report according to Table 7 of this subpart by the date specified unless the Administrator has approved a different schedule, according to the information described in paragraphs (b)(1) through (b)(5) of this section. You must report the data specified in (g)(1) through (g)(3) of this section.

(1) Fuel flow rate of each fuel and the heating values that were used in your calculations. You must also demonstrate that the percentage of heat input provided by landfill gas or digester gas is equivalent to 10 percent or more of the total fuel consumption on an annual basis.

(2) The operating limits provided in your federally enforceable permit, and any deviations from these limits.

(3) Any problems or errors suspected with the meters.

(h) If you own or operate an emergency stationary RICE with a site rating of more than 100 brake HP that operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in § 63.6640(f)(2)(ii) and (iii) or that operates for the purpose specified in § 63.6640(f)(4)(ii), you must submit an annual report according to the requirements in paragraphs (h)(1) through (3) of this section.

(1) The report must contain the following information:

(i) Company name and address where the engine is located.

(ii) Date of the report and beginning and ending dates of the reporting period.

(iii) Engine site rating and model year.

(iv) Latitude and longitude of the engine in decimal degrees reported to the fifth decimal place.

(v) Hours operated for the purposes specified in § 63.6640(f)(2)(ii) and (iii), including the date, start time, and end time for engine operation for the purposes specified in § 63.6640(f)(2)(ii) and (iii).

(vi) Number of hours the engine is contractually obligated to be available for the purposes specified in § 63.6640(f)(2)(ii) and (iii).

(vii) Hours spent for operation for the purpose specified in § 63.6640(f)(4)(ii), including the date, start time, and end time for engine operation for the purposes specified in § 63.6640(f)(4)(ii). The report must also identify the entity that dispatched the engine and the situation that necessitated the dispatch of the engine.

(viii) If there were no deviations from the fuel requirements in § 63.6604 that apply to the engine (if any), a statement that there were no deviations from the fuel requirements during the reporting period.

(ix) If there were deviations from the fuel requirements in § 63.6604 that apply to the engine (if any), information on the number, duration, and cause of deviations, and the corrective action taken.

(2) The first annual report must cover the calendar year 2015 and must be submitted no later than March 31, 2016. Subsequent annual reports for each calendar year must be submitted no later than March 31 of the following calendar year.

(3) The annual report must be submitted electronically using the subpart specific reporting form in the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (*www.epa.gov/cdx*). However, if the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, the written report must be submitted to the Administrator at the appropriate address listed in § 63.13.

[69 FR 33506, June 15, 2004, as amended at 75 FR 9677, Mar. 3, 2010; 78 FR 6705, Jan. 30, 2013]

§ 63.6655 What records must I keep?

(a) If you must comply with the emission and operating limitations, you must keep the records described in paragraphs (a)(1) through (a)(5), (b)(1) through (b)(3) and (c) of this section.

(1) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted, according to the requirement in § 63.10(b)(2)(xiv).

(2) Records of the occurrence and duration of each malfunction of operation (*i.e.,* process equipment) or the air pollution control and monitoring equipment.

(3) Records of performance tests and performance evaluations as required in § 63.10(b)(2)(viii).

(4) Records of all required maintenance performed on the air pollution control and monitoring equipment.

(5) Records of actions taken during periods of malfunction to minimize emissions in accordance with § 63.6605(b), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

(b) For each CEMS or CPMS, you must keep the records listed in paragraphs (b)(1) through (3) of this section.

(1) Records described in § 63.10(b)(2)(vi) through (xi).

(2) Previous (*i.e.,* superseded) versions of the performance evaluation plan as required in § 63.8(d)(3).

(3) Requests for alternatives to the relative accuracy test for CEMS or CPMS as required in § 63.8(f)(6)(i), if applicable.

(c) If you are operating a new or reconstructed stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, you must keep the records of your daily fuel usage monitors.

(d) You must keep the records required in Table 6 of this subpart to show continuous compliance with each emission or operating limitation that applies to you.

(e) You must keep records of the maintenance conducted on the stationary RICE in order to demonstrate that you operated and maintained the stationary RICE and after-treatment control device (if any) according to your own maintenance plan if you own or operate any of the following stationary RICE;

(1) An existing stationary RICE with a site rating of less than 100 brake HP located at a major source of HAP emissions.

(2) An existing stationary emergency RICE.

(3) An existing stationary RICE located at an area source of HAP emissions subject to management practices as shown in Table 2d to this subpart.

(f) If you own or operate any of the stationary RICE in paragraphs (f)(1) through (2) of this section, you must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The owner or operator must document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation. If the engine is used for the purposes specified in § 63.6640(f)(2)(ii) or (iii) or § 63.6640(f)(4)(ii), the owner or operator must keep records of the notification of the emergency situation, and the date, start time, and end time of engine operation for these purposes.

(1) An existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions that does not meet the standards applicable to non-emergency engines.

(2) An existing emergency stationary RICE located at an area source of HAP emissions that does not meet the standards applicable to non-emergency engines.

[69 FR 33506, June 15, 2004, as amended at 75 FR 9678, Mar. 3, 2010; 75 FR 51592, Aug. 20, 2010; 78 FR 6706, Jan. 30, 2013]

§ 63.6660 In what form and how long must I keep my records?

(a) Your records must be in a form suitable and readily available for expeditious review according to § 63.10(b)(1).

(b) As specified in § 63.10(b)(1), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

(c) You must keep each record readily accessible in hard copy or electronic form for at least 5 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to § 63.10(b)(1).

[69 FR 33506, June 15, 2004, as amended at 75 FR 9678, Mar. 3, 2010]

Other Requirements and Information

§ 63.6665 What parts of the General Provisions apply to me?

Table 8 to this subpart shows which parts of the General Provisions in §§ 63.1 through 63.15 apply to you. If you own or operate a new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions (except new or reconstructed 4SLB engines greater than or equal to 250 and less than or equal to 500 brake HP), a new or reconstructed stationary RICE located at an area source of HAP emissions, or any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with any of the requirements of the General Provisions specified in Table 8: An existing 2SLB stationary RICE, an existing 4SLB stationary RICE, an existing stationary RICE that combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, an existing emergency stationary RICE, or an existing limited use stationary RICE. If you own or operate any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in the General Provisions specified in Table 8 except for the initial notification requirements: A new stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, a new emergency stationary RICE, or a new limited use stationary RICE.

[75 FR 9678, Mar. 3, 2010]

§ 63.6670 Who implements and enforces this subpart?

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

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

(c) The authorities that will not be delegated to State, local, or tribal agencies are:

(1) Approval of alternatives to the non-opacity emission limitations and operating limitations in § 63.6600 under § 63.6(g).

(2) Approval of major alternatives to test methods under § 63.7(e)(2)(ii) and (f) and as defined in § 63.90.

(3) Approval of major alternatives to monitoring under § 63.8(f) and as defined in § 63.90.

(4) Approval of major alternatives to recordkeeping and reporting under § 63.10(f) and as defined in § 63.90.

(5) Approval of a performance test which was conducted prior to the effective date of the rule, as specified in § 63.6610(b).

§ 63.6675 What definitions apply to this subpart?

Terms used in this subpart are defined in the Clean Air Act (CAA); in 40 CFR 63.2, the General Provisions of this part; and in this section as follows:

Alaska Railbelt Grid means the service areas of the six regulated public utilities that extend from Fairbanks to Anchorage and the Kenai Peninsula. These utilities are Golden Valley Electric Association; Chugach Electric Association; Matanuska Electric Association; Homer Electric Association; Anchorage Municipal Light & Power; and the City of Seward Electric System.

Area source means any stationary source of HAP that is not a major source as defined in part 63.

Associated equipment as used in this subpart and as referred to in section 112(n)(4) of the CAA, means equipment associated with an oil or natural gas exploration or production well, and includes all equipment from the well bore to the point of custody transfer, except glycol dehydration units, storage vessels with potential for flash emissions, combustion turbines, and stationary RICE.

Backup power for renewable energy means an engine that provides backup power to a facility that generates electricity from renewable energy resources, as that term is defined in Alaska Statute 42.45.045(l)(5) (incorporated by reference, see § 63.14).

Black start engine means an engine whose only purpose is to start up a combustion turbine.

CAA means the Clean Air Act (42 U.S.C. 7401 *et seq.,* as amended by Public Law 101-549, 104 Stat. 2399).

Commercial emergency stationary RICE means an emergency stationary RICE used in commercial establishments such as office buildings, hotels, stores, telecommunications facilities, restaurants, financial institutions such as banks, doctor's offices, and sports and performing arts facilities.

Compression ignition means relating to a type of stationary internal combustion engine that is not a spark ignition engine.

Custody transfer means the transfer of hydrocarbon liquids or natural gas: After processing and/or treatment in the producing operations, or from storage vessels or automatic transfer facilities or other such equipment, including product loading racks, to pipelines or any other forms of transportation. For the purposes of this subpart, the point at which such liquids or natural gas enters a natural gas processing plant is a point of custody transfer.

Deviation means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:

(1) Fails to meet any requirement or obligation established by this subpart, including but not limited to any emission limitation or operating limitation;

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

(3) Fails to meet any emission limitation or operating limitation in this subpart during malfunction, regardless or whether or not such failure is permitted by this subpart.

(4) Fails to satisfy the general duty to minimize emissions established by § 63.6(e)(1)(i).

Diesel engine means any stationary RICE in which a high boiling point liquid fuel injected into the combustion chamber ignites when the air charge has been compressed to a temperature sufficiently high for auto-ignition. This process is also known as compression ignition.

Diesel fuel means any liquid obtained from the distillation of petroleum with a boiling point of approximately 150 to 360 degrees Celsius. One commonly used form is fuel oil number 2. Diesel fuel also includes any non-distillate fuel with comparable physical and chemical properties (*e.g.* biodiesel) that is suitable for use in compression ignition engines.

Digester gas means any gaseous by-product of wastewater treatment typically formed through the anaerobic decomposition of organic waste materials and composed principally of methane and CO_2 .

Dual-fuel engine means any stationary RICE in which a liquid fuel (typically diesel fuel) is used for compression ignition and gaseous fuel (typically natural gas) is used as the primary fuel.

Emergency stationary RICE means any stationary reciprocating internal combustion engine that meets all of the criteria in paragraphs (1) through (3) of this definition. All emergency stationary RICE must comply with the requirements specified in § 63.6640(f) in order to be considered emergency stationary RICE. If the engine does not comply with the requirements specified in § 63.6640(f), then it is not considered to be an emergency stationary RICE under this subpart.

(1) The stationary RICE is operated to provide electrical power or mechanical work during an emergency situation. Examples include stationary RICE used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary RICE used to pump water in the case of fire or flood, etc.

(2) The stationary RICE is operated under limited circumstances for situations not included in paragraph (1) of this definition, as specified in § 63.6640(f).

(3) The stationary RICE operates as part of a financial arrangement with another entity in situations not included in paragraph (1) of this definition only as allowed in § 63.6640(f)(2)(ii) or (iii) and § 63.6640(f)(4)(i) or (ii).

Engine startup means the time from initial start until applied load and engine and associated equipment reaches steady state or normal operation. For stationary engine with catalytic controls, engine startup means the time from initial start until applied load and engine and associated equipment, including the catalyst, reaches steady state or normal operation.

Four-stroke engine means any type of engine which completes the power cycle in two crankshaft revolutions, with intake and compression strokes in the first revolution and power and exhaust strokes in the second revolution.

Gaseous fuel means a material used for combustion which is in the gaseous state at standard atmospheric temperature and pressure conditions.

Gasoline means any fuel sold in any State for use in motor vehicles and motor vehicle engines, or nonroad or stationary engines, and commonly or commercially known or sold as gasoline.

Glycol dehydration unit means a device in which a liquid glycol (including, but not limited to, ethylene glycol, diethylene glycol, or triethylene glycol) absorbent directly contacts a natural gas stream and absorbs water in a contact tower or absorption column (absorber). The glycol contacts and absorbs water vapor and other gas stream constituents from the natural gas and becomes "rich" glycol. This glycol is then regenerated in the glycol dehydration unit reboiler. The "lean" glycol is then recycled.

Hazardous air pollutants (HAP) means any air pollutants listed in or pursuant to section 112(b) of the CAA.

Institutional emergency stationary RICE means an emergency stationary RICE used in institutional establishments such as medical centers, nursing homes, research centers, institutions of higher education, correctional facilities, elementary and secondary schools, libraries, religious establishments, police stations, and fire stations.

ISO standard day conditions means 288 degrees Kelvin (15 degrees Celsius), 60 percent relative humidity and 101.3 kilopascals pressure.

Landfill gas means a gaseous by-product of the land application of municipal refuse typically formed through the anaerobic decomposition of waste materials and composed principally of methane and CO_2 .

Lean burn engine means any two-stroke or four-stroke spark ignited engine that does not meet the definition of a rich burn engine.

Limited use stationary RICE means any stationary RICE that operates less than 100 hours per year.

Liquefied petroleum gas means any liquefied hydrocarbon gas obtained as a by-product in petroleum refining of natural gas production.

Liquid fuel means any fuel in liquid form at standard temperature and pressure, including but not limited to diesel, residual/crude oil, kerosene/naphtha (jet fuel), and gasoline.

Major Source, as used in this subpart, shall have the same meaning as in § 63.2, except that:

(1) Emissions from any oil or gas exploration or production well (with its associated equipment (as defined in this section)) and emissions from any pipeline compressor station or pump station shall not be aggregated with emissions from other similar units, to determine whether such emission points or stations are major sources, even when emission points are in a contiguous area or under common control;

(2) For oil and gas production facilities, emissions from processes, operations, or equipment that are not part of the same oil and gas production facility, as defined in § 63.1271 of subpart HHH of this part, shall not be aggregated;

(3) For production field facilities, only HAP emissions from glycol dehydration units, storage vessel with the potential for flash emissions, combustion turbines and reciprocating internal combustion engines shall be aggregated for a major source determination; and

(4) Emissions from processes, operations, and equipment that are not part of the same natural gas transmission and storage facility, as defined in § 63.1271 of subpart HHH of this part, shall not be aggregated.

Malfunction means any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner which causes, or has the potential to cause, the emission limitations in an applicable standard to be exceeded. Failures that are caused in part by poor maintenance or careless operation are not malfunctions.

Natural gas means a naturally occurring mixture of hydrocarbon and non-hydrocarbon gases found in geologic formations beneath the Earth's surface, of which the principal constituent is methane. Natural gas may be field or pipeline quality.

Non-selective catalytic reduction (NSCR) means an add-on catalytic nitrogen oxides (NO_X) control device for rich burn engines that, in a two-step reaction, promotes the conversion of excess oxygen, NO_X , CO, and volatile organic compounds (VOC) into CO_2 , nitrogen, and water.

Oil and gas production facility as used in this subpart means any grouping of equipment where hydrocarbon liquids are processed, upgraded (*i.e.,* remove impurities or other constituents to meet contract specifications), or stored prior to the point of custody transfer; or where natural gas is processed, upgraded, or stored prior to entering the natural gas transmission and storage source category. For purposes of a major source determination, facility (including a building, structure, or installation) means oil and natural gas production and processing equipment that is located within the boundaries of an individual surface site as defined in this section. Equipment that is part of a facility will typically be located within close proximity to other equipment located at the same facility. Pieces of production equipment or groupings of equipment located on different oil and gas leases, mineral fee tracts, lease tracts, subsurface or surface unit areas, surface fee tracts, surface lease tracts, or separate surface sites, whether or not connected by a road, waterway, power line or pipeline, shall not be considered part of the same facility. Examples of facilities in the oil and natural gas production source category include, but are not limited to, well sites, satellite tank batteries, central tank batteries, a compressor station that transports natural gas to a natural gas processing plant, and natural gas processing plants.

Oxidation catalyst means an add-on catalytic control device that controls CO and VOC by oxidation.

Peaking unit or engine means any standby engine intended for use during periods of high demand that are not emergencies.

Percent load means the fractional power of an engine compared to its maximum manufacturer's design capacity at engine site conditions. Percent load may range between 0 percent to above 100 percent.

Potential to emit means the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the stationary source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is federally enforceable. For oil and natural gas production facilities subject to subpart HH of this part, the potential to emit provisions in § 63.760(a) may be used. For natural gas transmission and storage facilities subject to subpart HHH of this part, the maximum annual facility gas throughput for storage facilities may be determined according to § 63.1270(a)(1) and the maximum annual throughput for transmission facilities may be determined according to § 63.1270(a)(2).

Production field facility means those oil and gas production facilities located prior to the point of custody transfer.

Production well means any hole drilled in the earth from which crude oil, condensate, or field natural gas is extracted.

Propane means a colorless gas derived from petroleum and natural gas, with the molecular structure $C_3 H_8$.

Remote stationary RICE means stationary RICE meeting any of the following criteria:

(1) Stationary RICE located in an offshore area that is beyond the line of ordinary low water along that portion of the coast of the United States that is in direct contact with the open seas and beyond the line marking the seaward limit of inland waters.

(2) Stationary RICE located on a pipeline segment that meets both of the criteria in paragraphs (2)(i) and (ii) of this definition.

(i) A pipeline segment with 10 or fewer buildings intended for human occupancy and no buildings with four or more stories within 220 yards (200 meters) on either side of the centerline of any continuous 1-mile (1.6 kilometers) length of pipeline. Each separate dwelling unit in a multiple dwelling unit building is counted as a separate building intended for human occupancy.

(ii) The pipeline segment does not lie within 100 yards (91 meters) of either a building or a small, well-defined outside area (such as a playground, recreation area, outdoor theater, or other place of public assembly) that is occupied by 20 or more persons on at least 5 days a week for 10 weeks in any 12-month period. The days and weeks need not be consecutive. The building or area is considered occupied for a full day if it is occupied for any portion of the day.

(iii) For purposes of this paragraph (2), the term pipeline segment means all parts of those physical facilities through which gas moves in transportation, including but not limited to pipe, valves, and other appurtenance attached to pipe, compressor units, metering stations, regulator stations, delivery stations, holders, and fabricated assemblies. Stationary RICE located within 50 yards (46 meters) of the pipeline segment providing power for equipment on a pipeline segment are part of the pipeline segment. Transportation of gas means the gathering, transmission, or distribution of gas by pipeline, or the storage of gas. A building is intended for human occupancy if its primary use is for a purpose involving the presence of humans.

(3) Stationary RICE that are not located on gas pipelines and that have 5 or fewer buildings intended for human occupancy and no buildings with four or more stories within a 0.25 mile radius around the engine. A building is intended for human occupancy if its primary use is for a purpose involving the presence of humans.

Residential emergency stationary RICE means an emergency stationary RICE used in residential establishments such as homes or apartment buildings.

Responsible official means responsible official as defined in 40 CFR 70.2.

Rich burn engine means any four-stroke spark ignited engine where the manufacturer's recommended operating air/fuel ratio divided by the stoichiometric air/fuel ratio at full load conditions is less than or equal to 1.1. Engines originally manufactured as rich burn engines, but modified prior to December 19, 2002 with passive emission control technology for NO_X (such as pre-combustion chambers) will be considered lean burn engines. Also, existing engines where there are no manufacturer's recommendations regarding air/fuel ratio will be considered a rich burn engine if the excess oxygen content of the exhaust at full load conditions is less than or equal to 2 percent.

Site-rated HP means the maximum manufacturer's design capacity at engine site conditions.

Spark ignition means relating to either: A gasoline-fueled engine; or any other type of engine with a spark plug (or other sparking device) and with operating characteristics significantly similar to the theoretical Otto combustion cycle. Spark ignition engines usually use a throttle to regulate intake air flow to control power during normal operation. Dual-fuel engines in which a liquid fuel (typically diesel fuel) is used for CI and gaseous fuel (typically natural gas) is used as the primary fuel at an annual average ratio of less than 2 parts diesel fuel to 100 parts total fuel on an energy equivalent basis are spark ignition engines.

Stationary reciprocating internal combustion engine (RICE) means any reciprocating internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work and which is not mobile. Stationary RICE differ from mobile RICE in that a stationary RICE is not a non-road engine as defined at 40 CFR 1068.30, and is not used to propel a motor vehicle or a vehicle used solely for competition.

Stationary RICE test cell/stand means an engine test cell/stand, as defined in subpart PPPPP of this part, that tests stationary RICE.

Stoichiometric means the theoretical air-to-fuel ratio required for complete combustion.

Storage vessel with the potential for flash emissions means any storage vessel that contains a hydrocarbon liquid with a stock tank gas-to-oil ratio equal to or greater than 0.31 cubic meters per liter and an American Petroleum Institute gravity equal to or greater than 40 degrees and an actual annual average hydrocarbon liquid throughput equal to or greater than 79,500 liters per day. Flash emissions occur when dissolved hydrocarbons in the fluid evolve from solution when the fluid pressure is reduced.

Subpart means 40 CFR part 63, subpart ZZZZ.

Surface site means any combination of one or more graded pad sites, gravel pad sites, foundations, platforms, or the immediate physical location upon which equipment is physically affixed.

Two-stroke engine means a type of engine which completes the power cycle in single crankshaft revolution by combining the intake and compression operations into one stroke and the power and exhaust operations into a second stroke. This system requires auxiliary scavenging and inherently runs lean of stoichiometric.

[69 FR 33506, June 15, 2004, as amended at 71 FR 20467, Apr. 20, 2006; 73 FR 3607, Jan. 18, 2008; 75 FR 9679, Mar. 3, 2010; 75 FR 51592, Aug. 20, 2010; 76 FR 12867, Mar. 9, 2011; 78 FR 6706, Jan. 30, 2013]

Table 1a to Subpart ZZZZ of Part 63—Emission Limitations for Existing, New, and Reconstructed Spark Ignition, 4SRB Stationary RICE > 500 HP Located at a Major Source of HAP Emissions

As stated in §§ 63.6600 and 63.6640, you must comply with the following emission limitations at 100 percent load plus or minus 10 percent for existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions:

For each . . .	**You must meet the following emission limitation, except during periods of startup . . .**	**During periods of startup you must . . .**
1. 4SRB stationary RICE	a. Reduce formaldehyde emissions by 76 percent or more. If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004, you may reduce formaldehyde emissions by 75 percent or more until June 15, 2007 or	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.[1]
	b. Limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O_2	

[1]Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices.

[75 FR 9679, Mar. 3, 2010, as amended at 75 FR 51592, Aug. 20, 2010]

Table 1b to Subpart ZZZZ of Part 63—Operating Limitations for Existing, New, and Reconstructed SI 4SRB Stationary RICE >500 HP Located at a Major Source of HAP Emissions

As stated in §§ 63.6600, 63.6603, 63.6630 and 63.6640, you must comply with the following operating limitations for existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions:

TABLE 1B TO SUBPART ZZZZ OF PART 63—OPERATING LIMITATIONS FOR EXISTING, NEW, AND RECONSTRUCTED SI 4SRB STATIONARY RICE >500 HP LOCATED AT A MAJOR SOURCE OF HAP EMISSIONS

For each . . .	You must meet the following operating limitation, except during periods of startup . . .
1. existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions complying with the requirement to reduce formaldehyde emissions by 76 percent or more (or by 75 percent or more, if applicable) and using NSCR; or existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O_2 and using NSCR;	a. maintain your catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water at 100 percent load plus or minus 10 percent from the pressure drop across the catalyst measured during the initial performance test; and b. maintain the temperature of your stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 750 °F and less than or equal to 1250 °F.[1]
2. existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions complying with the requirement to reduce formaldehyde emissions by 76 percent or more (or by 75 percent or more, if applicable) and not using NSCR; or	Comply with any operating limitations approved by the Administrator.
existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O_2 and not using NSCR.	

[1] Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.8(f) for a different temperature range.

[78 FR 6706, Jan. 30, 2013]

Table 2a to Subpart ZZZZ of Part 63—Emission Limitations for New and Reconstructed 2SLB and Compression Ignition Stationary RICE >500 HP and New and Reconstructed 4SLB Stationary RICE ≥250 HP Located at a Major Source of HAP Emissions

As stated in §§ 63.6600 and 63.6640, you must comply with the following emission limitations for new and reconstructed lean burn and new and reconstructed compression ignition stationary RICE at 100 percent load plus or minus 10 percent:

For each . . .	You must meet the following emission limitation, except during periods of startup . . .	During periods of startup you must . . .
1. 2SLB stationary RICE	a. Reduce CO emissions by 58 percent or more; or b. Limit concentration of formaldehyde in the stationary RICE exhaust to 12 ppmvd or less at 15 percent O_2. If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004, you may limit concentration of formaldehyde to 17 ppmvd or less at 15 percent O_2until June 15, 2007	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.[1]
2. 4SLB stationary RICE	a. Reduce CO emissions by 93 percent or more; or	
	b. Limit concentration of formaldehyde in the stationary RICE exhaust to 14 ppmvd or less at 15 percent O_2	
3. CI stationary RICE	a. Reduce CO emissions by 70 percent or more; or	
	b. Limit concentration of formaldehyde in the stationary RICE exhaust to 580 ppbvd or less at 15 percent O_2	

[1] Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices.

[75 FR 9680, Mar. 3, 2010]

Table 2b to Subpart ZZZZ of Part 63—Operating Limitations for New and Reconstructed 2SLB and CI Stationary RICE >500 HP Located at a Major Source of HAP Emissions, New and Reconstructed 4SLB Stationary RICE ≥250 HP Located at a Major Source of HAP Emissions, Existing CI Stationary RICE >500 HP

As stated in §§ 63.6600, 63.6601, 63.6603, 63.6630, and 63.6640, you must comply with the following operating limitations for new and reconstructed 2SLB and CI stationary RICE >500 HP located at a major source of HAP emissions; new and reconstructed 4SLB stationary RICE ≥250 HP located at a major source of HAP emissions; and existing CI stationary RICE >500 HP:

TABLE 2B TO SUBPART ZZZZ OF PART 63—OPERATING LIMITATIONS FOR NEW AND RECONSTRUCTED 2SLB AND CI STATIONARY RICE >500 HP LOCATED AT A MAJOR SOURCE OF HAP EMISSIONS, NEW AND RECONSTRUCTED 4SLB STATIONARY RICE ≥250 HP LOCATED AT A MAJOR SOURCE OF HAP EMISSIONS, EXISTING CI STATIONARY RICE >500 HP

For each . . .	You must meet the following operating limitation, except during periods of startup . . .
1. New and reconstructed 2SLB and CI stationary RICE >500 HP located at a major source of HAP emissions and new and reconstructed 4SLB stationary RICE ≥250 HP located at a major source of HAP emissions complying with the requirement to reduce CO emissions and using an oxidation catalyst; and New and reconstructed 2SLB and CI stationary RICE >500 HP located at a major source of HAP emissions and new and reconstructed 4SLB stationary RICE ≥250 HP located at a major source of HAP emissions complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust and using an oxidation catalyst.	a. maintain your catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water at 100 percent load plus or minus 10 percent from the pressure drop across the catalyst that was measured during the initial performance test; and b. maintain the temperature of your stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 450 °F and less than or equal to 1350 °F.[1]
2. Existing CI stationary RICE >500 HP complying with the requirement to limit or reduce the concentration of CO in the stationary RICE exhaust and using an oxidation catalyst	a. maintain your catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water from the pressure drop across the catalyst that was measured during the initial performance test; and
	b. maintain the temperature of your stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 450 °F and less than or equal to 1350 °F.[1]
3. New and reconstructed 2SLB and CI stationary RICE >500 HP located at a major source of HAP emissions and new and reconstructed 4SLB stationary RICE ≥250 HP located at a major source of HAP emissions complying with the requirement to reduce CO emissions and not using an oxidation catalyst; and	Comply with any operating limitations approved by the Administrator.

For each . . .	You must meet the following operating limitation, except during periods of startup . . .
New and reconstructed 2SLB and CI stationary RICE >500 HP located at a major source of HAP emissions and new and reconstructed 4SLB stationary RICE ≥250 HP located at a major source of HAP emissions complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust and not using an oxidation catalyst; and	
existing CI stationary RICE >500 HP complying with the requirement to limit or reduce the concentration of CO in the stationary RICE exhaust and not using an oxidation catalyst.	

[1] Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.8(f) for a different temperature range.

[78 FR 6707, Jan. 30, 2013]

Table 2c to Subpart ZZZZ of Part 63—Requirements for Existing Compression Ignition Stationary RICE Located at a Major Source of HAP Emissions and Existing Spark Ignition Stationary RICE ≤500 HP Located at a Major Source of HAP Emissions

As stated in §§ 63.6600, 63.6602, and 63.6640, you must comply with the following requirements for existing compression ignition stationary RICE located at a major source of HAP emissions and existing spark ignition stationary RICE ≤500 HP located at a major source of HAP emissions:

TABLE 2C TO SUBPART ZZZZ OF PART 63—REQUIREMENTS FOR EXISTING COMPRESSION IGNITION STATIONARY RICE LOCATED AT A MAJOR SOURCE OF HAP EMISSIONS AND EXISTING SPARK IGNITION STATIONARY RICE ≤500 HP LOCATED AT A MAJOR SOURCE OF HAP EMISSIONS

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
1. Emergency stationary CI RICE and black start stationary CI RICE [1]	a. Change oil and filter every 500 hours of operation or annually, whichever comes first.[2] b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.[3]	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.[3]
2. Non-Emergency, non-black start stationary CI RICE <100 HP	a. Change oil and filter every 1,000 hours of operation or annually, whichever comes first.[2] b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.[3]	
3. Non-Emergency, non-black start CI stationary RICE 100≤HP≤300 HP	Limit concentration of CO in the stationary RICE exhaust to 230 ppmvd or less at 15 percent O_2.	

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
4. Non-Emergency, non-black start CI stationary RICE 300>HP≤500." is corrected to read "4. Non-Emergency, non-black start CI stationary RICE 300<HP≤500.	a. Limit concentration of CO in the stationary RICE exhaust to 49 ppmvd or less at 15 percent O_2; or b. Reduce CO emissions by 70 percent or more.	
5. Non-Emergency, non-black start stationary CI RICE >500 HP	a. Limit concentration of CO in the stationary RICE exhaust to 23 ppmvd or less at 15 percent O_2; or b. Reduce CO emissions by 70 percent or more.	
6. Emergency stationary SI RICE and black start stationary SI RICE.[1]	a. Change oil and filter every 500 hours of operation or annually, whichever comes first;[2] b. Inspect spark plugs every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.[3]	
7. Non-Emergency, non-black start stationary SI RICE <100 HP that are not 2SLB stationary RICE	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first;[2] b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first, and replace as necessary;	
	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.[3]	

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
8. Non-Emergency, non-black start 2SLB stationary SI RICE <100 HP	a. Change oil and filter every 4,320 hours of operation or annually, whichever comes first;[2] b. Inspect spark plugs every 4,320 hours of operation or annually, whichever comes first, and replace as necessary;	
	c. Inspect all hoses and belts every 4,320 hours of operation or annually, whichever comes first, and replace as necessary.[3]	
9. Non-emergency, non-black start 2SLB stationary RICE 100≤HP≤500	Limit concentration of CO in the stationary RICE exhaust to 225 ppmvd or less at 15 percent O_2.	
10. Non-emergency, non-black start 4SLB stationary RICE 100≤HP≤500	Limit concentration of CO in the stationary RICE exhaust to 47 ppmvd or less at 15 percent O_2.	
11. Non-emergency, non-black start 4SRB stationary RICE 100≤HP≤500	Limit concentration of formaldehyde in the stationary RICE exhaust to 10.3 ppmvd or less at 15 percent O_2.	
12. Non-emergency, non-black start stationary RICE 100≤HP≤500 which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis	Limit concentration of CO in the stationary RICE exhaust to 177 ppmvd or less at 15 percent O_2.	

[1] If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the work practice requirements on the schedule required in Table 2c of this subpart, or if performing the work practice on the required schedule would otherwise pose an unacceptable risk under federal, state, or local law, the work practice can be delayed until the emergency is over or the unacceptable risk under federal, state, or local law has abated. The work practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under federal, state, or local law has abated. Sources must report any failure to perform the work practice on the schedule required and the federal, state or local law under which the risk was deemed unacceptable.

[2] Sources have the option to utilize an oil analysis program as described in § 63.6625(i) or (j) in order to extend the specified oil change requirement in Table 2c of this subpart.

[3] Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices.

[78 FR 6708, Jan. 30, 2013, as amended at 78 FR 14457, Mar. 6, 2013]

Table 2d to Subpart ZZZZ of Part 63—Requirements for Existing Stationary RICE Located at Area Sources of HAP Emissions

As stated in §§ 63.6603 and 63.6640, you must comply with the following requirements for existing stationary RICE located at area sources of HAP emissions:

TABLE 2D TO SUBPART ZZZZ OF PART 63—REQUIREMENTS FOR EXISTING STATIONARY RICE LOCATED AT AREA SOURCES OF HAP EMISSIONS

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
1. Non-Emergency, non-black start CI stationary RICE ≤300 HP	a. Change oil and filter every 1,000 hours of operation or annually, whichever comes first;[1] b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.
2. Non-Emergency, non-black start CI stationary RICE 300<HP≤500	a. Limit concentration of CO in the stationary RICE exhaust to 49 ppmvd at 15 percent O_2; or	
	b. Reduce CO emissions by 70 percent or more.	
3. Non-Emergency, non-black start CI stationary RICE >500 HP	a. Limit concentration of CO in the stationary RICE exhaust to 23 ppmvd at 15 percent O_2; or	
	b. Reduce CO emissions by 70 percent or more.	

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
4. Emergency stationary CI RICE and black start stationary CI RICE.[2]	a. Change oil and filter every 500 hours of operation or annually, whichever comes first;[1]	
	b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; and	
	c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.	
5. Emergency stationary SI RICE; black start stationary SI RICE; non-emergency, non-black start 4SLB stationary RICE >500 HP that operate 24 hours or less per calendar year; non-emergency, non-black start 4SRB stationary RICE >500 HP that operate 24 hours or less per calendar year.[2]	a. Change oil and filter every 500 hours of operation or annually, whichever comes first;[1]; b. Inspect spark plugs every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; and c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.	
6. Non-emergency, non-black start 2SLB stationary RICE	a. Change oil and filter every 4,320 hours of operation or annually, whichever comes first;[1]	
	b. Inspect spark plugs every 4,320 hours of operation or annually, whichever comes first, and replace as necessary; and	

For each . . .	**You must meet the following requirement, except during periods of startup . . .**	**During periods of startup you must . . .**
	c. Inspect all hoses and belts every 4,320 hours of operation or annually, whichever comes first, and replace as necessary.	
7. Non-emergency, non-black start 4SLB stationary RICE ≤500 HP	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first;[1]	
	b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first, and replace as necessary; and	
	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.	
8. Non-emergency, non-black start 4SLB remote stationary RICE >500 HP	a. Change oil and filter every 2,160 hours of operation or annually, whichever comes first;[1]	
	b. Inspect spark plugs every 2,160 hours of operation or annually, whichever comes first, and replace as necessary; and	
	c. Inspect all hoses and belts every 2,160 hours of operation or annually, whichever comes first, and replace as necessary.	
9. Non-emergency, non-black start 4SLB stationary RICE >500 HP that are not remote stationary RICE and that operate more than 24 hours per calendar year	Install an oxidation catalyst to reduce HAP emissions from the stationary RICE.	

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
10. Non-emergency, non-black start 4SRB stationary RICE ≤500 HP	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first;[1]	
	b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first, and replace as necessary; and	
	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.	
11. Non-emergency, non-black start 4SRB remote stationary RICE >500 HP	a. Change oil and filter every 2,160 hours of operation or annually, whichever comes first;[1]	
	b. Inspect spark plugs every 2,160 hours of operation or annually, whichever comes first, and replace as necessary; and	
	c. Inspect all hoses and belts every 2,160 hours of operation or annually, whichever comes first, and replace as necessary.	
12. Non-emergency, non-black start 4SRB stationary RICE >500 HP that are not remote stationary RICE and that operate more than 24 hours per calendar year	Install NSCR to reduce HAP emissions from the stationary RICE.	
13. Non-emergency, non-black start stationary RICE which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first;[1] b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first, and replace as necessary; and	

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.	

[1] Sources have the option to utilize an oil analysis program as described in § 63.6625(i) or (j) in order to extend the specified oil change requirement in Table 2d of this subpart.

[2] If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the management practice requirements on the schedule required in Table 2d of this subpart, or if performing the management practice on the required schedule would otherwise pose an unacceptable risk under federal, state, or local law, the management practice can be delayed until the emergency is over or the unacceptable risk under federal, state, or local law has abated. The management practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under federal, state, or local law has abated. Sources must report any failure to perform the management practice on the schedule required and the federal, state or local law under which the risk was deemed unacceptable.

[78 FR 6709, Jan. 30, 2013]

Table 3 to Subpart ZZZZ of Part 63—Subsequent Performance Tests

As stated in §§ 63.6615 and 63.6620, you must comply with the following subsequent performance test requirements:

TABLE 3 TO SUBPART ZZZZ OF PART 63—SUBSEQUENT PERFORMANCE TESTS

For each . . .	Complying with the requirement to . . .	You must . . .
1. New or reconstructed 2SLB stationary RICE >500 HP located at major sources; new or reconstructed 4SLB stationary RICE ≥250 HP located at major sources; and new or reconstructed CI stationary RICE >500 HP located at major sources	Reduce CO emissions and not using a CEMS	Conduct subsequent performance tests semiannually.[1]
2. 4SRB stationary RICE ≥5,000 HP located at major sources	Reduce formaldehyde emissions	Conduct subsequent performance tests semiannually.[1]
3. Stationary RICE >500 HP located at major sources and new or reconstructed 4SLB stationary RICE 250≤HP≤500 located at major sources	Limit the concentration of formaldehyde in the stationary RICE exhaust	Conduct subsequent performance tests semiannually.[1]
4. Existing non-emergency, non-black start CI stationary RICE >500 HP that are not limited use stationary RICE	Limit or reduce CO emissions and not using a CEMS	Conduct subsequent performance tests every 8,760 hours or 3 years, whichever comes first.
5. Existing non-emergency, non-black start CI stationary RICE >500 HP that are limited use stationary RICE	Limit or reduce CO emissions and not using a CEMS	Conduct subsequent performance tests every 8,760 hours or 5 years, whichever comes first.

[1] After you have demonstrated compliance for two consecutive tests, you may reduce the frequency of subsequent performance tests to annually. If the results of any subsequent annual performance test indicate the stationary RICE is not in compliance with the CO or formaldehyde emission limitation, or you deviate from any of your operating limitations, you must resume semiannual performance tests.

[78 FR 6711, Jan. 30, 2013]

Table 4 to Subpart ZZZZ of Part 63—Requirements for Performance Tests

As stated in §§ 63.6610, 63.6611, 63.6612, 63.6620, and 63.6640, you must comply with the following requirements for performance tests for stationary RICE:

TABLE 4 TO SUBPART ZZZZ OF PART 63. REQUIREMENTS FOR PERFORMANCE TESTS

For each . . .	Complying with the requirement to . . .	You must . . .	Using . . .	According to the following requirements . . .
1. 2SLB, 4SLB, and CI stationary RICE	a. reduce CO emissions	i. Measure the O_2 at the inlet and outlet of the control device; and	(1) Method 3 or 3A or 3B of 40 CFR part 60, appendix A, or ASTM Method D6522-00 (Reapproved 2005).[a c]	(a) Measurements to determine O_2 must be made at the same time as the measurements for CO concentration.
		ii. Measure the CO at the inlet and the outlet of the control device	(1) ASTM D6522-00 (Reapproved 2005) [a b c] or Method 10 of 40 CFR part 60, appendix A	(a) The CO concentration must be at 15 percent O_2, dry basis.
2. 4SRB stationary RICE	a. reduce formaldehyde emissions	i. Select the sampling port location and the number of traverse points; and	(1) Method 1 or 1A of 40 CFR part 60, appendix A § 63.7(d)(1)(i)	(a) sampling sites must be located at the inlet and outlet of the control device.
		ii. Measure O_2 at the inlet and outlet of the control device; and	(1) Method 3 or 3A or 3B of 40 CFR part 60, appendix A, or ASTM Method D6522-00 (Reapproved 2005).[a]	(a) measurements to determine O_2 concentration must be made at the same time as the measurements for formaldehyde or THC concentration.
		iii. Measure moisture content at the inlet and outlet of the control device; and	(1) Method 4 of 40 CFR part 60, appendix A, or Test Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03.[a]	(a) measurements to determine moisture content must be made at the same time and location as the measurements for formaldehyde or THC concentration.
		iv. If demonstrating compliance with the formaldehyde percent reduction requirement, measure formaldehyde at the inlet and the outlet of the control device	(1) Method 320 or 323 of 40 CFR part 63, appendix A; or ASTM D6348-03,[a] provided in ASTM D6348-03 Annex A5 (Analyte Spiking Technique), the percent R must be greater than or equal to 70 and less than or equal to 130	(a) formaldehyde concentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.

For each . . .	Complying with the requirement to . . .	You must . . .	Using . . .	According to the following requirements . . .
		v. If demonstrating compliance with the THC percent reduction requirement, measure THC at the inlet and the outlet of the control device	(1) Method 25A, reported as propane, of 40 CFR part 60, appendix A	(a) THC concentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.
3. Stationary RICE	a. limit the concentration of formaldehyde or CO in the stationary RICE exhaust	i. Select the sampling port location and the number of traverse points; and	(1) Method 1 or 1A of 40 CFR part 60, appendix A § 63.7(d)(1)(i)	(a) if using a control device, the sampling site must be located at the outlet of the control device.
		ii. Determine the O_2concentration of the stationary RICE exhaust at the sampling port location; and	(1) Method 3 or 3A or 3B of 40 CFR part 60, appendix A, or ASTM Method D6522-00 (Reapproved 2005).[a]	(a) measurements to determine O_2concentration must be made at the same time and location as the measurements for formaldehyde or CO concentration.
		iii. Measure moisture content of the stationary RICE exhaust at the sampling port location; and	(1) Method 4 of 40 CFR part 60, appendix A, or Test Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03.[a]	(a) measurements to determine moisture content must be made at the same time and location as the measurements for formaldehyde or CO concentration.
		iv. Measure formaldehyde at the exhaust of the stationary RICE; or	(1) Method 320 or 323 of 40 CFR part 63, appendix A; or ASTM D6348-03,[a]provided in ASTM D6348-03 Annex A5 (Analyte Spiking Technique), the percent R must be greater than or equal to 70 and less than or equal to 130	(a) Formaldehyde concentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.
		v. measure CO at the exhaust of the stationary RICE.	(1) Method 10 of 40 CFR part 60, appendix A, ASTM Method D6522-00 (2005),[a] [c]Method 320 of 40 CFR part 63, appendix A, or ASTM D6348-03.[a]	(a) CO concentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.

[a] Incorporated by reference, see 40 CFR 63.14. You may also obtain copies from University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106.

[b] You may also use Method 320 of 40 CFR part 63, appendix A, or ASTM D6348-03.

[c] ASTM-D6522-00 (2005) may be used to test both CI and SI stationary RICE.

[78 FR 6711, Jan. 30, 2013]

Table 5 to Subpart ZZZZ of Part 63—Initial Compliance With Emission Limitations, Operating Limitations, and Other Requirements

As stated in §§ 63.6612, 63.6625 and 63.6630, you must initially comply with the emission and operating limitations as required by the following:

TABLE 5 TO SUBPART ZZZZ OF PART 63—INITIAL COMPLIANCE WITH EMISSION LIMITATIONS, OPERATING LIMITATIONS, AND OTHER REQUIREMENTS

For each . . .	Complying with the requirement to . . .	You have demonstrated initial compliance if . . .
1. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP	a. Reduce CO emissions and using oxidation catalyst, and using a CPMS	i. The average reduction of emissions of CO determined from the initial performance test achieves the required CO percent reduction; and ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in § 63.6625(b); and iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.
2. Non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP	a. Limit the concentration of CO, using oxidation catalyst, and using a CPMS	i. The average CO concentration determined from the initial performance test is less than or equal to the CO emission limitation; and
		ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in § 63.6625(b); and
		iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.

For each . . .	Complying with the requirement to . . .	You have demonstrated initial compliance if . . .
3. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP	a. Reduce CO emissions and not using oxidation catalyst	i. The average reduction of emissions of CO determined from the initial performance test achieves the required CO percent reduction; and ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in § 63.6625(b); and iii. You have recorded the approved operating parameters (if any) during the initial performance test.
4. Non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP	a. Limit the concentration of CO, and not using oxidation catalyst	i. The average CO concentration determined from the initial performance test is less than or equal to the CO emission limitation; and ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in § 63.6625(b); and
		iii. You have recorded the approved operating parameters (if any) during the initial performance test.
5. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP	a. Reduce CO emissions, and using a CEMS	i. You have installed a CEMS to continuously monitor CO and either O_2 or CO_2 at both the inlet and outlet of the oxidation catalyst according to the requirements in § 63.6625(a); and ii. You have conducted a performance evaluation of your CEMS using PS 3 and 4A of 40 CFR part 60, appendix B; and
		iii. The average reduction of CO calculated using § 63.6620 equals or exceeds the required percent reduction. The initial test comprises the first 4-hour period after successful validation of the CEMS. Compliance is based on the average percent reduction achieved during the 4-hour period.
6. Non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP	a. Limit the concentration of CO, and using a CEMS	i. You have installed a CEMS to continuously monitor CO and either O_2 or CO_2 at the outlet of the oxidation catalyst according to the requirements in § 63.6625(a); and

For each . . .	Complying with the requirement to . . .	You have demonstrated initial compliance if . . .
		ii. You have conducted a performance evaluation of your CEMS using PS 3 and 4A of 40 CFR part 60, appendix B; and
		iii. The average concentration of CO calculated using § 63.6620 is less than or equal to the CO emission limitation. The initial test comprises the first 4-hour period after successful validation of the CEMS. Compliance is based on the average concentration measured during the 4-hour period.
7. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP	a. Reduce formaldehyde emissions and using NSCR	i. The average reduction of emissions of formaldehyde determined from the initial performance test is equal to or greater than the required formaldehyde percent reduction, or the average reduction of emissions of THC determined from the initial performance test is equal to or greater than 30 percent; and
		ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in § 63.6625(b); and
		iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.
8. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP	a. Reduce formaldehyde emissions and not using NSCR	i. The average reduction of emissions of formaldehyde determined from the initial performance test is equal to or greater than the required formaldehyde percent reduction or the average reduction of emissions of THC determined from the initial performance test is equal to or greater than 30 percent; and
		ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in § 63.6625(b); and
		iii. You have recorded the approved operating parameters (if any) during the initial performance test.

For each . . .	Complying with the requirement to . . .	You have demonstrated initial compliance if . . .
9. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP, and existing non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and using oxidation catalyst or NSCR	i. The average formaldehyde concentration, corrected to 15 percent O_2, dry basis, from the three test runs is less than or equal to the formaldehyde emission limitation; and ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in § 63.6625(b); and
		iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.
10. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP, and existing non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and not using oxidation catalyst or NSCR	i. The average formaldehyde concentration, corrected to 15 percent O_2, dry basis, from the three test runs is less than or equal to the formaldehyde emission limitation; and ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in § 63.6625(b); and
		iii. You have recorded the approved operating parameters (if any) during the initial performance test.
11. Existing non-emergency stationary RICE 100≤HP≤500 located at a major source of HAP, and existing non-emergency stationary CI RICE 300<HP≤500 located at an area source of HAP	a. Reduce CO emissions	i. The average reduction of emissions of CO or formaldehyde, as applicable determined from the initial performance test is equal to or greater than the required CO or formaldehyde, as applicable, percent reduction.
12. Existing non-emergency stationary RICE 100≤HP≤500 located at a major source of HAP, and existing non-emergency stationary CI RICE 300<HP≤500 located at an area source of HAP	a. Limit the concentration of formaldehyde or CO in the stationary RICE exhaust	i. The average formaldehyde or CO concentration, as applicable, corrected to 15 percent O_2, dry basis, from the three test runs is less than or equal to the formaldehyde or CO emission limitation, as applicable.
13. Existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are not remote stationary RICE and that are operated more than 24 hours per calendar year	a. Install an oxidation catalyst	i. You have conducted an initial compliance demonstration as specified in § 63.6630(e) to show that the average reduction of emissions of CO is 93 percent or more, or the average CO concentration is less than or equal to 47 ppmvd at 15 percent O_2;

For each . . .	Complying with the requirement to . . .	You have demonstrated initial compliance if . . .
		ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in § 63.6625(b), or you have installed equipment to automatically shut down the engine if the catalyst inlet temperature exceeds 1350 °F.
14. Existing non-emergency 4SRB stationary RICE >500 HP located at an area source of HAP that are not remote stationary RICE and that are operated more than 24 hours per calendar year	a. Install NSCR	i. You have conducted an initial compliance demonstration as specified in § 63.6630(e) to show that the average reduction of emissions of CO is 75 percent or more, the average CO concentration is less than or equal to 270 ppmvd at 15 percent O_2, or the average reduction of emissions of THC is 30 percent or more;
		ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in § 63.6625(b), or you have installed equipment to automatically shut down the engine if the catalyst inlet temperature exceeds 1250 °F.

[78 FR 6712, Jan. 30, 2013]

Table 6 to Subpart ZZZZ of Part 63—Continuous Compliance With Emission Limitations, and Other Requirements

As stated in § 63.6640, you must continuously comply with the emissions and operating limitations and work or management practices as required by the following:

TABLE 6 TO SUBPART ZZZZ OF PART 63—CONTINUOUS COMPLIANCE WITH EMISSION LIMITATIONS, AND OTHER REQUIREMENTS

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
1. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, and new or reconstructed non-emergency CI stationary RICE >500 HP located at a major source of HAP	a. Reduce CO emissions and using an oxidation catalyst, and using a CPMS	i. Conducting semiannual performance tests for CO to demonstrate that the required CO percent reduction is achieved [a]; and ii. Collecting the catalyst inlet temperature data according to § 63.6625(b); and iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and
		v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
2. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, and new or reconstructed non-emergency CI stationary RICE >500 HP located at a major source of HAP	a. Reduce CO emissions and not using an oxidation catalyst, and using a CPMS	i. Conducting semiannual performance tests for CO to demonstrate that the required CO percent reduction is achieved [a]; and ii. Collecting the approved operating parameter (if any) data according to § 63.6625(b); and iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.

For each . . .	**Complying with the requirement to . . .**	**You must demonstrate continuous compliance by . . .**
3. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, new or reconstructed non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP	a. Reduce CO emissions or limit the concentration of CO in the stationary RICE exhaust, and using a CEMS	i. Collecting the monitoring data according to § 63.6625(a), reducing the measurements to 1-hour averages, calculating the percent reduction or concentration of CO emissions according to § 63.6620; and ii. Demonstrating that the catalyst achieves the required percent reduction of CO emissions over the 4-hour averaging period, or that the emission remain at or below the CO concentration limit; and
		iii. Conducting an annual RATA of your CEMS using PS 3 and 4A of 40 CFR part 60, appendix B, as well as daily and periodic data quality checks in accordance with 40 CFR part 60, appendix F, procedure 1.
4. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP	a. Reduce formaldehyde emissions and using NSCR	i. Collecting the catalyst inlet temperature data according to § 63.6625(b); and
		ii. Reducing these data to 4-hour rolling averages; and
		iii. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and
		iv. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
5. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP	a. Reduce formaldehyde emissions and not using NSCR	i. Collecting the approved operating parameter (if any) data according to § 63.6625(b); and
		ii. Reducing these data to 4-hour rolling averages; and
		iii. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
6. Non-emergency 4SRB stationary RICE with a brake HP ≥5,000 located at a major source of HAP	a. Reduce formaldehyde emissions	Conducting semiannual performance tests for formaldehyde to demonstrate that the required formaldehyde percent reduction is achieved, or to demonstrate that the average reduction of emissions of THC determined from the performance test is equal to or greater than 30 percent.[a]
7. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP and new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and using oxidation catalyst or NSCR	i. Conducting semiannual performance tests for formaldehyde to demonstrate that your emissions remain at or below the formaldehyde concentration limit [a]; and ii. Collecting the catalyst inlet temperature data according to § 63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and
		v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
8. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP and new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and not using oxidation catalyst or NSCR	i. Conducting semiannual performance tests for formaldehyde to demonstrate that your emissions remain at or below the formaldehyde concentration limit [a]; and ii. Collecting the approved operating parameter (if any) data according to § 63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
9. Existing emergency and black start stationary RICE ≤500 HP located at a major source of HAP, existing non-emergency stationary RICE <100 HP located at a major source of HAP, existing emergency and black start stationary RICE located at an area source of HAP, existing non-emergency stationary CI RICE ≤300 HP located at an area source of HAP, existing non-emergency 2SLB stationary RICE located at an area source of HAP, existing non-emergency stationary SI RICE located at an area source of HAP which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, existing non-emergency 4SLB and 4SRB stationary RICE ≤500 HP located at an area source of HAP, existing non-emergency 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that operate 24 hours or less per calendar year, and existing non-emergency 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that are remote stationary RICE	a. Work or Management practices	i. Operating and maintaining the stationary RICE according to the manufacturer's emission-related operation and maintenance instructions; or ii. Develop and follow your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.
10. Existing stationary CI RICE >500 HP that are not limited use stationary RICE	a. Reduce CO emissions, or limit the concentration of CO in the stationary RICE exhaust, and using oxidation catalyst	i. Conducting performance tests every 8,760 hours or 3 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and
		ii. Collecting the catalyst inlet temperature data according to § 63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
		v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
11. Existing stationary CI RICE >500 HP that are not limited use stationary RICE	a. Reduce CO emissions, or limit the concentration of CO in the stationary RICE exhaust, and not using oxidation catalyst	i. Conducting performance tests every 8,760 hours or 3 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and
		ii. Collecting the approved operating parameter (if any) data according to § 63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.
12. Existing limited use CI stationary RICE >500 HP	a. Reduce CO emissions or limit the concentration of CO in the stationary RICE exhaust, and using an oxidation catalyst	i. Conducting performance tests every 8,760 hours or 5 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and
		ii. Collecting the catalyst inlet temperature data according to § 63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
		v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
13. Existing limited use CI stationary RICE >500 HP	a. Reduce CO emissions or limit the concentration of CO in the stationary RICE exhaust, and not using an oxidation catalyst	i. Conducting performance tests every 8,760 hours or 5 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and
		ii. Collecting the approved operating parameter (if any) data according to § 63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.
14. Existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are not remote stationary RICE and that are operated more than 24 hours per calendar year	a. Install an oxidation catalyst	i. Conducting annual compliance demonstrations as specified in § 63.6640(c) to show that the average reduction of emissions of CO is 93 percent or more, or the average CO concentration is less than or equal to 47 ppmvd at 15 percent O_2; and either ii. Collecting the catalyst inlet temperature data according to § 63.6625(b), reducing these data to 4-hour rolling averages; and maintaining the 4-hour rolling averages within the limitation of greater than 450 °F and less than or equal to 1350 °F for the catalyst inlet temperature; or iii. Immediately shutting down the engine if the catalyst inlet temperature exceeds 1350 °F.

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
15. Existing non-emergency 4SRB stationary RICE >500 HP located at an area source of HAP that are not remote stationary RICE and that are operated more than 24 hours per calendar year	a. Install NSCR	i. Conducting annual compliance demonstrations as specified in § 63.6640(c) to show that the average reduction of emissions of CO is 75 percent or more, the average CO concentration is less than or equal to 270 ppmvd at 15 percent O_2, or the average reduction of emissions of THC is 30 percent or more; and either ii. Collecting the catalyst inlet temperature data according to § 63.6625(b), reducing these data to 4-hour rolling averages; and maintaining the 4-hour rolling averages within the limitation of greater than or equal to 750 °F and less than or equal to 1250 °F for the catalyst inlet temperature; or iii. Immediately shutting down the engine if the catalyst inlet temperature exceeds 1250 °F.

[a] After you have demonstrated compliance for two consecutive tests, you may reduce the frequency of subsequent performance tests to annually. If the results of any subsequent annual performance test indicate the stationary RICE is not in compliance with the CO or formaldehyde emission limitation, or you deviate from any of your operating limitations, you must resume semiannual performance tests.

[78 FR 6715, Jan. 30, 2013]

Table 7 to Subpart ZZZZ of Part 63—Requirements for Reports

As stated in § 63.6650, you must comply with the following requirements for reports:

TABLE 7 TO SUBPART ZZZZ OF PART 63—REQUIREMENTS FOR REPORTS

For each . . .	You must submit a . . .	The report must contain . . .	You must submit the report . . .
1. Existing non-emergency, non-black start stationary RICE 100≤HP≤500 located at a major source of HAP; existing non-emergency, non-black start stationary CI RICE >500 HP located at a major source of HAP; existing non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP; existing non-emergency, non-black start stationary CI RICE >300 HP located at an area source of HAP; new or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP; and new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP	Compliance report	a. If there are no deviations from any emission limitations or operating limitations that apply to you, a statement that there were no deviations from the emission limitations or operating limitations during the reporting period. If there were no periods during which the CMS, including CEMS and CPMS, was out-of-control, as specified in § 63.8(c)(7), a statement that there were not periods during which the CMS was out-of-control during the reporting period; or	i. Semiannually according to the requirements in § 63.6650(b)(1)-(5) for engines that are not limited use stationary RICE subject to numerical emission limitations; and ii. Annually according to the requirements in § 63.6650(b)(6)-(9) for engines that are limited use stationary RICE subject to numerical emission limitations.
		b. If you had a deviation from any emission limitation or operating limitation during the reporting period, the information in § 63.6650(d). If there were periods during which the CMS, including CEMS and CPMS, was out-of-control, as specified in § 63.8(c)(7), the information in § 63.6650(e); or	i. Semiannually according to the requirements in § 63.6650(b).
		c. If you had a malfunction during the reporting period, the information in § 63.6650(c)(4).	i. Semiannually according to the requirements in § 63.6650(b).
2. New or reconstructed non-emergency stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis	Report	a. The fuel flow rate of each fuel and the heating values that were used in your calculations, and you must demonstrate that the percentage of heat input provided by landfill gas or digester gas, is equivalent to 10 percent or more of the gross heat input on an annual basis; and	i. Annually, according to the requirements in § 63.6650.

For each . . .	You must submit a . . .	The report must contain . . .	You must submit the report . . .
		b. The operating limits provided in your federally enforceable permit, and any deviations from these limits; and	i. See item 2.a.i.
		c. Any problems or errors suspected with the meters.	i. See item 2.a.i.
3. Existing non-emergency, non-black start 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that are not remote stationary RICE and that operate more than 24 hours per calendar year	Compliance report	a. The results of the annual compliance demonstration, if conducted during the reporting period.	i. Semiannually according to the requirements in § 63.6650(b)(1)-(5).
4. Emergency stationary RICE that operate or are contractually obligated to be available for more than 15 hours per year for the purposes specified in § 63.6640(f)(2)(ii) and (iii) or that operate for the purposes specified in § 63.6640(f)(4)(ii)	Report	a. The information in § 63.6650(h)(1)	i. annually according to the requirements in § 63.6650(h)(2)-(3).

[78 FR 6719, Jan. 30, 2013]

Table 8 to Subpart ZZZZ of Part 63—Applicability of General Provisions to Subpart ZZZZ.

As stated in § 63.6665, you must comply with the following applicable general provisions.

General provisions citation	Subject of citation	Applies to subpart	Explanation
§ 63.1	General applicability of the General Provisions	Yes.	
§ 63.2	Definitions	Yes	Additional terms defined in § 63.6675.
§ 63.3	Units and abbreviations	Yes.	
§ 63.4	Prohibited activities and circumvention	Yes.	
§ 63.5	Construction and reconstruction	Yes.	
§ 63.6(a)	Applicability	Yes.	
§ 63.6(b)(1)-(4)	Compliance dates for new and reconstructed sources	Yes.	
§ 63.6(b)(5)	Notification	Yes.	
§ 63.6(b)(6)	[Reserved]		
§ 63.6(b)(7)	Compliance dates for new and reconstructed area sources that become major sources	Yes.	
§ 63.6(c)(1)-(2)	Compliance dates for existing sources	Yes.	
§ 63.6(c)(3)-(4)	[Reserved]		
§ 63.6(c)(5)	Compliance dates for existing area sources that become major sources	Yes.	
§ 63.6(d)	[Reserved]		
§ 63.6(e)	Operation and maintenance	No.	
§ 63.6(f)(1)	Applicability of standards	No.	
§ 63.6(f)(2)	Methods for determining compliance	Yes.	
§ 63.6(f)(3)	Finding of compliance	Yes.	
§ 63.6(g)(1)-(3)	Use of alternate standard	Yes.	
§ 63.6(h)	Opacity and visible emission standards	No	Subpart ZZZZ does not contain opacity or visible emission standards.
§ 63.6(i)	Compliance extension procedures and criteria	Yes.	

General provisions citation	Subject of citation	Applies to subpart	Explanation
§ 63.6(j)	Presidential compliance exemption	Yes.	
§ 63.7(a)(1)-(2)	Performance test dates	Yes	Subpart ZZZZ contains performance test dates at §§ 63.6610, 63.6611, and 63.6612.
§ 63.7(a)(3)	CAA section 114 authority	Yes.	
§ 63.7(b)(1)	Notification of performance test	Yes	Except that § 63.7(b)(1) only applies as specified in § 63.6645.
§ 63.7(b)(2)	Notification of rescheduling	Yes	Except that § 63.7(b)(2) only applies as specified in § 63.6645.
§ 63.7(c)	Quality assurance/test plan	Yes	Except that § 63.7(c) only applies as specified in § 63.6645.
§ 63.7(d)	Testing facilities	Yes.	
§ 63.7(e)(1)	Conditions for conducting performance tests	No.	Subpart ZZZZ specifies conditions for conducting performance tests at § 63.6620.
§ 63.7(e)(2)	Conduct of performance tests and reduction of data	Yes	Subpart ZZZZ specifies test methods at § 63.6620.
§ 63.7(e)(3)	Test run duration	Yes.	
§ 63.7(e)(4)	Administrator may require other testing under section 114 of the CAA	Yes.	
§ 63.7(f)	Alternative test method provisions	Yes.	
§ 63.7(g)	Performance test data analysis, recordkeeping, and reporting	Yes.	
§ 63.7(h)	Waiver of tests	Yes.	
§ 63.8(a)(1)	Applicability of monitoring requirements	Yes	Subpart ZZZZ contains specific requirements for monitoring at § 63.6625.
§ 63.8(a)(2)	Performance specifications	Yes.	
§ 63.8(a)(3)	[Reserved]		
§ 63.8(a)(4)	Monitoring for control devices	No.	
§ 63.8(b)(1)	Monitoring	Yes.	
§ 63.8(b)(2)-(3)	Multiple effluents and multiple monitoring systems	Yes.	

General provisions citation	Subject of citation	Applies to subpart	Explanation
§ 63.8(c)(1)	Monitoring system operation and maintenance	Yes.	
§ 63.8(c)(1)(i)	Routine and predictable SSM	No	
§ 63.8(c)(1)(ii)	SSM not in Startup Shutdown Malfunction Plan	Yes.	
§ 63.8(c)(1)(iii)	Compliance with operation and maintenance requirements	No	
§ 63.8(c)(2)-(3)	Monitoring system installation	Yes.	
§ 63.8(c)(4)	Continuous monitoring system (CMS) requirements	Yes	Except that subpart ZZZZ does not require Continuous Opacity Monitoring System (COMS).
§ 63.8(c)(5)	COMS minimum procedures	No	Subpart ZZZZ does not require COMS.
§ 63.8(c)(6)-(8)	CMS requirements	Yes	Except that subpart ZZZZ does not require COMS.
§ 63.8(d)	CMS quality control	Yes.	
§ 63.8(e)	CMS performance evaluation	Yes	Except for § 63.8(e)(5)(ii), which applies to COMS.
		Except that § 63.8(e) only applies as specified in § 63.6645.	
§ 63.8(f)(1)-(5)	Alternative monitoring method	Yes	Except that § 63.8(f)(4) only applies as specified in § 63.6645.
§ 63.8(f)(6)	Alternative to relative accuracy test	Yes	Except that § 63.8(f)(6) only applies as specified in § 63.6645.
§ 63.8(g)	Data reduction	Yes	Except that provisions for COMS are not applicable. Averaging periods for demonstrating compliance are specified at §§ 63.6635 and 63.6640.
§ 63.9(a)	Applicability and State delegation of notification requirements	Yes.	
§ 63.9(b)(1)-(5)	Initial notifications	Yes	Except that § 63.9(b)(3) is reserved.

General provisions citation	Subject of citation	Applies to subpart	Explanation
		Except that § 63.9(b) only applies as specified in § 63.6645.	
§ 63.9(c)	Request for compliance extension	Yes	Except that § 63.9(c) only applies as specified in § 63.6645.
§ 63.9(d)	Notification of special compliance requirements for new sources	Yes	Except that § 63.9(d) only applies as specified in § 63.6645.
§ 63.9(e)	Notification of performance test	Yes	Except that § 63.9(e) only applies as specified in § 63.6645.
§ 63.9(f)	Notification of visible emission (VE)/opacity test	No	Subpart ZZZZ does not contain opacity or VE standards.
§ 63.9(g)(1)	Notification of performance evaluation	Yes	Except that § 63.9(g) only applies as specified in § 63.6645.
§ 63.9(g)(2)	Notification of use of COMS data	No	Subpart ZZZZ does not contain opacity or VE standards.
§ 63.9(g)(3)	Notification that criterion for alternative to RATA is exceeded	Yes	If alternative is in use.
		Except that § 63.9(g) only applies as specified in § 63.6645.	
§ 63.9(h)(1)-(6)	Notification of compliance status	Yes	Except that notifications for sources using a CEMS are due 30 days after completion of performance evaluations. § 63.9(h)(4) is reserved.
			Except that § 63.9(h) only applies as specified in § 63.6645.
§ 63.9(i)	Adjustment of submittal deadlines	Yes.	
§ 63.9(j)	Change in previous information	Yes.	
§ 63.10(a)	Administrative provisions for recordkeeping/reporting	Yes.	
§ 63.10(b)(1)	Record retention	Yes	Except that the most recent 2 years of data do not have to be retained on site.
§ 63.10(b)(2)(i)-(v)	Records related to SSM	No.	

General provisions citation	Subject of citation	Applies to subpart	Explanation
§ 63.10(b)(2)(vi)-(xi)	Records	Yes.	
§ 63.10(b)(2)(xii)	Record when under waiver	Yes.	
§ 63.10(b)(2)(xiii)	Records when using alternative to RATA	Yes	For CO standard if using RATA alternative.
§ 63.10(b)(2)(xiv)	Records of supporting documentation	Yes.	
§ 63.10(b)(3)	Records of applicability determination	Yes.	
§ 63.10(c)	Additional records for sources using CEMS	Yes	Except that § 63.10(c)(2)-(4) and (9) are reserved.
§ 63.10(d)(1)	General reporting requirements	Yes.	
§ 63.10(d)(2)	Report of performance test results	Yes.	
§ 63.10(d)(3)	Reporting opacity or VE observations	No	Subpart ZZZZ does not contain opacity or VE standards.
§ 63.10(d)(4)	Progress reports	Yes.	
§ 63.10(d)(5)	Startup, shutdown, and malfunction reports	No.	
§ 63.10(e)(1) and (2)(i)	Additional CMS Reports	Yes.	
§ 63.10(e)(2)(ii)	COMS-related report	No	Subpart ZZZZ does not require COMS.
§ 63.10(e)(3)	Excess emission and parameter exceedances reports	Yes.	Except that § 63.10(e)(3)(i) (C) is reserved.
§ 63.10(e)(4)	Reporting COMS data	No	Subpart ZZZZ does not require COMS.
§ 63.10(f)	Waiver for recordkeeping/reporting	Yes.	
§ 63.11	Flares	No.	
§ 63.12	State authority and delegations	Yes.	
§ 63.13	Addresses	Yes.	
§ 63.14	Incorporation by reference	Yes.	
§ 63.15	Availability of information	Yes.	

[75 FR 9688, Mar. 3, 2010, as amended at 78 FR 6720, Jan. 30, 2013]

Appendix A—Protocol for Using an Electrochemical Analyzer to Determine Oxygen and Carbon Monoxide Concentrations From Certain Engines

1.0 SCOPE AND APPLICATION. WHAT IS THIS PROTOCOL?

This protocol is a procedure for using portable electrochemical (EC) cells for measuring carbon monoxide (CO) and oxygen (O_2) concentrations in controlled and uncontrolled emissions from existing stationary 4-stroke lean burn and 4-stroke rich burn reciprocating internal combustion engines as specified in the applicable rule.

1.1 Analytes. What does this protocol determine?

This protocol measures the engine exhaust gas concentrations of carbon monoxide (CO) and oxygen (O_2).

Analyte	**CAS No.**	**Sensitivity**
Carbon monoxide (CO)	630-08-0	Minimum detectable limit should be 2 percent of the nominal range or 1 ppm, whichever is less restrictive.
Oxygen (O_2)	*7782-44-7*	

1.2 Applicability. When is this protocol acceptable?

This protocol is applicable to 40 CFR part 63, subpart ZZZZ. Because of inherent cross sensitivities of EC cells, you must not apply this protocol to other emissions sources without specific instruction to that effect.

1.3 Data Quality Objectives. How good must my collected data be?

Refer to Section 13 to verify and document acceptable analyzer performance.

1.4 Range. What is the targeted analytical range for this protocol?

The measurement system and EC cell design(s) conforming to this protocol will determine the analytical range for each gas component. The nominal ranges are defined by choosing up-scale calibration gas concentrations near the maximum anticipated flue gas concentrations for CO and O_2, or no more than twice the permitted CO level.

1.5 Sensitivity. What minimum detectable limit will this protocol yield for a particular gas component?

The minimum detectable limit depends on the nominal range and resolution of the specific EC cell used, and the signal to noise ratio of the measurement system. The minimum detectable limit should be 2 percent of the nominal range or 1 ppm, whichever is less restrictive.

2.0 SUMMARY OF PROTOCOL

In this protocol, a gas sample is extracted from an engine exhaust system and then conveyed to a portable EC analyzer for measurement of CO and O_2 gas concentrations. This method provides measurement system performance specifications and sampling protocols to ensure reliable data. You may use additions to, or modifications of vendor supplied measurement systems (e.g., heated or unheated sample lines, thermocouples, flow meters, selective gas scrubbers, etc.) to meet the design specifications of this protocol. Do not make changes to the measurement system from the as-verified configuration (Section 3.12).

3.0 DEFINITIONS

3.1 Measurement System. The total equipment required for the measurement of CO and O_2 concentrations. The measurement system consists of the following major subsystems:

3.1.1 Data Recorder. A strip chart recorder, computer or digital recorder for logging measurement data from the analyzer output. You may record measurement data from the digital data display manually or electronically.

3.1.2 Electrochemical (EC) Cell. A device, similar to a fuel cell, used to sense the presence of a specific analyte and generate an electrical current output proportional to the analyte concentration.

3.1.3 Interference Gas Scrubber. A device used to remove or neutralize chemical compounds that may interfere with the selective operation of an EC cell.

3.1.4 Moisture Removal System. Any device used to reduce the concentration of moisture in the sample stream so as to protect the EC cells from the damaging effects of condensation and to minimize errors in measurements caused by the scrubbing of soluble gases.

3.1.5 Sample Interface. The portion of the system used for one or more of the following: sample acquisition; sample transport; sample conditioning or protection of the EC cell from any degrading effects of the engine exhaust effluent; removal of particulate matter and condensed moisture.

3.2 Nominal Range. The range of analyte concentrations over which each EC cell is operated (normally 25 percent to 150 percent of up-scale calibration gas value). Several nominal ranges can be used for any given cell so long as the calibration and repeatability checks for that range remain within specifications.

3.3 Calibration Gas. A vendor certified concentration of a specific analyte in an appropriate balance gas.

3.4 Zero Calibration Error. The analyte concentration output exhibited by the EC cell in response to zero-level calibration gas.

3.5 Up-Scale Calibration Error. The mean of the difference between the analyte concentration exhibited by the EC cell and the certified concentration of the up-scale calibration gas.

3.6 Interference Check. A procedure for quantifying analytical interference from components in the engine exhaust gas other than the targeted analytes.

3.7 Repeatability Check. A protocol for demonstrating that an EC cell operated over a given nominal analyte concentration range provides a stable and consistent response and is not significantly affected by repeated exposure to that gas.

3.8 Sample Flow Rate. The flow rate of the gas sample as it passes through the EC cell. In some situations, EC cells can experience drift with changes in flow rate. The flow rate must be monitored and documented during all phases of a sampling run.

3.9 Sampling Run. A timed three-phase event whereby an EC cell's response rises and plateaus in a sample conditioning phase, remains relatively constant during a measurement data phase, then declines during a refresh phase. The sample conditioning phase exposes the EC cell to the gas sample for a length of time sufficient to reach a constant response. The measurement data phase is the time interval during which gas sample measurements can be made that meet the acceptance criteria of this protocol. The refresh phase then purges the EC cells with CO-free air. The refresh phase replenishes requisite O_2 and moisture in the electrolyte reserve and provides a mechanism to de-gas or desorb any interference gas scrubbers or filters so as to enable a stable CO EC cell response. There are four primary types of sampling runs: pre- sampling calibrations; stack gas sampling; post-sampling calibration checks; and measurement system repeatability checks. Stack gas sampling runs can be chained together for extended evaluations, providing all other procedural specifications are met.

3.10 Sampling Day. A time not to exceed twelve hours from the time of the pre-sampling calibration to the post-sampling calibration check. During this time, stack gas sampling runs can be repeated without repeated recalibrations, providing all other sampling specifications have been met.

3.11 Pre-Sampling Calibration/Post-Sampling Calibration Check. The protocols executed at the beginning and end of each sampling day to bracket measurement readings with controlled performance checks.

3.12 Performance-Established Configuration. The EC cell and sampling system configuration that existed at the time that it initially met the performance requirements of this protocol.

4.0 Interferences.

When present in sufficient concentrations, NO and NO_2 are two gas species that have been reported to interfere with CO concentration measurements. In the likelihood of this occurrence, it is the protocol user's responsibility to employ and properly maintain an appropriate CO EC cell filter or scrubber for removal of these gases, as described in Section 6.2.12.

5.0 Safety. [Reserved]

6.0 Equipment and Supplies.

6.1 What equipment do I need for the measurement system?

The system must maintain the gas sample at conditions that will prevent moisture condensation in the sample transport lines, both before and as the sample gas contacts the EC cells. The essential components of the measurement system are described below.

6.2 Measurement System Components.

6.2.1 Sample Probe. A single extraction-point probe constructed of glass, stainless steel or other non-reactive material, and of length sufficient to reach any designated sampling point. The sample probe must be designed to prevent plugging due to condensation or particulate matter.

6.2.2 Sample Line. Non-reactive tubing to transport the effluent from the sample probe to the EC cell.

6.2.3 Calibration Assembly (optional). A three-way valve assembly or equivalent to introduce calibration gases at ambient pressure at the exit end of the sample probe during calibration checks. The assembly must be designed such that only stack gas or calibration gas flows in the sample line and all gases flow through any gas path filters.

6.2.4 Particulate Filter (optional). Filters before the inlet of the EC cell to prevent accumulation of particulate material in the measurement system and extend the useful life of the components. All filters must be fabricated of materials that are non-reactive to the gas mixtures being sampled.

6.2.5 Sample Pump. A leak-free pump to provide undiluted sample gas to the system at a flow rate sufficient to minimize the response time of the measurement system. If located upstream of the EC cells, the pump must be constructed of a material that is non-reactive to the gas mixtures being sampled.

6.2.8 Sample Flow Rate Monitoring. An adjustable rotameter or equivalent device used to adjust and maintain the sample flow rate through the analyzer as prescribed.

6.2.9 Sample Gas Manifold (optional). A manifold to divert a portion of the sample gas stream to the analyzer and the remainder to a by-pass discharge vent. The sample gas manifold may also include provisions for introducing calibration gases directly to the analyzer. The manifold must be constructed of a material that is non-reactive to the gas mixtures being sampled.

6.2.10 EC cell. A device containing one or more EC cells to determine the CO and O_2 concentrations in the sample gas stream. The EC cell(s) must meet the applicable performance specifications of Section 13 of this protocol.

6.2.11 Data Recorder. A strip chart recorder, computer or digital recorder to make a record of analyzer output data. The data recorder resolution (i.e., readability) must be no greater than 1 ppm for CO; 0.1 percent for O_2 ; and one degree (either °C or °F) for temperature. Alternatively, you may use a digital or analog meter having the same resolution to observe and manually record the analyzer responses.

6.2.12 Interference Gas Filter or Scrubber. A device to remove interfering compounds upstream of the CO EC cell. Specific interference gas filters or scrubbers used in the performance-established configuration of the analyzer must continue to be used. Such a filter or scrubber must have a means to determine when the removal agent is exhausted. Periodically replace or replenish it in accordance with the manufacturer's recommendations.

7.0 Reagents and Standards. What calibration gases are needed?

7.1 Calibration Gases. CO calibration gases for the EC cell must be CO in nitrogen or CO in a mixture of nitrogen and $O_{2.}$ Use CO calibration gases with labeled concentration values certified by the manufacturer to be within ± 5 percent of the label value. Dry ambient air (20.9 percent O_2) is acceptable for calibration of the O_2 cell. If needed, any lower percentage O_2 calibration gas must be a mixture of O_2 in nitrogen.

7.1.1 Up-Scale CO Calibration Gas Concentration. Choose one or more up-scale gas concentrations such that the average of the stack gas measurements for each stack gas sampling run are between 25 and 150 percent of those concentrations. Alternatively, choose an up-scale gas that does not exceed twice the concentration of the applicable outlet standard. If a measured gas value exceeds 150 percent of the up-scale CO calibration gas value at any time during the stack gas sampling run, the run must be discarded and repeated.

7.1.2 Up-Scale O_2 Calibration Gas Concentration.

Select an O_2 gas concentration such that the difference between the gas concentration and the average stack gas measurement or reading for each sample run is less than 15 percent O_2 . When the average exhaust gas O_2 readings are above 6 percent, you may use dry ambient air (20.9 percent O_2) for the up-scale O_2 calibration gas.

7.1.3 Zero Gas. Use an inert gas that contains less than 0.25 percent of the up-scale CO calibration gas concentration. You may use dry air that is free from ambient CO and other combustion gas products (e.g., CO_2).

8.0 Sample Collection and Analysis

8.1 Selection of Sampling Sites.

8.1.1 Control Device Inlet. Select a sampling site sufficiently downstream of the engine so that the combustion gases should be well mixed. Use a single sampling extraction point near the center of the duct (e.g., within the 10 percent centroidal area), unless instructed otherwise.

8.1.2 Exhaust Gas Outlet. Select a sampling site located at least two stack diameters downstream of any disturbance (e.g., turbocharger exhaust, crossover junction or recirculation take-off) and at least one-half stack diameter upstream of the gas discharge to the atmosphere. Use a single sampling extraction point near the center of the duct (e.g., within the 10 percent centroidal area), unless instructed otherwise.

8.2 Stack Gas Collection and Analysis. Prior to the first stack gas sampling run, conduct that the pre-sampling calibration in accordance with Section 10.1. Use Figure 1 to record all data. Zero the analyzer with zero gas. Confirm and record that the scrubber media color is correct and not exhausted. Then position the probe at the sampling point and begin the sampling run at the same flow rate used during the up-scale calibration. Record the start time. Record all EC cell output responses and the flow rate during the “sample conditioning phase” once per minute until constant readings are obtained. Then begin the “measurement data phase” and record readings every 15 seconds for at least two minutes (or eight readings), or as otherwise required to achieve two continuous minutes of data that meet the specification given in Section 13.1. Finally, perform the “refresh phase” by introducing dry air, free from CO and other combustion gases, until several minute-to-minute readings of consistent value have been obtained. For each run use the “measurement data phase” readings to calculate the average stack gas CO and O_2 concentrations.

8.3 EC Cell Rate. Maintain the EC cell sample flow rate so that it does not vary by more than ± 10 percent throughout the pre-sampling calibration, stack gas sampling and post-sampling calibration check. Alternatively, the EC cell sample flow rate can be maintained within a tolerance range that does not affect the gas concentration readings by more than ± 3 percent, as instructed by the EC cell manufacturer.

9.0 Quality Control (Reserved)

10.0 Calibration and Standardization

10.1 Pre-Sampling Calibration. Conduct the following protocol once for each nominal range to be used on each EC cell before performing a stack gas sampling run on each field sampling day. Repeat the calibration if you replace an EC cell before completing all of the sampling runs. There is no prescribed order for calibration of the EC cells; however, each cell must complete the measurement data phase during calibration. Assemble the measurement system by following the manufacturer's recommended protocols including for preparing and preconditioning the EC cell. Assure the measurement system has no leaks and verify the gas scrubbing agent is not depleted. Use Figure 1 to record all data.

10.1.1 Zero Calibration. For both the O_2 and CO cells, introduce zero gas to the measurement system (e.g., at the calibration assembly) and record the concentration reading every minute until readings are constant for at least two consecutive minutes. Include the time and sample flow rate. Repeat the steps in this section at least once to verify the zero calibration for each component gas.

10.1.2 Zero Calibration Tolerance. For each zero gas introduction, the zero level output must be less than or equal to ± 3 percent of the up-scale gas value or ± 1 ppm, whichever is less restrictive, for the CO channel and less than or equal to ± 0.3 percent O_2 for the O_2 channel.

10.1.3 Up-Scale Calibration. Individually introduce each calibration gas to the measurement system (e.g., at the calibration assembly) and record the start time. Record all EC cell output responses and the flow rate during this "sample conditioning phase" once per minute until readings are constant for at least two minutes. Then begin the "measurement data phase" and record readings every 15 seconds for a total of two minutes, or as otherwise required. Finally, perform the "refresh phase" by introducing dry air, free from CO and other combustion gases, until readings are constant for at least two consecutive minutes. Then repeat the steps in this section at least once to verify the calibration for each component gas. Introduce all gases to flow through the entire sample handling system (i.e., at the exit end of the sampling probe or the calibration assembly).

10.1.4 Up-Scale Calibration Error. The mean of the difference of the "measurement data phase" readings from the reported standard gas value must be less than or equal to ± 5 percent or ± 1 ppm for CO or ± 0.5 percent O_2 , whichever is less restrictive, respectively. The maximum allowable deviation from the mean measured value of any single "measurement data phase" reading must be less than or equal to ± 2 percent or ± 1 ppm for CO or ± 0.5 percent O_2 , whichever is less restrictive, respectively.

10.2 Post-Sampling Calibration Check. Conduct a stack gas post-sampling calibration check after the stack gas sampling run or set of runs and within 12 hours of the initial calibration. Conduct up-scale and zero calibration checks using the protocol in Section 10.1. Make no changes to the sampling system or EC cell calibration until all post-sampling calibration checks have been recorded. If either the zero or up-scale calibration error exceeds the respective specification in Sections 10.1.2 and 10.1.4 then all measurement data collected since the previous successful calibrations are invalid and re-calibration and re-sampling are required. If the sampling system is disassembled or the EC cell calibration is adjusted, repeat the calibration check before conducting the next analyzer sampling run.

11.0 Analytical Procedure

The analytical procedure is fully discussed in Section 8.

12.0 Calculations and Data Analysis

Determine the CO and O_2 concentrations for each stack gas sampling run by calculating the mean gas concentrations of the data recorded during the "measurement data phase".

13.0 Protocol Performance

Use the following protocols to verify consistent analyzer performance during each field sampling day.

13.1 Measurement Data Phase Performance Check. Calculate the mean of the readings from the "measurement data phase". The maximum allowable deviation from the mean for each of the individual readings is ± 2 percent, or ± 1 ppm, whichever is less restrictive. Record the mean value and maximum deviation for each gas monitored. Data must conform to Section 10.1.4. The EC cell flow rate must conform to the specification in Section 8.3.

Example: A measurement data phase is invalid if the maximum deviation of any single reading comprising that mean is greater than ± 2 percent *or ± 1 ppm (the default criteria). For example, if the mean = 30 ppm, single readings of below 29 ppm and above 31 ppm are disallowed*).

13.2 Interference Check. Before the initial use of the EC cell and interference gas scrubber in the field, and semi-annually thereafter, challenge the interference gas scrubber with NO and NO_2 gas standards that are generally recognized as representative of diesel-fueled engine NO and NO_2 emission values. Record the responses displayed by the CO EC cell and other pertinent data on Figure 1 or a similar form.

13.2.1 Interference Response. The combined NO and NO_2 interference response should be less than or equal to ± 5 percent of the up-scale CO calibration gas concentration.

13.3 Repeatability Check. Conduct the following check once for each nominal range that is to be used on the CO EC cell within 5 days prior to each field sampling program. If a field sampling program lasts longer than 5 days, repeat this check every 5 days. Immediately repeat the check if the EC cell is replaced or if the EC cell is exposed to gas concentrations greater than 150 percent of the highest up-scale gas concentration.

13.3.1 Repeatability Check Procedure. Perform a complete EC cell sampling run (all three phases) by introducing the CO calibration gas to the measurement system and record the response. Follow Section 10.1.3. Use Figure 1 to record all data. Repeat the run three times for a total of four complete runs. During the four repeatability check runs, do not adjust the system except where necessary to achieve the correct calibration gas flow rate at the analyzer.

13.3.2 Repeatability Check Calculations. Determine the highest and lowest average “measurement data phase” CO concentrations from the four repeatability check runs and record the results on Figure 1 or a similar form. The absolute value of the difference between the maximum and minimum average values recorded must not vary more than ± 3 percent or ± 1 ppm of the up-scale gas value, whichever is less restrictive.

14.0 POLLUTION PREVENTION (RESERVED)

15.0 WASTE MANAGEMENT (RESERVED)

16.0 ALTERNATIVE PROCEDURES (RESERVED)

17.0 REFERENCES

(1) “Development of an Electrochemical Cell Emission Analyzer Test Protocol”, Topical Report, Phil Juneau, Emission Monitoring, Inc., July 1997.

(2) “Determination of Nitrogen Oxides, Carbon Monoxide, and Oxygen Emissions from Natural Gas-Fired Engines, Boilers, and Process Heaters Using Portable Analyzers”, EMC Conditional Test Protocol 30 (CTM-30), Gas Research Institute Protocol GRI-96/0008, Revision 7, October 13, 1997.

(3) “ICAC Test Protocol for Periodic Monitoring”, EMC Conditional Test Protocol 34 (CTM-034), The Institute of Clean Air Companies, September 8, 1999.

(4) “Code of Federal Regulations”, Protection of Environment, 40 CFR, Part 60, Appendix A, Methods 1-4; 10.

TABLE 1: APPENDIX A—SAMPLING RUN DATA.

Facility___________ Engine I.D.___________ Date______				
Run Type:	(_)	(_)	(_)	(_)
(X)	Pre-Sample Calibration	Stack Gas Sample	Post-Sample Cal. Check	Repeatability Check

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Run #	1	1	2	2	3	3	4	4	Time	Scrub. OK	Flow- Rate
Gas	O_2	CO	O_2	CO	O_2	CO	O_2	CO			
Sample Cond. Phase											
"											
"											
"											
"											
Measurement Data Phase											
"											
"											
"											
"											
"											
"											
"											
"											
"											
"											
Mean											
Refresh Phase											
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"											

[78 FR 6721, Jan. 30, 2013]

Indiana Department of Environmental Management
Office of Air Quality

Addendum to the Technical Support Document (ATSD) for a Part 70 Operating Permit Renewal

Source Background and Description

Source Name:	**Gartland Foundry Co., Inc.**
Source Location:	**330 Grant St., Terre Haute, IN 47802**
County:	**Vigo**
SIC Code:	**3321 (Gray and Ductile Iron Foundries)**
Permit Renewal No.:	**T167-32794-00007**
Permit Reviewer:	**Sarah Street**

On July 30, 2013, the Office of Air Quality (OAQ) had a notice published in the Tribune Star, Terre Haute, Indiana, stating that Gartland Foundry Co., Inc. had applied for a Part 70 Operating Permit Renewal to renew its Part 70 permit. The notice also stated that the OAQ proposed to issue a Part 70 Operating Permit Renewal for this operation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

Comments and Responses

On August 15, 2013, August Mack Environmental, Inc. submitted comments to IDEM, OAQ on the draft Part 70 Operating Permit Renewal.

The Technical Support Document (TSD) is used by IDEM, OAQ for historical purposes. IDEM, OAQ does not make any changes to the original TSD, but the Permit will have the updated changes. The comments and revised permit language are provided below with deleted language as ~~strikeouts~~ and new language **bolded**.

Comment 1:

The source has requested to modify current PSD minor limits for equipment existing prior to 2008.

In Condition D.3.1, the source has requested to reduce the PM, PM10, and PM2.5 emission limitations from 8, 10 and 10 pounds per hour, respectively to 6, 8, and 8 pounds per hour, respectively

In Condition D.7.1, the source has requested to raise the PM, PM10, and PM2.5 emission limitations from 1.45, 2.5, and 2.5 pounds per hour to 3.45, 4.5, and 4.5 pounds per hour, respectively.

Response to Comment 1:

IDEM will make the requested changes to the PSD Minor Limits because the total PM, PM10, and PM2.5 emissions are still limited to less than 100 tons per 12 consecutive month period and render 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable to the emission units constructed before 2008. The total PTE of Entire Source will not change as a result of this revision. See Appendix A of this TSD for revised limited PTE calculations. The table below summarizes the potential to emit of the entire source (reflecting adjustment of existing limits), with updated emissions shown as **bold** values and previous emissions shown as ~~strikethrough~~ values.

Process/ Emission Unit	Potential To Emit of the Entire Source After Issuance of Renwal (tons/year)									
	PM	PM_{10}*	$PM_{2.5}$**	SO_2	NO_x	VOC	CO	GHGs	Total HAPs	Worst Single HAP
Equipment existing prior to 2008										
EU120 Scrap and charge handling	5.40	3.24	3.24	0.00	0.00	0.00	0.00	0.00		
EIF Furnace #3 (EU130)	9.00	9.00	9.00	0.00	0.00	0.00	0.00	0.00		
EIF Furnace #4 (EU140)										
Magnesium Treatment (Inoculation)	8.10	8.10	8.10	0.00	0.00	0.00	0.00	0.00		
Prime Paint Line EU710 (4)	2.22	2.22	2.22	0.00	0.00	47.00	0.00	0.00		
Floor pouring and cooling process EU540	7.38	2.41	2.41	0.18	0.09	14.76	34.07	90.00		
Sinto pouring and cooling process EU550	7.38	2.41	2.41	0.18	0.09	14.76	34.07	90.00		
Casting shakeout EU570	9.00	9.00	9.00	0.00	0.00	10.80	18.00	90.00		
Casting shakeout Didion Drum(1)	~~35.04~~ **26.28**	~~43.80~~ **35.04**	~~43.80~~ **35.04**	0.00	0.00	0.00	0.00	0.00		
Sand Muller EU591				0.00	0.00	0.00	0.00	0.00		
Sand Conveyor EU492										
Four (4) Snag Grinders EU640(2)				0.00	0.00	0.00	0.00	0.00		
Mold Making (EU520, EU521, EU530)	2.84	1.26	1.26	0.00	0.00	0.00	0.00	0.00		
Six (6) Finish Grinders EU650	6.00	6.00	6.00	0.00	0.00	0.00	0.00	0.00		
Spin Blast EU610	~~6.35~~ **15.11**	~~10.95~~ **19.71**	~~10.95~~ **19.71**	0.00	0.00	0.00	0.00	0.00		
Tumbler EU630										
Shell Core Machine EU320	0.45	0.45	0.45	0.00	0.00	0.13	0.00	0.00		
Shell Core Machine EU321										
Oil Core Making Process EU410	0.45	0.45	0.45	0.00	0.00	1.53	0.00	0.00		
Core Wash Process EU730	0.00	0.00	0.00	0.00	0.00	1.05	0.00	0.00		
Isocure Core Machine CB-22	0.28	0.28	0.28	0.00	0.00	5.50	0.00	0.00		
Cold Box Isocure Core Machine Gaylord-1										
Cold Box Isocure Core Machine Gaylord-2										
Cold Box Mixer (3)	0.00	0.00	0.00	0.00	0.00	4.42	0.00	0.00		
2008 Modification(5)										
Sinto pouring and cooling process EU560	7.90	2.41	2.41	0.18	0.09	15.69	34.07	90.00		
Sinto #2 mold machine EU531	1.87	0.83	0.83	0.00	0.00	0.00	0.00	0.00		
2011 Modification										
Emergency Diesel Generator	0.02	0.02	0.02	0.01	0.21	0.02	0.05	7.98		
2012 Modification(2)										
Tumble Blast EU660	24.88	14.89	9.90	0.00	0.00	0.00	0.00	0.00		
2013 Modification(3)										
Cold Box (Isocure) Core Machine CBCM-3(3)	24.90	3.73	3.73	0.00	0.00	24.90	0.00	0.00		
Cold Box Mixer (increase in capacity)	0.00	0.00	0.00	0.00	0.00	4.73	0.00	0.00		
Fugitive Emissions: Paved roads	1.24	0.25	0.06	0.00	0.00	0.00	0.00	0.00		
Total PTE of Entire Source	**160.70**	**121.70**	**116.52**	**0.55**	**0.48**	**145.28**	**120.27**	**367.98**	**23.61**	**9.99 (Xylene)**
PSD Major Source Thresholds	100	100	100	100	100	100	100	100,000 CO_2e	NA	NA

Notes:

* Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant".

** $PM_{2.5}$ listed is direct $PM_{2.5}$.

(1) Casting Shakeout system modified in 2012 to add Didion Drum as replacement unit to casting shakeout EU570. The throughput of these units is the same.

(2) Two snag grinders were constructed in 2008 to replace 2 snag grinders existing prior to 2008

(3) The Cold Box Mixer was modified in 2013 to increase throughput capacity due to the construction of the new Cold Box Isocure Core Machine

(4) PTE from Paint Line EU710 for PM, PM10, and PM2.5 is PTE after dry filters for control.

(5) The one (1) holding furnace, a part of the 2008 modification, was never constructed and is being removed with this Renewal

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

Process/ Emission Unit	Potential To Emit of the Entire Source After Issuance of Renwal (tons/year)									
	PM	PM_{10}*	$PM_{2.5}$**	SO_2	NO_x	VOC	CO	GHGs	Total HAPs	Worst Single HAP
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EIF Furnace #4 (EU140)										
Magnesium Treatment (Inoculation)	8.10	8.10	8.10	0.00	0.00	0.00	0.00	0.00		
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Sand Muller EU591				0.00	0.00	0.00	0.00	0.00		
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Six (6) Finish Grinders EU650	6.00	6.00	6.00	0.00	0.00	0.00	0.00	0.00		
Spin Blast EU610	15.11	19.71	19.71	0.00	0.00	0.00	0.00	0.00		
Tumbler EU630										
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Isocure Core Machine CB-22	0.28	0.28	0.28	0.00	0.00	5.50	0.00	0.00		
Cold Box Isocure Core Machine Gaylord-1										
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2011 Modification										
Emergency Diesel Generator	0.02	0.02	0.02	0.01	0.21	0.02	0.05	7.98		
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Tumble Blast EU660	24.88	14.89	9.90	0.00	0.00	0.00	0.00	0.00		
2013 Modification(3)										
Cold Box (Isocure) Core Machine CBCM-3(3)	24.90	3.73	3.73	0.00	0.00	24.90	0.00	0.00		
Cold Box Mixer (increase in capacity)	0.00	0.00	0.00	0.00	0.00	4.73	0.00	0.00		
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PSD Major Source Thresholds	100	100	100	100	100	100	100	100,000 CO_2e	NA	NA

Notes:

* Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant".

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(3) The Cold Box Mixer was modified in 2013 to increase throughput capacity due to the construction of the new Cold Box Isocure Core Machine

(4) PTE from Paint Line EU710 for PM, PM10, and PM2.5 is PTE after dry filters for control.

(5) The one (1) holding furnace, a part of the 2008 modification, was never constructed and is being removed with this Renewal

Below are the changes to the permit. Deleted language appears as ~~strikethrough~~ text and new language appears as **bold** text:

D.3.1 Prevention of Significant Deterioration (PSD) Minor Limits for Equipment Existing Prior to 2008 [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 (PSD) not applicable, the following conditions shall apply:

(a) The PM emissions from the Hosakawa baghouse (BH5) shall not exceed ~~8.0~~ **6.0** pounds per hour.

(b) The PM10 emissions from the Hosakawa baghouse (BH5) shall not exceed ~~10.0~~ **8.0** pounds per hour.

(c) The PM2.5 emissions from the Hosakawa baghouse (BH5) shall not exceed ~~10.0~~ **8.0** pounds per hour.

Note: The Hosakawa baghouse, identified as BH5, is common to the Didion Drum, sand muller (EU591), sand conveyor (EU592), and four (4) Snag Grinders (EU640). The Didion Drum was routed to the Hosakawa baghouse BH5 in 2013.

Compliance with these limits, in conjunction with Conditions D.1.1, D.2.1, D.4.1, D.5.1, D.6.1, D.7.1, D.9.1, D.11.1, and D.12.1, shall limit the potential PM, PM10 and PM2.5 emissions to less than 100 tons per 12 consecutive month period and renders 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable to the emission units constructed before 2008.

...

D.7.1 Prevention of Significant Deterioration (PSD) Minor Limits for Equipment Existing Prior to 2008 [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 (PSD) not applicable, the following conditions shall apply:

(a) The PM emissions from the Wheelabrator-35 baghouse (BH2), controlling the Spin Blast (EU610) and Tumbler (EU630), shall not exceed ~~1.45~~ **3.45** pounds per hour.

(b) The PM10 emissions from the Wheelabrator-35 baghouse (BH2), controlling the Spin Blast (EU610) and Tumbler (EU630), shall not exceed ~~2.5~~ **4.5** pounds per hour.

(c) The PM2.5 emissions from the Wheelabrator-35 baghouse (BH2), controlling the Spin Blast (EU610) and Tumbler (EU630), shall not exceed ~~2.5~~ **4.5** pounds per hour.

Compliance with these limits, in conjunction with Conditions D.1.1, D.2.1, D.3.1, D.4.1, D.5.1, D.6.1, D.9.1, D.11.1, and D.12.1 shall limit the potential PM, PM10 and PM2.5 emissions to less than 100 tons per 12 consecutive month period and renders 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable to the emission units constructed before 2008.

...

Comment 2:

Condition D.6.5 of the draft permit includes new PM, PM10, and PM2.5 testing requirements for the Wheelabrator-88 Baghouse BH3 controlling particulate emissions from Casting Shakeout, EU570, constructed in 2001. Gartland is requesting that the stack testing condition be removed. Baghouse BH3 was previously not required to be tested in permits issued to date, there were no changes to the baghouse or shakeout unit, and the emissions from the unit have not increased. Stack testing is expensive and has never been required in the past. It is an unnecessary continual cost for Gartland to incur every five years. Therefore, Gartland is requesting that the stack testing condition be removed and the requirements for the baghouse be returned to the conditions as set forth in the permits issued since the unit was constructed in 2001.

Condition D.7.5 of the draft permit includes new PM, PM10, and PM2.5 testing requirements for the Wheelabrator-35 Baghouse BH2 controlling particulate emissions from the Spin Blast, EU610, constructed in 1986, and the Tumbler, EU630, constructed in 1989. Gartland is requesting that the stack testing condition be removed. Baghouse BH2 was previously not required to be tested in permits issued to date, there were no changes to the baghouse or the emission units, and the emissions from the units have not increased. Stack testing is expensive and has never been required in the past. It is an unnecessary continual cost for Gartland to incur every five years. Therefore, Gartland is requesting that the stack testing condition be removed, and the requirements for the baghouse be returned to the conditions as set forth in the permits issued since the unit was constructed in the 1980's.

If the IDEM does not remove permit conditions D.6.5 and D.7.5, Gartland requests that stack testing conditions D.6.5 and D.7.5 be modified to state that stack testing must occur no later than 545 days after the issuance of Renewal No. T167-32794-00007, rather than 180 days after the issuance of Renewal No. T167-32794-00007. According to permit conditions D.3.6, D.6.5, D.7.5, and D.12.7(b), within the next year, Gartland will have to perform four (4) new stack tests. It will be very expensive to perform four (4) stack tests within one year, so Gartland is requesting that the stack testing requirements in D.6.5 and D.7.5 be delayed one additional year to spread out the costs that Gartland will be incurring from stack testing.

Response to Comment 2:

Condition D.6.5 of the draft permit includes new PM, PM10, and PM2.5 testing requirements for the Wheelabrator-88 Baghouse BH3. Condition D.7.5 of the draft permit includes new PM, PM10, and PM2.5 testing requirements for the Wheelabrator-35 Baghouse BH2.

As indicated in Technical Support Document to T167-32794-00007, testing requirements for Baghouse BH3 are being added with this renewal. Baghouse BH3 is required to have at minimum a 96% control efficiency for the Casting shakeout system (EU570) to comply with PSD Minor limits. Similarly, testing requirements for Baghouse BH2 are being added with this renewal. Baghouse BH2 is required to have at minimum a 96% control efficiency for the Spin Blast (EU610) and Tumbler (EU630) to comply with PSD Minor limits.

IDEM has noted that these are new requirements with the renewal and the source has not been required to test these units in prior permit approvals. However, upon review of the entire source at the time of permit renewal, IDEM has determined that both Baghouse BH2 and Baghouse BH3 should have testing requirements in the permit, and these requirements were previously omitted in error.

Further, because these baghouses have not previously been tested, IDEM is using the standard requirement that the tests must be completed within 180 days of the issuance of the renewal.

The source has pointed out that two other tests will be required soon; however, these two tests are existing requirements and are independent of the additional requirements for Baghouse BH2 and Baghouse BH3 being added with this renewal. Condition D.3.6 contains testing requirements for a 2012 modification, and Condition D.12.7(b) contains testing requirements for a 2013 modification. These tests are unrelated to the testing requirements added with this renewal for Baghouse BH2 and Baghouse BH3; therefore, IDEM will not change its standard condition to increase the amount of time before a test on Baghouse BH2 and Baghouse BH3 is required.

No changes were made as a result of this comment.

IDEM Contact

(a) Questions regarding this proposed Part 70 Operating Permit Renewal can be directed to Sarah Street at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) 232-8427 or toll free at 1-800-451-6027 extension 2-8427.

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

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

Appendix A to ATSD: Emissions Calculations
Gray Iron Foundries
Emission Units Summary

Company Name: Gartland Foundry
Source Address: 330 Grant St., Terre Haute, IN 47802
Part 70 Renewal No. : T167-32794-00007
Reviewer: Sarah Street

Summary of Emission Units

Process Description		Emission Unit ID(s)	Control / Stack ID	Maximum Throughput (ton/hour)	Maximum Throughput (lb/hour)	Maximum Throughput (tons/yr)
Raw Material Handling and Preparation	Scrap and Charge Handling	EU120 Scrap and charge handling	No control; indoors	10.00	20,000	87,600
	Sand Handling	Sand Muller EU591; Sand Conveyor EU492	Hosakawa Baghouse BH5 (Stack SC-5)	100.00	200,000	876,000
	Mold Making	Mold Making (EU520, EU521, EU530)	No control; indoors	68.49	136,986	600,000
		Sinto #2 mold machine EU531	No control; indoors	26.40	52,800	231,264
	Magnesium Treatment	Magnesium Treatment (Inoculation)	No control; indoors	10.00	20,000	87,600
Metal Melting	Electric Induction Furnaces	EIF Furnace #3 (EU130)	Steelcraft baghouse BH1 (Stack SC-2)	5.00	10,000	43,800
		EIF Furnace #4 (EU140)		5.00	10,000	43,800
Casting and Finishing	Pouring and Cooling	Floor pouring and cooling process EU540	No control; indoors	11.00	22,000	96,360
		Sinto pouring and cooling process EU550	No control; indoors	5.00	10,000	43,800
		Sinto pouring and cooling process EU560	No control; indoors	6.00	12,000	52,560
	Casting Shakeout	Casting shakeout system EU570: Didion Drum	Hosakawa Baghouse BH5 (Stack SC-5)*	18.00	36,000	157,680
	Grinding	Four (4) Snag Grinders EU640	Hosakawa Baghouse BH5 (Stack SC-5)	16.00	32,000	140,160
		Six (6) Finish Grinders EU650	No control; indoors	12.00	24,000	105,120
	Blasting	Spin Blast EU610	Wheelabrator-35 Baghouse BH2 (Stack SC-7)	5.00	10,000	43,800
		Tumble Blast EU660	Siemens baghouse BH6 (Stack SC-6)	5.00	10,000	43,800
		Tumbler EU630	Wheelabrator-35 Baghouse BH2 (Stack SC-7)	1.00	2,000	8,760
Mold and Core Production	Core Making	Shell Core Machine EU320	No control; indoors	1.00	2,000	8,760
		Shell Core Machine EU321	No control; indoors	1.00	2,000	8,760
		Oil Core Making Process EU410	No control; indoors	0.25	500	2,190
		Core Wash Process EU730	No control; indoors	N/A	N/A	N/A
		Isocure Core Machine CB-22 (sand/resin)	Acid scrubber (Stack SC-8)	0.525	1,050	4,599
		Isocure Core Machine CB-22 (resin)		21.00	42,000	183,960
		Isocure Core Machine CB-22 (DMIPA)		5.25E-04	1.05	4.60
		Cold Box Isocure Core Machine Gaylord-1 (sand/resin)	Acid scrubber (Stack SC-8)	1.000	2,000	8,760
		Cold Box Isocure Core Machine Gaylord-1 (resin)		40.00	80,000	350,400
		Cold Box Isocure Core Machine Gaylord-1 (DMIPA)		1.00E-03	2.00	8.76
		Cold Box Isocure Core Machine Gaylord-2 (sand/resin)	Acid scrubber (Stack SC-8)	1.000	2,000	8,760
		Cold Box Isocure Core Machine Gaylord-2 (resin)		4.00	8,000	35,040
		Cold Box Isocure Core Machine Gaylord-2 (DMIPA)		1.00E-03	2.00	8.76
		Cold Box (Isocure) Core Machine (CBCM-3) (sand/resin)	Acid scrubber (Stack SC-8)	2.700	5,400	23,652
		Cold Box (Isocure) Core Machine (CBCM-3) (resin)		0.05	108	473
		Cold Box (Isocure) Core Machine (CBCM-3) (Amine catalyst)		2.11E-03	4.22	18.48
		Cold Box Mixer**	No control; indoors	5.225	10,450	45,771
Paint Spray Booth	Electrostatic Spray Booth	Prime Paint Line EU710	dry filters (Stack SC-6)	**Capacity (Castings per Hour)**		
				500.00		
Diesel Generator				**Rating (HP)**		
		Emergency Diesel Generator	no control	346		

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
*With the 2013 Modification, Gartland Foundry rerouted emissions from the Didion Drum from the Siemens Baghouse (BH6) to the Hosakawa Baghouse (BH5)
**The Cold Box Mixer feeds the Isocure Core Machine CB-22 and Cold Box Isocure Core Machines Gaylord-1, Gaylord-2, and CBCM-3.

Appendix A to ATSD: Emissions Calculations
Gray Iron Foundries
Emissions Summary

Company Name: Gartland Foundry
Source Address: 330 Grant St., Terre Haute, IN 47802
Part 70 Renewal No. : T167-32794-00007
Reviewer: Sarah Street

Summary of Unlimited PTE

		Unlimited Potential to Emit (tons/year)							
		Criteria Pollutants							Greenhouse Gas Pollutants
Process Description / Emission Unit		PM	PM10	PM2.5	SO_2	NOx	VOC	CO	CO2e
Scrap and Charge Handling	EU120 Scrap and charge handling	26.28	15.77	15.77	0.00	0.00	0.00	0.00	0.00
Sand Handling	Sand Muller EU591	1576.80	236.52	236.52	0.00	0.00	0.00	0.00	0.00
	Sand Conveyor EU492	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mold Making	Mold Making (EU520, EU521, EU530)	4.86	2.16	2.16	0.00	0.00	0.00	0.00	0.00
	Sinto #2 mold machine EU531	1.87	0.83	0.83	0.00	0.00	0.00	0.00	0.00
Magnesium Treatment	Magnesium Treatment (Inoculation)	78.84	78.84	78.84	0.00	0.00	0.00	0.00	0.00
Electric Induction Furnaces	EIF Furnace #3 (EU130)	19.71	18.83	18.83	0.00	0.00	0.00	0.00	0.00
	EIF Furnace #4 (EU140)	19.71	18.83	18.83	0.00	0.00	0.00	0.00	0.00
Pouring and Cooling	Floor pouring and cooling process EU540	42.31	12.89	12.89	0.96	0.48	167.96	364.82	963.60
	Sinto pouring and cooling process EU550	19.23	5.86	5.86	0.44	0.22	0.00	0.00	0.00
	Sinto pouring and cooling process EU560	23.08	7.03	7.03	0.53	0.26	0.00	0.00	0.00
Casting Shakeout	Casting shakeout system EU570: Didion Drum	252.29	176.60	176.60	0.00	0.00	0.00	0.00	0.00
Grinding	Four (4) Snag Grinders EU640	1,191.36	119.14	119.14	0.00	0.00	0.00	0.00	0.00
	Six (6) Finish Grinders EU650	893.52	89.35	89.35	0.00	0.00	0.00	0.00	0.00
Blasting	Spin Blast EU610	372.30	37.23	37.23	0.00	0.00	0.00	0.00	0.00
	Tumble Blast EU660	372.30	37.23	37.23	0.00	0.00	0.00	0.00	0.00
	Tumbler EU630	74.46	7.45	7.45	0.00	0.00	0.00	0.00	0.00
Core Making	Shell Core Machine EU320	15.77	2.37	2.37	0.00	0.00	1.11	0.00	0.00
	Shell Core Machine EU321	15.77	2.37	2.37	0.00	0.00	1.11	0.00	0.00
	Oil Core Making Process EU410	3.94	0.59	0.59	0.00	0.00	3.34	0.00	0.00
	Core Wash Process EU730	0.00	0.00	0.00	0.00	0.00	7.04	0.00	0.00
	Isocure Core Machine CB-22	8.28	1.24	1.24	0.00	0.00	23.00	0.00	0.00
	Cold Box Isocure Core Machine Gaylord-1	15.77	2.37	2.37	0.00	0.00	43.80	0.00	0.00
	Cold Box Isocure Core Machine Gaylord-2	15.77	2.37	2.37	0.00	0.00	43.80	0.00	0.00
	Cold Box (Isocure) Core Machine CBCM-3	42.57	6.39	6.39	0.00	0.00	30.51	0.00	0.00
	Cold Box Mixer	0.00	0.00	0.00	0.00	0.00	9.15	0.00	0.00
Electrostatic Spray Booth	Prime Paint Line EU710	74.59	74.59	74.59	0.00	0.00	86.10	0.00	0.00
Combustion	Emergency Diesel Generator	0.02	0.02	0.02	0.01	0.21	0.02	0.05	7.98
Fugitives	Paved roads	1.24	0.25	0.06	0.00	0.00	0.00	0.00	0.00
TOTAL Unlimited PTE		**5,162.63**	**957.11**	**956.92**	**1.94**	**1.18**	**416.93**	**364.87**	**971.58**

Notes
HAPs estimates from New Source Title V No. 167-26842-00007. See Limited summary for HAPs limits

>10	**Any Single HAP (Xylene)**
>25	**Total HAPs**

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

See following pages for detailed emissions calculations, methodology and emission factors.

Appendix A to ATSD: Emissions Calculations
Gray Iron Foundries
Emissions Summary
Company Name: Gartland Foundry
Source Address: 330 Grant St., Terre Haute, IN 47802
Part 70 Renewal No. : T167-32794-00007
Reviewer: Sarah Street

Summary of Limited PTE

		Limited Potential to Emit (tons/year)							
		Criteria Pollutants							Greenhouse Gas Pollutants
Emission Unit(s)	**Control Device**	**PM**	**PM10**	**PM2.5**	**SO_2**	**NOx**	**VOC**	**CO**	**CO2e**
Equipment existing prior to 2008									
EU120 Scrap and charge handling	No control; indoors	5.40	3.24	3.24	0.00	0.00	0.00	0.00	0.00
EIF Furnace #3 (EU130)	Steelcraft baghouse BH1 (Stack SC-2)	9.00	9.00	9.00	0.00	0.00	0.00	0.00	0.00
EIF Furnace #4 (EU140)									
Magnesium Treatment (Inoculation)	No control; indoors	8.10	8.10	8.10	0.00	0.00	0.00	0.00	0.00
Prime Paint Line EU710 (4)	dry filters (Stack SC-6)	2.22	2.22	2.22	0.00	0.00	47.00	0.00	0.00
Floor pouring and cooling process EU540	No control; indoors	7.38	2.41	2.41	0.18	0.09	14.76	34.07	90.00
Sinto pouring and cooling process EU550	No control; indoors	7.38	2.41	2.41	0.18	0.09	14.76	34.07	90.00
Casting shakeout system EU570	Wheelabrator-88 Baghouse BH3 (Stack SC-4)	9.00	9.00	9.00	0.00	0.00	10.80	18.00	90.00
Casting shakeout Didion Drum (1)	Hosakawa Baghouse BH5 (Stack SC-5)	26.28	35.04	35.04	0.00	0.00	0.00	0.00	0.00
Sand Muller EU591 / Sand Conveyor EU492					0.00	0.00	0.00	0.00	0.00
Four (4) Snag Grinders EU640 (2)					0.00	0.00	0.00	0.00	0.00
Mold Making (EU520, EU521, EU530)	No control; indoors	2.84	1.26	1.26	0.00	0.00	0.00	0.00	0.00
Six (6) Finish Grinders EU650	No control; indoors	6.00	6.00	6.00	0.00	0.00	0.00	0.00	0.00
Spin Blast EU610	Wheelabrator-35 Baghouse BH2 (Stack SC-7)	15.11	19.71	19.71	0.00	0.00	0.00	0.00	0.00
Tumbler EU630									
Shell Core Machine EU320	No control; indoors	0.45	0.45	0.45	0.00	0.00	0.13	0.00	0.00
Shell Core Machine EU321	No control; indoors								
Oil Core Making Process EU410	No control; indoors	0.45	0.45	0.45	0.00	0.00	1.53	0.00	0.00
Core Wash Process EU730	No control; indoors	0.00	0.00	0.00	0.00	0.00	1.05	0.00	0.00
Isocure Core Machine CB-22	Acid scrubber (Stack SC-8)	0.28	0.28	0.28	0.00	0.00	5.50	0.00	0.00
Cold Box Isocure Core Machine Gaylord-1									
Cold Box Isocure Core Machine Gaylord-2									
Cold Box Mixer (3)	No control; indoors	0.00	0.00	0.00	0.00	0.00	4.42	0.00	0.00
Subtotal, units prior to 2008		**99.88**	**99.56**	**99.56**	**0.36**	**0.18**	**99.94**	**86.15**	**270.00**
2008 Modification(5)									
Sinto pouring and cooling process EU560	No control; indoors	7.90	2.41	2.41	0.18	0.09	15.69	34.07	90.00
Sinto #2 mold machine EU531	No control; indoors	1.87	0.83	0.83	0.00	0.00	0.00	0.00	0.00
2011 Modification									
Emergency Diesel Generator	No control; indoors	0.02	0.02	0.02	0.01	0.21	0.02	0.05	7.98
2012 Modification(2)									
Tumble Blast EU660	Siemens baghouse BH6 (Stack SC-6)	24.88	14.89	9.90	0.00	0.00	0.00	0.00	0.00
2013 Modification(3)									
Cold Box (Isocure) Core Machine CBCM-3	Acid scrubber (Stack SC-8)	24.90	3.73	3.73	0.00	0.00	24.90	0.00	0.00
Cold Box Mixer (3) (increase in capacity)	No control; indoors	0.00	0.00	0.00	0.00	0.00	4.73	0.00	0.00
Fugitive Emissions									
Paved roads	N/A	1.24	0.25	0.06	0.00	0.00	0.00	0.00	0.00
TOTAL Limited PTE		**160.70**	**121.70**	**116.52**	**0.55**	**0.48**	**145.28**	**120.27**	**367.98**

	HAPs	**Limited Potential To Emit (ton/yr)**
Core Making	Triethylamine (TEA)	0.07
Paint Booth, PCS, and Combustion	Xylene (Total)*	9.99
Paint Booth	Glycol Ether	3.50
	Methyl Isobutyl Ketone	1.48
Pouring, Cooling, Shakeout	Phenol	0.65
	Benzene	1.48
	Analine	0.33
	o-cresol	0.17
	Naphthalene	0.04
	N,N Dimethylaniline	0.08
	Toluene	0.58
	m,p-cresol	0.05
	m,p-xylene	0.04
	Acetaldehyde	0.09
	Ethylbenzene	0.06
	Formaldehyde	0.01
	Hexane	0.04
	Other Organic HAPs	0.06
Material Handling, Melting, PCS, & Finishing	Lead	2.04
Combustion	Organic HAPs	1.88E-04
Finishing	Metal HAPs	0.07
Pouring, Cooling, Shakeout	Metal HAPs	2.50
Material Handling & Melting	Metal HAPs	0.51
	Total HAPS	**23.84**

This source is an area source of HAPs

***Xylene**	
Paint Booth	9.645
Pouring, Cooling, Shakeout	0.34
Combustion	1.38E-05
	9.99

Notes
This source is Major for PSD
(1) Casting Shakeout system modified in 2012 to add Didion Drum as replacement unit to casting shakeout EU570. The throughput of these units is the same.
(2) Two snag grinders were constructed in 2008 to replace 2 snag grinders existing prior to 2008
(3) The Cold Box Mixer was modified in 2013 to increase throughput capacity due to the construction of the new Cold Box Isocure Core Machine. Limited PTE taken from Significant Permit Modification No. 167-32921-00007
(4) PTE from Paint Line EU710 for PM, PM10, and PM2.5 is PTE after dry filters for control.
(5) The one (1) holding furnace, a part of the 2008 modification, was never constructed and is being removed with this Renewal

Appendix A to ATSD: Emissions Calculations
Gray Iron Foundries
Raw Material Handling and Preparation
Company Name: Gartland Foundry
Source Address: 330 Grant St., Terre Haute, IN 47802
Part 70 Renewal No. : T167-32794-00007
Reviewer: Sarah Street

Emission Factors

Raw Material Handling and Preparation		Emission Unit ID(s)	Maximum Throughput (tons/yr)	Uncontrolled Emission Factors (lb/ton)											
				PM	PM10	PM2.5	SO_2	NOx	VOC	CO	GHGs as CO2e	Lead[1]	Beryllium (Be)	Organic HAPs	Metallic HAPs
Scrap and Charge Handling	(SCC 3-04-003-15)	EU120 Scrap and charge handling	87,600	0.6	0.36	0.36	0	0	0	0	0	1.00E-05	0	0	0
Sand Handling	(SCC 3-04-003-50)	Sand Muller EU591 Sand Conveyor EU492	876,000	3.60	0.54	0.54	0	0	0	0	0	0	0	0	0
Mold Making[2]	N/A	Mold Making (EU520, EU521, EU530)	600,000	0.0162	0.0072	0.0072	0	0	0	0	0	0	0	0	0
		Sinto #2 mold machine EU531	231,264	0.0162	0.0072	0.0072	0	0	0	0	0	0	0	0	0
Magnesium Treatment	(SCC 3-04-003-21)	Magnesium Treatment (Inoculation)	87,600	1.80	1.80	1.80	0	0	0	0	0	0	0	0	0.05684

Notes
Emission factors from AP-42 Chapter 12.10 Gray Iron Foundries and US EPA Fire Version 6.25, except as otherwise noted
(1) Lead emission factor for scrap and charge handling from T137-26842-00007 for Gartland Foundry, issued on October 24, 2008.
(2) PM and PM10 emission factors from stack testing. PM2.5 = PM10.

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	EU120 Scrap and charge handling	26.28	15.77	15.77	0.00	0.00	0.00	0.00	0.00	4.38E-04	0.00	0.00	0.00
Sand Handling	Sand Muller EU591 Sand Conveyor EU492	1,576.80	236.52	236.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mold Making	Mold Making (EU520, EU521, EU530)	4.86	2.16	2.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Sinto #2 mold machine EU531	1.87	0.83	0.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Magnesium Treatment	Magnesium Treatment (Inoculation)	78.84	78.84	78.84	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.49
	Totals	1,688.65	334.12	334.12	0.00	0.00	0.00	0.00	0.00	4.38E-04	0.00	0.00	2.49

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

Prevention of Significant Deterioration (PSD) Minor Limits

Control Device	Emission Units	PM (lb/hr)	PM10 (lb/hr)	PM2.5 (lb/hr)
Hosakawa baghouse (BH5)	Sand Muller EU591 Sand Conveyor EU492 Four (4) Snag Grinders EU640 Casting shakeout system EU570: Didion Drum	6.00	8.00	8.00

Appendix A to ATSD: Emissions Calculations
Gray Iron Foundries
Raw Material Handling and Preparation

Company Name: Gartland Foundry
Source Address: 330 Grant St., Terre Haute, IN 47802
Part 70 Renewal No. : T167-32794-00007
Reviewer: Sarah Street

Prevention of Significant Deterioration (PSD) Minor Limits

Metal Melting		Emission Unit ID(s)	Limited Throughput (tons/yr)	PSD Minor Limits (lb/ton)							
				PM	PM10	PM2.5	SO_2	NOx	VOC	CO	GHGs as CO2e
Scrap and Charge Handling	(SCC 3-04-003-15)	EU120 Scrap and charge handling	18,000	0.60	0.36	0.36	0	0	0	0	0
Mold Making	N/A	Mold Making (EU520, EU521, EU530)	350,000	0.0162	0.0072	0.0072	0	0	0	0	0
		Sinto #2 mold machine EU531	N/A	0.0162	0.0072	0.0072	0	0	0	0	0
Magnesium Treatment	(SCC 3-04-003-21)	Magnesium Treatment (Inoculation)	9,000	1.80	1.80	1.80	0	0	0	0	0

Notes
N/A = not applicable. Throughput and lb/ton equal to unlimited.
See summary page for Limited HAPs
The input of metal to the induction furnaces (EU130 and EU140 combined) shall not exceed 18,000 tons per 12 consecutive month period with compliance determined at the end of each month.
The input of metal to the Magnesium Treatment (EU150) shall not exceed 9,000 tons of iron per 12 consecutive month period with compliance determined at the end of each month.
PM, PM10, and PM2.5 PSD Minor limits
The combined Metallic HAP emissions (chromium compounds, cobalt compounds, nickel compounds, arsenic compounds, cadmium compounds, selenium compounds, manganese compounds, and antimony compounds) from Magnesium Treatment (Inoculation) shall not exceed 0.05684 pounds per ton of metal.

Summary of Emissions (Limited)

Metal Melting		Limited Potential to Emit (tons/yr)									
		PM	PM10	PM2.5	SO_2	NOx	VOC	CO	GHGs as CO2e	Lead	Metallic HAPs
Scrap and Charge Handling	EU120 Scrap and charge handling	5.40	3.24	3.24	0.00	0.00	0.00	0.00	0.00	3.94E-03	0.00
Sand Handling	Sand Muller EU591 Sand Conveyor EU492	*limited PTE combined with other units with shared baghouse (BH5)*								0.00	0.00
Mold Making	Mold Making (EU520, EU521, EU530)	2.84	1.26	1.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Sinto #2 mold machine EU531	1.87	0.83	0.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Magnesium Treatment	Magnesium Treatment (Inoculation)	8.10	8.10	8.10	0.00	0.00	0.00	0.00	0.00	0.00	0.26
	Totals	18.21	13.43	13.43	0.00	0.00	0.00	0.00	0.00	3.94E-03	0.26

Methodology
Limited PTE (tons/yr) = Limited Throughput (tons/yr) * Limit (lb/ton) * 1 ton/2,000 lbs

Appendix A to ATSD: Emissions Calculations
Gray Iron Foundries
Metal Melting

Company Name: Gartland Foundry
Source Address: 330 Grant St., Terre Haute, IN 47802
Part 70 Renewal No. : T167-32794-00007
Reviewer: Sarah Street

Emission Factors

Metal Melting		Emission Unit ID(s)	Maximum 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)	EIF Furnace #3 (EU130)	43,800.00	0.90	0.86	0.86	0	0	0	0	0	4.25E-02	9.00E-07	0	7.20E-02
		EIF Furnace #4 (EU140)	43,800.00	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)

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	EIF Furnace #3 (EU130)	19.71	18.83	18.83	0.00	0.00	0.00	0.00	0.00	0.93	1.97E-05	0.00	1.58
	EIF Furnace #4 (EU140)	19.71	18.83	18.83	0.00	0.00	0.00	0.00	0.00	0.93	1.97E-05	0.00	1.58
	Totals	39.42	37.67	37.67	0.00	0.00	0.00	0.00	0.00	1.86	3.94E-05	0.00	3.15

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

Prevention of Significant Deterioration (PSD) Minor Limits

Metal Melting		Emission Unit ID(s)	Limited Throughput (tons/yr)	PSD Minor Limits (lb/ton)											
				PM	PM10	PM2.5	SO_2	NOx	VOC	CO	GHGs as CO2e	Lead	Beryllium (Be)	Organic HAPs	Metallic HAPs(1)
Electric Induction Furnaces	(SCC-3-04-003-03)	EIF Furnace #3 (EU130) EIF Furnace #4 (EU140)	18,000.00	1.00	1.00	1.00	0	0	0	0	0	N/A	N/A	0	2.84E-02

Notes
N/A = not applicable. PTE is equal to unlimited
The input of metal to the induction furnaces (EU130 and EU140 combined) shall not exceed 18,000 tons per 12 consecutive month period with compliance determined at the end of each month.
PM, PM10, and PM2.5 PSD Minor limits
(1) The combined Metallic HAP emissions (chromium compounds, cobalt compounds, nickel compounds, arsenic compounds, cadmium compounds, selenium compounds, manganese compounds, and antimony compounds) from the induction furnaces (#3 and #4) shall not exceed 0.02843 pounds per ton of metal melted.

Summary of Emissions (Limited)

Metal Melting		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
Electric Induction Furnaces	EIF Furnace #3 (EU130) EIF Furnace #4 (EU140)	9.00	9.00	9.00	0.00	0.00	0.00	0.00	0.00	1.86	3.94E-05	0.00	0.26
	Totals	9.00	9.00	9.00	0.00	0.00	0.00	0.00	0.00	1.86	3.94E-05	0.00	0.26

Methodology
Limited PTE (tons/yr) = Limited Throughput (tons/yr) * Limit (lb/ton) * 1 ton/2,000 lbs

Appendix A to ATSD: Emissions Calculations
Gray Iron Foundries
Casting and Finishing
Company Name: Gartland Foundry
Source Address: 330 Grant St., Terre Haute, IN 47802
Part 70 Renewal No. : T167-32794-00007
Reviewer: Sarah Street

Emission Factors

Casting and Finishing		Emission Unit ID(s)	Maximum Throughput (tons/yr)	Uncontrolled Emission Factors (lb/ton)											
				PM(1)	PM10(1)	PM2.5(1)	SO_2	NOx	VOC(2)	CO(2)	GHGs as CO2e(3)	Lead(4)	Beryllium (Be)	Organic HAPs	Metallic HAPs
Pouring and Cooling	(SCC 3-04-003-20)	Floor pouring and cooling process EU540	96,360.00	0.8781	0.2676	0.2676	0.02	0.01	1.743	3.786	10	0.0063	0.00	*see following pages for HAPs emissions*	
		Sinto pouring and cooling process EU550	43,800.00	0.8781	0.2676	0.2676	0.02	0.01							
		Sinto pouring and cooling process EU560	52,560.00	0.8781	0.2676	0.2676	0.02	0.01							
Casting Shakeout	(SCC 3-04-003-31)	Casting shakeout system EU570: Didion Drum	157,680.00	3.20	2.24	2.24	0	0							
Grinding	(SCC 3-04-003-40)	Four (4) Snag Grinders EU640	140,160.00	17.00	1.70	1.70	0	0	0	0	0	2.00E-07	0		
		Six (6) Finish Grinders EU650	105,120.00	17.00	1.70	1.70	0	0	0	0	0	2.00E-07	0		
Blasting	(SCC 3-04-003-40)	Spin Blast EU610	43,800.00	17.00	1.70	1.70	0	0	0	0	0	0.00027	0		
		Tumble Blast EU660	43,800.00												
		Tumbler EU630	8,760.00												

Notes
Emission factors from AP-42 Chapter 12.10 Gray Iron Foundries and US EPA Fire Version 6.25, except as otherwise noted
(1) PM and PM10 emission factors for pouring and cooling from stack test data. PM2.5 = PM10.
(2) VOC and CO emission factors are based on stack test data
(3) 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)
(4) Lead 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. Lead emissions from grinding and blasting provided by Gartland Foundry data.

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
Pouring and Cooling	Floor pouring and cooling process EU540	42.31	12.89	12.89	0.96	0.48	167.96	364.82	963.60	0.61	0.00	19.60	19.60
	Sinto pouring and cooling process EU550	19.23	5.86	5.86	0.44	0.22							
	Sinto pouring and cooling process EU560	23.08	7.03	7.03	0.53	0.26							
Casting Shakeout	Casting shakeout system EU570: Didion Drum	252.29	176.60	176.60	0.00	0.00							
Grinding	Four (4) Snag Grinders EU640	1,191.36	119.14	119.14	0.00	0.00	0.00	0.00	0.00	1.40E-05	0.00	0.00	7.07
	Six (6) Finish Grinders EU650	893.52	89.35	89.35	0.00	0.00	0.00	0.00	0.00	1.05E-05	0.00		
Blasting	Spin Blast EU610	372.30	37.23	37.23	0.00	0.00	0.00	0.00	0.00	0.01	0.00		
	Tumble Blast EU660	372.30	37.23	37.23	0.00	0.00	0.00	0.00	0.00	0.01	0.00		
	Tumbler EU630	74.46	7.45	7.45	0.00	0.00	0.00	0.00	0.00	0.01	0.00		
	Totals	**3,240.84**	**492.78**	**492.78**	**1.93**	**0.96**	**167.96**	**364.82**	**963.60**	**0.62**	**0.00**	**19.60**	**26.67**

Methodology
Uncontrolled PTE (tons/yr) = Maximum Throughput (tons/yr) * Emission Factor (lb/ton) * 1 ton/2,000 lbs
see following pages for HAPs emissions

Appendix A to ATSD: Emissions Calculations
Gray Iron Foundries
Casting and Finishing
Company Name: Gartland Foundry
Source Address: 330 Grant St., Terre Haute, IN 47802
Part 70 Renewal No. : T167-32794-00007
Reviewer: Sarah Street

Prevention of Significant Deterioration (PSD) Minor Limits

Control Device	Emission Units	PM (lb/hr)	PM10 (lb/hr)	PM2.5 (lb/hr)
Hosakawa baghouse (BH5)	Sand Muller EU591	8.00	10.00	10.00
	Sand Conveyor EU492			
	Four (4) Snag Grinders EU640			
	Casting shakeout system EU570: Didion Drum			
Wheelabrator-35 Baghouse BH2	Spin Blast EU610	3.45	4.50	4.50
	Tumbler EU630			
Siemens baghouse BH6 (Stack SC-6)	Tumble Blast EU660	5.68	3.40	2.26

		Input of Metal Limit
No control; indoors	Six (6) Finish Grinders EU650	12,000

			Emissions Limitations (lb/ton)							
Control Device	Emission Units	Limited Throughput (tons/yr)	PM	PM10	PM2.5	SO_2	NOx	VOC	CO	GHGs as CO2e
No control; indoors	Floor pouring and cooling process EU540	18,000	0.8200	0.2676	0.2676	N/A	N/A	1.640	3.786	N/A
No control; indoors	Sinto pouring and cooling process EU550	18,000	0.8200	0.2676	0.2676	N/A	N/A	1.640	3.786	N/A
No control; indoors	Sinto pouring and cooling process EU560	18,000	0.8781	0.2676	0.2676	N/A	N/A	1.743	3.786	N/A
No control; indoors	Six (6) Finish Grinders EU650	12,000	1.00	1.00	1.00	N/A	N/A	N/A	N/A	N/A
Wheelabrator-88 Baghouse BH3	Casting shakeout system EU570	18,000	1.00	1.00	1.00	N/A	N/A	1.2	2.0	N/A

Notes
N/A = not applicable. Throughput and lb/ton equal to unlimited.
18,000 ton/yr at Pouring/Cooling, Casting Shakeout, and Finish Grinders is effectively lmited due to upstream limit at Induction Furnaces #3 and #4.
See summary page for Limited HAPs

Summary of Emissions (Limited)

Casting and Finishing		Limited Potential to Emit (tons/yr)								
Control Device	Emission Units	PM	PM10	PM2.5	SO_2	NOx	VOC	CO	GHGs as CO2e	Lead
No control; indoors	Floor pouring and cooling process EU540	7.38	2.41	2.41	0.18	0.09	14.76	34.07	90.00	0.06
No control; indoors	Sinto pouring and cooling process EU550	7.38	2.41	2.41	0.18	0.09	14.76	34.07	90.00	0.00
No control; indoors	Sinto pouring and cooling process EU560	7.90	2.41	2.41	0.18	0.09	15.69	34.07	90.00	0.06
Wheelabrator-88 Baghouse BH3	Casting shakeout system EU570	9.00	9.00	9.00	0.00	0.00	10.80	18.00	90.00	0.06
Hosakawa baghouse (BH5)	Casting shakeout Didion Drum	limited PTE combined with other units with shared baghouse (BH5)			0.00	0.00	0.00	0.00	0.00	0.00
	Four (4) Snag Grinders EU640				0.00	0.00	0.00	0.00	0.00	1.20E-06
No control; indoors	Six (6) Finish Grinders EU650	6.00	6.00	6.00	0.00	0.00	0.00	0.00	0.00	1.20E-06
Wheelabrator-35 Baghouse BH2	Spin Blast EU610	15.11	19.71	19.71	0.00	0.00	0.00	0.00	0.00	1.62E-03
	Tumbler EU630									1.62E-03
Siemens baghouse BH6 (Stack SC-6)	Tumble Blast EU660	24.88	14.89	9.90	0.00	0.00	0.00	0.00	0.00	1.62E-03
	Totals	**77.65**	**56.83**	**51.83**	**0.54**	**0.27**	**56.01**	**120.22**	**360.00**	**0.17**

Methodology
Limited PTE (tons/yr) = Limited Throughput (tons/yr) * Limit (lb/ton) * 1 ton/2,000 lbs

Appendix A to ATSD: Emissions Calculations
Gray Iron Foundries
Pouring, Cooling, & Shakeout HAPs Emissions
Company Name: Gartland Foundry
Source Address: 330 Grant St., Terre Haute, IN 47802
Part 70 Renewal No. : T167-32794-00007
Reviewer: Sarah Street

	Unlimited PTE of HAP Emissions							Limited PTE of HAP Emissions			
	Pouring Operations		Cooling Operations		Shakeout Operations			Pouring	Cooling	Shakeout	
	Maximum Throughput (ton/yr)	87,600	Maximum Throughput (ton/yr)	87,600	Maximum Throughput (ton/yr)	87,600		Limited Throughput (ton/yr) 18,000	Limited Throughput (ton/yr) 18,000	Limited Throughput (ton/yr) 18,000	
Pollutant	**Emission Factor (lb/ton)**	**Potential Emissions (tons/yr)**	**Emission Factor (lb/ton)**	**Potential Emissions (tons/yr)**	**Emission Factor (lb/ton)**	**Potential Emissions (tons/yr)**	**Total HAPs from Pouring, Cooling, Shakeout (tons/yr)**	**Limited Emissions (tons/yr)**	**Limited Emissions (tons/yr)**	**Limited Emissions (tons/yr)**	**Total HAPs from Pouring, Cooling, Shakeout (tons/yr)**
Metallic HAPs											
Chromium	0.0378	1.66	0.0126	0.55	0.0288	1.26	3.47	0.34	0.11	0.26	0.71
Cobalt	0.00013	0.01	0.00004	0.00	0.0001	0.00	0.01	0.00	0.00	0.00	0.00
Nickel	0.063	2.76	0.021	0.92	0.048	2.10	5.78	0.57	0.19	0.43	1.19
Arsenic	0.00055	0.02	0.00018	0.01	0.00042	0.02	0.05	0.00	0.00	0.00	0.01
Cadmium	0.00025	0.01	0.00008	0.00	0.00019	0.01	0.02	0.00	0.00	0.00	0.00
Selenium	0.00004	0.00	0.00001	0.00	0.00003	0.00	0.00	0.00	0.00	0.00	0.00
Manganese	0.0231	1.01	0.0077	0.34	0.0176	0.77	2.12	0.21	0.07	0.16	0.44
Antimony	0.00777	0.34	0.00259	0.11	0.00592	0.26	0.71	0.07	0.02	0.05	0.15
Total Metal HAPs	0.13264	5.81	0.0442	1.94	0.10106	4.43	**12.17**	1.19	0.40	0.91	**2.50**
Organic HAPs (Combined for Pouring, Cooling and Shakeout)											
Phenol	0.0718	3.14					3.14	0.65			0.65
Benzene	0.1643	7.20					7.20	1.48			1.48
Analine	0.0366	1.60					1.60	0.33			0.33
o-Cresol	0.0185	0.81					0.81	0.17			0.17
Naphthalene	0.0048	0.21					0.21	0.04			0.04
N,N - Dimethylaniline	0.0085	0.37					0.37	0.08			0.08
Toluene	0.0647	2.83					2.83	0.58			0.58
m,p -Cresol	0.0059	0.26					0.26	0.05			0.05
m, p -Xylene	0.0044	0.19					0.19	0.04			0.04
Xylene (Total)	0.0383	1.68					1.68	0.34			0.34
Acetaldehyde	0.0100	0.44					0.44	0.09			0.09
Ethylbenzene	0.0070	0.31					0.31	0.06			0.06
Formaldehyde	0.0011	0.05					0.05	0.01			0.01
Hexane	0.0046	0.20					0.20	0.04			0.04
Other HAPs	0.0070	0.31					0.31	0.06			0.06
Total Organic HAPs	0.4475	19.60					**19.60**	4.03			**4.03**

	Unlimited	Limited
Total HAP	**31.77**	**6.53**
Worst Case Single HAP (Benzene)	**7.20**	**1.48**

Methodology:
Potential emissions are determined prior to control equipment or throughput limitation.
Potential Emissions = Emission Factor (lb pollutant/ton processed) * Maximum throughput (ton/year) / 2000 (lb/ton)
Limited Emissions = Emission Factor (lb pollutant/ton processed) * Limited throughput (ton/year) / 2000 (lb/ton)
Emission Factors for Metallic HAPs are from AP-42, Ch12.10 and Speciate Database.
Emission Factors for Organic HAPs are from Reference Tests Recommended in "Organic Hazardous Air Pollutant Emission Factors for Iron Foundries", prepared by the Air Quality Committee (10-E) of the American Foundry Society August 16, 2005 for Calculating Emission Factors for Pouring, Cooling, and Shakeout.

Appendix A to ATSD: Emissions Calculations
Gray Iron Foundries
Blasting & Grinding (Finishing Operations) HAPs Emissions

Company Name: Gartland Foundry
Source Address: 330 Grant St., Terre Haute, IN 47802
Part 70 Renewal No. : T167-32794-00007
Reviewer: Sarah Street

Unlimited PTE of HAP Emissions

	Spin Blast		**Tumble Blast**		**Tumbler**		**Finish Grinding**		**Snag Grinding**		
	Maximum Throughput (ton/yr)	43,800	Maximum Throughput (ton/yr)	43,800	Maximum Throughput (ton/yr)	8,760	Maximum Throughput (ton/yr)	105,120	Maximum Throughput (ton/yr)	140,160	
Pollutant	**Emission Factor (lb/ton)**	**Potential Emissions (tons/yr)**	**Emission Factor (lb/ton)**	**Potential Emissions (tons/yr)**	**Emission Factor (lb/ton)**	**Potential Emissions (tons/yr)**	**Emission Factor (lb/ton)**	**Potential Emissions (tons/yr)**	**Emission Factor (lb/ton)**	**Potential Emissions (tons/yr)**	**Totals for Finishing Operations (tons/yr)**
Metallic HAPs											
Chromium	0.00646	0.14	0.00646	0.14	0.00646	0.03	0	0.00	0	0.00	0.31
Cobalt	0.00051	0.01	0.00051	0.01	0.00051	0.00	0	0.00	0	0.00	0.02
Nickel	0.01139	0.25	0.01139	0.25	0.01139	0.05	0.00001	0.00	0.00001	0.00	0.55
Arsenic	0.00221	0.05	0.00221	0.05	0.00221	0.01	0	0.00	0	0.00	0.11
Cadmium	0.00102	0.02	0.00102	0.02	0.00102	0.00	0	0.00	0	0.00	0.05
Selenium	0.00017	0.00	0.00017	0.00	0.00017	0.00	0	0.00	0	0.00	0.01
Manganese	0.0935	2.05	0.0935	2.05	0.0935	0.41	0.00006	0.00	0.00006	0.00	4.51
Antimony	0.03145	0.69	0.03145	0.69	0.03145	0.14	0.00002	0.00	0.00002	0.00	1.52
Total Metal HAPs	0.14671	3.21	0.14671	3.21	0.14671	0.64	0.00009	0.00	0.00009	0.01	7.07

Total Metallic HAP	**7.07**
Total Organic HAP	**0.00**
Total HAP	**7.07**
Worst Case Single HAP (Manganese)	**4.51**

Methodology:

Potential emissions are determined prior to control equipment or throughput limitation.
Potential Emissions = Emission Factor (lb pollutant/ton processed) * Maximum throughput (ton/year) / 2000 (lb/ton)
Emission Factors for Metallic HAPs are from AP-42, Ch12.10 and Speciate Database.

Controlled/Limited PTE of HAP Emissions

Control Efficiency	**98%**

	Spin Blast		**Tumble Blast**		**Tumbler**		**Finish Grinding**		**Snag Grinding**		
	Limited Throughput (ton/yr)	15,100	Limited Throughput (ton/yr)	15,100	Limited Throughput (ton/yr)	15,100	Limited Throughput (ton/yr)	12,000	Limited Throughput (ton/yr)	12,000	
Pollutant	**Emission Factor (lb/ton)**	**Limited Emissions (tons/yr)**	**Emission Factor (lb/ton)**	**Limited Emissions (tons/yr)**	**Emission Factor (lb/ton)**	**Limited Emissions (tons/yr)**	**Emission Factor (lb/ton)**	**Limited Emissions (tons/yr)**	**Emission Factor (lb/ton)**	**Limited Emissions (tons/yr)**	**Totals for Finishing Operations (tons/yr)**
Metallic HAPs											
Chromium	0.00646	9.75E-04	0.00646	9.75E-04	0.00646	9.75E-04	0	0.00E+00	0	0.00E+00	0.00
Cobalt	0.00051	7.70E-05	0.00051	7.70E-05	0.00051	7.70E-05	0	0.00E+00	0	0.00E+00	0.00
Nickel	0.01139	1.72E-03	0.01139	1.72E-03	0.01139	1.72E-03	0.00001	1.20E-06	0.00001	1.20E-06	0.01
Arsenic	0.00221	3.34E-04	0.00221	3.34E-04	0.00221	3.34E-04	0	0.00E+00	0	0.00E+00	0.00
Cadmium	0.00102	1.54E-04	0.00102	1.54E-04	0.00102	1.54E-04	0	0.00E+00	0	0.00E+00	0.00
Selenium	0.00017	2.57E-05	0.00017	2.57E-05	0.00017	2.57E-05	0	0.00E+00	0	0.00E+00	0.00
Manganese	0.0935	1.41E-02	0.0935	1.41E-02	0.0935	1.41E-02	0.00006	7.20E-06	0.00006	7.20E-06	0.04
Antimony	0.03145	4.75E-03	0.03145	4.75E-03	0.03145	4.75E-03	0.00002	2.40E-06	0.00002	2.40E-06	0.01
Total Metal HAPs	0.14671	2.22E-02	0.14671	2.22E-02	0.14671	2.22E-02	0.00009	1.08E-05	0.00009	1.08E-05	0.07

Total Metallic HAP	**0.07**
Total Organic HAP	**0.00**
Total HAP	**0.07**
Worst Case Single HAP (Manganese)	**0.04**

Methodology:

Limited Emissions = [Emission Factor (lb pollutant/ton processed) * Limited throughput (ton/year) / 2000 (lb/ton)] * (1-Control Efficiency)
Emission Factors for Metallic HAPs are from AP-42, Ch12.10 and Speciate Database.

Appendix A to ATSD: Emissions Calculations
VOC and Particulate
From Surface Coating Operations

Company Name: **Gartland Foundry**
Source Address: **330 Grant St., Terre Haute, IN 47802**
Part 70 Renewal No. : **T167-32794-00007**
Reviewer: **Sarah Street**

Surface Coating Emissions

Material	Density (Lb/Gal)	Weight % Volatile (H20 & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential (ton/yr)	lb VOC/gal solids	Transfer Efficiency
Coatings																
KA 1663 HSPOXSL	11.7	27.10%	0.0%	27.1%	0.0%	46.90%	0.01000	500	3.17	3.17	15.85	380.48	69.44	46.70	6.76	75%
KWA-1887	9.4	45.80%	44.9%	0.9%	50.7%	43.20%	0.01000	500	0.17	0.08	0.42	10.15	1.85	27.89	0.20	75%
Solvents																
Methyl propyl ketone	6.76	100.00%	0.0%	100.0%	0.0%	0.00%	0.00100	500	6.76	6.76	3.38	81.12	14.80	0.00	NA	0%

State Potential Emissions	**Add worst case coating to all solvents**	**19.66**	**471.76**	**86.10**	**74.59**

METHODOLOGY

Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)
Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)
Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr)
Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)
Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)
Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) *(8760 hrs/yr) *(1 ton/2000 lbs)
Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)
Total = Worst Coating + Sum of all solvents used

Particulate Emissions After Control

Capture Effeciency	99%	
Removal Effeciency	98%	fabric filters
Overall Control Efficiency	97.02%	
PM/PM10 Potential after control	2.22	tons per year

HAP Potential Emissions

Material	Density (Lb/Gal)	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Weight % Xylene	Weight % Glycol Ethers	Weight % Methyl Isobutyl Ketone	Potential Xylene (ton/yr)	Potential Glycol Ethers (ton/yr)	Potential Methyl Isobutyl Ketone (ton/yr)	Potential HAP Total (ton/yr)
Coatings										
KA 1663 HSPOXSL	11.7	0.010	500	23.5%	0.0%	0.0%	60.21	0.00	0.00	60.21
KWA-1887	9.4	0.010	500	0.0%	1.7%	0.0%	0.00	3.50	0.00	3.50
Solvents										
Methyl propyl ketone	6.76	0.001	500	0.0%	0.0%	10.0%	0.00	0.00	1.48	1.48
Total							60.21	3.50	1.48	65.19

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

Appendix A to ATSD: Emissions Calculations
Gray Iron Foundries
Mold and Core Production

Company Name: Gartland Foundry
Source Address: 330 Grant St., Terre Haute, IN 47802
Part 70 Renewal No. : T167-32794-00007
Reviewer: Sarah Street

Emission Factors

Emission Unit ID(s)	Maximum Throughput (tons/yr)*	Uncontrolled Emission Factors (lb/ton)								
		PM	PM10	PM2.5	SO_2	NOx	VOC	CO	GHGs as CO2e	HAPs(7)
Shell Core Machine EU320(1)	8,760.00	3.6	0.54	0.54	0	0	0.254	0	0	0
Shell Core Machine EU321(1)	8,760.00	3.6	0.54	0.54	0	0	0.254	0	0	0
Oil Core Making Process EU410(2)	2,190.00	3.6	0.54	0.54	0	0	3.05	0	0	0
Core Wash Process EU730(3)	2,122.00	0	0	0	0	0	0.166	0	0	0
	2,122.00	0	0	0	0	0	6.47	0	0	0
Isocure Core Machine CB-22(4)	4,599.00	3.6	0.54	0.54	0	0	10.00	0	0	6.00
Cold Box Isocure Core Machine Gaylord-1(4)	8,760.00	3.6	0.54	0.54	0	0	10.00	0	0	6.00
Cold Box Isocure Core Machine Gaylord-2(4)	8,760.00	3.6	0.54	0.54	0	0	10.00	0	0	6.00
Cold Box (Isocure) Core Machine CBCM-3(5)	23,652.00	3.6	0.54	0.54	0	0	1.00 1.58	0	0	See following page for HAPs
Cold Box Mixer(6)	45,771.00	0	0	0	0	0	0.40	0	0	0

Notes

The catalyst is Triethylamine (TEA) for Isocure Core Machine CB-22 and Cold Box Isocure Core Machines Gaylord-1 and Gaylord-2.
The catalyst is amine catalyst for Cold Box Isocure Core Machine CBCM-3
The Cold Box Mixer feeds the Isocure Core Machine CB-22 and Cold Box Isocure Core Machines Gaylord-1, Gaylord-2, and CBCM-3.
(1) Shell Core Machines - PM, PM10, and PM2.5 emission factors from AP-42 Chapter 12.10 Gray Iron Foundries and US EPA Fire Version 6.25. VOC emission factor from stack testing
(2) Oil Core Making Process - PM, PM10, and PM2.5 emission factors from AP-42 Chapter 12.10 Gray Iron Foundries and US EPA Fire Version 6.25. VOC emission factor from mass balance.
Amount of oil in oil cores = 2.5 gallons of oil per ton of sand
Density of oil = 7.914 lb/gal
VOC content in the oil = 15.4%
3.05 VOC emission factor (lb/ton) = Density (lb/gal) * Amount of oil (gallons/ton of sand) * VOC content (%)
(3) Core Wash Process - VOC emission factors from MSDS sheets for core wash and release agents

	Usage (gal/yr)	VOC Content (lb/gal)
Core Wash	2,122.00	0.166
Release Agents	2,122.00	6.47

(4) Cold Box (Isocure) Core Machines Gaylord-1 and Gaylord-2 - PM, PM10, and PM2.5 emissions are from sand handling, and the emission factors are from AP-42 Chapter 12.10 Gray Iron Foundries and US EPA Fire Version 6.25. VOC Emission Factors are from stack testing/mass balance.
(5) Cold Box (Isocure) Core Machine CBCM-3 - PM, PM10, and PM2.5 emissions are from sand handling, and the emission factors are from AP-42 Chapter 12.10 Gray Iron Foundries and US EPA Fire Version 6.25. VOC Emission Factors are as follows

Capacity (tons sand cores/hr)	Maximum Resin Content	VOC Emission Factor from Resin Evaporation (lb/ton sand core)*	Max. Catalyst Usage (lb/ton sand cores) **
2.7	2.0%	1.00	1.58

*The VOC emission factor for the resin is from SCC 3-04-003-30. The emission factor from the SCC is 0.65 lb/ton cores, but Gartland Foundry adjusted this number to 1.0 lb/ton of cores to add some safety
** 1.58 lb/ton = [Usage of Catalyst (0.713 gals/hr) * Relative Density of Catalyst (0.7155) * Density of Water (8.34 lbs/gallon)] / Capacity (2.7 tons sand core/hr)
The 0.713 gallons of catalyst/hr was provided by the equipment manufacturer (Gaylord Foundry Equipment). This was converted to lbs/hr using the relative density (0.7155) provided in the MSDS and the density of water (0.713 gals catalyst/hr x 0.7155 x 8.34 lbs/gallons).

See following page for methodology for HAPs emissions
(6) VOC Emission Factor for Cold Box Mixer based on mass balance and stack test, per Gartland Foundry
(7) Triethylamine (TEA) emissions based on mass balance, per Gartland Foundry

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	HAPs
Shell Core Machine EU320	15.77	2.37	2.37	0.00	0.00	1.11	0.00	0.00	0.00
Shell Core Machine EU321	15.77	2.37	2.37	0.00	0.00	1.11	0.00	0.00	0.00
Oil Core Making Process EU410	3.94	0.59	0.59	0.00	0.00	3.34	0.00	0.00	0.00
Core Wash Process	0.00	0.00	0.00	0.00	0.00	7.04	0.00	0.00	0.00
Isocure Core Machine CB-22	8.28	1.24	1.24	0.00	0.00	23.00	0.00	0.00	13.80
Cold Box Isocure Core Machine Gaylord-1	15.77	2.37	2.37	0.00	0.00	43.80	0.00	0.00	26.28
Cold Box Isocure Core Machine Gaylord-2	15.77	2.37	2.37	0.00	0.00	43.80	0.00	0.00	26.28
Cold Box (Isocure) Core Machine CBCM-3	42.57	6.39	6.39	0.00	0.00	30.51	0.00	0.00	0.00
Cold Box Mixer	0.00	0.00	0.00	0.00	0.00	9.15	0.00	0.00	0.00
Totals	**117.87**	**17.68**	**17.68**	**0.00**	**0.00**	**162.86**	**0.00**	**0.00**	**66.36**

Methodology
Uncontrolled PTE (tons/yr) = Throughput (tons/yr) * Emission Factor (lb/ton) * 1 ton/2,000 lbs
Cold Isocure Core Machine CBCM-3 Uncontrolled PTE (Tons/yr) = [(Throughput (tons/yr) * VOC e.f. from Resin (lb/ton))/2000 lb/ton] + [(Throughput (tons/yr) * VOC e.f. from Catalyst (lb/ton))/2000 lb/ton]

Appendix A to ATSD: Emissions Calculations
Gray Iron Foundries
Mold and Core Production
Company Name: Gartland Foundry
Source Address: 330 Grant St., Terre Haute, IN 47802
Part 70 Renewal No. : T167-32794-00007
Reviewer: Sarah Street

Prevention of Significant Deterioration (PSD) Minor Limits

Mold and Core Production		Limited Throughput (tons/yr)	Emissions Limitations (lb/ton)								
Control Device	Emission Units		PM	PM10	PM2.5	SO_2	NOx	VOC	CO	GHGs as CO2e	HAPs
No control; indoors	Shell Core Machine EU320	1000	0.9	0.9	0.9	0	0	0.25	0	0	0
No control; indoors	Shell Core Machine EU321										
No control; indoors	Oil Core Making Process EU410	1000	0.9	0.9	0.9	0	0	3.05	0	0	0
No control; indoors	Core Wash Process EU730**	1000	N/A	N/A	N/A	0	0	2.10	0	0	0
Acid scrubber (Stack SC-8)	Isocure Core Machine CB-22	1100	0.5	0.5	0.5	0	0	10.00	0	0	6.00
	Cold Box Isocure Core Machine Gaylord-1										
	Cold Box Isocure Core Machine Gaylord-2										
	Cold Box (Isocure) Core Machine CBCM-3	13,833	N/A	N/A	N/A	0	0	N/A	0	0	0

N/A = not applicable. PTE based on unlimited emission factors and throughput
Cold Box Mixer throughput limited by Cold Box core machine throughput
Acid Scrubber (controlling TEA HAPs) = 98% control efficiency
**Core Wash Process limits in gal/yr and lb/gal.

Summary of Emissions (Limited)

Mold and Core Production		Limited Potential to Emit (tons/yr)								
Control Device	Emission Units	PM	PM10	PM2.5	SO_2	NOx	VOC	CO	GHGs as CO2e	HAPs*
No control; indoors	Shell Core Machine EU320	0.45	0.45	0.45	0.00	0.00	0.13	0.00	0.00	0.00
No control; indoors	Shell Core Machine EU321									
No control; indoors	Oil Core Making Process EU410	0.45	0.45	0.45	0.00	0.00	1.53	0.00	0.00	0.00
No control; indoors	Core Wash Process EU730	0.00	0.00	0.00	0.00	0.00	1.05	0.00	0.00	0.00
Acid scrubber (Stack SC-8)	Isocure Core Machine CB-22	0.28	0.28	0.28	0.00	0.00	5.50	0.00	0.00	0.07
	Cold Box Isocure Core Machine Gaylord-1									
	Cold Box Isocure Core Machine Gaylord-2									
	Cold Box (Isocure) Core Machine CBCM-3	24.90	3.73	3.73	0.00	0.00	24.90	0.00	0.00	0.00
No control; indoors	Cold Box Mixer	0.00	0.00	0.00	0.00	0.00	9.15	0.00	0.00	0.00
	Totals	**26.07**	**4.91**	**4.91**	**0.00**	**0.00**	**42.26**	**0.00**	**0.00**	**0.07**

Notes
*Triethylamine (TEA) for Isocure Core Machine CB-22, and Cold Box Isocure Core Machines Gaylord-1 and Gaylord-2
For Cold Box Mixer, the limited throughput is based on the limited throughput to the Core Machine CB-22 and all three Cold Box Isocure Core Machines (Gaylord-1, Gaylord-2, and CBCM-3) combined

Methodology
Limited PTE (tons/yr) = Limited Throughput (tons/yr) * Limit (lb/ton) * 1 ton/2,000 lbs
Core Wash Process Limited PTE (tons/yr) = Limited Throughput (gal/yr) * Limit (lb/gal) * 1 ton/2,000 lbs
Cold Isocure Core Machine CBCM-3 Limited PTE (Tons/yr) = [(Limited Throughput to all core machines (tons/yr) * VOC e.f. from Resin (lb/ton))/2000 lb/ton] + [(Limited Throughput to all core machines (tons/yr) * VOC e.f. from Catalyst (lb/ton))/2000 lb/ton]

Appendix A to ATSD: Emissions Calculations
Gray Iron Foundries
Mold and Core Production HAPs: CBCM-3

Company Name: **Gartland Foundry**
Source Address: **330 Grant St., Terre Haute, IN 47802**
Part 70 Renewal No. : **T167-32794-00007**
Reviewer: **Sarah Street**

CBCM-3 Core Making Process HAPs

Material	Maximum Usage (tons/yr)	Weight % MDI	Weight % Polymeric MDI	Weight % Phenol	Potential MDI Emissions (tons/yr)	Potential Polymeric MDI Emissions (tons/yr)	Potential Phenol Emissions (ton/yr)
Cold Box Core Making							
Cold Box Resin Part I	260.17	0.00%	0.00%	5.00%	0.00	0.00	0.00
Cold Box Resin Part II	212.87	50.00%	50.00%	0.00%	0.00	0.00	0.00
Catalyst	18.65	0.00%	0.00%	0.00%	0.00	0.00	0.00
				Total	**0.00**	**0.00**	**0.00**

Reduction Factors for Core Making

Pollutant	Cold Box Release Factor	No-bake Release Factor	Warm Box Release Factor
Phenol	0.00%	0.00%	N/A
Formaldehyde	2.00%	2.00%	5.00%
MDI	0.00%	0.00%	N/A
Polymeric MDI	0.00%	0.00%	N/A
Naphthalene	3.25%	5.85%	N/A
1,2,4 Trimethylbenzene	3.25%	5.85%	N/A
Xylene	3.25%	5.85%	N/A
Cumene	3.25%	5.85%	N/A
Methanol	N/A	N/A	100.00%

METHODOLOGY

HAP Emissions from Resins = Maximum Usage Rate (tons/yr) * % HAP * Reduction Factor (%)
HAP Emissions from Catalysts = Maximum Usage Rate (tons/yr) * % HAP
Reduction factors obtained from the American Foundrymen's Society Publication entitled "Form R Reporting of Binder Chemicals used in Foundries", and refers to the weight percent of HAP that is emitted to the atmosphere.

Appendix A to ATSD: Emission Calculations
Reciprocating Internal Combustion Engines - Diesel Fuel
Output Rating (<=600 HP)

Company Name: **Gartland Foundry**
Source Address: **330 Grant St., Terre Haute, IN 47802**
Part 70 Renewal No. : **T167-32794-00007**
Reviewer: **Sarah Street**

Emissions calculated based on output rating (hp)

Output Horsepower Rating (hp)	346.0	
Maximum Hours Operated per Year	40	*Limited to 40 hours
Potential Throughput (hp-hr/yr)	13,840	

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	0.0022	0.0022	0.0022	0.0021	0.0310	0.0025	0.0067
Potential Emission in tons/yr	0.02	0.02	0.02	0.01	0.21	0.02	0.05

*PM and PM2.5 emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

Hazardous Air Pollutants (HAPs)

	Pollutant							
	Benzene	Toluene	Xylene	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Total PAH HAPs***
Emission Factor in lb/hp-hr****	6.53E-06	2.86E-06	2.00E-06	2.74E-07	8.26E-06	5.37E-06	6.48E-07	1.18E-06
Potential Emission in tons/yr	4.52E-05	1.98E-05	1.38E-05	1.89E-06	5.72E-05	3.72E-05	4.48E-06	8.14E-06

***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)	**1.88E-04**

Green House Gas Emissions (GHG)

	Pollutant		
	CO2	CH4	N2O
Emission Factor in lb/hp-hr	1.15E+00	4.63E-05	9.26E-06
Potential Emission in tons/yr	7.96E+00	3.20E-04	6.41E-05

Summed Potential Emissions in tons/yr	**7.96E+00**
CO2e Total in tons/yr	**7.98E+00**

Methodology
Emission Factors are from AP42 (Supplement B 10/96), Tables 3.3-1 and 3.3-2
CH4 and N2O Emission Factor from 40 CFR 98 Subpart C Table C-2.
Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
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]
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

Appendix A to ATSD: Emission Calculations
Fugitive Dust Emissions - Paved Roads

Company Name: **Gartland Foundry**
Source Address: **330 Grant St., Terre Haute, IN 47802**
Part 70 Renewal No. : **T167-32794-00007**
Reviewer: **Sarah Street**

Paved Roads at Industrial Site

The following calculations determine the amount of emissions created by paved roads, based on 8,760 hours of use and AP-42, Ch 13.2.1 (1/2011).

Vehicle Informtation (provided by source)

Type	Maximum number of vehicles per day	Number of one-way trips per day per vehicle	Maximum trips per day (trip/day)	Maximum Weight Loaded (tons/trip)	Total Weight driven per day (ton/day)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/day)	Maximum one-way miles (miles/yr)
Semi-Truck for Metal (entering plant) (one-way trip)	3.0	2.0	6.0	40.0	240.0	300	0.057	0.3	124.4
Semi-Truck for Metal(leaving plant) (one-way trip)	3.0	2.0	6.0	40.0	240.0	300	0.057	0.3	124.4
Semi-Truck for Shipping/Receiving (entering plant) (one-way trip)	10.0	2.0	20.0	40.0	800.0	150	0.028	0.6	207.4
Semi-Truck for Shipping/Receiving (entering plant) (one-way trip)	10.0	2.0	20.0	40.0	800.0	150	0.028	0.6	207.4
		Totals	**52.0**		**2080.0**			**1.8**	**663.6**

Average Vehicle Weight Per Trip = 40.0 tons/trip
Average Miles Per Trip = 0.03 miles/trip

Unmitigated Emission Factor, Ef = [k * (sL)^0.91 * (W)^1.02] (Equation 1 from AP-42 13.2.1)

	PM	PM10	PM2.5	
where k =	0.011	0.0022	0.00054	lb/VMT = particle size multiplier (AP-42 Table 13.2.1-1)
W =	40.0	40.0	40.0	tons = average vehicle weight (provided by source)
sL =	9.7	9.7	9.7	g/m^2 = silt loading value for paved roads at iron and steel production facilities - Table 13.2.1-3)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, Eext = E * [1 - (p/4N)] (Equation 2 from AP-42 13.2.1)

Mitigated Emission Factor, Eext = Ef * [1 - (p/4N)]
where p = 125 days of rain greater than or equal to 0.01 inches (see Fig. 13.2.1-2)
N = 365 days per year

	PM	PM10	PM2.5	
Unmitigated Emission Factor, Ef =	3.745	0.749	0.1838	lb/mile
Mitigated Emission Factor, Eext =	3.424	0.685	0.1681	lb/mile
Dust Control Efficiency =				(pursuant to control measures outlined in fugitive dust control plan)

Process	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Semi-Truck for Metal (entering plant) (one-way trip)	0.23	0.05	0.01	0.21	0.04	0.01	0.21	0.04	0.01
Semi-Truck for Metal(leaving plant) (one-way trip)	0.23	0.05	0.01	0.21	0.04	0.01	0.21	0.04	0.01
Semi-Truck for Shipping/Receiving (entering plant) (one-way trip)	0.39	0.08	0.02	0.36	0.07	0.02	0.36	0.07	0.02
Semi-Truck for Shipping/Receiving (entering plant) (one-way trip)	0.39	0.08	0.02	0.36	0.07	0.02	0.36	0.07	0.02
Totals	**1.24**	**0.25**	**0.06**	**1.14**	**0.23**	**0.06**	**1.14**	**0.23**	**0.06**

Methodology

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

Abbreviations

PM = Particulate Matter
PM10 = Particulate Matter (<10 um)
PM2.5 = Particle Matter (<2.5 um)
PTE = Potential to Emit

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a Part 70 Operating Permit Renewal

Source Background and Description

Source Name:	**Gartland Foundry Co., Inc.**
Source Location:	**330 Grant St., Terre Haute, IN 47802**
County:	**Vigo**
SIC Code:	**3321 (Gray and Ductile Iron Foundries)**
Permit Renewal No.:	**T167-32794-00007**
Permit Reviewer:	**Sarah Street**

The Office of Air Quality (OAQ) has reviewed the operating permit renewal application from Gartland Foundry Co., Inc. relating to the operation of a stationary gray and ductile iron foundry. On February 1, 2013, Gartland Foundry Co., Inc. submitted an application to the OAQ requesting to renew its operating permit. Gartland Foundry Co., Inc. was issued its Part 70 Operating Permit T167-26842-00007 on October 24, 2008.

Permitted Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units:

Metal Melting

(a) One (1) Electric Induction Furnace #3, identified as EU130, constructed in 1995, with a maximum capacity of 5.0 tons of metal per hour, using Steelcraft baghouse, identified as BH1, for control, and exhausting to stack SC-2.

Under 40 CFR 63, Subpart ZZZZZ, this process is considered an existing affected unit.

(b) One (1) Electric Induction Furnace #4, identified as EU140, constructed in 1995, with a maximum capacity of 5.0 tons of metal per hour, using Steelcraft baghouse, identified as BH1, for control, and exhausting to stack SC-2.

Under 40 CFR 63, Subpart ZZZZZ, this process is considered an existing affected unit.

Note: Baghouse BH1 (exhausting to stack SC-2) is common to both Electric Induction Furnaces (EU130 and EU14).

Raw Material Handling and Preparation

(c) One (1) scrap/charge handling operation for the electric induction furnaces, identified as EU120, constructed in 1995, with a maximum capacity of 10 tons of metal per hour, utilizing no control, and exhausting indoors.

Under 40 CFR 63, Subpart ZZZZZ, this facility is considered an existing affected facility.

(d) Sand handling systems with a maximum capacity of 100 tons per hour, using Hosakawa baghouse (BH5) for control, and exhausting to stack SC-5, consisting of the following:

(1) One (1) sand muller, identified as EU591, constructed in 1997, and

(2) One (1) sand conveyor, constructed in 1970, identified as EU592.

Note: The Hosakawa baghouse, identified as BH5, is common to the Didion Drum, sand muller (EU591), sand conveyor (EU592), and four (4) Snag Grinders (EU640).

(e) Magnesium treatment (Inoculation) operation, identified as EU150, constructed in 1986, with a maximum capacity of 10 tons of metal per hour, utilizing a closed ladle, with no control, and exhausting indoors.

Mold Making

(f) Mold making process including:

(1) Two (2) Squeezer mold machines, collectively identified as EU520, constructed in 1902;

(2) Three (3) Rotolift mold machines, collectively identified as EU521, constructed in 1902;

(3) One (1) Sinto #1 mold machine identified as EU530, constructed in 2000;

Note: The unit description is being changed from Sinto FBOIII to Sinto #1 with this permit renewal.

Note: The mold machines EU520, EU521 and EU530 have a combined maximum capacity of 68.49 tons of sand per year.

(4) One (1) Sinto #2 mold machine, constructed in 2008, identified as EU531, with a maximum capacity of 26.4 tons of sand molds per hour, utilizing no control, and exhausting indoors.

Note: The unit description is being changed from Sinto FBox to Sinto #2 with this permit renewal.

Pouring, Cooling, and Shakeout

(g) One (1) Floor pouring/cooling process, identified as EU540, constructed in 1902, with a maximum capacity of 11.0 tons of metal per hour, with no control, and exhausting indoors.

(h) One (1) Sinto pouring/cooling process, identified as EU550, constructed in 1999, with a maximum capacity of 5.0 tons of metal per hour, with no control, and exhausting indoors

(i) One (1) Sinto pouring/cooling process, constructed in 2008, identified as EU560, with a maximum capacity of 6.0 tons of metal per hour, with no control, and exhausting indoors.

(j) Casting shakeout system, identified as EU570, with a maximum capacity of 80 tons of sand per hour and 18 tons of metal per hour, including:

(1) Handling equipment, constructed in 2001, using Wheelabrator-88 baghouse, identified as BH3, for control, and exhausting to stack SC-4.

(2) One (1) Didion Drum, with a nominal capacity of 18 tons of metal per hour, constructed in 2012, using Hosakawa baghouse, identified as BH5, for control, and exhausting to stack SC-5.

Note: The Hosakawa baghouse, identified as BH5, is common to the Didion Drum, sand muller (EU591), sand conveyor (EU592), and four (4) Snag Grinders (EU640).

Finishing Operations

(k) One (1) Spin Blast, identified as EU610, constructed in 1986, with a maximum capacity of 5 tons per hour of metal castings, using Wheelabrator-35 baghouse, identified as BH2, for control, and exhausting to stack SC-7.

(l) One (1) Tumbler, identified as EU630, constructed in 1989, with a maximum capacity of 1 ton per hour of metal castings, using Wheelabrator-35 baghouse, identified as BH2, for control, and exhausting to stack SC-7.

Note: Wheelabrator-35 baghouse, identified as BH2, is common the Spin Blast (EU610) and Tumbler (EU630).

(m) One (1) Tumble Blast, identified as EU660, with a nominal capacity of 5 tons per hour of metal castings per hour, constructed in 2012, using Siemens baghouse, identified as BH6, for control, and exhausting to stack SC-6.

(n) Six (6) self-contained finish grinders, identified as EU650, constructed in 1990, each with a maximum capacity of 2 tons per hour of metal castings, with downdraft tables using baffles for control, and exhausting to general ventilation.

(o) Four (4) Snag Grinders, identified as EU640, one constructed in 1985, one constructed in 1991, and two constructed in 2008, each with a maximum capacity of 2 tons per hour of metal castings, using Hosakawa baghouse, identified as BH5, for control, and exhausting to stack SC-5.

Note: The Hosakawa baghouse, identified as BH5, is common to the Didion Drum, sand muller (EU591), sand conveyor (EU592), and four (4) Snag Grinders (EU640).

(p) One (1) electrostatic spray booth, identified as prime paint line EU710, constructed in 1983, with a maximum capacity of 500 gray iron castings per hour, with dry filters for control of particulate matter overspray, and exhausting to stack SC-6.

Core Making

(q) Core making systems including:

(1) Two (2) Shell Core Machines, identified as EU320 and EU321, constructed in 1979, each with a maximum capacity of 1 ton per hour of sand, using no controls, and exhausting to general ventilation;

(2) One (1) Oil Core Making Process, identified as EU410, constructed in 1902, utilizing a mixer and associated core boxes with a maximum capacity of 0.25 tons per hour of sand, using no control, and exhausting to general ventilation; and

(3) Core Wash Process, identified as EU730, constructed in 1902, with a maximum capacity of 1 ton per hour of sand, using no control, and exhausting to general ventilation.

(r) Isocure Core making systems including:

(1) Isocure Core Machine, identified as CB-22, constructed in 1994, fed by Cold Box Mixer, with a maximum capacity of 0.525 tons of sand/resin mixture per hour, a maximum of 21 pounds of resin per hour, and a maximum of 1.05 pounds of DMIPA per hour, controlled by an acid scrubber, and exhausting to stack SC-8.

Note: This emission unit ID is changing from EU 222 to CB-22 with this Renewal.

(2) Cold Box (Isocure) Core Machine, identified as Gaylord-1, constructed in 2003, fed by Cold Box Mixer, with a maximum capacity of 1 ton of sand/resin mixture per hour, a maximum of 40 pounds of resin per hour, and a maximum of 2 pounds of DMIPA per hour, controlled by an acid scrubber, and exhausting to stack SC-8.

Note: This emission unit ID is changing from CBCM-1 to Gaylord-1 with this Renewal.

(3) Cold Box (Isocure) Core Machine, identified as Gaylord-2, constructed in 2003, fed by Cold Box Mixer, with a maximum capacity of 1 ton of sand/resin mixture per hour, a maximum of 40 pounds of resin per hour, and a maximum of 2 pounds of DMIPA per hour, controlled by an acid scrubber, and exhausting to stack SC-8.

Note: This emission unit ID is changing from CBCM-2 to Gaylord-2 with this Renewal.

(4) One (1) core machine, identified as Cold Box (Isocure) Core Machine (CBCM-3), approved for construction in 2013, fed by existing mixer (identified as Cold Box Mixer), with a maximum capacity of 2.7 tons of sand/resin mixture per hour, a maximum of 108 pounds of resin per hour, and a maximum of 4.22 pounds of amine catalyst per hour, with emissions controlled by an existing acid scrubber, exhausting to stack SC-8.

(5) Sand Mixer, identified as Cold Box Mixer, constructed in 2003, approved for modification in 2013, with a maximum capacity of 5.225 tons of sand/resin mixture per hour, using no control, and exhausting indoors.

(6) Sand heater, constructed in 1978, using no control, and exhausting indoors.

(7) Sand Silo, with a maximum capacity of 165 tons of sand, loaded via pneumatic conveying system including an integral bin vent, utilizing no control, and exhausting indoors.

Emission Units and Pollution Control Equipment Removed From the Source

The source has removed the following emission units:

(a) One (1) holding furnace, approved for construction in 2008, identified as EU160, with no control, and exhausting indoors.

The source never constructed the one (1) holding furnace.

Insignificant Activities

The source also consists of the following insignificant activities:

(a) One (1) emergency diesel generator, identified as EU800, constructed in 2011, rated at 346 horsepower, with an engine displacement volume less than 10 liters per cylinder and exhausting to the atmosphere.

Under 40 CFR Part 60, Subpart IIII, and 40 CFR Part 63, Subpart ZZZZ, this facility is considered an affected unit.

(b) The following equipment related to manufacturing activities not resulting in the emission of HAPs; brazing equipment, cutting torches, soldering equipment, welding equipment. [326 IAC 6-3-2]

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

(d) Grinding and machining operations controlled with fabric filters, scrubbers, mist collectors, wet collectors and electrostatic precipitators with a design grain loading of less than or equal to 0.03 grains per actual cubic foot and a gas flow rate less than or equal to 4000 actual cubic feet per minute, including the following: deburring; buffing; polishing; abrasive blasting; pneumatic conveying; and woodworking operations. [326 IAC 6-3-2]

Existing Approvals

Since the issuance of the Part 70 Operating Permit T167-26842-00007 on October 24, 2008, the source has constructed or has been operating under the following additional approvals:

(a) Significant Permit Modification No. 167-27191-00007 issued on February 6, 2009;

This SPM is for increasing the plant-wide metal production limit, and decreasing the emission limits for one baghouse and the surface coating operation.

(b) Significant Permit Modification No. 167-29422-00007 issued on March 8, 2011;

This SPM is for the reconfiguration of the tumbler for particulate control, substitution of a catalyst in the Isocure Coremaking, and construction of a new emergency generator.

(c) Significant Permit Modification No. 167-30601-00007 issued on September 20, 2011;

This SPM is to increase the metal input for the magnesium treatment operation, to add a PSD Minor Limit to the six finish grinders, to revise the PSD Minor Limits for the mold machines, the pouring and cooling operation, and the electrostatic spray booth.

(d) Significant Source Modification No. 167-31505-00007 issued on June 29, 2012;

This SSM is to construct a new Didion drum (a part of the shakeout process) and blasting unit.

(e) Significant Permit Modification No. 167-31728-00007 issued on July 16, 2012;

This SPM is to operate a new Didion drum (a part of the shakeout process) and blasting unit.

(f) Significant Source Modification No. 167-32913-00007 issued on May 29, 2013;

This SSM is to construct a new Cold Box (Isocure) Core Machine, remove one existing Shell Core Machine (EU322), and modify the baghouse controlling the Didion Drum.

(g) Significant Permit Modification No. 167-32921-00007 issued on June 19, 2013.

This SPM is to operate a new Cold Box (Isocure) Core Machine.

All terms and conditions of previous permits issued pursuant to permitting programs approved into the State Implementation Plan have been either incorporated as originally stated, revised, or deleted by this permit. All previous registrations and permits are superseded by this permit.

Enforcement Issue

There are no enforcement actions pending.

Emission Calculations

See Appendix A of this document for detailed emission calculations.

County Attainment Status

The source is located in Vigo County.

Pollutant	Designation
SO_2	Better than national standards.
CO	Unclassifiable or attainment effective November 15, 1990.
O_3	Attainment effective February 6, 2006, for the Terre Haute area, including Vigo County, for the 8-hour ozone standard.[1]
PM_{10}	Unclassifiable effective November 15, 1990.
NO_2	Cannot be classified or better than national standards.
Pb	Not designated.
[1]Unclassifiable or attainment effective October 18, 2000, for the 1-hour ozone standard which was revoked effective June 15, 2005. Unclassifiable or attainment effective April 5, 2005, for PM2.5.	

(a) Ozone Standards
Volatile organic compounds (VOC) and Nitrogen Oxides (NOx) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NOx emissions are considered when evaluating the rule applicability relating to ozone. Vigo County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

(b) $PM_{2.5}$
Vigo County has been classified as attainment for $PM_{2.5}$. On May 8, 2008 U.S. EPA promulgated the requirements for Prevention of Significant Deterioration (PSD) for $PM_{2.5}$ emissions. These rules became effective on July 15, 2008. On May 4, 2011 the air pollution control board issued an emergency rule establishing the direct $PM_{2.5}$ significant level at ten (10) tons per year. This rule became effective, June 28, 2011. Therefore, direct $PM_{2.5}$ and SO_2 emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability – Entire Source section.

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

Fugitive Emissions

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

Unrestricted Potential Emissions

This table reflects the unrestricted potential emissions of the source.

Unrestricted Potential Emissions	
Pollutant	Tons/year
PM	Greater than 100
PM_{10}	Greater than 100
$PM_{2.5}$	Greater than 100
SO_2	Less than 100
NO_x	Less than 100
VOC	Greater than 100
CO	Greater than 100
GHGs as CO_2e	Less than 100,000
Single HAP	Greater than 10
Total HAP	Greater than 25

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

The Permittee has agreed that they are major for Part 70 Permits 326 IAC 2-7 and Prevention of Significant Deterioration (PSD) 326 IAC 2-2.

(a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of PM10, PM2.5, VOC, and CO is equal to or greater than 100 tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7 and will be issued a Part 70 Operating Permit Renewal.

(b) The potential to emit of GHGs is less than one hundred thousand (100,000) tons of CO_2 equivalent emissions (CO_2e) per year

(c) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is equal to or greater than ten (10) tons per year and/or the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination of HAPs is equal to or greater than twenty-five (25) tons per year. However, the Permittee has agreed to limit the source's single HAP emissions and total HAP emissions below Title V levels. Therefore, this source is a Minor Source, under Section 112 of the Clean Air Act

Part 70 Permit Conditions

This source is subject to the requirements of 326 IAC 2-7, because the source met the following:

(a) Emission limitations and standards, including those operational requirements and limitations that assure compliance with all applicable requirements at the time of issuance of Part 70 permits.

(b) Monitoring and related record keeping requirements which assume that all reasonable information is provided to evaluate continuous compliance with the applicable requirements.

Potential to Emit After Issuance

The table below summarizes the potential to emit, reflecting all limits, of the emission units. Any new control equipment is considered federally enforceable only after issuance of this Part 70 permit renewal, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

Process/ Emission Unit	Potential To Emit of the Entire Source After Issuance of Renwal (tons/year)									
	PM	PM_{10}*	$PM_{2.5}$**	SO_2	NO_x	VOC	CO	GHGs	Total HAPs	Worst Single HAP
Equipment existing prior to 2008										
EU120 Scrap and charge handling	5.40	3.24	3.24	0.00	0.00	0.00	0.00	0.00		
EIF Furnace #3 (EU130)	9.00	9.00	9.00	0.00	0.00	0.00	0.00	0.00		
EIF Furnace #4 (EU140)										
Magnesium Treatment (Inoculation)	8.10	8.10	8.10	0.00	0.00	0.00	0.00	0.00		
Prime Paint Line EU710 (4)	2.22	2.22	2.22	0.00	0.00	47.00	0.00	0.00		
Floor pouring and cooling process EU540	7.38	2.41	2.41	0.18	0.09	14.76	34.07	90.00		
Sinto pouring and cooling process EU550	7.38	2.41	2.41	0.18	0.09	14.76	34.07	90.00		
Casting shakeout EU570	9.00	9.00	9.00	0.00	0.00	10.80	18.00	90.00		
Casting shakeout Didion Drum(1)	35.04	43.80	43.80	0.00	0.00	0.00	0.00	0.00		
Sand Muller EU591				0.00	0.00	0.00	0.00	0.00		
Sand Conveyor EU492										
Four (4) Snag Grinders EU640(2)				0.00	0.00	0.00	0.00	0.00		
Mold Making (EU520, EU521, EU530)	2.84	1.26	1.26	0.00	0.00	0.00	0.00	0.00		
Six (6) Finish Grinders EU650	6.00	6.00	6.00	0.00	0.00	0.00	0.00	0.00		
Spin Blast EU610	6.35	10.95	10.95	0.00	0.00	0.00	0.00	0.00		
Tumbler EU630										
Shell Core Machine EU320	0.45	0.45	0.45	0.00	0.00	0.13	0.00	0.00		
Shell Core Machine EU321										
Oil Core Making Process EU410	0.45	0.45	0.45	0.00	0.00	1.53	0.00	0.00		
Core Wash Process EU730	0.00	0.00	0.00	0.00	0.00	1.05	0.00	0.00		
Isocure Core Machine CB-22	0.28	0.28	0.28	0.00	0.00	5.50	0.00	0.00		
Cold Box Isocure Core Machine Gaylord-1										
Cold Box Isocure Core Machine Gaylord-2										
Cold Box Mixer (3)	0.00	0.00	0.00	0.00	0.00	4.42	0.00	0.00		
2008 Modification(5)										
Sinto pouring and cooling process EU560	7.90	2.41	2.41	0.18	0.09	15.69	34.07	90.00		
Sinto #2 mold machine EU531	1.87	0.83	0.83	0.00	0.00	0.00	0.00	0.00		
2011 Modification										
Emergency Diesel Generator	0.02	0.02	0.02	0.01	0.21	0.02	0.05	7.98		
2012 Modification(2)										
Tumble Blast EU660	24.88	14.89	9.90	0.00	0.00	0.00	0.00	0.00		
2013 Modification(3)										
Cold Box (Isocure) Core Machine CBCM-3(3)	24.90	3.73	3.73	0.00	0.00	24.90	0.00	0.00		
Cold Box Mixer (increase in capacity)	0.00	0.00	0.00	0.00	0.00	4.73	0.00	0.00		
Fugitive Emissions: Paved roads	1.24	0.25	0.06	0.00	0.00	0.00	0.00	0.00		
Total PTE of Entire Source	**160.70**	**121.70**	**116.52**	**0.55**	**0.48**	**145.28**	**120.27**	**367.98**	**23.61**	**9.99 (Xylene)**
PSD Major Source Thresholds	100	100	100	100	100	100	100	100,000 CO_2e	NA	NA

Notes:

* Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant".

** $PM_{2.5}$ listed is direct $PM_{2.5}$.

(1) Casting Shakeout system modified in 2012 to add Didion Drum as replacement unit to casting shakeout EU570. The throughput of these units is the same.

(2) Two snag grinders were constructed in 2008 to replace 2 snag grinders existing prior to 2008

(3) The Cold Box Mixer was modified in 2013 to increase throughput capacity due to the construction of the new Cold Box Isocure Core Machine

(4) PTE from Paint Line EU710 for PM, PM10, and PM2.5 is PTE after dry filters for control.

(5) The one (1) holding furnace, a part of the 2008 modification, was never constructed and is being removed with this Renewal

(a) 326 IAC 2-2 (Prevention of Significant Deterioration (PSD))
This existing stationary source is major for PSD because the emissions of at least one criteria pollutant are greater than one hundred (>100) tons per year, and it is in one of the twenty-eight (28) listed source categories.

PSD Permitting History:

(1) 2008 New Source Construction and Part 70 Operating Permit

Note: This existing source, prior to 2008, is not a major stationary source, under PSD (326 IAC 2-2), because no regulated pollutant 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(gg)(1).

This existing source is not a major source of HAPs, prior to 2008, as defined in 40 CFR 63.41, because HAP emissions are less than ten (10) tons per year for any single HAP and less than twenty-five (25) tons per year of a combination of HAPs.

The following are the PSD Minor limits for emission units existing prior to 2008:

In order to render the requirements of 326 IAC 2-2 (PSD) not applicable, the following conditions shall apply:

I. Electric Induction Furnaces

(A) The input of metal to the electric induction furnaces (EU130 and EU140 combined) shall not exceed 18,000 tons per 12 consecutive month period with compliance determined at the end of each month.

(B) The PM emissions after control from the electric induction furnaces (#3 and #4) shall not exceed 1.0 pounds per ton of metal melted.

(C) The PM10 emissions after control from the electric induction furnaces (#3 and #4) shall not exceed 1.0 pounds per ton of metal melted.

(D) The PM2.5 emissions after control from the electric induction furnaces (#3 and #4) shall not exceed 1.0 pounds per ton of metal melted.

II. Scrap/Charge Handling

(A) The PM emissions from the scrap/charge handling system, identified as EU120, shall not exceed 0.60 pounds per ton of metal.

(B) The PM10 emissions from the scrap/charge handling system, identified as EU120, shall not exceed 0.36 pound per ton of metal.

(C) The PM2.5 emissions from the scrap/charge handling system, identified as EU120, shall not exceed 0.36 pound per ton of metal.

Note: There is no control device for the scrap/charge handling system, identified as EU120.

III. Magnesium Treatment

(A) The input of metal to the Magnesium Treatment, identified as EU150, shall not exceed 9,000 tons of iron per 12 consecutive month period with compliance determined at the end of each month.

(B) The PM emissions from Magnesium Treatment, identified as EU150, shall not exceed 1.8 pounds per ton of metal.

(C) The PM10 emissions from Magnesium Treatment, identified as EU150, shall not exceed 1.8 pounds per ton of metal.

(D) The PM2.5 emissions from Magnesium Treatment, identified as EU150, shall not exceed 1.8 pounds per ton of metal.

Note: There is no control device for the Magnesium Treatment, identified as EU150.

IV. Hosakawa Baghouse

(A) The PM emissions from the Hosakawa baghouse (BH5) shall not exceed 8.0 pounds per hour.

(B) The PM10 emissions from the Hosakawa baghouse (BH5) shall not exceed 10.0 pounds per hour.

(C) The PM2.5 emissions from the Hosakawa baghouse (BH5) shall not exceed 10.0 pounds per hour.

Note: The Hosakawa baghouse, identified as BH5, is common to the Didion Drum, sand conveyor (EU592), and four (4) Snag Grinders (EU640). Gartland Foundry plans to route the Didion Drum to the Hosawkawa baghouse BH5 in late 2013. This was approved in Significant Permit Modification No. 167-32921-00007, issued on June 19, 2013.

V. Sinto Pouring/Cooling

(A) The PM emissions from the Sinto pouring/cooling process, identified as EU550, shall not exceed 0.8200 pounds per ton of metal.

Note: This emission limitation is changing from 0.8781 pounds per ton to 0.8200 pounds per ton with this renewal. This is to correctly incorporate the Floor pouring/cooling process, identified as EU540 (constructed in 1902), which in the

2008 initial Title V permit was evaluated as having combined emissions with the existing Sinto pouring/cooling process, identified as EU550. With this renewal, these two separate pouring/cooling lines will have separate emission limitations. This change is a Title I change.

(B) The PM10 emissions from the Sinto pouring/cooling process, identified as EU550, shall not exceed 0.2676 pounds per ton of metal.

(C) The PM2.5 emissions from the Sinto pouring/cooling process, identified as EU550, shall not exceed 0.2676 pounds per ton of metal.

(D) The VOC emissions from the Sinto pouring/cooling process, identified as EU550, shall not exceed 1.64 pounds per ton of metal.

Note: This emission limitation is changing from 2.591 pounds per ton to 1.64 pounds per ton with this renewal. This is to ensure the total limited VOC emissions from emission units existing prior to 2008 is less than 100 tons per 12 consecutive month period.

(E) The CO emissions from the Sinto pouring/cooling process, identified as EU550, shall not exceed 3.786 pounds per ton of metal.

Note: There is no control device for the Sinto pouring/cooling process, identified as EU550.

VI. Floor Pouring/Cooling

Note: These emission limitations are new with this renewal. This is to correctly incorporate the Floor pouring/cooling process, identified as EU540 (constructed in 1902), which in the 2008 initial Title V permit was calculated as having combined emissions with the existing Sinto pouring/cooling process, identified as EU550. With this renewal, these two separate pouring/cooling lines will have separate emission limitations. The limited PTE of the entire source, existing prior to 2008, will be less than 100 tons per year of PM, PM10, PM2.5, VOC and CO.

(A) The PM emissions from the Floor pouring/cooling process, identified as EU540, shall not exceed 0.8200 pounds per ton of metal.

(B) The PM10 emissions from the Floor pouring/cooling process, identified as EU540, shall not exceed 0.2676 pounds per ton of metal.

(C) The PM2.5 emissions from the Floor pouring/cooling process, identified as EU540, shall not exceed 0.2676 pounds per ton of metal.

(D) The VOC emissions from the Floor pouring/cooling process, identified as EU540, shall not exceed 1.64 pounds per ton of metal.

(E) The CO emissions from the Floor pouring/cooling process, identified as EU540, shall not exceed 3.786 pounds per ton of metal.

Note: There is no control device for the Floor pouring/cooling process, identified as EU540.

VII. Casting Shakeout System

(A) The PM emissions from the baghouse BH3 controlling the handling for the casting shakeout system, identified as EU570, shall not exceed 1.0 pound per ton of metal.

(B) The PM10 emissions from the baghouse BH3 controlling the handling for the casting shakeout system, identified as EU570, shall not exceed 1.0 pound per ton of metal.

(C) The PM2.5 emissions from the baghouse BH3 controlling the handling for the casting shakeout system, identified as EU570, shall not exceed 1.0 pound per ton of metal.

(D) The CO emissions from the casting shakeout system, identified as EU570, shall not exceed 2.0 pounds per ton of metal.

(E) The VOC emissions from the casting shakeout system, identified as EU570, shall not exceed 1.2 pounds per ton of metal.

Note 1: Compliance with the VOC limit also makes 326 IAC 8-1-6 (General VOC Reduction) not applicable to the casting shakeout system.

Note 2: The casting shakeout system was modified in 2012 to add Didion Drum as replacement unit to casting shakeout EU570. The throughput of these units is the same. Gartland Foundry plans to route the Didion Drum to the Hosakawa baghouse BH5 in late 2013. This was approved in Significant Permit Modification No. 167-32921-00007, issued on June 19, 2013. The Didion Drum has been incorporated into the Hosakawa baghouse limits listed above.

VIII. Mold Making Process

(A) The throughput of sand to the mold machines, identified as EU520, EU521 and EU530, shall not exceed 350,000 tons per 12 consecutive month period with compliance determined at the end of each month.

Note: This emission limit is changing from 450,000 tons per 12 consecutive month period to 350,000 tons per 12 consecutive month period. This is to ensure the source-wide totals of PM are less than 100 tons per year for emission units existing prior to 2008.

(B) The PM emissions from the mold machines, identified as EU520, EU521, and EU530, shall not exceed 0.0162 pound per ton of sand.

(C) The PM10 emissions from the mold machines, identified as EU520, EU521, and EU530, shall not exceed 0.0072 pound per ton of sand.

(D) The PM2.5 emissions from the mold machines, identified as EU520, EU521, and EU530, shall not exceed 0.0072 pound per ton of sand.

Note: There is no control device for the mold machines, identified as EU520, EU521 and EU530.

IX. Spin Blast and Tumbler

(A) The PM emissions from the Wheelabrator-35 baghouse (BH2), controlling the Spin Blast (EU610) and Tumbler (EU630), shall not exceed 1.45 pounds per hour.

Note: This emission limit is changing from 2.9 pounds per hour to 1.45 pounds per hour. This is to ensure the source-wide totals of PM are less than 100 tons per year for emission units existing prior to 2008.

(B) The PM10 emissions from the Wheelabrator-35 baghouse (BH2), controlling the Spin Blast (EU610) and Tumbler (EU630), shall not exceed 2.5 pounds per hour.

Note: This emission limit is changing from 2.9 pounds per hour to 2.5 pounds per hour. This is to ensure the source-wide totals of PM10 are less than 100 tons per year for emission units existing prior to 2008.

(C) The PM2.5 emissions from the Wheelabrator-35 baghouse (BH2), controlling the Spin Blast (EU610) and Tumbler (EU630), shall not exceed 2.5 pounds per hour.

Note: This emission limit is changing from 2.9 pounds per hour to 2.5 pounds per hour. This is to ensure the source-wide totals of PM2.5 are less than 100 tons per year for emission units existing prior to 2008.

X. Finish Grinders

(A) The input of metal to the six (6) finish grinders, identified as EU650, shall not exceed 15,100 tons per 12 consecutive month period with compliance determined at the end of each month.

Note: This emission limit is changing from 15,100 tons per 12 consecutive month period to 12,000 tons per 12 consecutive month period. This is to ensure the source-wide totals of PM are less than 100 tons per year for emission units existing prior to 2008.

(B) The PM emissions from the six (6) finish grinders, identified as EU650, shall not exceed 1.0 pound per ton metal.

(C) The PM10 emissions from the six (6) finish grinders, identified as EU650, shall not exceed 1.0 pound per ton metal.

(C) The PM2.5 emissions from the six (6) finish grinders, identified as EU650, shall not exceed 1.0 pound per ton metal.

Note: There is no control device for the six (6) finish grinders, identified as EU650.

XI. Electrostatic Spray Booth

(A) The VOC input to the electrostatic spray booth, identified as EU710, shall not exceed 47.0 tons per 12 consecutive month period with compliance determined at the end of each month.

This usage limit is required to limit the potential to emit of VOC emissions from the entire source to less than 100 tons per year for units constructed prior to 2008.

Note: This limit is being revised from 48.0 tons to 47.0 tons. This is to accommodate the VOC emissions from the core wash process (EU730), which were not accounted for in the source-wide total of VOC emissions for emission units existing prior to 2008. This change is a Title I change.

XII. Shell Core Making

(A) The input of core sand to the Shell Core Machines EU320 and EU321 combined shall not exceed 1,000 tons per 12 consecutive month period with compliance determined at the end of each month.

(B) The PM emissions from the Shell Core Machines EU320 and EU321 combined shall not exceed 0.9 pound per ton sand.

(C) The PM10 emissions from the Shell Core Machines EU320 and EU321 combined shall not exceed 0.9 pound per ton sand.

(D) PM2.5 emissions from the Shell Core Machines EU320 and EU321 combined shall not exceed 0.9 pound per ton sand.

(E) The VOC emissions from the Shell Core Machines EU320 and EU321 combined shall not exceed 0.254 pound per ton sand.

Note: There is no control device for the Shell Core Machines EU320 and EU321.

XIII. Oil Core Making

(A) The input of core sand to the oil core making process, identified as EU410, shall not exceed 1,000 tons per 12 consecutive month period with compliance determined at the end of each month.

(B) The PM emissions from the oil core making process, identified as EU410, shall not exceed 0.9 pound per ton sand.

(C) The PM10 emissions from the oil core making process, identified as EU410, shall not exceed 0.9 pound per ton sand.

(D) The PM2.5 emissions from the oil core making process, identified as EU410, shall not exceed 0.9 pound per ton sand.

(E) The VOC emissions from the oil core making process, identified as EU410, shall not exceed 3.05 pound per ton sand.

Note: There is no control device for the oil core making process

XIV. Core Wash Process

(A) The input of core wash material to the core wash process, identified as EU730, shall not exceed 1,000 gallons per 12 consecutive month period with compliance determined at the end of each month.

(B) The VOC emissions (including emissions from the core wash and release agents) from the core wash process, identified as EU730, shall not exceed 2.1 pounds per gallon of core wash material.

Note: Limit (A) is being added with this renewal. Limit (B) is being revised and clarified. This change is a Title I change.

Note: There is no control device for the core wash process.

XV. Isocure Core Making

(A) The total production of cores in the isocure machines (CB-22, Gaylord-1 and Gaylord-2 combined) shall not exceed 1,100 tons per 12 consecutive month period with compliance determined at the end of each month.

(B) The total VOC emissions, including dimethylisopropylamine (DMIPA), from the isocure machines (CB-22, Gaylord-1 and Gaylord-2) shall not exceed 10.0 pounds per ton of core.

Note: Limits (A) and (B) are being clarified with this renewal to indicate that the limits are combined for all three mentioned isocure machines.

(C) The PM emissions from the sand silo shall not exceed 0.5 pounds per ton of core.

(D) The PM10 emissions from the sand silo shall not exceed 0.5 pounds per ton of core.

(E) The PM2.5 emissions from the sand silo shall not exceed 0.5 pounds per ton of core.

Compliance with these limits, combined with emissions from all other emission units constructed before 2008, shall limit the potential PM, PM10 and PM2.5 emissions to less than 100 tons per 12 consecutive month period. Compliance with these limits makes 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable to the emission units constructed before 2008.

Compliance with these limits, combined with VOC emissions from all other emission units constructed before 2008, shall limit the potential VOC emissions to less than 100 tons per 12 consecutive month period. Compliance with this limit makes 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable to the emission units constructed prior to 2008.

(2) 2008 Modification

Note: The PSD Minor limits related to the holding furnace, identified as EU160, approved for construction in 2008, are being removed with this Renewal since the source never constructed the holding furnace and it is being removed from the permit.

In order to render the requirements of 326 IAC 2-2 (PSD) not applicable to the 2008 modification, the following conditions shall apply:

I. Sinto #2 Mold Machine

(A) The throughput of sand to the Sinto #2 Mold Machine shall not exceed 231,264 tons per 12 consecutive month period with compliance determined at the end of each month.

Note: Limit (A) is being added with this renewal.

(B) The PM emissions from the Sinto #2 mold machine, identified as EU531, shall not exceed 0.0162 pounds per ton of sand.

(C) The PM10 emissions from the Sinto #2 mold machine, identified as EU531, shall not exceed 0.0072 pounds per ton of sand.

(D) The PM2.5 emissions from the Sinto #2 mold machine, identified as EU531, shall not exceed 0.0072 pounds per ton of sand.

Note: There is no control device for the Sinto #2 mold machine.

II. Sinto Pouring/Cooling

(A) The PM emissions from the Sinto pouring/cooling process, identified as EU560, shall not exceed 0.8781 pounds per ton of metal.

(B) The PM10 emissions from the Sinto pouring/cooling process, identified as EU560, shall not exceed 0.2676 pounds per ton of metal.

(C) The PM2.5 emissions from the Sinto pouring/cooling process, identified as EU560, shall not exceed 0.2676 pounds per ton of metal.

(D) The VOC emissions from the Sinto pouring/cooling process, identified as EU560, shall not exceed 1.743 pounds per ton of metal.

(E) The CO emissions from the Sinto pouring/cooling process, identified as EU560, shall not exceed 3.786 pounds per ton of metal.

Note: There is no control device for the Sinto pouring/cooling process, identified as EU560.

Compliance with these limits shall limit the potential to emit of regulated pollutants to less than 100 tons per year for modification No. T167-26842-00007, issued in 2008. Compliance with these limits makes modification No. T167-26842-00007 a minor modification to an existing minor source, and renders the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable to the modification approved under T167-26842-00007. The VOC limit also makes 326 IAC 8-1-6 not applicable to the pouring and cooling process.

Note: This source is considered a major source under PSD Rules after this 2008 modification and upon issuance of Part 70 Operating Permit No. T167-26842-00007. This PSD permitting history is documented in Technical Support Document to Permit No. T167-26842-00007.

(3) 2011 Modification

The one (1) emergency diesel generator, identified as EU800, was constructed in 2011. This was a minor modification to an existing major source. No PSD Minor limits for the generator are necessary.

(4) 2012 Modification

In order to render the requirements of 326 IAC 2-2 (PSD) not applicable to the 2012 modification, the following conditions shall apply:

(A) The PM emissions from the Siemens baghouse (BH6), controlling emissions from the Tumble Blast, shall not exceed 5.68 pound per hour.

(B) The PM10 emissions from the Siemens baghouse (BH6), controlling emissions from the Tumble Blast, shall not exceed 3.40 pound per hour.

(C) The PM2.5 emissions from the Siemens baghouse (BH6), controlling emissions from the Tumble Blast, shall not exceed 2.26 pound per hour.

Note: In 2013, the Didion Drum from the casting shakeout operation was rerouted from the Siemens baghouse (BH6) to the Hosakawa baghouse. The pound per hour limits for the Siemens baghouse (BH6) did not change with this modification.

Compliance with these emission limits will ensure that the potential to emit from this modification is less than twenty-five (25) tons of PM per year, less than fifteen (15) tons of PM10 per year and less than ten (10) tons of PM2.5 per year, and therefore will render the requirements of326 IAC 2-2 (PSD) not applicable to the Tumble Blast.

(5) 2013 Modification

In order to render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable to the 2013 Modification, the Permittee shall comply with the following:

(A) The input of sand to the Cold Box (Isocure) Core Machine, identified as CBCM-3, shall not exceed 13,833 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(B) The PM emissions from the Cold Box (Isocure) Core Machine, identified as CBCM-3, shall not exceed 3.6 pounds per ton of sand.

Compliance with this limit shall limit the potential to emit of PM from the 2013 Modification to less than 25 tons per 12 consecutive month period and shall render 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

Federal Rule Applicability

New Source Performance Standards (NSPS):

(a) This source is not subject to the New Source Performance Standards for Calciners and Dryers in Mineral Industries (40 CFR 60, Subpart UUU), because the one (1) sand heater, constructed in 1978, does not meet the definition of a calciner or dryer. Pursuant to EPA's Applicability Determination Index (ADI) database (http://www.epa.gov/compliance/monitoring/programs/caa/adi.html) posting dated April 29, 2004 (Control Number: 0500056), emission units used in the reclamation of foundry sand that remove water through direct or indirect heating meet the definition of calciners and dryers as defined in 40 CFR 60.731. The one (1) sand heater is used to warm the sand prior to mixing with the catalyst in order to obtain the proper chemical reaction. It is not used to remove gases, water, or any other chemicals from the sand. Therefore, pursuant to 40 CFR 60.732, this sand heater does not meet the definition of a calciner or dryer.

(b) This source is still subject to the New Source Performance Standards for Stationary Reciprocating Internal Combustion Engines (40 CFR 60, Subpart IIII), because the emergency diesel generator is a stationary CI ICE that was constructed after July 11, 2005.

The following emission units are still subject to the requirements of this Subpart:

(1) One (1) emergency diesel generator, identified as EU800, constructed in 2011, rated at 346 horsepower, with an engine displacement volume less than 10 liters per cylinder and exhausting to the atmosphere.

Non applicable portions of the NSPS will not be included in the permit. This source is subject to the following portions of Subpart IIII:

(1) 40 CFR 60.4200(a)(2)(i)
(2) 40 CFR 60.4202(a)(2)
(3) 40 CFR 60.4205(b)
(4) 40 CFR 60.4206
(5) 40 CFR 60.4207(a) and (b)
(6) 40 CFR 60.4208(a)
(7) 40 CFR 60.4209(a)
(8) 40 CFR 60.4211(f)
(9) 40 CFR 60.4214(b) and (d)
(10) 40 CFR 60.4218
(11) 40 CFR 60.4219
(12) Table 8

Note: The applicability has been updated based on recent revisions to this rule. The most recent version of this rule is attached to the permit. There are no testing requirements under this Subpart for the one (1) emergency generator.

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

National Emission Standards for Hazardous Air Pollutants (NESHAP):

(d) This source is still subject to the National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (40 CFR 63, Subpart ZZZZ), because this source operates a stationary RICE at an area source of HAP emissions.

The following emission units are still subject to the requirements of this Subpart:

(1) One (1) emergency diesel generator, identified as EU800, constructed in 2011, rated at 346 horsepower, with an engine displacement volume less than 10 liters per cylinder and exhausting to the atmosphere.

Non applicable portions of the NESHAP will not be included in the permit. This source is subject to the following portions of Subpart ZZZZ:

(1) 40 CFR 63.6580
(2) 40 CFR 63.6585(a), (c), and (d)
(3) 40 CFR 63.6590(a)(2)(iii) and (c)(1)
(4) 40 CFR 63.6665
(5) 40 CFR 63.6670
(6) 40 CFR 63.6675

Pursuant to 40 CFR 63.6590(c)(1), an affected source must meet the requirements of this Subpart by meeting the requirements of 40 CFR part 60 subpart IIII, for compression ignition engines.

Note: The most recent version of this rule is attached to the permit.

(e) This source is still not subject to the National Emission Standards for Hazardous Air Pollutants (40 CFR 63, Subpart EEEEE) because the source has accepted a source wide potential to emit of each individual HAP to less than 10 tons per year, and to limit source wide combined HAPs to less than 25 tons per year. This source is an area source of HAPs, and therefore, pursuant to 40 CFR 63.7681, NESHAP Subpart EEEEE is not applicable.

(f) This source is still subject to the National Emission Standards for Hazardous Air Pollutants for Iron and Steel Foundries Area Sources (40 CFR 63.10880, Subpart ZZZZZ). This source is an existing affected source because it commenced construction before September 17, 2007. The emission units subject to this rule include the following:

The following emission units are still subject to the requirements of this Subpart:

(1) One (1) Electric Induction Furnace #3, identified as EU130, constructed in 1995, with a maximum capacity of 5.0 tons of metal per hour, using Steelcraft baghouse, identified as BH1, for control, and exhausting to stack SC-2.

(2) One (1) Electric Induction Furnace #4, identified as EU140, constructed in 1995, with a maximum capacity of 5.0 tons of metal per hour, using Steelcraft baghouse, identified as BH1, for control, and exhausting to stack SC-2.

(3) One (1) scrap/charge handling operation for the electric induction furnaces, identified as EU120, constructed in 1995, with a maximum capacity of 10 tons of metal per hour, utilizing no control, and exhausting indoors.

Nonapplicable portions of the NESHAP will not be included in the permit. The source is subject to the following portions of Subpart ZZZZZ:

(1) 40 CFR 63.10880 (a), (b), (b)(1), (c), and (f)
(2) 40 CFR 63.10881 (a), (a)(1), (a)(2), (d), (d)(1), and (d)(1)(i)
(3) 40 CFR 63.10885 (a), (a)(1), (a)(2), (a)(2)(i), (b), (b)(1), (b)(1)(i-ii), (b)(1)(ii)(A-D), (b)(1)(iii-v), (b)(2), (b)(2)(i-iv), (b)(2)(iv)(A-C), and (b)(3-4)
(4) 40 CFR 63.10890 (a-c), (c)(1-2), (d-e), (e)(1-3), (e)(3)(i-ii), (e)(4), (e)(6-7), and (f-i).
(5) 40 CFR 63.10897 (a), (a)(1), (a)(1)(i-ii), (d), (d)(1), (d)(1)(i-vii), (d)(2), (d)(2)(i-vi), (d)(3), (d)(3)(i-vi), and (e-g)
(6) 40 CFR 63.10899 (a-b), (b)(1-2), (b)(2)(i-ii), (b)(3), (b)(5-6), (b)(9), (b)(9)(i-iii), (b)(10-13), (b)(13)(i), (c), and (c)(1-3)
(7) 40 CFR 63.10905 (a-c) and (c)(1-6)
(8) 40 CFR 63.10906

The provisions of 40 CFR 63 Subpart A – General Provisions, which are incorporated as 326 IAC 20-1-1, apply to the facility described in this section except when otherwise specified in 40 CFR 63 Subpart ZZZZZ.

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

Compliance Assurance Monitoring (CAM)

(h) Pursuant to 40 CFR 64.2, CAM is applicable to each new or modified pollutant-specific emission unit that meets the following criteria:

(1) has a potential to emit before controls equal to or greater than the Part 70 major source threshold for the pollutant involved;

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

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

Emission Unit / Pollutant	Control Device Used	Emission Limitation (Y/N)	Uncontrolled PTE (tons/year)	Controlled PTE (tons/year)	Major Source Threshold (tons/year)	CAM Applicable (Y/N)	Large Unit (Y/N)
Scrap/charge handling (PM) (1)	-	-	-	-	-	-	-
Scrap/charge handling (PM10) (1)	-	-	-	-	-	-	-
Scrap/charge handling (PM2.5) (1)	-	-	-	-	-	-	-
Sand Muller (EU591) and Sand conveyer (EU592) (PM) (2)	Y	Y	> 100	< 100	100	Y	N
Sand Muller (EU591) and Sand conveyer (EU592) (PM10) (2)	Y	Y	> 100	< 100	100	Y	N
Sand Muller (EU591) and Sand conveyer (EU592) (PM2.5) (2)	Y	Y	> 100	< 100	100	Y	N
Mold Making (EU520, EU521, EU530) (PM)	N	-	-	-	-	N	-
Mold Making (EU520, EU521, EU530) (PM10)	N	-	-	-	-	N	-
Mold Making (EU520, EU521, EU530) (PM2.5)	N	-	-	-	-	N	-
Sinto #2 mold machine (EU531) (PM)	N	-	-	-	-	N	-
Sinto #2 mold machine (EU531) (PM10)	N	-	-	-	-	N	-
Sinto #2 mold machine (EU531) (PM2.5)	N	-	-	-	-	N	-
Magnesium treatment (EU150) (PM)	N	-	-	-	-	N	-
Magnesium treatment (EU150) (PM10)	N	-	-	-	-	N	-
Magnesium treatment (EU150) (PM2.5)	N	-	-	-	-	N	-
Electric Induction Furnace #3 (EU130) (PM) (1)	-	-	-	-	-	-	-

Emission Unit / Pollutant	Control Device Used	Emission Limitation (Y/N)	Uncontrolled PTE (tons/year)	Controlled PTE (tons/year)	Major Source Threshold (tons/year)	CAM Applicable (Y/N)	Large Unit (Y/N)
Electric Induction Furnace #3 (EU130) (PM10) (1)	-	-	-	-	-	-	-
Electric Induction Furnace #3 (EU130) (PM2.5) (1)	-	-	-	-	-	-	-
Electric Induction Furnace #4 (EU140) (PM) (1)	-	-	-	-	-	-	-
Electric Induction Furnace #4 (EU140) (PM10) (1)	-	-	-	-	-	-	-
Electric Induction Furnace #4 (EU140) (PM2.5) (1)	-	-	-	-	-	-	-
Floor pouring/cooling process (EU540) (PM)	N	-	-	-	-	N	-
Floor pouring/cooling process (EU540) (PM10)	N	-	-	-	-	N	-
Floor pouring/cooling process (EU540) (PM2.5)	N	-	-	-	-	N	-
Floor pouring/cooling process (EU540) (SO2)	N	-	-	-	-	N	-
Floor pouring/cooling process (EU540) (NOx)	N	-	-	-	-	N	-
Floor pouring/cooling process (EU540) (VOC)	N	-	-	-	-	N	-
Floor pouring/cooling process (EU540) (CO)	N	-	-	-	-	N	-
Sinto pouring/cooling process (EU550) (PM)	N	-	-	-	-	N	-
Sinto pouring/cooling process (EU550) (PM10)	N	-	-	-	-	N	-

Emission Unit / Pollutant	Control Device Used	Emission Limitation (Y/N)	Uncontrolled PTE (tons/year)	Controlled PTE (tons/year)	Major Source Threshold (tons/year)	CAM Applicable (Y/N)	Large Unit (Y/N)
Sinto pouring/cooling process (EU550) (PM2.5)	N	-	-	-	-	N	-
Sinto pouring/cooling process (EU550) (SO2)	N	-	-	-	-	N	-
Sinto pouring/cooling process (EU550) (NOx)	N	-	-	-	-	N	-
Sinto pouring/cooling process (EU550) (VOC)	N	-	-	-	-	N	-
Sinto pouring/cooling process (EU550) (CO)	N	-	-	-	-	N	-
Sinto pouring/cooling process (EU560) (PM)	N	-	-	-	-	N	-
Sinto pouring/cooling process (EU560) (PM10)	N	-	-	-	-	N	-
Sinto pouring/cooling process (EU560) (PM2.5)	N	-	-	-	-	N	-
Sinto pouring/cooling process (EU560) (SO2)	N	-	-	-	-	N	-
Sinto pouring/cooling process (EU560) (NOx)	N	-	-	-	-	N	-
Sinto pouring/cooling process (EU560) (VOC)	N	-	-	-	-	N	-
Sinto pouring/cooling process (EU560) (CO)	N	-	-	-	-	N	-
Casting shakeout system and Didion Drum (PM) (2) (5)	Y	Y	> 100	< 100	100	Y	N
Casting shakeout system and Didion Drum (PM10) (2) (5)	Y	Y	> 100	< 100	100	Y	N

Emission Unit / Pollutant	Control Device Used	Emission Limitation (Y/N)	Uncontrolled PTE (tons/year)	Controlled PTE (tons/year)	Major Source Threshold (tons/year)	CAM Applicable (Y/N)	Large Unit (Y/N)
Casting shakeout system and Didion Drum (PM2.5) (2) (5)	Y	Y	> 100	< 100	100	Y	N
Casting shakeout system and Didion Drum (CO)	N	-	-	-	-	N	-
Casting shakeout system and Didion Drum (VOC)	N	-	-	-	-	N	-
Spin Blast (EU610) (PM) (3)	Y	Y	> 100	< 100	100	Y	N
Spin Blast (EU610) (PM10)	Y	Y	< 100	< 100	100	N	N
Spin Blast (EU610) (PM2.5)	Y	Y	< 100	< 100	100	N	N
Tumble Blast (EU660) (PM) (4)	Y	Y	> 100	< 100	100	Y	N
Tumble Blast (EU660) (PM10)	Y	Y	< 100	< 100	100	N	N
Tumble Blast (EU660) (PM2.5)	Y	Y	< 100	< 100	100	N	N
Tumbler (EU630) (PM)	Y	Y	< 100	< 100	100	N	N
Tumbler (EU630) (PM10)	Y	Y	< 100	< 100	100	N	N
Tumbler (EU630) (PM2.5)	Y	Y	< 100	< 100	100	N	N
Snag Grinders (EU640) (PM) (2)	Y	Y	> 100	< 100	100	Y	N
Snag Grinders (EU640) (PM10) (2)	Y	Y	> 100	< 100	100	Y	N
Snag Grinders (EU640) (PM2.5) (2)	Y	Y	> 100	< 100	100	Y	N
Finish grinders (EU650) (PM)	N	-	-	-	-	N	-
Finish grinders (EU650) (PM10)	N	-	-	-	-	N	-
Finish grinders (EU650) (PM2.5)	N	-	-	-	-	N	-
Electrostatic spray booth (EU710) (PM)	Y	Y	< 100	< 100	100	N	N
Electrostatic spray booth (EU710) (PM10)	Y	Y	< 100	< 100	100	N	N

Emission Unit / Pollutant	Control Device Used	Emission Limitation (Y/N)	Uncontrolled PTE (tons/year)	Controlled PTE (tons/year)	Major Source Threshold (tons/year)	CAM Applicable (Y/N)	Large Unit (Y/N)
Electrostatic spray booth (EU710) (PM2.5)	Y	Y	< 100	< 100	100	N	N
Electrostatic spray booth (EU710) (VOC)	N	-	-	-	-	N	-
Shell Core Machine (EU320) (PM)	N	-	-	-	-	N	-
Shell Core Machine (EU320) (PM10)	N	-	-	-	-	N	-
Shell Core Machine (EU320) (PM2.5)	N	-	-	-	-	N	-
Shell Core Machine (EU320) (VOC)	N	-	-	-	-	N	-
Shell Core Machine (EU321) (PM)	N	-	-	-	-	N	-
Shell Core Machine (EU321) (PM10)	N	-	-	-	-	N	-
Shell Core Machine (EU321) (PM2.5)	N	-	-	-	-	N	-
Shell Core Machine (EU321) (VOC)	N	-	-	-	-	N	-
Oil Core Making Process (EU410) (PM)	N	-	-	-	-	N	-
Oil Core Making Process (EU410) (PM10)	N	-	-	-	-	N	-
Oil Core Making Process (EU410) (PM2.5)	N	-	-	-	-	N	-
Oil Core Making Process (EU410) (VOC)	N	-	-	-	-	N	-
Core Wash Process (EU730) (VOC)	N	-	-	-	-	N	-
Isocure Core Machine (CB-22) (PM)	N	-	-	-	-	N	-
Isocure Core Machine (CB-22) (PM10)	N	-	-	-	-	N	-
Isocure Core Machine (CB-22) (PM2.5)	N	-	-	-	-	N	-
Isocure Core Machine (CB-22) (VOC)	Y	Y	< 100	< 100	100	N	N

Emission Unit / Pollutant	Control Device Used	Emission Limitation (Y/N)	Uncontrolled PTE (tons/year)	Controlled PTE (tons/year)	Major Source Threshold (tons/year)	CAM Applicable (Y/N)	Large Unit (Y/N)
Cold Box (Isocure) Core Machine (Gaylord-1) (PM)	N	-	-	-	-	N	-
Cold Box (Isocure) Core Machine (Gaylord-1) (PM10)	N	-	-	-	-	N	-
Cold Box (Isocure) Core Machine (Gaylord-1) (PM2.5)	N	-	-	-	-	N	-
Cold Box (Isocure) Core Machine (Gaylord-1) (VOC)	Y	Y	< 100	< 100	100	N	N
Cold Box (Isocure) Core Machine (Gaylord-2) (PM)	N	-	-	-	-	N	-
Cold Box (Isocure) Core Machine (Gaylord-2) (PM10)	N	-	-	-	-	N	-
Cold Box (Isocure) Core Machine (Gaylord-2) (PM2.5)	N	-	-	-	-	N	-
Cold Box (Isocure) Core Machine (Gaylord-2) (VOC)	Y	Y	< 100	< 100	100	N	N
Cold Box (Isocure) Core Machine (CBCM-3) (PM)	N	-	-	-	-	N	-
Cold Box (Isocure) Core Machine (CBCM-3) (PM10)	N	-	-	-	-	N	-
Cold Box (Isocure) Core Machine (CBCM-3) (PM2.5)	N	-	-	-	-	N	-
Cold Box (Isocure) Core Machine (CBCM-3) (VOC)	Y	Y	< 100	< 100	100	N	N
Cold Box Mixer (VOC)	N	-	-	-	-	N	-
Cold Box (Isocure) Core Machine CBCM-3 (PM)	N	-	-	-	-	N	-

Emission Unit / Pollutant	Control Device Used	Emission Limitation (Y/N)	Uncontrolled PTE (tons/year)	Controlled PTE (tons/year)	Major Source Threshold (tons/year)	CAM Applicable (Y/N)	Large Unit (Y/N)
Cold Box (Isocure) Core Machine CBCM-3 (PM10)	N	-	-	-	-	N	-
Cold Box (Isocure) Core Machine CBCM-3 (PM2.5)	N	-	-	-	-	N	-
Cold Box (Isocure) Core Machine CBCM-3 (VOC)	Y	Y	< 100	< 100	100	N	N

Notes:
- Not applicable.
(1) These units subject to NESHAP Subpart ZZZZZ, and are therefore not subject to CAM.
(2) CAM requirements are applicable to the Hosakawa baghouse, identified as BH5, controlling emissions from the Didion Drum, sand conveyor (EU592), and four (4) Snag Grinders (EU640).
(3) CAM requirements are applicable to the Wheelabrator-35 baghouse, identified as BH2, controlling emissions from the Spin Blast (EU610) and Tumbler (EU630). The Tumbler is not subject to CAM, but because this is a shared baghouse, CAM applies.
(4) CAM requirements are applicable to the Siemens baghouse, identified as BH6, controlling emissions from the Tumble Blast (EU660).
(5) CAM requirements are applicable to the Wheelabrator-88 baghouse, identified as BH3, controlling emissions from the casting shakeout system.

State Rule Applicability - Entire Source

The following state rules are applicable to the Renewal:

(a) 326 IAC 2-2 (Prevention of Significant Deterioration(PSD))
This existing stationary source is major for PSD because the emissions of at least one criteria pollutant are greater than one hundred (>100) tons per year, and it is in one of the twenty-eight (28) listed source categories.

See Potential to Emit of the Entire Source portion of this TSD for the PSD permitting history and details.

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

Electrostatic Spray Booth

(i) The Xylene input to the electrostatic spray booth (EU710) shall not exceed 9.645 tons per 12 consecutive month period with compliance determined at the end of each month. Compliance with this limit makes 40 CFR 63, Subpart EEEEE not applicable.

Note: This limit is changing from 9.735 tons/yr to 9.645 tons/yr. Significant Permit Modification No. 167-27191-00007, issued on February 6, 2009, increased the plant-wide metal production limit, thereby increasing the potential limited Xylene emissions from the pouring, cooling, and shakeout operations. The individual HAPs limit for Xylene was inadvertently not evaluated at this time. This change is a Title I change.

Electric Induction Furnaces

(ii) The combined Metallic HAP emissions (chromium compounds, cobalt compounds, nickel compounds, arsenic compounds, cadmium compounds, selenium compounds, manganese compounds, and antimony compounds) from the electric induction furnaces (#3 and #4) shall not exceed 0.02843 pounds per ton of metal melted.

Note: This an existing limit.

Magnesium Treatment

(iii) The combined Metallic HAP emissions (chromium compounds, cobalt compounds, nickel compounds, arsenic compounds, cadmium compounds, selenium compounds, manganese compounds, and antimony compounds) from Magnesium Treatment (Inoculation) shall not exceed 0.05684 pounds per ton of metal.

Note: This an existing limit.

Pouring, Cooling, and Casting Shakeout

(iv) The combined Metallic HAP emissions (chromium compounds, cobalt compounds, nickel compounds, arsenic compounds, cadmium compounds, selenium compounds, manganese compounds, and antimony compounds) from the Casting Shakeout System shall not exceed 0.002 pounds per ton of metal.

(v) The Phenol emissions from Pouring, Cooling, and Casting Shakeout combined shall not exceed 0.0718 pounds per ton of metal.

(vi) The Benzene emissions from Pouring, Cooling, and Casting Shakeout combined shall not exceed 0.1643 pounds per ton of metal.

(vii) The Analine emissions from Pouring, Cooling, and Casting Shakeout combined shall not exceed 0.0366 pounds per ton of metal.

(viii) The o-Cresol emissions from Pouring, Cooling, and Casting Shakeout combined shall not exceed 0.0185 pounds per ton of metal.

(ix) The Naphthalene emissions from Pouring, Cooling, and Casting Shakeout combined shall not exceed 0.0048 pounds per ton of metal.

(x) The N,N - Dimethylaniline emissions from Pouring, Cooling, and Casting Shakeout combined shall not exceed 0.0085 pounds per ton of metal.

(xi) The Toluene emissions from Pouring, Cooling, and Casting Shakeout combined shall not exceed 0.0647 pounds per ton of metal.

(xii) The m,p -Cresol emissions from Pouring, Cooling, and Casting Shakeout combined shall not exceed 0.0059 pounds per ton of metal.

(xiii) The m,p -Xylene emissions from Pouring, Cooling, and Casting Shakeout combined shall not exceed 0.0044 pounds per ton of metal.

(xiv) The Xylene (Total) emissions from Pouring, Cooling, and Casting Shakeout combined shall not exceed 0.0383 pounds per ton of metal.

(xv) The Acetaldehyde emissions from Pouring, Cooling, and Casting Shakeout combined shall not exceed 0.0100 pounds per ton of metal.

(xvi) The Ethylbenzene emissions from Pouring, Cooling, and Casting Shakeout combined shall not exceed 0.0070 pounds per ton of metal.

(xvii) The Formaldehyde emissions from Pouring, Cooling, and Casting Shakeout combined shall not exceed 0.0011 pounds per ton of metal.

(xviii) The hexane emissions from Pouring, Cooling, and Casting Shakeout combined shall not exceed 0.0046 pounds per ton of metal.

(xix) The other HAP emissions from Pouring, Cooling, and Casting Shakeout combined shall not exceed 0.0070 pounds per ton of metal.

(xx) The total organic HAP emissions from Pouring, Cooling, and Casting Shakeout combined shall not exceed 0.4475 pounds per ton of metal.

Note: Limits (iv) through (xx) are existing limits.

Finishing Operations

(xxi) The combined Metallic HAP emissions (chromium compounds, cobalt compounds, nickel compounds, arsenic compounds, cadmium compounds, selenium compounds, manganese compounds, and antimony compounds) from the Spin Blast (EU610) shall not exceed 0.1467 pounds per ton of metal.

Note: This limit is being clarified with this Renewal to specify the Spin Blast unit, whereas previously this was identified as "Sandblast System." Further, based on PTE calculations previously done, this limit is changing from 0.0029 pounds per ton to 0.1467 pounds per ton (see Appendix A - Emissions Calculations). In addition, the following limits in (xxii) through (xxv) are being added with this renewal. Previously, it was assumed that the control devices for the finishing operations would be in operation and control the Metallic HAP emissions. However, a specific lb/ton limit needs to be specified to ensure this source is an area source of HAP emissions. This change is a Title I change.

The limits in (xxi) through (xxv) are combined with the metal throughput limit of 15,100 tons per twelve (12) consecutive month period.

(xxii) The combined Metallic HAP emissions (chromium compounds, cobalt compounds, nickel compounds, arsenic compounds, cadmium compounds, selenium compounds, manganese compounds, and antimony compounds) from the Tumble Blast (EU660) shall not exceed 0.1467 pounds per ton of metal.

Note: This a new limit. This change is a Title I change.

(xxiii) The combined Metallic HAP emissions (chromium compounds, cobalt compounds, nickel compounds, arsenic compounds, cadmium compounds, selenium compounds, manganese compounds, and antimony compounds) from the Tumbler (EU630) shall not exceed 0.1467 pounds per ton of metal.

Note: This a new limit. This change is a Title I change.

(xxiv) The combined Metallic HAP emissions (chromium compounds, cobalt compounds, nickel compounds, arsenic compounds, cadmium compounds, selenium compounds, manganese compounds, and antimony compounds) from the six (6) finish grinders (EU650) shall not exceed 0.0001 pounds per ton of metal.

Note: This a new limit. This change is a Title I change.

(xxv) The combined Metallic HAP emissions (chromium compounds, cobalt compounds, nickel compounds, arsenic compounds, cadmium compounds, selenium compounds, manganese compounds, and antimony compounds) from the four (4) Snag Grinders (EU640) shall not exceed 0.0001 pounds per ton of metal.

Note: This a new limit. This change is a Title I change.

Emergency Generator

(xxvi) The hours of operation for Emergency Generator EU800 shall not exceed 40 hours per consecutive 12 month period. Compliance with this limit, and other limits at the source, shall limit the sourcewide potential to emit a single HAP to less than 10 tons per consecutive 12 month period and shall make the entire source an area source for HAPs.

Note: This an existing limit.

Compliance with these limits shall limit the potential to emit of HAPs to less than 10 tons per 12 consecutive month period for a single HAP and less than 25 tons per 12 consecutive month period for total HAPs. Compliance with this limit makes 40 CFR 63, Subpart EEEEE not applicable.

(c) 326 IAC 1-6-3 (Preventive Maintenance Plan)
The source is subject to 326 IAC 1-6-3.

(d) 326 IAC 2-6 (Emission Reporting)
This source, not located in Lake, Porter, or LaPorte County, is subject to 326 IAC 2-6 (Emission Reporting) because it is required to have an operating permit pursuant to 326 IAC 2-7 (Part 70). The potential to emit of VOC and PM10 is less than 250 tons per year; and the potential to emit of CO, NOx, and SO2 is less than 2,500 tons per year. Therefore, pursuant to 326 IAC 2-6-3(a)(2), triennial reporting is required. An emission statement shall be submitted in accordance with the compliance schedule in 326 IAC 2-6-3 by July 1, and every three (3) years thereafter. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4.

(e) 326 IAC 5-1 (Opacity Limitations)
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:

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

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

(f) 326 IAC 6.5 (Particulate Matter Limitations Except Lake County)
This source is located in Vigo County, has potential emissions greater than 100 tons/yr of PM, has actual emissions of 10 tons/yr of PM and is not specifically listed in 326 IAC 6.5-2 through 326 IAC 6.5-10.

(1) Pursuant to 326 IAC 6.5-1-2(e)(2), the PM emissions from the induction furnaces #3 and #4 (EU130 and EU140) shall not exceed 0.07 grain per dry standard cubic foot, each.

(2) Pursuant to 326 IAC 6.5-1-2(a), the PM emissions from the scrap and charge handling (EU120) and magnesium treatment process (EU150) shall each not exceed 0.03 grains per dry standard cubic foot, each.

(3) Pursuant to 326 IAC 6.5-1-2(a), the PM emissions from the electrostatic spray booth (EU710) shall not exceed 0.03 grain per dry standard cubic foot of exhaust air.

(4) Pursuant to 326 IAC 6.5-1-2(a), the PM emissions from the Hosakawa baghouse (BH5) controlling the Casting Shakeout Didion Drum (EU570), the sand muller (EU591), and the snag grinders (EU640) shall not exceed 0.03 grains per dry standard cubic foot.

(5) Pursuant to 326 IAC 6.5-1-2(a), the PM emissions from the floor pouring/cooling process (EU540) shall not exceed 0.03 grains per dry standard cubic foot.

(6) Pursuant to 326 IAC 6.5-1-2(a), the PM emissions from the Sinto pouring/cooling process (EU550) shall not exceed 0.03 grains per dry standard cubic foot.

(7) Pursuant to 326 IAC 6.5-1-2(a), the PM emissions from the Sinto pouring/cooling process (EU560) shall not exceed 0.03 grains per dry standard cubic foot.

(8) Pursuant to 326 IAC 6.5-1-2(a), the PM emissions from the Wheelabrator-88 baghouse (BH3) controlling portions of the casting shakeout shall not exceed 0.03 grains per dry standard cubic foot.

(9) Pursuant to 326 IAC 6.5-1-2(a), the PM emissions from the baghouse (BH6) controlling the Tumble Blast (EU660) shall not exceed 0.03 grains per dry standard cubic foot.

(10) Pursuant to 326 IAC 6.5-1-2(a), the PM emissions from the Wheelabrator-35 baghouse (BH2) controlling the Spin Blast (EU610) and Tumbler (EU630) shall not exceed 0.03 grains per dry standard cubic foot.

(11) Pursuant to 326 IAC 6.5-1-2(a), the PM emissions from the finish grinders (EU650) shall not exceed 0.03 grains per dry standard cubic foot.

(12) Pursuant to 326 IAC 6.5-1-2(a), the PM emissions from the oil core making process (EU410) shall not exceed 0.03 grains per dry standard cubic foot.

(13) Pursuant to 326 IAC 6.5-1-2(a), the PM emissions from the shell core machines (EU320, EU321, and EU322) shall not exceed 0.03 grains per dry standard cubic foot.

(14) Pursuant to 326 IAC 6.5-1-2(a), the PM emissions from the Sand Silo shall not exceed 0.03 grain per dry standard cubic foot.

(15) Pursuant to 326 IAC 6.5-1-2(a), the PM emissions from the emergency generator shall not exceed 0.03 grain per dry standard cubic foot.

Note: Limits specified from (1) to (15) are existing limits.

(16) Pursuant to 326 IAC 6.5-1-2(a), the PM emissions from each of the mold machines (EU520, EU521, and EU530) shall not exceed 0.03 grain per dry standard cubic foot, each.

Note: This emission limit is being added with this renewal. This change is a Title I change.

(17) Pursuant to 326 IAC 6.5-1-2(a), the PM emissions from the Sinto #2 mold machine (EU531) shall not exceed 0.03 grain per dry standard cubic foot.

Note: This emission limit is being added with this renewal. This change is a Title I change.

(g) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
Pursuant to 326 IAC 6-3-1(c)(3), this source is not subject to the requirements of this rule because particulate matter limitations are established in 326 IAC 6.5.

(h) 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.

(i) 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations)
This source located in Vigo County which is not specifically listed in 326 IAC 6-5-1(a) and has not added a facility with the potential to emit fugitive particulate matter greater than 25 tons per year (see Appendix A), which requires a permit as set forth in 326 IAC 2, after December 13, 1985. Therefore, pursuant to 326 IAC 6-5-1, this source is not subject to the requirements of 326 IAC 6-5. 326 IAC 6-5-1(a)(2)(F) lists: The portion of Vigo County located within a five-tenths (0.5) kilometer radius of UTM Coordinates four hundred sixty-four and five hundred nineteen-thousandths (464.519) east and four thousand three hundred sixty-nine and two hundred eight-thousandths (4,369.208) north, in Indiana State University parking lot number 23 in Terre Haute. This source is not located in the specified area.

State Rule Applicability – Individual Facilities

Raw Material Handling and Preparation

(a) 326 IAC 2-2 (PSD)
See Potential to Emit of the Entire Source portion of this TSD for the PSD permitting history and details.

(b) 326 IAC 6.5 (Particulate Matter Limitations Except Lake County)
The PM limits for these facilities are addressed above in the State Rule Applicability - Entire Source section.

(c) 326 IAC 8 (VOC Rules)
There are no VOC rules applicable to the raw material handling and preparation facilities, including scrap/charge handling, sand handling, mold making, and magnesium treatment.

Metal Melting

(d) 326 IAC 2-2 (PSD)
See Potential to Emit of the Entire Source portion of this TSD for the PSD permitting history and details.

(e) 326 IAC 6.5 (Particulate Matter Limitations Except Lake County)
The PM limits for these facilities are addressed above in the State Rule Applicability - Entire Source section.

(f) 326 IAC 8 (VOC Rules)
There are no VOC rules applicable to the electric induction furnaces.

Pouring, Cooling, and Casting Shakeout

(g) 326 IAC 2-2 (PSD)
See Potential to Emit of the Entire Source portion of this TSD for the PSD permitting history and details.

(h) 326 IAC 6.5 (Particulate Matter Limitations Except Lake County)
The PM limits for these facilities are addressed above in the State Rule Applicability - Entire Source section.

Grinding and Blasting

(i) 326 IAC 2-2 (PSD)
See Potential to Emit of the Entire Source portion of this TSD for the PSD permitting history and details.

(j) 326 IAC 6.5 (Particulate Matter Limitations Except Lake County)
The PM limits for these facilities are addressed above in the State Rule Applicability - Entire Source section.

Electrostatic Paint Booth

(k) 326 IAC 2-2 (PSD)
See Potential to Emit of the Entire Source portion of this TSD for the PSD permitting history and details.

(l) 326 IAC 6.5 (Particulate Matter Limitations Except Lake County)
The PM limits for these facilities are addressed above in the State Rule Applicability - Entire Source section.

(m) 326 IAC 8-2-9 (VOCs: Miscellaneous Metal Coating Operations)
The electrostatic paint booth is subject to 326 IAC 8-2-9 because the actual VOC emissions are greater than 15 lb/day and the facility was constructed after 1990.

(1) Pursuant to 326 IAC 8-2-9, when coating metal, the Permittee shall not allow the discharge into the atmosphere of VOC in excess of three (3.5) pounds of VOC per gallon of coating, excluding water, as delivered to the applicator, for extreme performance coatings.

Compliance with the VOC usage limitations shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a)(7) by preparing or obtaining from the manufacturer the copies of the as supplied and as applied VOC data sheets. IDEM, OAQ, reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

Based on information provided by the source, VOC content of each of the coatings used in the paint booth is less than 3.5 pounds per gallon, excluding water (see TSD Appendix A for detailed calculations). Therefore, compliance with 326 IAC 8-2-9 is expected.

(2) Pursuant to 326 IAC 8-2-9(f), work practices shall be used to minimize VOC emissions from mixing operations, storage tanks, and other containers, and handling operations for coatings, thinners, cleaning materials, and waste materials. Work practices shall include, but not limited to, the following:

(a) Store all VOC containing coatings, thinners, coating related waste, and cleaning materials in closed containers.

(b) Ensure that mixing and storage containers used for VOC containing coatings, thinners, coating related waste, and cleaning materials are kept closed at all times except when depositing or removing these materials.

(c) Minimize spills of VOC containing coatings, thinners, coating related waste, and cleaning materials.

(d) Convey VOC containing coatings, thinners, coating related waste, and cleaning materials from one (1) location to another in closed containers or pipes.

(e) Minimize VOC emissions from the cleaning application, storage, mixing, and conveying equipment by ensuring that equipment cleaning is performed without atomizing the cleaning solvent and all spent solvent is captured in closed containers.

Cold Box Core Machines

(n) 326 IAC 2-2 (PSD)
See Potential to Emit of the Entire Source portion of this TSD for the PSD permitting history and details.

(o) 326 IAC 6.5 (Particulate Matter Limitations Except Lake County)
The PM limits for these facilities are addressed above in the State Rule Applicability - Entire Source section.

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

(1) In order to render the requirements of 326 IAC 8-1-6 not applicable, the VOC emissions before controls from the Cold Box (Isocure) Core Machine CBCM-3 shall not exceed 24.9 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with this limits, shall limit the potential to emit VOC from the Cold Box (Isocure) Core Machine CBCM-3 to less than twenty-five (25) tons per 12 consecutive month period and shall render 326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities) not applicable.

(2) The core machines identified as Gaylord-1 and Gaylord-2 are limited under 326 IAC 2-2 (PSD Minor Limits), which also renders 326 IAC 8-1-6 not applicable. See State Rule Applicability - Entire Source above.

(3) The unlimited VOC emissions from core machine CB-22 is less than 25 tons per year; therefore, the requirements of 316 IAC 8-1-6 are not applicable to this facility.

(q) There are no other VOC Rules applicable to the cold box core machines.

Core Making

(r) 326 IAC 2-2 (PSD)
See Potential to Emit of the Entire Source portion of this TSD for the PSD permitting history and details.

(s) 326 IAC 6.5 (Particulate Matter Limitations Except Lake County)
The PM limits for these facilities are addressed above in the State Rule Applicability - Entire Source section.

(t) 326 IAC 8-1-6 (New Facilities: General Reduction Requirements)
The unlimited VOC emissions from each of the Shell Core Machines (EU320 and EU321), the Oil Core Making Process (EU410), and the Core Wash Process (EU730) is less than 25 tons per year; therefore these units are not subject to the requirements of 326 IAC 8-1-6.

(u) 326 IAC 8 (VOC Rules)
There are no VOC rules that apply to the Shell Core Machines (EU320 and EU321), the Oil Core Making Process (EU410), and the Core Wash Process (EU730).

Emergency Diesel Generator

(v) 326 IAC 6.5 (Particulate Matter Limitations Except Lake County)
The PM limits for these facilities are addressed above in the State Rule Applicability - Entire Source section.

(w) 326 IAC 6-2 (Particulate Emission Limitations for Sources of Indirect Heating)
The emergency generator is not subject to the requirements of this rule because this unit is not a source of indirect heating.

(x) 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes)
The emergency generator is exempt from the requirements of 326 IAC 6-3, because, pursuant to 326 IAC 1-2-59, liquid and gaseous fuels and combustion air are not considered as part of the process weight rate.

Compliance Determination and Monitoring Requirements

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

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

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

Emission Unit	Control Device	Parameter	Frequency	Range	Excursions and Exceedances
Electric Induction Furnaces #3 and #4	Steelcraft baghouse (BH1) (Stack SC-2)	Visible Emissions	Once per day	Normal-Abnormal	Response Steps
		Pressure Drop	Once per day	1.0 and 6.0 inches of water	Response Steps
Electrostatic Paint Booth (EU710)	Dry filters (Stack SC-6)	Filter inspection	Daily	Normal-Abnormal	Response Steps
		Stack exhaust inspection	Weekly		
		Presence of overspray	Monthly		
Sand muller (EU591), Sand conveyor (EU592), Four (4) Snag Grinders (EU640), and Casting shakeout Didion Drum	Hosakawa baghouse (BH5) *	Visible Emissions	Once per day	Normal-Abnormal	Response Steps
		Pressure Drop	Once per day	1.0 and 6.0 inches of water	Response Steps
Tumble Blast (EU660)	Siemens baghouse (BH6) *	Visible Emissions	Once per day	Normal-Abnormal	Response Steps
		Pressure Drop**	Once per day	1.0 and 6.0 inches of water	Response Steps
Portions of Casting Shakeout (EU570)	Wheelabrator-88 baghouse (BH3) *	Visible Emissions	Once per day	Normal-Abnormal	Response Steps
		Pressure Drop	Once per day	1.0 and 6.0 inches of water	Response Steps
Spin Blast (EU610), and Tumbler (EU630)	Wheelabrator-35 baghouse (BH2) *	Visible Emissions	Once per day	Normal-Abnormal	Response Steps
		Pressure Drop	Once per day	1.0 and 6.0 inches of water	Response Steps
Isocure Core Machine CB-22 , Cold Box Isocure Core Machine Gaylord-1, Cold Box Isocure Core Machine Gaylord-2, and Cold Box (Isocure) Core Machine CBCM-3	Acid Scrubber (Stack SC-8)	Scrubbing liquor flow rate	Once per day	minimum 120 gallons per minute	Response Steps
		Scrubbing liquid pH	Once per day	maximum 4.5	Response Steps
		Pressure drop	Once per day	1.0 and 6.0 inches of water	Response Steps

Notes:
* CAM [40 CFR 64] is applicable to these units.
** The Siemens baghouse (BH6) parametric monitoring (with incorporated recordkeeping) is being added with this renewal.

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

Testing Requirements				
Emission Unit	Control Device	Pollutant(s)	Timeframe for Testing	Frequency of Testing
Electric Induction Furnace #3 and Electric Induction Furnace #4 (1)	Steelcraft baghouse (BH1) (Stack SC-2)	PM, PM10, and PM2.5	Within five (5) years of most recent valid compliance stack test	Repeat every five (5) years
Spin Blast (EU610) and Tumbler (EU630) (2)	Wheelabrator-35 baghouse (BH2) (Stack SC-7)	PM, PM10, and PM2.5	Within 180 days of issuance of Renewal No. T167-32794-00007	Repeat every five (5) years
Casting shakeout system (EU570) (3)	Wheelabrator-88 baghouse (BH3) (Stack SC-4)	PM, PM10, and PM2.5	Within 180 days of issuance of Renewal No. T167-32794-00007	Repeat every five (5) years
Shakeout Didion Drum, sand muller (EU591), sand conveyor (EU592), and four (4) Snag Grinders (EU640) (4)	Hosakawa Baghouse (BH5) (Stack SC-5)	PM, PM10, and PM2.5	Within 180 days of rerouting the Didion Drum to the Hosakawa Baghouse (BH5)	Repeat every five (5) years
Tumble Blast (EU660)	Siemens baghouse (BH6) (Stack SC-6)	PM, PM10, and PM2.5	Within five (5) years of most recent valid compliance stack test	Repeat every five (5) years
Core Machine Gaylord-1, Cold Box Isocure Core Machine Gaylord-2	Acid Scrubber (Stack SC-8)	VOC	Within five (5) years of most recent valid compliance stack test	Repeat every five (5) years
Cold Box (Isocure) Core Machine CBCM-3 (5)	Acid Scrubber (Stack SC-8)	VOC	Within 180 days of initial startup of CBCM-3	One time

Notes:

(1) Both furnaces shall all be in operation when the tests are conducted since a combined limit (in lb/ton) is specified for the operations involved.

(2) Testing requirements for Baghouse BH2 are being added with this renewal. Baghouse BH2 is required to have at minimum a 99% control efficiency for the Spin Blast (EU610) and Tumbler (EU630) to comply with PSD Minor limits. Both the Spin Blast (EU610) and Tumbler (EU630) shall all be in operation when the tests are conducted since a combined limit (in lb/hr) is specified for the operations involved.

(3) Testing requirements for Baghouse BH3 are being added with this renewal. Baghouse BH2 is required to have at minimum a 95% control efficiency for the Casting shakeout system (EU570) to comply with PSD Minor limits.

(4) All of the operations mentioned above shall all be in operation when the tests are conducted since a combined limit (in lb/hr) is specified for the Hosakawa Baghouse (BH5).

(5) The VOC testing for Cold Box (Isocure) Core Machine CBCM-3 is required to ensure compliance with avoidance limits to render 326 IAC 8-1-6 (BACT) not applicable. This test should be conducted before the acid scrubber control, and therefore this testing should be a one-time only test, as required in Significant Permit Modification No. 167-32921-00007.

Recommendation

The staff recommends to the Commissioner that the Part 70 Operating Permit Renewal be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on February 1, 2013. Additional information was received on February 25, 2013 and April 9, 2013.

Conclusion

The operation of this stationary gray and ductile iron foundry shall be subject to the conditions of the attached Part 70 Operating Permit Renewal No. 167-32794-00007.

IDEM Contact

(a) Questions regarding this proposed permit can be directed to Sarah Street at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) *232-8427* or toll free at 1-800-451-6027 extension *2-8427*.

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

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

Appendix A: Emissions Calculations
Gray Iron Foundries
Emission Units Summary

Company Name: Gartland Foundry
Source Address: 330 Grant St., Terre Haute, IN 47802
Part 70 Renewal No. : T167-32794-00007
Reviewer: Sarah Street

Summary of Emission Units

Process Description		Emission Unit ID(s)	Control / Stack ID	Maximum Throughput (ton/hour)	Maximum Throughput (lb/hour)	Maximum Throughput (tons/yr)
Raw Material Handling and Preparation	Scrap and Charge Handling	EU120 Scrap and charge handling	No control; indoors	10.00	20,000	87,600
	Sand Handling	Sand Muller EU591 Sand Conveyor EU492	Hosakawa Baghouse BH5 (Stack SC-5)	100.00	200,000	876,000
	Mold Making	Mold Making (EU520, EU521, EU530)	No control; indoors	68.49	136,986	600,000
		Sinto #2 mold machine EU531	No control; indoors	26.40	52,800	231,264
	Magnesium Treatment	Magnesium Treatment (Inoculation)	No control; indoors	10.00	20,000	87,600
Metal Melting	Electric Induction Furnaces	EIF Furnace #3 (EU130)	Steelcraft baghouse BH1 (Stack SC-2)	5.00	10,000	43,800
		EIF Furnace #4 (EU140)		5.00	10,000	43,800
Casting and Finishing	Pouring and Cooling	Floor pouring and cooling process EU540	No control; indoors	11.00	22,000	96,360
		Sinto pouring and cooling process EU550	No control; indoors	5.00	10,000	43,800
		Sinto pouring and cooling process EU560	No control; indoors	6.00	12,000	52,560
	Casting Shakeout	Casting shakeout system EU570: Didion Drum	Hosakawa Baghouse BH5 (Stack SC-5)*	18.00	36,000	157,680
	Grinding	Four (4) Snag Grinders EU640	Hosakawa Baghouse BH5 (Stack SC-5)	16.00	32,000	140,160
		Six (6) Finish Grinders EU650	No control; indoors	12.00	24,000	105,120
	Blasting	Spin Blast EU610	Wheelabrator-35 Baghouse BH2 (Stack SC-7)	5.00	10,000	43,800
		Tumble Blast EU660	Siemens baghouse BH6 (Stack SC-6)	5.00	10,000	43,800
		Tumbler EU630	Wheelabrator-35 Baghouse BH2 (Stack SC-7)	1.00	2,000	8,760
Mold and Core Production	Core Making	Shell Core Machine EU320	No control; indoors	1.00	2,000	8,760
		Shell Core Machine EU321	No control; indoors	1.00	2,000	8,760
		Oil Core Making Process EU410	No control; indoors	0.25	500	2,190
		Core Wash Process EU730	No control; indoors	N/A	N/A	N/A
		Isocure Core Machine CB-22 (sand/resin)	Acid scrubber (Stack SC-8)	0.525	1,050	4,599
		Isocure Core Machine CB-22 (resin)		21.00	42,000	183,960
		Isocure Core Machine CB-22 (DMIPA)		5.25E-04	1.05	4.60
		Cold Box Isocure Core Machine Gaylord-1 (sand/resin)	Acid scrubber (Stack SC-8)	1.000	2,000	8,760
		Cold Box Isocure Core Machine Gaylord-1 (resin)		40.00	80,000	350,400
		Cold Box Isocure Core Machine Gaylord-1 (DMIPA)		1.00E-03	2.00	8.76
		Cold Box Isocure Core Machine Gaylord-2 (sand/resin)	Acid scrubber (Stack SC-8)	1.000	2,000	8,760
		Cold Box Isocure Core Machine Gaylord-2 (resin)		4.00	8,000	35,040
		Cold Box Isocure Core Machine Gaylord-2 (DMIPA)		1.00E-03	2.00	8.76
		Cold Box (Isocure) Core Machine (CBCM-3) (sand/resin)	Acid scrubber (Stack SC-8)	2.700	5,400	23,652
		Cold Box (Isocure) Core Machine (CBCM-3) (resin)		0.05	108	473
		Cold Box (Isocure) Core Machine (CBCM-3) (Amine catalyst)		2.11E-03	4.22	18.48
		Cold Box Mixer**	No control; indoors	5.225	10,450	45,771
Paint Spray Booth	Electrostatic Spray Booth	Prime Paint Line EU710	dry filters (Stack SC-6)	**Capacity (Castings per Hour)**		
				500.00		
Diesel Generator				**Rating (HP)**		
		Emergency Diesel Generator	no control	346		

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
*With the 2013 Modification, Gartland Foundry rerouted emissions from the Didion Drum from the Siemens Baghouse (BH6) to the Hosakawa Baghouse (BH5)
**The Cold Box Mixer feeds the Isocure Core Machine CB-22 and Cold Box Isocure Core Machines Gaylord-1, Gaylord-2, and CBCM-3.

Appendix A: Emissions Calculations
Gray Iron Foundries
Emissions Summary

Company Name: Gartland Foundry
Source Address: 330 Grant St., Terre Haute, IN 47802
Part 70 Renewal No. : T167-32794-00007
Reviewer: Sarah Street

Summary of Unlimited PTE

		Unlimited Potential to Emit (tons/year)							
		Criteria Pollutants							Greenhouse Gas Pollutants
Process Description / Emission Unit		PM	PM10	PM2.5	SO_2	NOx	VOC	CO	CO2e
Scrap and Charge Handling	EU120 Scrap and charge handling	26.28	15.77	15.77	0.00	0.00	0.00	0.00	0.00
Sand Handling	Sand Muller EU591	1576.80	236.52	236.52	0.00	0.00	0.00	0.00	0.00
	Sand Conveyor EU492	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mold Making	Mold Making (EU520, EU521, EU530)	4.86	2.16	2.16	0.00	0.00	0.00	0.00	0.00
	Sinto #2 mold machine EU531	1.87	0.83	0.83	0.00	0.00	0.00	0.00	0.00
Magnesium Treatment	Magnesium Treatment (Inoculation)	78.84	78.84	78.84	0.00	0.00	0.00	0.00	0.00
Electric Induction Furnaces	EIF Furnace #3 (EU130)	19.71	18.83	18.83	0.00	0.00	0.00	0.00	0.00
	EIF Furnace #4 (EU140)	19.71	18.83	18.83	0.00	0.00	0.00	0.00	0.00
Pouring and Cooling	Floor pouring and cooling process EU540	42.31	12.89	12.89	0.96	0.48	167.96	364.82	963.60
	Sinto pouring and cooling process EU550	19.23	5.86	5.86	0.44	0.22	0.00	0.00	0.00
	Sinto pouring and cooling process EU560	23.08	7.03	7.03	0.53	0.26	0.00	0.00	0.00
Casting Shakeout	Casting shakeout system EU570: Didion Drum	252.29	176.60	176.60	0.00	0.00	0.00	0.00	0.00
Grinding	Four (4) Snag Grinders EU640	1,191.36	119.14	119.14	0.00	0.00	0.00	0.00	0.00
	Six (6) Finish Grinders EU650	893.52	89.35	89.35	0.00	0.00	0.00	0.00	0.00
Blasting	Spin Blast EU610	372.30	37.23	37.23	0.00	0.00	0.00	0.00	0.00
	Tumble Blast EU660	372.30	37.23	37.23	0.00	0.00	0.00	0.00	0.00
	Tumbler EU630	74.46	7.45	7.45	0.00	0.00	0.00	0.00	0.00
Core Making	Shell Core Machine EU320	15.77	2.37	2.37	0.00	0.00	1.11	0.00	0.00
	Shell Core Machine EU321	15.77	2.37	2.37	0.00	0.00	1.11	0.00	0.00
	Oil Core Making Process EU410	3.94	0.59	0.59	0.00	0.00	3.34	0.00	0.00
	Core Wash Process EU730	0.00	0.00	0.00	0.00	0.00	7.04	0.00	0.00
	Isocure Core Machine CB-22	8.28	1.24	1.24	0.00	0.00	23.00	0.00	0.00
	Cold Box Isocure Core Machine Gaylord-1	15.77	2.37	2.37	0.00	0.00	43.80	0.00	0.00
	Cold Box Isocure Core Machine Gaylord-2	15.77	2.37	2.37	0.00	0.00	43.80	0.00	0.00
	Cold Box (Isocure) Core Machine CBCM-3	42.57	6.39	6.39	0.00	0.00	30.51	0.00	0.00
	Cold Box Mixer	0.00	0.00	0.00	0.00	0.00	9.15	0.00	0.00
Electrostatic Spray Booth	Prime Paint Line EU710	74.59	74.59	74.59	0.00	0.00	86.10	0.00	0.00
Combustion	Emergency Diesel Generator	0.02	0.02	0.02	0.01	0.21	0.02	0.05	7.98
Fugitives	Paved roads	1.24	0.25	0.06	0.00	0.00	0.00	0.00	0.00
TOTAL Unlimited PTE		**5,162.63**	**957.11**	**956.92**	**1.94**	**1.18**	**416.93**	**364.87**	**971.58**

>10	**Any Single HAP (Xylene)**
>25	**Total HAPs**

Notes
HAPs estimates from New Source Title V No. 167-26842-00007. See Limited summary for HAPs limits

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

See following pages for detailed emissions calculations, methodology and emission factors.

Appendix A: Emissions Calculations
Gray Iron Foundries
Emissions Summary

Company Name: Gartland Foundry
Source Address: 330 Grant St., Terre Haute, IN 47802
Part 70 Renewal No. : T167-32794-00007
Reviewer: Sarah Street

Summary of Limited PTE

		Limited Potential to Emit (tons/year)							
		Criteria Pollutants							Greenhouse Gas Pollutants
Emission Unit(s)	**Control Device**	**PM**	**PM10**	**PM2.5**	**SO_2**	**NOx**	**VOC**	**CO**	**CO2e**
Equipment existing prior to 2008									
EU120 Scrap and charge handling	No control; indoors	5.40	3.24	3.24	0.00	0.00	0.00	0.00	0.00
EIF Furnace #3 (EU130)	Steelcraft baghouse BH1 (Stack SC-2)	9.00	9.00	9.00	0.00	0.00	0.00	0.00	0.00
EIF Furnace #4 (EU140)									
Magnesium Treatment (Inoculation)	No control; indoors	8.10	8.10	8.10	0.00	0.00	0.00	0.00	0.00
Prime Paint Line EU710 (4)	dry filters (Stack SC-6)	2.22	2.22	2.22	0.00	0.00	47.00	0.00	0.00
Floor pouring and cooling process EU540	No control; indoors	7.38	2.41	2.41	0.18	0.09	14.76	34.07	90.00
Sinto pouring and cooling process EU550	No control; indoors	7.38	2.41	2.41	0.18	0.09	14.76	34.07	90.00
Casting shakeout system EU570	Wheelabrator-88 Baghouse BH3 (Stack SC-4)	9.00	9.00	9.00	0.00	0.00	10.80	18.00	90.00
Casting shakeout Didion Drum (1)	Hosakawa Baghouse BH5 (Stack SC-5)	35.04	43.80	43.80	0.00	0.00	0.00	0.00	0.00
Sand Muller EU591					0.00	0.00	0.00	0.00	0.00
Sand Conveyor EU492									
Four (4) Snag Grinders EU640 (2)					0.00	0.00	0.00	0.00	0.00
Mold Making (EU520, EU521, EU530)	No control; indoors	2.84	1.26	1.26	0.00	0.00	0.00	0.00	0.00
Six (6) Finish Grinders EU650	No control; indoors	6.00	6.00	6.00	0.00	0.00	0.00	0.00	0.00
Spin Blast EU610	Wheelabrator-35 Baghouse BH2 (Stack SC-7)	6.35	10.95	10.95	0.00	0.00	0.00	0.00	0.00
Tumbler EU630									
Shell Core Machine EU320	No control; indoors	0.45	0.45	0.45	0.00	0.00	0.13	0.00	0.00
Shell Core Machine EU321	No control; indoors								
Oil Core Making Process EU410	No control; indoors	0.45	0.45	0.45	0.00	0.00	1.53	0.00	0.00
Core Wash Process EU730	No control; indoors	0.00	0.00	0.00	0.00	0.00	1.05	0.00	0.00
Isocure Core Machine CB-22	Acid scrubber (Stack SC-8)	0.28	0.28	0.28	0.00	0.00	5.50	0.00	0.00
Cold Box Isocure Core Machine Gaylord-1									
Cold Box Isocure Core Machine Gaylord-2									
Cold Box Mixer (3)	No control; indoors	0.00	0.00	0.00	0.00	0.00	4.42	0.00	0.00
	Subtotal, units prior to 2008	**99.88**	**99.56**	**99.56**	**0.36**	**0.18**	**99.94**	**86.15**	**270.00**
2008 Modification(5)									
Sinto pouring and cooling process EU560	No control; indoors	7.90	2.41	2.41	0.18	0.09	15.69	34.07	90.00
Sinto #2 mold machine EU531	No control; indoors	1.87	0.83	0.83	0.00	0.00	0.00	0.00	0.00
2011 Modification									
Emergency Diesel Generator	No control; indoors	0.02	0.02	0.02	0.01	0.21	0.02	0.05	7.98
2012 Modification(2)									
Tumble Blast EU660	Siemens baghouse BH6 (Stack SC-6)	24.88	14.89	9.90	0.00	0.00	0.00	0.00	0.00
2013 Modification(3)									
Cold Box (Isocure) Core Machine CBCM-3	Acid scrubber (Stack SC-8)	24.90	3.73	3.73	0.00	0.00	24.90	0.00	0.00
Cold Box Mixer (3) (increase in capacity)	No control; indoors	0.00	0.00	0.00	0.00	0.00	4.73	0.00	0.00
Fugitive Emissions									
Paved roads	N/A	1.24	0.25	0.06	0.00	0.00	0.00	0.00	0.00
TOTAL Limited PTE		**160.70**	**121.70**	**116.52**	**0.55**	**0.48**	**145.28**	**120.27**	**367.98**

	HAPs	**Limited Potential To Emit (ton/yr)**
Core Making	Triethylamine (TEA)	0.07
Paint Booth, PCS, and Combustion	Xylene (Total)*	9.99
Paint Booth	Glycol Ether	3.50
	Methyl Isobutyl Ketone	1.48
Pouring, Cooling, Shakeout	Phenol	0.65
	Benzene	1.48
	Analine	0.33
	o-cresol	0.17
	Naphthalene	0.04
	N,N Dimethylaniline	0.08
	Toluene	0.58
	m,p-cresol	0.05
	m,p-xylene	0.04
	Acetaldehyde	0.09
	Ethylbenzene	0.06
	Formaldehyde	0.01
	Hexane	0.04
	Other Organic HAPs	0.06
Material Handling, Melting, PCS, & Finishing	Lead	2.04
Combustion	Organic HAPs	1.88E-04
Finishing	Metal HAPs	0.07
Pouring, Cooling, Shakeout	Metal HAPs	2.50
Material Handling & Melting	Metal HAPs	0.51
	Total HAPS	**23.84**

This source is an area source of HAPs

***Xylene**	
Paint Booth	9.645
Pouring, Cooling, Shakeout	0.34
Combustion	1.38E-05
	9.99

Notes
This source is Major for PSD
(1) Casting Shakeout system modified in 2012 to add Didion Drum as replacement unit to casting shakeout EU570. The throughput of these units is the same.
(2) Two snag grinders were constructed in 2008 to replace 2 snag grinders existing prior to 2008
(3) The Cold Box Mixer was modified in 2013 to increase throughput capacity due to the construction of the new Cold Box Isocure Core Machine. Limited PTE taken from Significant Permit Modification No. 167-32921-00007
(4) PTE from Paint Line EU710 for PM, PM10, and PM2.5 is PTE after dry filters for control.
(5) The one (1) holding furnace, a part of the 2008 modification, was never constructed and is being removed with this Renewal

Appendix A: Emissions Calculations
Gray Iron Foundries
Raw Material Handling and Preparation

Company Name: Gartland Foundry
Source Address: 330 Grant St., Terre Haute, IN 47802
Part 70 Renewal No. : T167-32794-00007
Reviewer: Sarah Street

Emission Factors

Raw Material Handling and Preparation		Emission Unit ID(s)	Maximum Throughput (tons/yr)	Uncontrolled Emission Factors (lb/ton)											
				PM	PM10	PM2.5	SO_2	NOx	VOC	CO	GHGs as CO2e	Lead(1)	Beryllium (Be)	Organic HAPs	Metallic HAPs
Scrap and Charge Handling	(SCC 3-04-003-15)	EU120 Scrap and charge handling	87,600	0.6	0.36	0.36	0	0	0	0	0	1.00E-05	0	0	0
Sand Handling	(SCC 3-04-003-50)	Sand Muller EU591	876,000	3.60	0.54	0.54	0	0	0	0	0	0	0	0	0
		Sand Conveyor EU492													
Mold Making(2)	N/A	Mold Making (EU520, EU521, EU530)	600,000	0.0162	0.0072	0.0072	0	0	0	0	0	0	0	0	0
		Sinto #2 mold machine EU531	231,264	0.0162	0.0072	0.0072	0	0	0	0	0	0	0	0	0
Magnesium Treatment	(SCC 3-04-003-21)	Magnesium Treatment (Inoculation)	87,600	1.80	1.80	1.80	0	0	0	0	0	0	0	0	0.05684

Notes
Emission factors from AP-42 Chapter 12.10 Gray Iron Foundries and US EPA Fire Version 6.25, except as otherwise noted
(1) Lead emission factor for scrap and charge handling from T137-26842-00007 for Gartland Foundry, issued on October 24, 2008.
(2) PM and PM10 emission factors from stack testing. PM2.5 = PM10.

Summary of Emissions (Uncontrolled)

		Uncontrolled Potential to Emit (tons/yr)											
Raw Material Handling and Preparation		PM	PM10	PM2.5	SO_2	NOx	VOC	CO	GHGs as CO2e	Lead	Beryllium (Be)	Organic HAPs	Metallic HAPs
Scrap and Charge Handling	EU120 Scrap and charge handling	26.28	15.77	15.77	0.00	0.00	0.00	0.00	0.00	4.38E-04	0.00	0.00	0.00
Sand Handling	Sand Muller EU591	1,576.80	236.52	236.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Sand Conveyor EU492												
Mold Making	Mold Making (EU520, EU521, EU530)	4.86	2.16	2.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Sinto #2 mold machine EU531	1.87	0.83	0.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Magnesium Treatment	Magnesium Treatment (Inoculation)	78.84	78.84	78.84	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.49
	Totals	1,688.65	334.12	334.12	0.00	0.00	0.00	0.00	0.00	4.38E-04	0.00	0.00	2.49

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

Prevention of Significant Deterioration (PSD) Minor Limits

Control Device	Emission Units	PM (lb/hr)	PM10 (lb/hr)	PM2.5 (lb/hr)
Hosakawa baghouse (BH5)	Sand Muller EU591	8.00	10.00	10.00
	Sand Conveyor EU492			
	Four (4) Snag Grinders EU640			
	Casting shakeout system EU570: Didion Drum			

Appendix A: Emissions Calculations
Gray Iron Foundries
Raw Material Handling and Preparation
Company Name: Gartland Foundry
Source Address: 330 Grant St., Terre Haute, IN 47802
Part 70 Renewal No. : T167-32794-00007
Reviewer: Sarah Street

Prevention of Significant Deterioration (PSD) Minor Limits

Metal Melting		Emission Unit ID(s)	Limited Throughput (tons/yr)	PSD Minor Limits (lb/ton)							
				PM	PM10	PM2.5	SO_2	NOx	VOC	CO	GHGs as CO2e
Scrap and Charge Handling	(SCC 3-04-003-15)	EU120 Scrap and charge handling	18,000	0.60	0.36	0.36	0	0	0	0	0
Mold Making	N/A	Mold Making (EU520, EU521, EU530)	350,000	0.0162	0.0072	0.0072	0	0	0	0	0
		Sinto #2 mold machine EU531	N/A	0.0162	0.0072	0.0072	0	0	0	0	0
Magnesium Treatment	(SCC 3-04-003-21)	Magnesium Treatment (Inoculation)	9,000	1.80	1.80	1.80	0	0	0	0	0

Notes
N/A = not applicable. Throughput and lb/ton equal to unlimited.
See summary page for Limited HAPs
The input of metal to the induction furnaces (EU130 and EU140 combined) shall not exceed 18,000 tons per 12 consecutive month period with compliance determined at the end of each month.
The input of metal to the Magnesium Treatment (EU150) shall not exceed 9,000 tons of iron per 12 consecutive month period with compliance determined at the end of each month.
PM, PM10, and PM2.5 PSD Minor limits
The combined Metallic HAP emissions (chromium compounds, cobalt compounds, nickel compounds, arsenic compounds, cadmium compounds, selenium compounds, manganese compounds, and antimony compounds) from Magnesium Treatment (Inoculation) shall not exceed 0.05684 pounds per ton of metal.

Summary of Emissions (Limited)

Metal Melting		Limited Potential to Emit (tons/yr)									
		PM	PM10	PM2.5	SO_2	NOx	VOC	CO	GHGs as CO2e	Lead	Metallic HAPs
Scrap and Charge Handling	EU120 Scrap and charge handling	5.40	3.24	3.24	0.00	0.00	0.00	0.00	0.00	3.94E-03	0.00
Sand Handling	Sand Muller EU591 Sand Conveyor EU492	*limited PTE combined with other units with shared baghouse (BH5)*								0.00	0.00
Mold Making	Mold Making (EU520, EU521, EU530)	2.84	1.26	1.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Sinto #2 mold machine EU531	1.87	0.83	0.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Magnesium Treatment	Magnesium Treatment (Inoculation)	8.10	8.10	8.10	0.00	0.00	0.00	0.00	0.00	0.00	0.26
	Totals	18.21	13.43	13.43	0.00	0.00	0.00	0.00	0.00	3.94E-03	0.26

Methodology
Limited PTE (tons/yr) = Limited Throughput (tons/yr) * Limit (lb/ton) * 1 ton/2,000 lbs

Appendix A: Emissions Calculations
Gray Iron Foundries
Metal Melting

Company Name: Gartland Foundry
Source Address: 330 Grant St., Terre Haute, IN 47802
Part 70 Renewal No. : T167-32794-00007
Reviewer: Sarah Street

Emission Factors

Metal Melting		Emission Unit ID(s)	Maximum 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)	EIF Furnace #3 (EU130)	43,800.00	0.90	0.86	0.86	0	0	0	0	0	4.25E-02	9.00E-07	0	7.20E-02
		EIF Furnace #4 (EU140)	43,800.00	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)

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	EIF Furnace #3 (EU130)	19.71	18.83	18.83	0.00	0.00	0.00	0.00	0.00	0.93	1.97E-05	0.00	1.58
	EIF Furnace #4 (EU140)	19.71	18.83	18.83	0.00	0.00	0.00	0.00	0.00	0.93	1.97E-05	0.00	1.58
	Totals	39.42	37.67	37.67	0.00	0.00	0.00	0.00	0.00	1.86	3.94E-05	0.00	3.15

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

Prevention of Significant Deterioration (PSD) Minor Limits

Metal Melting		Emission Unit ID(s)	Limited Throughput (tons/yr)	PSD Minor Limits (lb/ton)											
				PM	PM10	PM2.5	SO_2	NOx	VOC	CO	GHGs as CO2e	Lead	Beryllium (Be)	Organic HAPs	Metallic HAPs(1)
Electric Induction Furnaces	(SCC-3-04-003-03)	EIF Furnace #3 (EU130) EIF Furnace #4 (EU140)	18,000.00	1.00	1.00	1.00	0	0	0	0	0	N/A	N/A	0	2.84E-02

Notes
N/A = not applicable. PTE is equal to unlimited
The input of metal to the induction furnaces (EU130 and EU140 combined) shall not exceed 18,000 tons per 12 consecutive month period with compliance determined at the end of each month.
PM, PM10, and PM2.5 PSD Minor limits
(1) The combined Metallic HAP emissions (chromium compounds, cobalt compounds, nickel compounds, arsenic compounds, cadmium compounds, selenium compounds, manganese compounds, and antimony compounds) from the induction furnaces (#3 and #4) shall not exceed 0.02843 pounds per ton of metal melted.

Summary of Emissions (Limited)

Metal Melting		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
Electric Induction Furnaces	EIF Furnace #3 (EU130) EIF Furnace #4 (EU140)	9.00	9.00	9.00	0.00	0.00	0.00	0.00	0.00	1.86	3.94E-05	0.00	0.26
	Totals	9.00	9.00	9.00	0.00	0.00	0.00	0.00	0.00	1.86	3.94E-05	0.00	0.26

Methodology
Limited PTE (tons/yr) = Limited Throughput (tons/yr) * Limit (lb/ton) * 1 ton/2,000 lbs

Appendix A: Emissions Calculations
Gray Iron Foundries
Casting and Finishing
Company Name: Gartland Foundry
Source Address: 330 Grant St., Terre Haute, IN 47802
Part 70 Renewal No. : T167-32794-00007
Reviewer: Sarah Street

Emission Factors

Casting and Finishing		Emission Unit ID(s)	Maximum Throughput (tons/yr)	Uncontrolled Emission Factors (lb/ton)											
				PM[1]	PM10[1]	PM2.5[1]	SO_2	NOx	VOC[2]	CO[2]	GHGs as CO2e[3]	Lead[4]	Beryllium (Be)	Organic HAPs	Metallic HAPs
Pouring and Cooling	(SCC 3-04-003-20)	Floor pouring and cooling process EU540	96,360.00	0.8781	0.2676	0.2676	0.02	0.01	1.743	3.786	10	0.0063	0.00	*see following pages for HAPs emissions*	
		Sinto pouring and cooling process EU550	43,800.00	0.8781	0.2676	0.2676	0.02	0.01							
		Sinto pouring and cooling process EU560	52,560.00	0.8781	0.2676	0.2676	0.02	0.01							
Casting Shakeout	(SCC 3-04-003-31)	Casting shakeout system EU570: Didion Drum	157,680.00	3.20	2.24	2.24	0	0							
Grinding	(SCC 3-04-003-40)	Four (4) Snag Grinders EU640	140,160.00	17.00	1.70	1.70	0	0	0	0	0	2.00E-07	0		
		Six (6) Finish Grinders EU650	105,120.00	17.00	1.70	1.70	0	0	0	0	0	2.00E-07	0		
Blasting	(SCC 3-04-003-40)	Spin Blast EU610	43,800.00	17.00	1.70	1.70	0	0	0	0	0	0.00027	0		
		Tumble Blast EU660	43,800.00												
		Tumbler EU630	8,760.00												

Notes
Emission factors from AP-42 Chapter 12.10 Gray Iron Foundries and US EPA Fire Version 6.25, except as otherwise noted
(1) PM and PM10 emission factors for pouring and cooling from stack test data. PM2.5 = PM10.
(2) VOC and CO emission factors are based on stack test data
(3) 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)
(4) Lead 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. Lead emissions from grinding and blasting provided by Gartland Foundry data.

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
Pouring and Cooling	Floor pouring and cooling process EU540	42.31	12.89	12.89	0.96	0.48	167.96	364.82	963.60	0.61	0.00	19.60	19.60
	Sinto pouring and cooling process EU550	19.23	5.86	5.86	0.44	0.22							
	Sinto pouring and cooling process EU560	23.08	7.03	7.03	0.53	0.26							
Casting Shakeout	Casting shakeout system EU570: Didion Drum	252.29	176.60	176.60	0.00	0.00							
Grinding	Four (4) Snag Grinders EU640	1,191.36	119.14	119.14	0.00	0.00	0.00	0.00	0.00	1.40E-05	0.00	0.00	7.07
	Six (6) Finish Grinders EU650	893.52	89.35	89.35	0.00	0.00	0.00	0.00	0.00	1.05E-05	0.00		
Blasting	Spin Blast EU610	372.30	37.23	37.23	0.00	0.00	0.00	0.00	0.00	0.01	0.00		
	Tumble Blast EU660	372.30	37.23	37.23	0.00	0.00	0.00	0.00	0.00	0.01	0.00		
	Tumbler EU630	74.46	7.45	7.45	0.00	0.00	0.00	0.00	0.00	0.01	0.00		
	Totals	**3,240.84**	**492.78**	**492.78**	**1.93**	**0.96**	**167.96**	**364.82**	**963.60**	**0.62**	**0.00**	**19.60**	**26.67**

Methodology
Uncontrolled PTE (tons/yr) = Maximum Throughput (tons/yr) * Emission Factor (lb/ton) * 1 ton/2,000 lbs
see following pages for HAPs emissions

Appendix A: Emissions Calculations
Gray Iron Foundries
Casting and Finishing

Company Name:	**Gartland Foundry**
Source Address:	**330 Grant St., Terre Haute, IN 47802**
Part 70 Renewal No. :	**T167-32794-00007**
Reviewer:	**Sarah Street**

Prevention of Significant Deterioration (PSD) Minor Limits

Control Device	Emission Units	PM (lb/hr)	PM10 (lb/hr)	PM2.5 (lb/hr)
Hosakawa baghouse (BH5)	Sand Muller EU591	8.00	10.00	10.00
	Sand Conveyor EU492			
	Four (4) Snag Grinders EU640			
	Casting shakeout system EU570: Didion Drum			
Wheelabrator-35 Baghouse BH2	Spin Blast EU610	1.45	2.50	2.50
	Tumbler EU630			
Siemens baghouse BH6 (Stack SC-6)	Tumble Blast EU660	5.68	3.40	2.26

		Input of Metal Limit
No control; indoors	Six (6) Finish Grinders EU650	12,000

			Emissions Limitations (lb/ton)							
Control Device	Emission Units	Limited Throughput (tons/yr)	PM	PM10	PM2.5	SO_2	NOx	VOC	CO	GHGs as CO2e
No control; indoors	Floor pouring and cooling process EU540	18,000	0.8200	0.2676	0.2676	N/A	N/A	1.640	3.786	N/A
No control; indoors	Sinto pouring and cooling process EU550	18,000	0.8200	0.2676	0.2676	N/A	N/A	1.640	3.786	N/A
No control; indoors	Sinto pouring and cooling process EU560	18,000	0.8781	0.2676	0.2676	N/A	N/A	1.743	3.786	N/A
No control; indoors	Six (6) Finish Grinders EU650	12,000	1.00	1.00	1.00	N/A	N/A	N/A	N/A	N/A
Wheelabrator-88 Baghouse BH3	Casting shakeout system EU570	18,000	1.00	1.00	1.00	N/A	N/A	1.2	2.0	N/A

Notes
N/A = not applicable. Throughput and lb/ton equal to unlimited.
18,000 ton/yr at Pouring/Cooling, Casting Shakeout, and Finish Grinders is effectively lmited due to upstream limit at Induction Furnaces #3 and #4.
See summary page for Limited HAPs

Summary of Emissions (Limited)

Casting and Finishing		Limited Potential to Emit (tons/yr)								
Control Device	Emission Units	PM	PM10	PM2.5	SO_2	NOx	VOC	CO	GHGs as CO2e	Lead
No control; indoors	Floor pouring and cooling process EU540	7.38	2.41	2.41	0.18	0.09	14.76	34.07	90.00	0.06
No control; indoors	Sinto pouring and cooling process EU550	7.38	2.41	2.41	0.18	0.09	14.76	34.07	90.00	0.00
No control; indoors	Sinto pouring and cooling process EU560	7.90	2.41	2.41	0.18	0.09	15.69	34.07	90.00	0.06
Wheelabrator-88 Baghouse BH3	Casting shakeout system EU570	9.00	9.00	9.00	0.00	0.00	10.80	18.00	90.00	0.06
Hosakawa baghouse (BH5)	Casting shakeout Didion Drum	limited PTE combined with other units with shared baghouse (BH5)			0.00	0.00	0.00	0.00	0.00	0.00
	Four (4) Snag Grinders EU640				0.00	0.00	0.00	0.00	0.00	1.20E-06
No control; indoors	Six (6) Finish Grinders EU650	6.00	6.00	6.00	0.00	0.00	0.00	0.00	0.00	1.20E-06
Wheelabrator-35 Baghouse BH2	Spin Blast EU610	6.35	10.95	10.95	0.00	0.00	0.00	0.00	0.00	1.62E-03
	Tumbler EU630									1.62E-03
Siemens baghouse BH6 (Stack SC-6)	Tumble Blast EU660	24.88	14.89	9.90	0.00	0.00	0.00	0.00	0.00	1.62E-03
	Totals	**68.89**	**48.07**	**43.07**	**0.54**	**0.27**	**56.01**	**120.22**	**360.00**	**0.17**

Methodology
Limited PTE (tons/yr) = Limited Throughput (tons/yr) * Limit (lb/ton) * 1 ton/2,000 lbs

Appendix A: Emissions Calculations
Gray Iron Foundries
Pouring, Cooling, & Shakeout HAPs Emissions
Company Name: Gartland Foundry
Source Address: 330 Grant St., Terre Haute, IN 47802
Part 70 Renewal No. : T167-32794-00007
Reviewer: Sarah Street

	Unlimited PTE of HAP Emissions						
	Pouring Operations		**Cooling Operations**		**Shakeout Operations**		
	Maximum Throughput (ton/yr)	87,600	Maximum Throughput (ton/yr)	87,600	Maximum Throughput (ton/yr)	87,600	
Pollutant	**Emission Factor (lb/ton)**	**Potential Emissions (tons/yr)**	**Emission Factor (lb/ton)**	**Potential Emissions (tons/yr)**	**Emission Factor (lb/ton)**	**Potential Emissions (tons/yr)**	**Total HAPs from Pouring, Cooling, Shakeout (tons/yr)**
Metallic HAPs							
Chromium	0.0378	1.66	0.0126	0.55	0.0288	1.26	3.47
Cobalt	0.00013	0.01	0.00004	0.00	0.0001	0.00	0.01
Nickel	0.063	2.76	0.021	0.92	0.048	2.10	5.78
Arsenic	0.00055	0.02	0.00018	0.01	0.00042	0.02	0.05
Cadmium	0.00025	0.01	0.00008	0.00	0.00019	0.01	0.02
Selenium	0.00004	0.00	0.00001	0.00	0.00003	0.00	0.00
Manganese	0.0231	1.01	0.0077	0.34	0.0176	0.77	2.12
Antimony	0.00777	0.34	0.00259	0.11	0.00592	0.26	0.71
Total Metal HAPs	0.13264	5.81	0.0442	1.94	0.10106	4.43	**12.17**
Organic HAPs (Combined for Pouring, Cooling and Shakeout)							
Phenol	0.0718	3.14					3.14
Benzene	0.1643	7.20					7.20
Analine	0.0366	1.60					1.60
o-Cresol	0.0185	0.81					0.81
Naphthalene	0.0048	0.21					0.21
N,N - Dimethylaniline	0.0085	0.37					0.37
Toluene	0.0647	2.83					2.83
m,p -Cresol	0.0059	0.26					0.26
m, p -Xylene	0.0044	0.19					0.19
Xylene (Total)	0.0383	1.68					1.68
Acetaldehyde	0.0100	0.44					0.44
Ethylbenzene	0.0070	0.31					0.31
Formaldehyde	0.0011	0.05					0.05
Hexane	0.0046	0.20					0.20
Other HAPs	0.0070	0.31					0.31
Total Organic HAPs	0.4475	19.60					**19.60**

Total HAP	**31.77**
Worst Case Single HAP (Benzene)	**7.20**

	Limited PTE of HAP Emissions			
	Pouring	**Cooling**	**Shakeout**	
	Limited Throughput (ton/yr)	Limited Throughput (ton/yr)	Limited Throughput (ton/yr)	
	18,000	18,000	18,000	
Pollutant	**Limited Emissions (tons/yr)**	**Limited Emissions (tons/yr)**	**Limited Emissions (tons/yr)**	**Total HAPs from Pouring, Cooling, Shakeout (tons/yr)**
Metallic HAPs				
Chromium	0.34	0.11	0.26	0.71
Cobalt	0.00	0.00	0.00	0.00
Nickel	0.57	0.19	0.43	1.19
Arsenic	0.00	0.00	0.00	0.01
Cadmium	0.00	0.00	0.00	0.00
Selenium	0.00	0.00	0.00	0.00
Manganese	0.21	0.07	0.16	0.44
Antimony	0.07	0.02	0.05	0.15
Total Metal HAPs	1.19	0.40	0.91	**2.50**
Organic HAPs (Combined for Pouring, Cooling and Shakeout)				
Phenol	0.65			0.65
Benzene	1.48			1.48
Analine	0.33			0.33
o-Cresol	0.17			0.17
Naphthalene	0.04			0.04
N,N - Dimethylaniline	0.08			0.08
Toluene	0.58			0.58
m,p -Cresol	0.05			0.05
m, p -Xylene	0.04			0.04
Xylene (Total)	0.34			0.34
Acetaldehyde	0.09			0.09
Ethylbenzene	0.06			0.06
Formaldehyde	0.01			0.01
Hexane	0.04			0.04
Other HAPs	0.06			0.06
Total Organic HAPs	4.03			**4.03**

Total HAP	**6.53**
Worst Case Single HAP (Benzene)	**1.48**

Methodology:
Potential emissions are determined prior to control equipment or throughput limitation.
Potential Emissions = Emission Factor (lb pollutant/ton processed) * Maximum throughput (ton/year) / 2000 (lb/ton)
Limited Emissions = Emission Factor (lb pollutant/ton processed) * Limited throughput (ton/year) / 2000 (lb/ton)
Emission Factors for Metallic HAPs are from AP-42, Ch12.10 and Speciate Database.

Emission Factors for Organic HAPs are from Reference Tests Recommended in "Organic Hazardous Air Pollutant Emission Factors for Iron Foundries", prepared by the Air Quality Committee (10-E) of the American Foundry Society August 16, 2005 for Calculating Emission Factors for Pouring, Cooling, and Shakeout.

Appendix A: Emissions Calculations
Gray Iron Foundries
Blasting & Grinding (Finishing Operations) HAPs Emissions
Company Name: Gartland Foundry
Source Address: 330 Grant St., Terre Haute, IN 47802
Part 70 Renewal No. : T167-32794-00007
Reviewer: Sarah Street

Unlimited PTE of HAP Emissions

	Spin Blast		Tumble Blast		Tumbler		Finish Grinding		Snag Grinding		
	Maximum Throughput (ton/yr)	43,800	Maximum Throughput (ton/yr)	43,800	Maximum Throughput (ton/yr)	8,760	Maximum Throughput (ton/yr)	105,120	Maximum Throughput (ton/yr)	140,160	
Pollutant	**Emission Factor (lb/ton)**	**Potential Emissions (tons/yr)**	**Emission Factor (lb/ton)**	**Potential Emissions (tons/yr)**	**Emission Factor (lb/ton)**	**Potential Emissions (tons/yr)**	**Emission Factor (lb/ton)**	**Potential Emissions (tons/yr)**	**Emission Factor (lb/ton)**	**Potential Emissions (tons/yr)**	**Totals for Finishing Operations (tons/yr)**
Metallic HAPs											
Chromium	0.00646	0.14	0.00646	0.14	0.00646	0.03	0	0.00	0	0.00	0.31
Cobalt	0.00051	0.01	0.00051	0.01	0.00051	0.00	0	0.00	0	0.00	0.02
Nickel	0.01139	0.25	0.01139	0.25	0.01139	0.05	0.00001	0.00	0.00001	0.00	0.55
Arsenic	0.00221	0.05	0.00221	0.05	0.00221	0.01	0	0.00	0	0.00	0.11
Cadmium	0.00102	0.02	0.00102	0.02	0.00102	0.00	0	0.00	0	0.00	0.05
Selenium	0.00017	0.00	0.00017	0.00	0.00017	0.00	0	0.00	0	0.00	0.01
Manganese	0.0935	2.05	0.0935	2.05	0.0935	0.41	0.00006	0.00	0.00006	0.00	4.51
Antimony	0.03145	0.69	0.03145	0.69	0.03145	0.14	0.00002	0.00	0.00002	0.00	1.52
Total Metal HAPs	0.14671	3.21	0.14671	3.21	0.14671	0.64	0.00009	0.00	0.00009	0.01	7.07

Total Metallic HAP	**7.07**
Total Organic HAP	**0.00**
Total HAP	**7.07**
Worst Case Single HAP (Manganese)	**4.51**

Methodology:

Potential emissions are determined prior to control equipment or throughput limitation.
Potential Emissions = Emission Factor (lb pollutant/ton processed) * Maximum throughput (ton/year) / 2000 (lb/ton)
Emission Factors for Metallic HAPs are from AP-42, Ch12.10 and Speciate Database.

Controlled/Limited PTE of HAP Emissions

Control Efficiency	**98%**

	Spin Blast		Tumble Blast		Tumbler		Finish Grinding		Snag Grinding		
	Limited Throughput (ton/yr)	15,100	Limited Throughput (ton/yr)	15,100	Limited Throughput (ton/yr)	15,100	Limited Throughput (ton/yr)	12,000	Limited Throughput (ton/yr)	12,000	
Pollutant	**Emission Factor (lb/ton)**	**Limited Emissions (tons/yr)**	**Emission Factor (lb/ton)**	**Limited Emissions (tons/yr)**	**Emission Factor (lb/ton)**	**Limited Emissions (tons/yr)**	**Emission Factor (lb/ton)**	**Limited Emissions (tons/yr)**	**Emission Factor (lb/ton)**	**Limited Emissions (tons/yr)**	**Totals for Finishing Operations (tons/yr)**
Metallic HAPs											
Chromium	0.00646	9.75E-04	0.00646	9.75E-04	0.00646	9.75E-04	0	0.00E+00	0	0.00E+00	0.00
Cobalt	0.00051	7.70E-05	0.00051	7.70E-05	0.00051	7.70E-05	0	0.00E+00	0	0.00E+00	0.00
Nickel	0.01139	1.72E-03	0.01139	1.72E-03	0.01139	1.72E-03	0.00001	1.20E-06	0.00001	1.20E-06	0.01
Arsenic	0.00221	3.34E-04	0.00221	3.34E-04	0.00221	3.34E-04	0	0.00E+00	0	0.00E+00	0.00
Cadmium	0.00102	1.54E-04	0.00102	1.54E-04	0.00102	1.54E-04	0	0.00E+00	0	0.00E+00	0.00
Selenium	0.00017	2.57E-05	0.00017	2.57E-05	0.00017	2.57E-05	0	0.00E+00	0	0.00E+00	0.00
Manganese	0.0935	1.41E-02	0.0935	1.41E-02	0.0935	1.41E-02	0.00006	7.20E-06	0.00006	7.20E-06	0.04
Antimony	0.03145	4.75E-03	0.03145	4.75E-03	0.03145	4.75E-03	0.00002	2.40E-06	0.00002	2.40E-06	0.01
Total Metal HAPs	0.14671	2.22E-02	0.14671	2.22E-02	0.14671	2.22E-02	0.00009	1.08E-05	0.00009	1.08E-05	0.07

Total Metallic HAP	**0.07**
Total Organic HAP	**0.00**
Total HAP	**0.07**
Worst Case Single HAP (Manganese)	**0.04**

Methodology:

Limited Emissions = [Emission Factor (lb pollutant/ton processed) * Limited throughput (ton/year) / 2000 (lb/ton)] * (1-Control Efficiency)
Emission Factors for Metallic HAPs are from AP-42, Ch12.10 and Speciate Database.

Appendix A: Emissions Calculations
VOC and Particulate
From Surface Coating Operations

Company Name: **Gartland Foundry**
Source Address: **330 Grant St., Terre Haute, IN 47802**
Part 70 Renewal No. : **T167-32794-00007**
Reviewer: **Sarah Street**

Surface Coating Emissions

Material	Density (Lb/Gal)	Weight % Volatile (H20 & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential (ton/yr)	lb VOC/gal solids	Transfer Efficiency
Coatings																
KA 1663 HSPOXSL	11.7	27.10%	0.0%	27.1%	0.0%	46.90%	0.01000	500	3.17	3.17	15.85	380.48	69.44	46.70	6.76	75%
KWA-1887	9.4	45.80%	44.9%	0.9%	50.7%	43.20%	0.01000	500	0.17	0.08	0.42	10.15	1.85	27.89	0.20	75%
Solvents																
Methyl propyl ketone	6.76	100.00%	0.0%	100.0%	0.0%	0.00%	0.00100	500	6.76	6.76	3.38	81.12	14.80	0.00	NA	0%

State Potential Emissions	**Add worst case coating to all solvents**	**19.66**	**471.76**	**86.10**	**74.59**

METHODOLOGY

Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)
Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)
Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr)
Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)
Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)
Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) *(8760 hrs/yr) *(1 ton/2000 lbs)
Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)
Total = Worst Coating + Sum of all solvents used

Particulate Emissions After Control

Capture Effeciency	99%	
Removal Effeciency	98%	fabric filters
Overall Control Efficiency	97.02%	
PM/PM10 Potential after control	2.22	tons per year

HAP Potential Emissions

Material	Density (Lb/Gal)	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Weight % Xylene	Weight % Glycol Ethers	Weight % Methyl Isobutyl Ketone	Potential Xylene (ton/yr)	Potential Glycol Ethers (ton/yr)	Potential Methyl Isobutyl Ketone (ton/yr)	Potential HAP Total (ton/yr)
Coatings										
KA 1663 HSPOXSL	11.7	0.010	500	23.5%	0.0%	0.0%	60.21	0.00	0.00	60.21
KWA-1887	9.4	0.010	500	0.0%	1.7%	0.0%	0.00	3.50	0.00	3.50
Solvents										
Methyl propyl ketone	6.76	0.001	500	0.0%	0.0%	10.0%	0.00	0.00	1.48	1.48
Total							60.21	3.50	1.48	65.19

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

Appendix A: Emissions Calculations
Gray Iron Foundries
Mold and Core Production

Company Name: Gartland Foundry
Source Address: 330 Grant St., Terre Haute, IN 47802
Part 70 Renewal No. : T167-32794-00007
Reviewer: Sarah Street

Emission Factors

Emission Unit ID(s)	Maximum Throughput (tons/yr)*	Uncontrolled Emission Factors (lb/ton)								
		PM	PM10	PM2.5	SO_2	NOx	VOC	CO	GHGs as CO2e	HAPs[7]
Shell Core Machine EU320[1]	8,760.00	3.6	0.54	0.54	0	0	0.254	0	0	0
Shell Core Machine EU321[1]	8,760.00	3.6	0.54	0.54	0	0	0.254	0	0	0
Oil Core Making Process EU410[2]	2,190.00	3.6	0.54	0.54	0	0	3.05	0	0	0
Core Wash Process EU730[3]	2,122.00	0	0	0	0	0	0.166	0	0	0
	2,122.00	0	0	0	0	0	6.47	0	0	0
Isocure Core Machine CB-22[4]	4,599.00	3.6	0.54	0.54	0	0	10.00	0	0	6.00
Cold Box Isocure Core Machine Gaylord-1[4]	8,760.00	3.6	0.54	0.54	0	0	10.00	0	0	6.00
Cold Box Isocure Core Machine Gaylord-2[4]	8,760.00	3.6	0.54	0.54	0	0	10.00	0	0	6.00
Cold Box (Isocure) Core Machine CBCM-3[5]	23,652.00	3.6	0.54	0.54	0	0	1.00 1.58	0	0	See following page for HAPs
Cold Box Mixer[6]	45,771.00	0	0	0	0	0	0.40	0	0	0

Notes

The catalyst is Triethylamine (TEA) for Isocure Core Machine CB-22 and Cold Box Isocure Core Machines Gaylord-1 and Gaylord-2.
The catalyst is amine catalyst for Cold Box Isocure Core Machine CBCM-3
The Cold Box Mixer feeds the Isocure Core Machine CB-22 and Cold Box Isocure Core Machines Gaylord-1, Gaylord-2, and CBCM-3.
(1) Shell Core Machines - PM, PM10, and PM2.5 emission factors from AP-42 Chapter 12.10 Gray Iron Foundries and US EPA Fire Version 6.25. VOC emission factor from stack testing
(2) Oil Core Making Process - PM, PM10, and PM2.5 emission factors from AP-42 Chapter 12.10 Gray Iron Foundries and US EPA Fire Version 6.25. VOC emission factor from mass balance.

Amount of oil in oil cores = 2.5 gallons of oil per ton of sand
Density of oil = 7.914 lb/gal
VOC content in the oil = 15.4%
3.05 VOC emission factor (lb/ton) = Density (lb/gal) * Amount of oil (gallons/ton of sand) * VOC content (%)

(3) Core Wash Process - VOC emission factors from MSDS sheets for core wash and release agents

	Usage (gal/yr)	VOC Content (lb/gal)
Core Wash	2,122.00	0.166
Release Agents	2,122.00	6.47

(4) Cold Box (Isocure) Core Machines Gaylord-1 and Gaylord-2 - PM, PM10, and PM2.5 emissions are from sand handling, and the emission factors are from AP-42 Chapter 12.10 Gray Iron Foundries and US EPA Fire Version 6.25. VOC Emission Factors are from stack testing/mass balance.
(5) Cold Box (Isocure) Core Machine CBCM-3 - PM, PM10, and PM2.5 emissions are from sand handling, and the emission factors are from AP-42 Chapter 12.10 Gray Iron Foundries and US EPA Fire Version 6.25. VOC Emission Factors are as follows

Capacity (tons sand cores/hr)	Maximum Resin Content	VOC Emission Factor from Resin Evaporation (lb/ton sand core)*	Max. Catalyst Usage (lb/ton sand cores) **
2.7	2.0%	1.00	1.58

*The VOC emission factor for the resin is from SCC 3-04-003-30. The emission factor from the SCC is 0.65 lb/ton cores, but Gartland Foundry adjusted this number to 1.0 lb/ton of cores to add some safety

** 1.58 lb/ton = [Usage of Catalyst (0.713 gals/hr) * Relative Density of Catalyst (0.7155) * Density of Water (8.34 lbs/gallon)] / Capacity (2.7 tons sand core/hr)

The 0.713 gallons of catalyst/hr was provided by the equipment manufacturer (Gaylord Foundry Equipment). This was converted to lbs/hr using the relative density (0.7155) provided in the MSDS and the density of water (0.713 gals catalyst/hr x 0.7155 x 8.34 lbs/gallons).

See following page for methodology for HAPs emissions
(6) VOC Emission Factor for Cold Box Mixer based on mass balance and stack test, per Gartland Foundry
(7) Triethylamine (TEA) emissions based on mass balance, per Gartland Foundry

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	HAPs
Shell Core Machine EU320	15.77	2.37	2.37	0.00	0.00	1.11	0.00	0.00	0.00
Shell Core Machine EU321	15.77	2.37	2.37	0.00	0.00	1.11	0.00	0.00	0.00
Oil Core Making Process EU410	3.94	0.59	0.59	0.00	0.00	3.34	0.00	0.00	0.00
Core Wash Process	0.00	0.00	0.00	0.00	0.00	7.04	0.00	0.00	0.00
Isocure Core Machine CB-22	8.28	1.24	1.24	0.00	0.00	23.00	0.00	0.00	13.80
Cold Box Isocure Core Machine Gaylord-1	15.77	2.37	2.37	0.00	0.00	43.80	0.00	0.00	26.28
Cold Box Isocure Core Machine Gaylord-2	15.77	2.37	2.37	0.00	0.00	43.80	0.00	0.00	26.28
Cold Box (Isocure) Core Machine CBCM-3	42.57	6.39	6.39	0.00	0.00	30.51	0.00	0.00	0.00
Cold Box Mixer	0.00	0.00	0.00	0.00	0.00	9.15	0.00	0.00	0.00
Totals	**117.87**	**17.68**	**17.68**	**0.00**	**0.00**	**162.86**	**0.00**	**0.00**	**66.36**

Methodology
Uncontrolled PTE (tons/yr) = Throughput (tons/yr) * Emission Factor (lb/ton) * 1 ton/2,000 lbs
Cold Isocure Core Machine CBCM-3 Uncontrolled PTE (Tons/yr) = [(Throughput (tons/yr) * VOC e.f. from Resin (lb/ton))/2000 lb/ton] + [(Throughput (tons/yr) * VOC e.f. from Catalyst (lb/ton))/2000 lb/ton]

Appendix A: Emissions Calculations
Gray Iron Foundries
Mold and Core Production
Company Name: Gartland Foundry
Source Address: 330 Grant St., Terre Haute, IN 47802
Part 70 Renewal No. : T167-32794-00007
Reviewer: Sarah Street

Prevention of Significant Deterioration (PSD) Minor Limits

Mold and Core Production		Limited Throughput (tons/yr)	Emissions Limitations (lb/ton)								
Control Device	Emission Units		PM	PM10	PM2.5	SO_2	NOx	VOC	CO	GHGs as CO2e	HAPs
No control; indoors	Shell Core Machine EU320	1000	0.9	0.9	0.9	0	0	0.25	0	0	0
No control; indoors	Shell Core Machine EU321										
No control; indoors	Oil Core Making Process EU410	1000	0.9	0.9	0.9	0	0	3.05	0	0	0
No control; indoors	Core Wash Process EU730**	1000	N/A	N/A	N/A	0	0	2.10	0	0	0
Acid scrubber (Stack SC-8)	Isocure Core Machine CB-22	1100	0.5	0.5	0.5	0	0	10.00	0	0	6.00
	Cold Box Isocure Core Machine Gaylord-1										
	Cold Box Isocure Core Machine Gaylord-2										
	Cold Box (Isocure) Core Machine CBCM-3	13,833	N/A	N/A	N/A	0	0	N/A	0	0	0

N/A = not applicable. PTE based on unlimited emission factors and throughput
Cold Box Mixer throughput limited by Cold Box core machine throughput
Acid Scrubber (controlling TEA HAPs) = 98% control efficiency
**Core Wash Process limits in gal/yr and lb/gal.

Summary of Emissions (Limited)

Mold and Core Production		Limited Potential to Emit (tons/yr)								
Control Device	Emission Units	PM	PM10	PM2.5	SO_2	NOx	VOC	CO	GHGs as CO2e	HAPs*
No control; indoors	Shell Core Machine EU320	0.45	0.45	0.45	0.00	0.00	0.13	0.00	0.00	0.00
No control; indoors	Shell Core Machine EU321									
No control; indoors	Oil Core Making Process EU410	0.45	0.45	0.45	0.00	0.00	1.53	0.00	0.00	0.00
No control; indoors	Core Wash Process EU730	0.00	0.00	0.00	0.00	0.00	1.05	0.00	0.00	0.00
Acid scrubber (Stack SC-8)	Isocure Core Machine CB-22	0.28	0.28	0.28	0.00	0.00	5.50	0.00	0.00	0.07
	Cold Box Isocure Core Machine Gaylord-1									
	Cold Box Isocure Core Machine Gaylord-2									
	Cold Box (Isocure) Core Machine CBCM-3	24.90	3.73	3.73	0.00	0.00	24.90	0.00	0.00	0.00
No control; indoors	Cold Box Mixer	0.00	0.00	0.00	0.00	0.00	9.15	0.00	0.00	0.00
	Totals	**26.07**	**4.91**	**4.91**	**0.00**	**0.00**	**42.26**	**0.00**	**0.00**	**0.07**

Notes
*Triethylamine (TEA) for Isocure Core Machine CB-22, and Cold Box Isocure Core Machines Gaylord-1 and Gaylord-2
For Cold Box Mixer, the limited throughput is based on the limited throughput to the Core Machine CB-22 and all three Cold Box Isocure Core Machines (Gaylord-1, Gaylord-2, and CBCM-3) combined

Methodology
Limited PTE (tons/yr) = Limited Throughput (tons/yr) * Limit (lb/ton) * 1 ton/2,000 lbs
Core Wash Process Limited PTE (tons/yr) = Limited Throughput (gal/yr) * Limit (lb/gal) * 1 ton/2,000 lbs
Cold Isocure Core Machine CBCM-3 Limited PTE (Tons/yr) = [(Limited Throughput to all core machines (tons/yr) * VOC e.f. from Resin (lb/ton))/2000 lb/ton] + [(Limited Throughput to all core machines (tons/yr) * VOC e.f. from Catalyst (lb/ton))/2000 lb/ton]

Appendix A: Emissions Calculations
Gray Iron Foundries
Mold and Core Production HAPs: CBCM-3

Company Name: Gartland Foundry
Source Address: 330 Grant St., Terre Haute, IN 47802
Part 70 Renewal No. : T167-32794-00007
Reviewer: Sarah Street

CBCM-3 Core Making Process HAPs

Material	Maximum Usage (tons/yr)	Weight % MDI	Weight % Polymeric MDI	Weight % Phenol	Potential MDI Emissions (tons/yr)	Potential Polymeric MDI Emissions (tons/yr)	Potential Phenol Emissions (ton/yr)
Cold Box Core Making							
Cold Box Resin Part I	260.17	0.00%	0.00%	5.00%	0.00	0.00	0.00
Cold Box Resin Part II	212.87	50.00%	50.00%	0.00%	0.00	0.00	0.00
Catalyst	18.65	0.00%	0.00%	0.00%	0.00	0.00	0.00
				Total	**0.00**	**0.00**	**0.00**

Reduction Factors for Core Making

Pollutant	Cold Box Release Factor	No-bake Release Factor	Warm Box Release Factor
Phenol	0.00%	0.00%	N/A
Formaldehyde	2.00%	2.00%	5.00%
MDI	0.00%	0.00%	N/A
Polymeric MDI	0.00%	0.00%	N/A
Naphthalene	3.25%	5.85%	N/A
1,2,4 Trimethylbenzene	3.25%	5.85%	N/A
Xylene	3.25%	5.85%	N/A
Cumene	3.25%	5.85%	N/A
Methanol	N/A	N/A	100.00%

METHODOLOGY

HAP Emissions from Resins = Maximum Usage Rate (tons/yr) * % HAP * Reduction Factor (%)
HAP Emissions from Catalysts = Maximum Usage Rate (tons/yr) * % HAP
Reduction factors obtained from the American Foundrymen's Society Publication entitled "Form R Reporting of Binder Chemicals used in Foundries", and refers to the weight percent of HAP that is emitted to the atmosphere.

Appendix A: Emission Calculations
Reciprocating Internal Combustion Engines - Diesel Fuel
Output Rating (<=600 HP)

Company Name: **Gartland Foundry**
Source Address: **330 Grant St., Terre Haute, IN 47802**
Part 70 Renewal No. : **T167-32794-00007**
Reviewer: **Sarah Street**

Emissions calculated based on output rating (hp)

Output Horsepower Rating (hp)	346.0	
Maximum Hours Operated per Year	40	*Limited to 40 hours
Potential Throughput (hp-hr/yr)	13,840	

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	0.0022	0.0022	0.0022	0.0021	0.0310	0.0025	0.0067
Potential Emission in tons/yr	0.02	0.02	0.02	0.01	0.21	0.02	0.05

*PM and PM2.5 emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

Hazardous Air Pollutants (HAPs)

	Pollutant							
	Benzene	Toluene	Xylene	1,3-Butadiene	Formaldehyde	Acetaldehyde	Acrolein	Total PAH HAPs***
Emission Factor in lb/hp-hr****	6.53E-06	2.86E-06	2.00E-06	2.74E-07	8.26E-06	5.37E-06	6.48E-07	1.18E-06
Potential Emission in tons/yr	4.52E-05	1.98E-05	1.38E-05	1.89E-06	5.72E-05	3.72E-05	4.48E-06	8.14E-06

***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)	**1.88E-04**

Green House Gas Emissions (GHG)

	Pollutant		
	CO2	CH4	N2O
Emission Factor in lb/hp-hr	1.15E+00	4.63E-05	9.26E-06
Potential Emission in tons/yr	7.96E+00	3.20E-04	6.41E-05

Summed Potential Emissions in tons/yr	**7.96E+00**
CO2e Total in tons/yr	**7.98E+00**

Methodology
Emission Factors are from AP42 (Supplement B 10/96), Tables 3.3-1 and 3.3-2
CH4 and N2O Emission Factor from 40 CFR 98 Subpart C Table C-2.
Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
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]
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

Appendix A: Emission Calculations
Fugitive Dust Emissions - Paved Roads

Company Name: **Gartland Foundry**
Source Address: **330 Grant St., Terre Haute, IN 47802**
Part 70 Renewal No. : **T167-32794-00007**
Reviewer: **Sarah Street**

Paved Roads at Industrial Site

The following calculations determine the amount of emissions created by paved roads, based on 8,760 hours of use and AP-42, Ch 13.2.1 (1/2011).

Vehicle Informtation (provided by source)

Type	Maximum number of vehicles per day	Number of one-way trips per day per vehicle	Maximum trips per day (trip/day)	Maximum Weight Loaded (tons/trip)	Total Weight driven per day (ton/day)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/day)	Maximum one-way miles (miles/yr)
Semi-Truck for Metal (entering plant) (one-way trip)	3.0	2.0	6.0	40.0	240.0	300	0.057	0.3	124.4
Semi-Truck for Metal(leaving plant) (one-way trip)	3.0	2.0	6.0	40.0	240.0	300	0.057	0.3	124.4
Semi-Truck for Shipping/Receiving (entering plant) (one-way trip)	10.0	2.0	20.0	40.0	800.0	150	0.028	0.6	207.4
Semi-Truck for Shipping/Receiving (entering plant) (one-way trip)	10.0	2.0	20.0	40.0	800.0	150	0.028	0.6	207.4
		Totals	**52.0**		**2080.0**			**1.8**	**663.6**

Average Vehicle Weight Per Trip = 40.0 tons/trip
Average Miles Per Trip = 0.03 miles/trip

Unmitigated Emission Factor, Ef = [k * (sL)^0.91 * (W)^1.02] (Equation 1 from AP-42 13.2.1)

	PM	PM10	PM2.5	
where k =	0.011	0.0022	0.00054	lb/VMT = particle size multiplier (AP-42 Table 13.2.1-1)
W =	40.0	40.0	40.0	tons = average vehicle weight (provided by source)
sL =	9.7	9.7	9.7	g/m^2 = silt loading value for paved roads at iron and steel production facilities - Table 13.2.1-3)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, Eext = E * [1 - (p/4N)] (Equation 2 from AP-42 13.2.1)

Mitigated Emission Factor, Eext = Ef * [1 - (p/4N)]
where p = 125 days of rain greater than or equal to 0.01 inches (see Fig. 13.2.1-2)
N = 365 days per year

	PM	PM10	PM2.5	
Unmitigated Emission Factor, Ef =	3.745	0.749	0.1838	lb/mile
Mitigated Emission Factor, Eext =	3.424	0.685	0.1681	lb/mile
Dust Control Efficiency =				(pursuant to control measures outlined in fugitive dust control plan)

Process	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
Semi-Truck for Metal (entering plant) (one-way trip)	0.23	0.05	0.01	0.21	0.04	0.01	0.21	0.04	0.01
Semi-Truck for Metal(leaving plant) (one-way trip)	0.23	0.05	0.01	0.21	0.04	0.01	0.21	0.04	0.01
Semi-Truck for Shipping/Receiving (entering plant) (one-way trip)	0.39	0.08	0.02	0.36	0.07	0.02	0.36	0.07	0.02
Semi-Truck for Shipping/Receiving (entering plant) (one-way trip)	0.39	0.08	0.02	0.36	0.07	0.02	0.36	0.07	0.02
Totals	**1.24**	**0.25**	**0.06**	**1.14**	**0.23**	**0.06**	**1.14**	**0.23**	**0.06**

Methodology

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

Abbreviations

PM = Particulate Matter
PM10 = Particulate Matter (<10 um)
PM2.5 = Particle Matter (<2.5 um)
PTE = Potential to Emit

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

100 N. Senate Avenue • Indianapolis, IN 46204

(800) 451-6027 • (317) 232-8603 • www.idem.IN.gov

Michael R. Pence
Governor

Thomas W. Easterly
Commissioner

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

TO: Tom Atkins
Gartland Foundry
330 Grant St
Terre Haute, IN 47802

DATE: September 27, 2013

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

SUBJECT: Final Decision
Gartland Foundry
167-32794-00007

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

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

A copy of the final decision and supporting materials has also been sent via standard mail to:
William Grimes, Responsible Official
Katherine Holcomb, Consultant
OAQ Permits Branch Interested Parties List

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

Final Applicant Cover letter.dot 6/13/2013

Mail Code 61-53

IDEM Staff	DPABST 9/26/2013 Gartland Foundry Co., Inc. 167-32794-00007 (final)			AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING
Name and address of Sender	▶	Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204	Type of Mail: **CERTIFICATE OF MAILING ONLY**	

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1		Tom Atkins Gartland Foundry Co., Inc. 330 Grant St Terre Haute IN 47802 (Source CAATS) (CONFIRM DELIVERY)									
2		William Grimes President Gartland Foundry Co., Inc. 330 Grant St Terre Haute IN 47802 *(RO CAATS)*									
3		Vigo County Board of Commissioners County Annex, 121 Oak Street Terre Haute IN 47807 *(Local Official)*									
4		Terre Haute City Council and Mayors Office 17 Harding Ave Terre Haute IN 47807 *(Local Official)*									
5		Vigo County Health Department 147 Oak Street Terre Haute IN 47807 *(Health Department)*									
6		Vigo Co Public Library 1 Library Square Terre Haute IN 47807-3609 *(Library)*									
7		J.P. Roehm PO Box 303 Clinton IN 47842 *(Affected Party)*									
8		Katherine Holcomb August Mack Environmental, Inc. 1302 N. Meridian Street, Suite 300 Indianapolis IN 46202 *(Consultant)*									
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