INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
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(800) 451-6027 • (317) 232-8603 • www.idem.IN.gov

Michael R. Pence
Governor

Thomas W. Easterly
Commissioner

TO: Interested Parties / Applicant

DATE: December 19, 2013

RE: Dalton Corporation, Warsaw Manufacturing Facility / 085-33865-00003

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 13-17-3-4 and 326 IAC 2, this approval 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 13-15-7-3 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 Environmental Adjudication, 100 North Senate Avenue, Government Center North, Suite N 501E, Indianapolis, IN 46204, **within eighteen (18) calendar days of the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

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

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

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

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

Enclosures
FNPER-MOD.dot 6/13/2013

IDEM

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Thomas W. Easterly
Commissioner

Mr. Michael Schall
Dalton Corporation, Warsaw Manufacturing Facility
PO Box 1388
Warsaw, IN 46581

December 19, 2013

Re: 085-33865-00003
Minor Source Modification

Dear Mr. Schall:

Dalton Corporation, Warsaw Manufacturing Facility was issued a Part 70 Operating Permit Renewal No. 085-30768-00003 on August 20, 2012 for a stationary gray iron foundry located at 1900 East Jefferson Street, Warsaw, Indiana. An application to modify the source was received on November 8, 2013. Pursuant to the provisions of 326 IAC 2-7-10.5, a minor source modification to this permit is hereby approved as described in the attached Technical Support Document.

Pursuant to 326 IAC 2-7-10.5, the following emission unit is approved for construction at the source:

Herman 3 Mold Line
The volatile organic compound (VOC) emissions from the Herman 3 Mold line are reduced by one (1) Sonoperoxone® system (or an equivalent advanced oxidation system), sand system optimization, use of low VOC core resin binder materials, and automatic mold vent-off gas ignition.

(a) One (1) dust mixing acoustic reactor (DMAR) tank sand transport system, approved for construction in 2013, recycling dust collected in baghouse #1 and #11 to the DMAR tank, with a maximum capacity of 1.45 tons of waste dust per hour, uncontrolled, and exhausting indoors.

The following construction conditions are applicable to the proposed modification:

General Construction Conditions

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

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

Effective Date of the Permit

3. Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.

Commenced Construction

4. Pursuant to 326 IAC 2-1.1-9 and 326 IAC 2-7-10.5(j), the Commissioner may revoke this approval if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

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

Approval to Construct and Operate

6. Pursuant to 326 IAC 2-7-10.5(f)(3) and 326 IAC 2-7-12, this Minor Source Modification authorizes both the construction and operation of the new emission unit(s) when the Minor Source Modification has been issued.

   Operating conditions shall be incorporated into the Part 70 Operating Permit as a Minor Permit Modification in accordance with 326 IAC 2-7-10.5(m)(2) and 326 IAC 2-7-12 (Permit Modification).

A copy of the permit is available on the Internet at: http://www.in.gov/ai/appfiles/idem-caats/. For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and, refer to the IDEM's Permit Guide on the Internet at: www.idem.in.gov

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

If you have any questions on this matter, please contact Brian Williams of my staff, OAQ, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana, 46204-2251, or call at (800) 451-6027, and ask for Brian Williams or extension 4-5375 or dial (317) 234-5375.

Sincerely,

Iryn Calilung, Section Chief
Permits Branch
Office of Air Quality

Attachments: Minor Source Modification and Technical Support Document

cc: File - Kosciusko County
Kosciusko County Health Department
U.S. EPA, Region V
Compliance and Enforcement Branch
IDEM Northern Regional Office

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Governor

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Commissioner

Minor Source Modification to a Part 70 Source

OFFICE OF AIR QUALITY

Dalton Corporation, Warsaw Manufacturing Facility
1900 E. Jefferson Street
Warsaw, Indiana 46580

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

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.

Minor Source Modification No.: 085-33865-00003	
Issued by: Iryn Calilung, Section Chief Permits Branch Office of Air Quality	Issuance Date: December 19, 2013

TABLE OF CONTENTS

A. SOURCE SUMMARY 8
A.1 General Information [326 IAC 2-7-4(c)][326 IAC 2-7-5(14)][326 IAC 2-7-1(22)]
A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(14)]
A.3 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)][326 IAC 2-7-4(c)] [326 IAC 2-7-5(14)]
A.4 Part 70 Permit Applicability [326 IAC 2-7-2]

B. GENERAL CONDITIONS 28
B.1 Definitions [326 IAC 2-7-1]
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)]
B.3 Term of Conditions [326 IAC 2-1.1-9.5]
B.4 Enforceability [326 IAC 2-7-7] [IC 13-17-12]
B.5 Severability [326 IAC 2-7-5(5)]
B.6 Property Rights or Exclusive Privilege [326 IAC 2-7-5(6)(D)]
B.7 Duty to Provide Information [326 IAC 2-7-5(6)(E)]
B.8 Certification [326 IAC 2-7-4(f)][326 IAC 2-7-6(1)][326 IAC 2-7-5(3)(C)]
B.9 Annual Compliance Certification [326 IAC 2-7-6(5)]
B.10 Preventive Maintenance Plan [326 IAC 2-7-5(12)][326 IAC 2-7-6(1) and (6)] [326 IAC 1-6-3]
B.11 Emergency Provisions [326 IAC 2-7-16]
B.12 Permit Shield [326 IAC 2-7-15][326 IAC 2-7-20][326 IAC 2-7-12]
B.13 Prior Permits Superseded [326 IAC 2-1.1-9.5][326 IAC 2-7-10.5]
B.14 Termination of Right to Operate [326 IAC 2-7-10][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]
B.16 Permit Renewal [326 IAC 2-7-3][326 IAC 2-7-4][326 IAC 2-7-8(e)]
B.17 Permit Amendment or Modification [326 IAC 2-7-11][326 IAC 2-7-12]
B.18 Permit Revision Under Economic Incentives and Other Programs [326 IAC 2-7-5(8)] [326 IAC 2-7-12(b)(2)]
B.19 Operational Flexibility [326 IAC 2-7-20][326 IAC 2-7-10.5]
B.20 Source Modification Requirement [326 IAC 2-7-10.5]
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]
B.22 Transfer of Ownership or Operational Control [326 IAC 2-7-11]
B.23 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-7-5(7)][326 IAC 2-1.1-7]
B.24 Credible Evidence [326 IAC 2-7-5(3)][326 IAC 2-7-6][62 FR 8314] [326 IAC 1-1-6]

C. SOURCE OPERATION CONDITIONS 39

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]
C.2 Opacity [326 IAC 5-1]
C.3 Open Burning [326 IAC 4-1] [IC 13-17-9]
C.4 Incineration [326 IAC 4-2] [326 IAC 9-1-2]
C.5 Fugitive Dust Emissions [326 IAC 6-4]
C.6 Stack Height [326 IAC 1-7]
C.7 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]

Testing Requirements [326 IAC 2-7-6(1)]
C.8 Performance Testing [326 IAC 3-6]

Compliance Requirements [326 IAC 2-1.1-11]
C.9 Compliance Requirements [326 IAC 2-1.1-11]

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

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]
C.13 Risk Management Plan [326 IAC 2-7-5(12)] [40 CFR 68]
C.14 Response to Excursions or Exceedances [326 IAC 2-7-5] [326 IAC 2-7-6] [40 CFR 64][326 IAC 3-8]
C.15 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5] [326 IAC 2-7-6]

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]
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]
C.18 General Reporting Requirements [326 IAC 2-7-5(3)(C)] [326 IAC 2-1.1-11] [326 IAC 2-2] [326 IAC 2-3] [40 CFR 64] [326 IAC 3-8]

Stratospheric Ozone Protection
C.19 Compliance with 40 CFR 82 and 326 IAC 22-1

D.1 FACILITY OPERATION CONDITIONS – Cupola Charge Handling

Emission Limitations and Standards [326 IAC 2-7-5(1)]
D.1.1 PSD Minor Limits [326 IAC 2-2]
D.1.2 Particulate Emission Limitation [326 IAC 6-3-2]
Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]
D.1.3 Record Keeping Requirements
D.1.4 Reporting Requirements

D.2 FACILITY OPERATION CONDITIONS – Cupola Melt Furnace

Emission Limitations and Standards [326 IAC 2-7-5(1)]
D.2.1 PSD Minor Limits [326 IAC 2-2]
D.2.2 Particulate Emission Limitation [326 IAC 11-1-2]
D.2.3 Preventive Maintenance Plan [326 IAC 2-7-5(12)]
Compliance Determination Requirements
D.2.4 Emission Controls Operation [326 IAC 2-7-6(6)]
D.2.5 Testing Requirements [326 IAC 2-7-6(1),(6)]
D.2.6 Scrubber Failure Detection [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]
D.2.7 Broken or Failed Bag Detection [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]
Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]
D.2.8 Visible Emissions Notations
D.2.9 Cupola Melt Furnace Temperature Monitoring
D.2.10 Scrubber Parametric Monitoring [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]
D.2.11 Baghouse Parametric Monitoring [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]
Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]
D.2.12 Record Keeping Requirements
D.2.13 Reporting Requirements

D.3 FACILITY OPERATION CONDITIONS – Herman 2 Mold Line

Emission Limitations and Standards [326 IAC 2-7-5(1)]
D.3.1 PSD Minor Limits [326 IAC 2-2]
D.3.2 PSD Minor Limits [326 IAC 2-2] [326 IAC 6-3-2]
D.3.3 Particulate Emission Limitation [326 IAC 6-3-2]
D.3.4 Preventive Maintenance Plan [326 IAC 2-7-5(12)]
Compliance Determination Requirements
D.3.5 Emission Controls Operation [326 IAC 2-7-6(6)]
D.3.6 Testing Requirements [326 IAC 2-7-6(1),(6)]
D.3.7 Wet Collector Failure Detection [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]
D.3.8 Broken or Failed Bag Detection [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]
Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]
D.3.9 Visible Emissions Notations
D.3.10 Wet Collector Parametric Monitoring [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]
D.3.11 Baghouse Parametric Monitoring [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]
Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]
D.3.12 Record Keeping Requirements
D.3.13 Reporting Requirements

D.4 FACILITY OPERATION CONDITIONS – Herman 3 Mold Line

Emission Limitations and Standards [326 IAC 2-7-5(1)]
D.4.1 BACT Requirements [326 IAC 2-2-3] [326 IAC 8-1-6] [326 IAC 2-7-6(3)] [326 IAC 2-7-15]
D.4.2 PSD Minor Limits [326 IAC 2-2]
D.4.3 Particulate Emission Limitation [326 IAC 6-3-2]
D.4.4 Preventive Maintenance Plan [326 IAC 2-7-5(12)]
Compliance Determination Requirements
D.4.5 Emission Controls Operation [326 IAC 2-7-6(6)]
D.4.6 Testing Requirements [326 IAC 2-7-6(1),(6)]
D.4.7 Continuous Opacity Monitoring [326 IAC 3-5] [326 IAC 2-2-3]
D.4.8 Maintenance of Continuous Opacity Monitoring Equipment [326 IAC 2-7-5(3)(A)(iii)]
D.4.9 Wet Collector Failure Detection [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)
D.4.10 Broken or Failed Bag Detection [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]
Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]
D.4.11 Visible Emissions Notations
D.4.12 Wet Collector Parametric Monitoring [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]
D.4.13 Baghouse Parametric Monitoring [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]
D.4.14 Parametric Monitoring of Sonoperoxone® System or Equivalent System [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]
Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]
D.4.15 Record Keeping Requirements
D.4.16 Reporting Requirements

D.5 FACILITY OPERATION CONDITIONS – Inclined Shakeout and Sort System – Waste Sand Handling, Screening and Transport System

Emission Limitations and Standards [326 IAC 2-7-5(1)]
D.5.1 PSD Minor Limits [326 IAC 2-2]
D.5.2 Particulate Emission Limitation [326 IAC 6-3-2]
D.5.3 Preventive Maintenance Plan [326 IAC 2-7-5(12)]
Compliance Determination Requirements
D.5.4 Emission Controls Operation [326 IAC 2-7-6(6)]
D.5.5 Testing Requirements [326 IAC 2-7-6(1),(6)]
D.5.6 Broken or Failed Bag Detection [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]
D.5.7 Visible Emissions Notations
D.5.8 Baghouse Parametric Monitoring [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]
Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]
D.5.9 Record Keeping Requirements
D.5.10 Reporting Requirements

D.6 FACILITY OPERATION CONDITIONS – Shot Blast Machines and Grinders

Emission Limitations and Standards [326 IAC 2-7-5(1)]
D.6.1 PSD Minor Limits [326 IAC 2-2]
D.6.1.1 PSD Minor Limits [326 IAC 2-2]
D.6.1.2 PSD Minor Limits [326 IAC 2-2]
D.6.1.3 PSD Minor Limits [326 IAC 2-2]
D.6.1.4 PSD Minor Limits [326 IAC 2-2]
D.6.1.5 PSD Minor Limits [326 IAC 2-2]
D.6.2 Particulate Emission Limitation [326 IAC 6-3-2]
D.6.3 Preventive Maintenance Plan [326 IAC 2-7-5(12)]
Compliance Determination Requirements
D.6.4 Testing Requirements [326 IAC 2-7-6(1),(6)]
D.6.5 Emission Controls Operation [326 IAC 2-7-6(6)]
D.6.6 Broken or Failed Bag Detection [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]
Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]
D.6.7 Visible Emissions Notations
D.6.8 Baghouse Parametric Monitoring [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]
Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]
D.6.9 Record Keeping Requirements
D.6.10 Reporting Requirements

D.7 FACILITY OPERATION CONDITIONS –Phenolic Urethane Core Making Line #9

Emission Limitations and Standards [326 IAC 2-7-5(1)]
D.7.1 PSD Minor Limits [326 IAC 2-2] [326 IAC 8-1-6] [326 IAC 2-4.1-1]
D.7.2 PSD Minor Limits [326 IAC 2-2]
D.7.3 Particulate Emission Limitation [326 IAC 6-3-2]
D.7.4 Preventive Maintenance Plan [326 IAC 2-7-5(12)]
Compliance Determination Requirements
D.7.5 Emission Controls Operation [326 IAC 2-7-6(6)]
D.7.9 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]
D.7.7 Broken or Failed Bag Detection [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]
Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]
D.7.8 Visible Emissions Notations
D.7.9 Baghouse Parametric Monitoring [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]
Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]
D.7.10 Record Keeping Requirements
D.7.11 Reporting Requirements

D.8 FACILITY OPERATION CONDITIONS – Phenolic Urethane Core Making Lines #1-5, #8

Emission Limitations and Standards [326 IAC 2-7-5(1)]
D.8.1 VOC BACT Requirements [326 IAC 2-2]
D.8.2 PSD Minor Limits [326 IAC 2-2]
D.8.3 Particulate Emission Limitation [326 IAC 6-3-2]
D.8.4 Preventive Maintenance Plan [326 IAC 2-7-5(12)]
Compliance Determination Requirements
D.8.5 Emission Controls Operation [326 IAC 2-7-6(6)]

D.8.6 Testing Requirements [326 IAC 2-7-6(1),(6)]
D.8.7 Scrubber Failure Detection [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]
D.8.8 Broken or Failed Bag Detection [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]
Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]
D.8.9 Visible Emissions Notations
D.8.10 Scrubber Parametric Monitoring [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]
D.8.11 Baghouse Parametric Monitoring [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]
D.8.12 Record Keeping Requirements
D.8.13 Reporting Requirements

D.9 FACILITY OPERATION CONDITIONS – Shell Core Making Process

Emission Limitations and Standards [326 IAC 2-7-5(1)]
D.9.1 Particulate Emission Limitation [326 IAC 6-3-2]
D.9.2 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

D.10 FACILITY OPERATION CONDITIONS – Air Set Core Making Process

Emission Limitations and Standards [326 IAC 2-7-5(1)]
D.10.1 Particulate Emission Limitation [326 IAC 6-3-2]
D.10.2 Preventive Maintenance Plan [326 IAC 2-7-5(12)]
Compliance Determination Requirements
D.10.3 Emission Controls Operation [326 IAC 2-7-6(6)]
D.10.4 Broken or Failed Bag Detection [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]
Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]
D.10.5 Visible Emissions Notations
D.10.6 Baghouse Parametric Monitoring [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]
D.10.7 Record Keeping Requirements

D.11 FACILITY OPERATION CONDITIONS – Large Core Production Cell

Emission Limitations and Standards [326 IAC 2-7-5(1)]
D.11.1 PSD Minor Limits [326 IAC 8-1-6] [326 IAC 2-2]
D.11.2 PSD Minor Limits [326 IAC 2-2]
D.11.3 Particulate Emission Limitation [326 IAC 6-3-2]
D.11.4 Preventive Maintenance Plan [326 IAC 2-7-5(12)]
Compliance Determination Requirements
D.11.5 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]
D.11.6 VOC Emissions
D.11.7 Emission Controls Operation [326 IAC 2-7-6(6)]
D.11.8 Broken or Failed Bag Detection [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]
Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]
D.11.9 Visible Emissions Notations
D.11.10 Baghouse Parametric Monitoring [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]
Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]
D.11.11 Record Keeping Requirements
D.11.12 Reporting Requirements

D.12 FACILITY OPERATION CONDITIONS – Insignificant Activities

Emission Limitations and Standards [326 IAC 2-7-5(1)]
D.12.1 Volatile Organic Compounds (VOC) [326 IAC 8-3-2]

D.12.2 Particulate Emission Limitation [326 IAC 6-3-2]

E.1 NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS (NESHAP) REQUIREMENTS [326 IAC 2-7-5(1)]

E.1.1 General Provisions Relating to National Emission Standards for Hazardous Air Pollutants under 40 CFR Part 63 [326 IAC 20-1] [40 CFR Part 63, Subpart A]
E.1.2 Iron and Steel Foundries Requirements [40 CFR Part 63, Subpart EEEEE]

E.2 NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS (NESHAP) REQUIREMENTS [326 IAC 2-7-5(1)]

E.2.1 General Provisions Relating to NESHAP [326 IAC 20-1] [40 CFR Part 63, Subpart A]
E.2.2 National Emission Standard for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines [40 CFR Part 63, Subpart ZZZZ] [326 IAC 20-82]

E.3 NEW SOURCE PERFORMANCE STANDARDS (NSPS) REQUIREMENTS [326 IAC 2-7-5(1)]

E.3.1 General Provisions Relating to NSPS [326 IAC 12-1] [40 CFR Part 60, Subpart A]
E.3.2 New Source Performance Standards for Stationary Spark Ignition Internal Combustion Engines [40 CFR Part 60, Subpart JJJJ [326 IAC 12-1]

F.1 FUGITIVE DUST CONTROL PLAN

Emission Limitations and Standards [326 IAC 2-7-5(1)]
F.1.1 Scrap Yard Sweeping and Watering Requirements
F.1.2 Herman 2 Mold Line Visible Emissions
F.1.3 Herman 2 Mold Line Blackwater Advanced Oxidation System

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]
F.1.4 Scrap Yard Visual Observations
F.1.5 Herman 2 Mold Line Emissions Observations and Monitoring Requirements

Record Keeping and Reporting Requirement [326 IAC 2-7-5(3)] [326 IAC 2-7-19]
F.1.6 Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]
F.1.7 Notification Requirements

Certification 143
Emergency Occurrence Report 144
Quarterly Reports 146
Quarterly Deviation and Compliance Monitoring Report 177

Attachment A - 40 CFR 63, Subpart EEEEE - National Emissions Standards for Hazardous Air Pollutants for Iron and Steel Foundries

Attachment B - 40 CFR 63, Subpart ZZZZ - National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

Attachment C - 40 CFR 60, Subpart JJJJ - Standards of Performance for Stationary Spark Ignition Internal Combustion Engines

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 iron foundry.

Source Address:	1900 E. Jefferson Street, Warsaw, Indiana 46580
General Source Phone Number:	(574) 267-8111
SIC Code:	3321 (Gray and Ductile Iron Foundry)
County Location:	Kosciusko
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Operating Permit Program Major Source, under PSD Rules Major Source, Section 112 of the Clean Air Act 1 of 28 Source Categories

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

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

SECTION D.1

(1) **Cupola Charge Handling**

Cupola Charge Handling operations, constructed prior to 1977, with a nominal charging capacity of 53.45 tons per hour of solid metal, coke, and limestone. The Cupola Melt Furnace is equipped with two (2) electric holding furnaces.

Emissions from the Cupola Charge Handling operations are uncontrolled.

SECTION D.2

(2) **Cupola Melt Furnace**

One (1) Cupola Melt Furnace, constructed prior to 1977, with a nominal capacity of 48.5 tons per hour of metal melted, and a maximum heat input capacity of 69.95 million British thermal units (MMBtu) per hour.

Particulate emissions are captured and controlled by Wet Scrubber A and Wet Electrostatic Precipitator WESP (for NESHAP EEEEE compliance).

Carbon monoxide emissions are captured and controlled by three (3) natural gas fired afterburners, each with a maximum heat input capacity of 5.0 million British thermal units (MMBtu) per hour. Emissions exhaust through Stack A.

Fugitive particulate emissions from the Cupola Charge Door are captured and controlled by Baghouse #14, exhausting through Stack AD.

(3) **Hot Blast Preheater**
One natural gas fired Hot Blast Preheater, constructed in 1981, with a maximum heat input capacity of 22 million British thermal units (MMBtu) per hour for preheating the blast air for the Cupola Melt Furnace.

SECTION D.3

(4) **Herman 2 Mold Line**

(a) One (1) electric holding furnace, constructed prior to 1977, with a nominal throughput of 37 tons of iron per hour, with emissions captured, but uncontrolled, and exhausting to the general building ventilation system.

(b) One (1) Herman 2 Pouring Station, constructed prior to 1977, with a nominal throughput of 37 tons of iron per hour and 166 tons of mold and core sand per hour, with emissions captured, but uncontrolled, and exhausting to the atmosphere through Vent V-19.

(c) One (1) Herman 2 Castings Cooling process, constructed prior to 1977, with a nominal throughput of 37 tons of iron per hour and 166 tons of mold and core sand per hour, with emissions captured, but uncontrolled, and exhausting to the atmosphere through Vents V-8 and V-9.

(d) One (1) Herman 2 Shakeout process, constructed prior to 1977, with a nominal throughput of 37 tons of iron per hour and 166 tons of mold and core sand per hour, with particulate emissions captured and controlled by Wet Collector #3, exhausting through Stack B.

(e) One (1) Herman 2 Sand Handling process, constructed prior to 1977, modified in 2009, and approved for construction in 2013, with a nominal throughput of 166 tons of mold and core sand per hour.

The Herman 2 Sand Handling process includes

(1) sand screening, sand cooling, water addition, sand mulling, and the ancillary equipment associated with each, all constructed prior to 1977, with particulate emissions captured and controlled by Baghouse #1, exhausting through Stack F, and Baghouse #13, exhausting through Stack Y.

and

(2) One (1) waste sand handling system supporting the Herman 2 Mold Line, consisting of one (1) Klein transport, constructed in 2009 and approved for modification in 2013, identified as:

(A) PF504-5, with a total nominal capacity of 12.0 tons per hour, with particulate emissions from sending operations captured and controlled by Baghouse #13, exhausting through Stack Y; and

SECTION D.4

(5) **Herman 3 Mold Line**
The volatile organic compound (VOC) emissions from the Herman 3 Mold line are reduced by one (1) Sonoperoxone® system (or an equivalent advanced oxidation system), sand system optimization, use of low VOC core resin binder materials, and automatic mold vent-off gas ignition.

(a) One (1) Herman 3 Pouring Station, constructed in 1991, with a nominal throughput of 28 tons of iron per hour and 165 tons of mold and core sand per hour, with emissions captured, but uncontrolled, and exhausting to the atmosphere through Vent V-10.

(b) One (1) Herman 3 Castings Cooling process, constructed in 1991, and modified in 2004, with a nominal throughput of 28 tons of iron per hour, and 165 tons of mold and core sand per hour, with emissions captured, but uncontrolled and exhausting to the atmosphere through Vent V-12.

(c) One (1) Herman 3 Shakeout process, constructed in 1991, with a nominal throughput of 28 tons of iron per hour, and 165 tons of mold and core sand per hour, with particulate emissions captured and controlled by Wet Collector #1, exhausting to Stack D, Wet Collector #4, exhausting through Stack E, and Baghouse #11, exhausting through Stack W.

(d) One (1) Herman 3 Sand Handling process, constructed in 1991, modified in 2009, and approved for modification in 2013, with a nominal throughput of 165 tons of mold and core sand per hour.

The Herman 3 Sand Handling process includes:

(1) sand screening, sand cooling, water addition, sand mulling, and the ancillary equipment associated with each, all constructed in 1991, with particulate emissions captured and controlled by Wet Collector #1, exhausting through Stack D, Wet Collector #2, exhausting through Stack C, Wet Collector #4, exhausting through Stack E, and Baghouse #11, exhausting through Stack W.

(2) one (1) Return Sand Conveyor, constructed in 2009, identified as RSC1, with particulate emissions captured and controlled by Wet Collector #1, exhausting through Stack D.

and

(3) one (1) Return Sand Surge Bin, approved for construction in 2013, identified as RSSB-1, with particulate emissions captured by Wet Collector #2, which is a voluntary control, exhausting through Stack C.

(e) One (1) dust mixing acoustic reactor (DMAR) tank sand transport system, approved for construction in 2013, recycling dust collected in baghouses #1 and #11 to increase the concentration of solids being processed within the dust mixing acoustic reactor (DMAR) loop in order to increase the VOC reduction of the Sonoperoxone® system, with a maximum capacity of 1.45 tons of waste dust per hour, uncontrolled, and exhausting indoors.

SECTION D.5

(6) **Inclined Shakeout and Sort System (servicing Herman 2 and Herman 3)**

(a) One (1) Inclined Shakeout and Sort System, constructed prior to 1977, with a nominal throughput of 48.5 tons of iron per hour, with particulate emissions captured and controlled by Baghouse #2, exhausting through Stack G.

(b) One (1) vibratory shaker, permitted in 2011, identified as VB1, with a nominal capacity of 48.5 tons per hour, with particulate emissions captured and controlled by Baghouse #2, exhausting through Stack G.

(7) **Waste Sand Handling, Screening and Transport System (servicing Herman 2 and Herman 3)**

One (1) Waste Sand Handling, Screening and Transport System, constructed prior to 1977, with a nominal throughput of 20 tons of waste sand per hour.

The Waste Sand Handling, Screening and Transport System consists of a rotary screen process, a magnetic separator, a silo, an elevated bin hopper, and a transport (Dependable) system.

Particulate emissions from the Waste Sand Handling, Screening and Transport system are captured and controlled by Baghouse #9, exhausting through Stack R.

SECTION D.6

(8) **Shot Blast Machines**

(a) Five (5) Shot Blast Machines:

(1) Three (3) Shot Blast Machines, identified as SB-1, SB-2, and SB-4, each constructed prior to 1977, each with a nominal capacity of 5.0 tons of iron castings per hour.

(2) One (1) Shot Blast Machine, identified as SB-3, constructed in 1981, with a nominal throughput of 5.0 tons of iron castings per hour.

(3) One (1) Shot Blast Machine, permitted in 2006 and modified in 2011 to add a manual blow-off chamber, identified as SB-10, with a nominal capacity of 5 tons of iron castings per hour.

Particulate emissions from these Shot Blast Machines are captured and controlled by Baghouse #3, exhausting through Stack H.

Particulate emissions from the manual blow-off chamber for SB-10 are captured and controlled by a fabric filter control device exhausted internally.

(b) Three (3) Shot Blast Machines:

(1) One (1) Shot Blast Machine, identified as SB-5, constructed prior to 1977, with a nominal throughput of 5.0 tons of iron castings per hour.

(2) One (1) Shot Blast Machine, identified as SB-6, constructed in 1981, with a nominal throughput of 5.0 tons of iron castings per hour.

(3) One (1) Shot Blast Machine, identified as SB-8, constructed in 1988, with a nominal throughput of 8.0 tons of iron castings per hour.

(4) One (1) hose blast operation for Shot Blast #8, permitted in 2011, identified as

HB1, with a nominal capacity of 8.0 tons of iron castings per hour.

Particulate emissions from these Shot Blast Machines and the hose blast operation are captured and controlled by Baghouse #16, exhausting through Stack AG.

(c) One (1) Shot Blast Machine, identified as SB-7, constructed in 1978 with a nominal throughput of 6.0 tons of iron castings per hour.

Particulate emissions from this Shot Blast Machine are captured and controlled by Baghouse #6, exhausting through Stack K.

(d) One (1) Shot Blast Machine, identified as SB-9, constructed in 1995 and approved for modification in 2013 by adding shot wheels, with a nominal throughput of 12.5 tons of iron castings per hour.

Particulate emissions from this Shot Blast Machine are captured and controlled by Baghouse #12, exhausting through Stack X.

(9) **Grinders**

(a) Fourteen (14) Grinders:

(1) Twelve (12) Grinders, identified as GR-1 through GR-4, GR-9, GR-10, GR-29, and GR-30, constructed prior to 1977, each with a nominal throughput of 4.0 tons of iron castings per hour.

(2) Two (2) robotic grinders, constructed in 2009, identified as:

(A) ABB, with a total nominal capacity of 1.0 tons of iron castings per hour, and

(B) FANUC, with a total nominal capacity of 1.5 tons of iron castings per hour.

Particulate emissions from these Grinders are captured and controlled by Baghouse #15, exhausting through Stack AE.

(b) Six (6) Grinders, identified as GR-11 through GR-14, GR-16, and GR-17, constructed prior to 1977, each with a nominal throughput of 4.0 tons of iron castings per hour, with particulate emissions from these Grinders are captured and controlled by Baghouse #16, exhausting through Stack AG.

(c) Eight (8) Grinders, identified as GR-19, GR-20, GR-23, GR-25, GR-26, and GR-34 through GR-36, constructed prior to 1977, each with a nominal throughput of 4.0 tons of iron castings per hour.

Particulate emissions from these Grinders are captured and controlled by Baghouse #6, exhausting through Stack K.

(d) Four (4) Grinders, identified as GR-31 through GR-33; and GR-37, constructed prior to 1977, each with a nominal throughput of 4.0 tons of iron castings per hour.

Particulate emissions from these Grinders are captured and controlled by Baghouse #12, exhausting through Stack X.

SECTION D.7

(11) **Phenolic Urethane Core Making Line #9 (also referred to as Core Making Line #9)**
One (1) Phenolic Urethane Core Making Line #9, constructed in 2002 as a hotbox process and modified in 2008 to be a phenolic process, with a nominal sand throughput of 18.0 tons of sand per hour. The Phenolic Urethane Core Making line #9 consists of the following emission units:

(a) One (1) Core Sand Handling Process, with a nominal sand throughput of 18.0 tons of sand per hour:

(1) One (1) Northeast (NE) Sand Silo, constructed prior to 1977, with an integral bin vent to control particulate emissions when loading.

(2) One (1) enclosed Pneumatic Sand Transporter #1, constructed in 1996, for transferring sand from the Northeast (NE) Sand Silo to the Sand Hopper #9.

(3) One (1) Sand Hopper #9, constructed in 2002, with particulate emissions captured and controlled by Baghouse Z, exhausting through Stack Z.

(4) One (1) electric Sand Heater #9, constructed in 2002, with particulate emissions captured and controlled by Baghouse Z, exhausting through Stack Z.

(b) One (1) Sand Mixer #9, constructed in 2002 and modified in 2008, with a nominal throughput of 18 tons of sand per hour.

Emissions from the Sand Mixer #9 are uncontrolled.

(c) Three (3) Core Machines, constructed in 2002 and modified in 2008, three (3) Core Wash Dip Tanks and one (1) natural gas fired Core Oven:

(1) One (1) Phenolic Urethane Core Machine #31 and its corresponding Core Wash Dip Tank #31and natural gas fired Core Oven #10, each with a nominal throughput of 4.5 tons of sand per hour.

Emissions from the Phenolic Urethane Core Machine #31 are uncontrolled.

Emissions from the Core Wash Dip Tank #31 are uncontrolled.

(2) One (1) Phenolic Urethane Core Machine #32, and its corresponding Core Wash Dip Tank #32 and natural gas fired Core Oven #10, each with a nominal throughput of 4.5 tons of sand per hour.

Emissions from the Phenolic Urethane Core Machine #32 are uncontrolled.

Emissions from the Core Wash Dip Tank #32 are uncontrolled.

(3) One (1) Phenolic Urethane Core Machine #33, and its corresponding Core Wash Dip Tank #33 and natural gas fired Core Oven #10, each with a nominal throughput of 4.5 tons of sand per hour.

Emissions from the Phenolic Urethane Core Machine #33 are uncontrolled.

Emissions from the Core Wash Dip Tank #33 are uncontrolled.

The one (1) natural gas fired Core Oven #10 has a maximum heat input capacity of 6.0 million British thermal units (MMBtu) per hour.

(d) One (1) electric Phenolic Urethane Core Oven #5.

Emissions from the Phenolic Urethane Core Oven #5 are uncontrolled.

(e) One (1) natural gas fired Core Oven #11, constructed in 2011, has a maximum heat input capacity of 3.0 million British thermal units (MMBtu) per hour.

Emissions from the Phenolic Urethane Core Oven #11 are uncontrolled.

SECTION D.8

(12) **Phenolic Urethane Core Making Line #1**
One (1) Phenolic Urethane Core Making Line #1, approved for modification in 2013, with a nominal sand throughput of 15.0 tons of sand per hour. The Phenolic Urethane Core Making Line #1 consists of the following emission units:

(a) One (1) Core Sand Handling Process, approved for modification in 2013, with a nominal sand throughput of 15.0 tons of sand per hour:

(1) One (1) South (S) Sand Silo, constructed prior to 1977, with an integral bin vent to control particulate emissions when loading.

(2) One (1) enclosed Pneumatic Sand Transporter #2, constructed in 1996, for transferring sand from the South (S) Sand Silo to the Phenolic Urethane Core Sand Hopper #1.

(3) One (1) Phenolic Urethane Core Sand Hopper #1, constructed in 1989, with particulate emissions controlled by Baghouse Q, exhausting through Stack Q.

(4) One (1) electric Phenolic Urethane Sand Heater #1, constructed in 1989 and approved for modification in 2103, for heating sand, with particulate emissions controlled by Baghouse Q, exhausting through Stack Q.

(b) One (1) Phenolic Urethane Core Sand Mixer #1, constructed in 1989 and approved for modification in 2013, with a nominal throughput of 15.0 tons of sand per hour and 0.185 pounds of VOC (from resin) per ton of sand.

Emissions from the Phenolic Urethane Core Sand Mixer #1 are uncontrolled.

(c) Five (5) Core Machines, five (5) Core Wash Dip Tanks, and three (3) natural gas fired Core Ovens

(1) One (1) Phenolic Urethane Core Machine #15, constructed in 1986 and modified to incorporate a larger blow plate in 2011, and its corresponding Core Wash Dip Tank #15 and natural gas fired Core Oven #1, constructed in 1986, each with a nominal throughput of 7.0 tons of sand per hour, 0.541 pounds of VOC (from resin) per ton of sand, and 2.75 pounds of catalyst per ton of sand.

Emissions from the Core Wash Dip Tank #15 are uncontrolled.

(2) One (1) Phenolic Urethane Core Machine #16, constructed in 1986 and modified to incorporate a larger blow plate in 2011, and its corresponding Core Wash Dip Tank #16 and natural gas fired Core Oven #1, each with a nominal throughput of 7.0 tons of sand per hour, 0.541 pounds of VOC (from resin) per ton of sand, and 2.75 pounds of catalyst per ton of sand.

Emissions from the Core Wash Dip Tank #16 are uncontrolled.

(3) One (1) Phenolic Urethane Core Machine #17, constructed in 1988, and its corresponding Core Wash Dip Tank #17 and natural gas fired Core Oven #17, each with a nominal throughput of 7.0 tons of sand per hour, 0.541 pounds of VOC (from resin) per ton of sand, and 2.75 pounds of catalyst per ton of sand.

Emissions from the Core Wash Dip Tank #17 are uncontrolled.

(4) One (1) Phenolic Urethane Core Machine #18, constructed in 1989, and its corresponding Core Wash Dip Tank #18 and natural gas fired Core Oven #2, each with a nominal throughput of 7.0 tons of sand per hour, 0.541 pounds of VOC (from resin) per ton of sand, and 2.75 pounds of catalyst per ton of sand.

Emissions from the Core Wash Dip Tank #18 are uncontrolled.

(5) One (1) Phenolic Urethane Core Machine #19, constructed in 1989, and its corresponding Core Wash Dip Tank #19 and natural gas fired Core Oven #2, each with a nominal throughput of 7.0 tons sand per hour, 0.541 pounds of VOC (from resin) per ton of sand, and 2.75 pounds of catalyst per ton of sand.

Emissions from the Core Wash Dip Tank #19 are uncontrolled.

Each natural gas fired Core Oven on Phenolic Urethane Core Making Line #1 has a maximum heat input capacity of 2.0 million British thermal units (Btu) per hour.

The catalyst used is Dimethylisopropylamine (DMIPA) or an equivalent, non-HAP containing catalyst.

The VOC emissions from the catalyst captured at the core box of the Phenolic Urethane Core Machine #15, Phenolic Urethane Core Machine #16, Phenolic Urethane Core Machine #17, Phenolic Urethane Core Machine #18, and Phenolic Urethane Core Machine #19 are controlled by Acid Scrubber AF, exhausting through Stack AF.

(13) **Phenolic Urethane Core Making Line #2**
One (1) Phenolic Urethane Core Making Line #2, with a nominal sand throughput of 3.0 tons of sand per hour. The Phenolic Urethane Core Making Line #2 consists of the following emission units:

(a) One (1) Core Sand Handling Process, with a nominal sand throughput of 3.0 tons of sand per hour:

(1) One (1) South (S) Sand Silo, constructed prior to 1977, with an integral bin vent to control particulate emissions when loading.

(2) One (1) enclosed Pneumatic Sand Transporter #2, constructed in 1996, for transferring sand from the South (S) Sand Silo to the Phenolic Urethane Core Sand Hopper #1.

(3) One (1) Phenolic Urethane Core Sand Hopper #1, constructed in 1989, with particulate emissions controlled by Baghouse Q, exhausting through Stack Q.

(b) One (1) Phenolic Urethane Core Sand Mixer #2, constructed in 1987, with a nominal

throughput of 3.0 tons of sand per hour and 0.185 pounds of VOC (from resin) per ton of sand.

Emissions from the Phenolic Urethane Core Sand Mixer #2 are uncontrolled.

(c) Five (5) Core Machines, five (5) Core Wash Dip Tanks, and one (1) portable electric Core Oven

(1) One (1) Phenolic Urethane Core Machine #8, constructed in 1968, and its corresponding Core Wash Dip Tank #8 and portable electric Core Oven #1, each with a nominal throughput of 3.0 tons of sand per hour, 0.541 pounds of VOC (from resin) per ton of sand, and 2.75 pounds of catalyst per ton of sand.

Emissions from the Core Wash Dip Tank #8 are uncontrolled.

(2) One (1) Phenolic Urethane Core Machine #9, constructed in 1968, and its corresponding Core Wash Dip Tank #9 and portable electric Core Oven #1, each with a nominal throughput of 3.0 tons of sand per hour, 0.541 pounds of VOC (from resin) per ton of sand, and 2.75 pounds of catalyst per ton of sand.

Emissions from the Core Wash Dip Tank #9 are uncontrolled.

(3) One (1) Phenolic Urethane Core Machine #12, constructed in 1978, and its corresponding Core Wash Dip Tank #12 and portable electric Core Oven #1, each with a nominal throughput of 3.0 tons of sand per hour, 0.541 pounds of VOC (from resin) per ton of sand, and 2.75 pounds of catalyst per ton of sand.

Emissions from the Core Wash Dip Tank #12 are uncontrolled.

(4) One (1) Phenolic Urethane Core Machine #13, constructed in 1979, and its corresponding Core Wash Dip Tank #13 and portable electric Core Oven #1, each with a nominal throughput of 3.0 tons of sand per hour, 0.541 pounds of VOC (from resin) per ton of sand, and 2.75 pounds of catalyst per ton of sand.

Emissions from the Core Wash Dip Tank #13 are uncontrolled.

(5) One (1) Phenolic Urethane Core Machine #14, constructed in 1992, and its corresponding Core Wash Dip Tank #14 and portable electric Core Oven #1, each with a nominal throughput of 3.0 tons of sand per hour, 0.541 pounds of VOC (from resin) per ton of sand, and 2.75 pounds of catalyst per ton of sand.

Emissions from the Core Wash Dip Tank #14 are uncontrolled.

The catalyst used is Dimethylisopropylamine (DMIPA) or an equivalent, non-HAP containing catalyst.

The VOC emissions from the catalyst captured at the core box of the Phenolic Urethane Core Machine #8, Phenolic Urethane Core Machine #9, Phenolic Urethane Core Machine #12, Phenolic Urethane Core Machine #13, and Phenolic Urethane Core Machine #14 are controlled by Acid Scrubber AF, exhausting through Stack AF.

(14) **Phenolic Urethane Core Making Line #3**

One (1) Phenolic Urethane Core Making Line #3, with a nominal sand throughput of 7.0 tons of sand per hour. The Phenolic Urethane Core Making Line #3 consists of the following emission units:

(a) One (1) Core Sand Handling Process, with a nominal sand throughput of 7.0 tons of sand per hour:

(1) One (1) South (S) Sand Silo, constructed prior to 1977, with an integral bin vent to control particulate emissions when loading.

(2) One (1) enclosed Pneumatic Sand Transporter #2, constructed in 1996, for transferring sand from the South (S) Sand Silo to the Phenolic Urethane Core Sand Hopper #3.

(3) One (1) Phenolic Urethane Core Sand Hopper #3, constructed in 1980:

The particulate emissions from the Phenolic Urethane Core Sand Hopper #3 are captured and controlled by Baghouse U, exhausting through Stack U.

(4) One (1) electric Phenolic Urethane Sand Heater #3, constructed in 1980.

The particulate emissions from the Phenolic Urethane Sand Heater #3 are captured and controlled by Baghouse U, exhausting through Stack U.

(b) One (1) Phenolic Urethane Core Sand Mixer #3, constructed in 1980, with a nominal throughput of 7.0 tons of sand per hour and 0.185 pounds of VOC (from resin) per ton of sand.

Emissions from the Phenolic Urethane Core Sand Mixer #3 are uncontrolled.

(c) Three (3) Core Machines, three (3) Core Wash Dip Tanks, and two (2) natural gas fired Core Ovens

(1) One (1) Phenolic Urethane Core Machine #2, constructed in 1982, and its corresponding Core Wash Dip Tank #2 and natural gas fired Core Oven #3, each with a nominal throughput of 7.0 tons of sand per hour, 0.541 pounds of VOC (from resin) per ton of sand, and 2.75 pounds of catalyst per ton of sand.

Emissions from the Core Wash Dip Tank #2 are uncontrolled.

(2) One (1) Phenolic Urethane Core Machine #4, constructed in 1981, and its corresponding Core Wash Dip Tank #4 and natural gas fired Core Oven #4, each with a nominal throughput of 7.0 tons of sand per hour, 0.541 pounds of VOC (from resin) per ton of sand, and 2.75 pounds of catalyst per ton of sand.

Emissions from the Core Wash Dip Tank #4 are uncontrolled.

(3) One (1) Phenolic Urethane Core Machine #5, constructed in 1968, and its corresponding Core Wash Dip Tank #5 and natural gas fired Core Oven #4, each with a nominal throughput of 7.0 tons of sand per hour, 0.541 pounds of VOC (from resin) per ton of sand, and 2.75 pounds of catalyst per ton of sand.

Emissions from the Core Wash Dip Tank #5 are uncontrolled.

Each natural gas fired Core Oven on Phenolic Urethane Core Making Line #3 has a maximum heat input capacity of 2.0 million British thermal units (Btu) per hour.

The catalyst used is Dimethylisopropylamine (DMIPA) or an equivalent, non-HAP containing catalyst.

The VOC emissions from the catalyst captured at the core box of the Phenolic Urethane Core Machine #2, Phenolic Urethane Core Machine #4, and Phenolic Urethane Core Machine #5 are controlled by Acid Scrubber AF, exhausting through Stack AF.

(15) **Phenolic Urethane Core Making Line #4**
One (1) Phenolic Urethane Core Making Line #4, with a nominal sand throughput of 7.0 tons of sand per hour. The Phenolic Urethane Core Making Line #4 consists of the following emission units:

(a) One (1) Core Sand Handling Process, with a nominal sand throughput of 7.0 tons of sand per hour:

(1) One (1) South (S) Sand Silo, constructed prior to 1977, with an integral bin vent to control particulate emissions when loading.

(2) One (1) enclosed Pneumatic Sand Transporter #2, constructed in 1996, for transferring sand from the South (S) Sand Silo to the Phenolic Urethane Core Sand Hopper #4.

(3) One (1) Phenolic Urethane Core Sand Hopper #4, constructed in 1986.

The particulate emissions from the Phenolic Urethane Core Sand Hopper #4 are captured and controlled by Baghouse U, exhausting through Stack U.

(4) One (1) electric Phenolic Urethane Sand Heater #4, constructed in 1986:

The particulate emissions from the Phenolic Urethane Sand Heater #4 are captured and controlled by Baghouse U, exhausting through Stack U.

(b) One (1) Phenolic Urethane Core Sand Mixer #4, constructed in 1986, with a nominal throughput of 7.0 tons of sand per hour and 0.185 pounds of VOC (from resin) per ton of sand.

Emissions from the Phenolic Urethane Core Sand Mixer #4 are uncontrolled.

(c) Two (2) Core Machines, one (1) Core Wash Dip Tank, and two (2) natural gas fired Core Ovens

(1) One (1) Phenolic Urethane Core Machine #7, constructed in 1986 and modified to incorporate a larger blow plate in 2011, with a nominal throughput of 7.0 tons of sand per hour, 0.541 pounds of VOC (from resin) per ton of sand, and 2.75 pounds of catalyst per ton of sand.

(2) One (1) Phenolic Urethane Core Machine #25, constructed in 1993, that contains two (2) core boxes that cannot be operated simultaneously due to having only one blow head for blowing sand into the box, and its corresponding Core Wash Dip Tank #25, natural gas fired Core Oven #8, and natural gas fired Core Oven #25, each with a nominal throughput of 7.0 tons of sand per hour, 0.541 pounds of VOC (from resin) per ton of sand, and 2.75 pounds of catalyst per ton of sand.

Emissions from the Core Wash Dip Tank #25 are uncontrolled.

(A) The natural gas fired Core Oven #8 on Phenolic Urethane Core Making Line #5 has a maximum heat input capacity of 2.4 million British thermal units (Btu) per hour.

(B) The natural gas fired Core Oven #25 has a maximum heat input capacity of at 800,000 British thermal units (Btu) per hour.

The catalyst used is Dimethylisopropylamine (DMIPA) or an equivalent, non-HAP containing catalyst.

The VOC emissions from the catalyst captured at the core box of the Phenolic Urethane Core Machine #7 and Phenolic Urethane Core Machine #25 are controlled by Acid Scrubber AF, exhausting through Stack AF.

(16) **Phenolic Urethane Core Making Line #5**
One (1) Phenolic Urethane Core Making Line #5, with a nominal sand throughput of 5.0 tons of sand per hour. The Phenolic Urethane Core Making Line #5 consists of the following emission units:

(a) One (1) Core Sand Handling Process, with a nominal sand throughput of 5.0 tons of sand per hour:

(1) One (1) South (S) Sand Silo, constructed prior to 1977, with an integral bin vent to control particulate emissions when loading.

(2) One (1) enclosed Pneumatic Sand Transporter #2, constructed in 1996, for transferring sand from the South (S) Sand Silo to the Phenolic Urethane Core Sand Hopper #3.

(3) One (1) Phenolic Urethane Core Sand Hopper #3, constructed in 1980:

The particulate emissions from the Phenolic Urethane Core Sand Hopper #3 are captured and controlled by Baghouse U, exhausting through Stack U.

(4) One (1) natural gas fired Phenolic Urethane Sand Heater #5, constructed in 1992, with a maximum heat input capacity of 192,000 British thermal units (Btu) per hour.

The particulate emissions from the Phenolic Urethane Sand Heater #5 are captured and controlled by Baghouse Z, exhausting through Stack Z.

(b) One (1) Phenolic Urethane Core Sand Mixer #5, constructed in 1992, with a nominal throughput of 5.0 tons of core sand per hour and 0.185 pounds of VOC (from resin) per ton of sand.

Emissions from the Phenolic Urethane Core Sand Mixer #5 are uncontrolled.

(c) Three (3) Core Machines, three (3) Core Wash Dip Tanks, and one (1) natural gas fired Core Oven

(1) One (1) Phenolic Urethane Core Machine #21, constructed in 1992, and its corresponding Core Wash Dip Tank #21 and natural gas fired Core Oven #9, each with a nominal throughput of 5.0 tons of sand per hour, 0.541 pounds of VOC (from resin) per ton of sand, and 2.75 pounds of catalyst per ton of sand.

Emissions from the Core Wash Dip Tank #21 are uncontrolled.

(2) One (1) Phenolic Urethane Core Machine #22, constructed in 1992, and its corresponding Core Wash Dip Tank #22 and natural gas fired Core Oven #9, each with a nominal throughput of 5.0 tons of sand per hour, 0.541 pounds of

VOC (from resin) per ton of sand, and 2.75 pounds of catalyst per ton of sand.

Emissions from the Core Wash Dip Tank #22 are uncontrolled.

(3) One (1) Phenolic Urethane Core Machine #28, constructed in 1998, and its corresponding Core Wash Dip Tank #28 and natural gas fired Core Oven #9, each with a nominal throughput of 5.0 tons of sand per hour, 0.541 pounds of VOC (from resin) per ton of sand, and 2.75 pounds of catalyst per ton of sand.

Emissions from the Core Wash Dip Tank #28 are uncontrolled.

The natural gas fired Core Oven #9 on Phenolic Urethane Core Making Line #5 has a maximum heat input capacity of 2.4 million British thermal units (Btu) per hour.

The catalyst used is Dimethylisopropylamine (DMIPA) or an equivalent, non-HAP containing catalyst.

The VOC emissions from the catalyst captured at the core box of the Phenolic Urethane Core Machine #21, Phenolic Urethane Core Machine #22, and Phenolic Urethane Core Machine #28 are controlled by Acid Scrubber AF, exhausting through Stack AF.

(17) **Phenolic Urethane Core Making Line #8**
One (1) Phenolic Urethane Core Making Line #8, with a nominal sand throughput of 5.0 tons of sand per hour. The Phenolic Urethane Core Making Line #8 consists of the following emission units:

(a) One (1) Core Sand Handling Process, with a nominal sand throughput of 5.0 tons of sand per hour:

(1) One (1) Northeast (NE) Sand Silo, constructed prior to 1977, with an integral bin vent to control particulate emissions when loading.

(2) One (1) enclosed Pneumatic Sand Transporter #1, constructed in 1996, for transferring sand from the Northeast (NE) Sand Silo to the Phenolic Urethane Core Sand Hopper #8.

(3) One (1) Phenolic Urethane Core Sand Hopper #8, constructed in 1997:

The particulate emissions from the Phenolic Urethane Core Sand Hopper #8 are captured and controlled by Baghouse Z, exhausting through Stack Z.

(4) One (1) natural gas fired Phenolic Urethane Sand Heater #8, constructed in 1997, with a maximum heat input capacity of 192,000 British thermal units (Btu) per hour.

The particulate emissions from the Phenolic Urethane Sand Heater #8 are captured and controlled by Baghouse Z, exhausts through Stack Z.

(b) One (1) Phenolic Urethane Core Sand Mixer #8, constructed in 1997, with a nominal throughput of 5.0 tons of core sand per hour and 0.185 pounds of VOC (from resin) per ton of sand.

Emissions from the Phenolic Urethane Core Sand Mixer #8 are uncontrolled.

(c) Two (2) Core Machines, two (2) Core Wash Dip Tank, and one (1) natural gas fired Core Oven

(1) One (1) Phenolic Urethane Core Machine #1, constructed in 1982, and its corresponding Core Wash Dip Tank #1 and natural gas fired Core Oven #27, each with a nominal throughput of 7.0 tons of sand per hour, 0.541 pounds of VOC (from resin) per ton of sand, and 2.75 pounds of catalyst per ton of sand.

Emissions from the Core Wash Dip Tank #1 are uncontrolled.

(2) One (1) Phenolic Urethane Core Machine #27, constructed in 1996, and its corresponding Core Wash Dip Tank #27 and natural gas fired Core Oven #27, each with a nominal throughput of 5.0 tons of sand per hour, 0.541 pounds of VOC (from resin) per ton of sand, and 2.75 pounds of catalyst per ton of sand.

Emissions from the Core Wash Dip Tank #27 are uncontrolled.

The natural gas fired Core Oven #27 on Phenolic Urethane Core Making Line #8 has a maximum heat input capacity of 1.6 million British thermal units (Btu) per hour.

The catalyst used is Dimethylisopropylamine (DMIPA) or an equivalent, non-HAP containing catalyst.

The VOC emissions from the catalyst captured at the core box of Phenolic Urethane Core Machine #1 and Phenolic Urethane Core Machine #27 are controlled by Acid Scrubber AF, exhausting through Stack AF.

SECTION D.9

(18) **Shell Core Making Process**
One (1) Shell Core Sand Making Process, with a nominal sand throughput of 0.8 tons of sand per hour. The Shell Core Sand Making Process consists of the following emission units:

(a) One (1) Shell Core Sand Handling Process, with a nominal sand throughput of 0.8 tons of sand per hour:

(1) North (N) Shell Sand Silo and South (S) Shell Sand Silo, each constructed prior to 1977, with a capacity to provide coated sand to the two (2) Shell Core Sand Hoppers.

Emissions from the North (N) Shell Sand Silo and South (S) Shell Sand Silo are uncontrolled.

(2) Two (2) Shell Core Sand Hoppers, identified as Shell Core Sand Hopper #1 and Shell Core Sand Hopper #2, constructed prior to 1977, with a capacity to provide shell core sand to all Shell Core Machines.

Emissions from the Shell Core Sand Hoppers are uncontrolled.

(b) Three (3) Core Machines, and Three (3) Core Wash Dip Tanks

(1) One (1) Shell Core Machine #6, constructed prior to 1977, and its corresponding Shell Core Wash Dip Tank #6, with a nominal throughput of 0.2 tons of sand per hour.

Emissions from the Shell Core Machine #6 are uncontrolled.

Emissions from the Shell Core Wash Dip Tank #6 are uncontrolled.

(2) One (1) Shell Core Machine #7, constructed prior to 1977, and its corresponding Shell Core Wash Dip Tank #7, with a nominal throughput of 0.3 tons of sand per hour.

Emissions from the Shell Core Machine #7 are uncontrolled.

Emissions from the Shell Core Wash Dip Tank #7 are uncontrolled.

(3) One (1) Shell Core Machine #8, constructed prior to 1977, and its corresponding Shell Core Wash Dip Tank #8, with a nominal throughput of 0.3 tons of sand per hour.

Emissions from the Shell Core Machine #8 are uncontrolled.

Emissions from the Shell Core Wash Dip Tank #8 are uncontrolled.

SECTION D.10

(19) **Air Set Core Making Process**
One (1) Air Set Core Making Process, with a nominal sand throughput of 6.0 tons of sand per hour. The Air Set Core Making Process consists of the following emission units:

(a) One (1) Air Set Core Sand Handling Process, with a nominal sand throughput of 6.0 tons of sand per hour:

(1) One (1) South (S) Sand Silo, constructed prior to 1977, with an integral bin vent to control particulate emissions when loading.

(2) One (1) enclosed Pneumatic Sand Transporter #2, constructed in 1996, for transferring sand from the South (S) Sand Silo to the Air Set Core Sand Hopper #3.

(3) One (1) Phenolic Urethane Core Sand Hopper #3, constructed in 1980:

The particulate emissions from the Phenolic Urethane Core Sand Hopper #3 are captured and controlled by Baghouse U, exhausting through Stack U.

(b) One (1) Air Set Core Sand Mixer #2, constructed prior to 1977, with a nominal throughput of 6.0 tons of sand per hour.

Emissions from the Air Set Core Sand Mixer #2 are uncontrolled.

(c) One (1) Air Set Core Machine #2, constructed prior to 1977, with a nominal throughput of 6.0 tons of sand per hour.

Emissions from the Air Set Core Machine #2 are uncontrolled.

SECTION D.11

(20) **Large Core Production Cell**
One (1) Large Core Production Cell (ID LCC), permitted in 2006, which will initially be utilized as a phenolic urethane cold box core making operation. The Large Core Production Cell consists of the following emission units:

(a) One (1) Northeast (NE) Sand Silo, constructed prior to 1977, with an integral bin vent to control particulate emissions when loading.

(b) One (1) enclosed Pneumatic Sand Transporter #1, constructed in 1996, for transferring sand from the Northeast (NE) Sand Silo to the Phenolic Urethane Core Sand Hopper #8.

(c) One (1) Large Core Sand Weigh Hopper, permitted to be constructed in 2006, with a nominal throughput capacity of 15 tons of sand per hour.

The particulate emissions from the Large Core Sand Weigh Hopper are captured and controlled by Baghouse Q, exhausting through Stack Q.

(d) Large Core Production Cell Line #10, constructed in 2006, consisting of the following emission units:

(1) One (1) Sand / Resin Mixer #10, with a nominal throughput capacity of 15 tons of sand per hour and 34.18 pounds of resin per hour

Emissions from the Sand / Resin Mixer #10 are uncontrolled.

(2) One (1) Large Core Sand Holding Hopper #10, with a nominal sand throughput of 15 tons of sand per hour.

The particulate emissions from the Large Core Sand Holding Hopper #10 are captured and controlled by Baghouse Q, exhausting through Stack Q.

(3) One (1) electric Large Core Sand Heater #10, with a nominal sand throughput of 15 tons of sand per hour.

The particulate emissions from the Large Core Sand Heater #10 are captured and controlled by Baghouse Q, exhausting through Stack Q.

(4) One (1) Cold Box Phenolic Urethane Core Machine #29, with a nominal throughput capacity of 7 tons of cores per hour, using a nominal of 2.75 pounds of catalyst per ton of core sand;

(A) Operating Scenario #1
The current operating scenario, Operating Scenario #1, will use Resin #1 and Catalyst #1. Resin #1 is a phenolic urethane resin. Catalyst #1 is Dimethylisopropylamine (DMIPA) or an equivalent, non-HAP containing catalyst.

The VOC emissions from the Cold Box Phenolic Urethane Core Machine #29, when using Resin #1 and Catalyst #1, are captured at the core box and controlled by Acid Scrubber AF, exhausting through Stack AF. The Acid Scrubber AF is a voluntary control for this processes and cannot be used to demonstrate compliance with any applicable VOC emission limitations.

(B) Operating Scenario #2
Operating Scenario #2 will use Resin #2 and Catalyst #2. This system will be tested within 180 days of commencing operations using this resin/catalyst system.

(C) Operating Scenario #3
Operating Scenario #3 will use Resin #3 and Catalyst #3. This system will be tested within 180 days of commencing operations using this resin/catalyst system.

(5) One (1) Core Wash Dip Tank #29, with a nominal capacity of 15 tons of cores per hour and 20.408 pounds of core wash per ton of core sand.

Emissions from the Core Wash Dip Tank #29 are uncontrolled.

(e) One (1) natural gas fired Core Oven #29, with a maximum heat input capacity of 6.0 million British thermal units (MMBtu) per hour.

Emissions from the natural gas fired Core Oven #29 are captured, but uncontrolled, and exhaust to Stack V-45.

SUMMARY OF COMMON CONTROL

Wet Scrubber A
– Cupola Melt Furnace

Wet ESP
– Cupola Melt Furnace

Wet Collector #1 (Stack D) is common to:
– Herman 3 Sand Handling,
– Herman 3 Shakeout, and
– Herman 3 Return Sand Conveyor.

Wet Collector #2 (Stack C) is common to:
– Return Sand Surge Bin, and
– Herman 3 Sand Handling.

Wet Collector #3 (Stack B) is common to:
– Herman 2 Shakeout

Wet Collector #4 (Stack E) is common to:
– Herman 3 Shakeout, and
– Herman 3 Sand Handling.

The Sonoperoxone® system is common to:
– Herman 3 Pouring Station,
– Herman 3 Castings Cooling,
– Herman 3 Shakeout, and
– Herman 3 Sand Handling.

Baghouse #1 (Stack F)
– Herman 2 Sand Handling

Baghouse #2 (Stack G) is common to:
– Inclined Shakeout and Sort System, and
– Vibratory Shaker.

Baghouse #3 (Stack H) is common to:
– Shot Blast Machines SB-1 through SB-4, and
– Shot Blast Machine SB-10.

Baghouse #6 (Stack K) is common to:
– Shot Blast Machine SB-7,
– Grinders GR-19 and GR-20,
– Grinder GR-23,
– Grinders GR-25 and GR-26, and
– Grinders GR-34 through GR-36.

Baghouse #9 (Stack R) is common to:
– Waste Sand Handling, Screening and Transport System

Baghouse #11 (Stack W) is common to:
– Herman 3 Shakeout, and
– Herman 3 Sand Handling.

The Baghouse #12 (Stack X) is common to:
– Shot Blast Machine SB-9,
– Grinders GR-31 through GR-33, and
– Grinder GR-37.

Baghouse #13 (Stack Y) is common to:
– Herman 2 Sand Handling, and
– Klein Transport PF504-5.

Baghouse #14 (Stack AD)
– Cupola Charge Door

The Baghouse #15 (Stack AE) is common to:
– Grinders GR-1 through GR-4,
– Grinders GR-9 and GR-10,
– Grinders GR-29 and GR-30, and
– Grinders ABB and FANUC.

Baghouse #16 (Stack AG) is common to:
– Shot Blast Machines SB-5 and SB-6,
– Shot Blast Machine SB-8,
– Hose Blast System for SB-8,
– Grinders GR-11 through GR-14, and
– Grinders GR-16 and GR-17.

Baghouse Q (Stack Q) is common to:
– Phenolic Urethane Core Sand Hopper #1,
– Phenolic Urethane Sand Heater #1,
– Large Core Sand Weigh Hopper,
– Large Core Sand Holding Hopper #10, and
– Large Core Sand Heater #10.

Baghouse U (Stack U) is common to:
– Phenolic Urethane Core Sand Hoppers #3 and #4,
– Phenolic Urethane Sand Heaters #3 and #4, and
– Air Set Core Sand Hopper #3.

Baghouse Z (Stack Z) is common to:
– Sand Hopper #9,
– Sand Heater #9,
– Phenolic Urethane Core Sand Hopper #8,
– Phenolic Urethane Sand Heater #5, and
– Phenolic Urethane Sand Heater #8.

Acid Scrubber AF (Stack AF) is common to:
– Phenolic Urethane Core Machines #1 and #2,
– Phenolic Urethane Core Machines #4 and #5,
– Phenolic Urethane Core Machines #7 through #9,
– Phenolic Urethane Core Machines #12 through #19,
– Phenolic Urethane Core Machines #21 and #22,
– Phenolic Urethane Core Machine #25,
– Phenolic Urethane Core Machines #27 through #29 and
– Phenolic Urethane Core Machines #31 through #33.

SUMMARY OF COMMON EQUIPMENT

Pneumatic Sand Transporter #1 is common to:
– Northeast (NE) Sand Silo,
– Phenolic Urethane Core Making Line #9,
– Phenolic Urethane Core Making Line #8, and
– Large Core Production Cell Line #10.

Pneumatic Sand Transporter #2 is common to:
– South (S) Sand Silo,
– Phenolic Urethane Core Making Lines #1 through #5, and
– Air Set Core Making Process.

The Northeast (NE) Sand Silo is common to:
– Pneumatic Sand Transporter #1,
– Phenolic Urethane Core Making Line #9,
– Phenolic Urethane Core Making Line #8, and
– Large Core Production Cell Line #10.

The South (S) Sand Silo is common to:
– Pneumatic Sand Transporter #2,
– Phenolic Urethane Core Making Lines #1 through #5, and
– Air Set Core Making Process.

The Phenolic Urethane Core Sand Hopper #1 is common to:
– Phenolic Urethane Core Making Lines #1 and #2.

The Phenolic Urethane Core Sand Hopper #3 is common to:
– Phenolic Urethane Core Making Lines #3 and #5, and
– Air Set Core Making Process.

The natural gas fired Core Oven #1 is common to:
– Phenolic Urethane Core Machines #15 and #16.

The natural gas fired Core Oven #2 is common to:
– Phenolic Urethane Core Machines #18 and #19.

The natural gas fired Core Oven #4 is common to:
– Phenolic Urethane Core Machines #4 and #5.

The natural gas fired Core Oven #9 is common to:
– Phenolic Urethane Core Machines #21, #22, and #28.

The natural gas fired Core Oven #27 is common to:
– Phenolic Urethane Core Machines #1 and #27.

The portable electric Core Oven #1 is common to:
– Phenolic Urethane Core Machines #8, #9, and #12 through #14.

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):

(1) Degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6. [326 IAC 8-3-2]

(2) The following equipment related to manufacturing activities no resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment. [326 IAC 6-3-2]

(3) Cutting 200,000 linear feet or less than one (1") plate or equivalent. [326 IAC 6-3-2]

(4) One (1) diesel fired emergency generator, constructed in 1968, with a maximum power output rate of 170 horsepower.

Under 40 CFR 63, Subpart ZZZZ, this generator is considered an affected facility.

(5) One (1) gasoline generator, powering a portable maintenance welder, constructed in 2004, with a maximum power output rate of 23 horsepower.

Under 40 CFR 63, Subpart ZZZZ, this generator is considered an affected facility.

(6) One (1) gasoline generator, powering a portable maintenance welder, constructed in 2011, with a maximum power output rate of 23 horsepower.

Under 40 CFR 60, Subpart JJJJ and 40 CFR 63, Subpart ZZZZ, this generator is considered an affected facility.

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, T085-30768-00003, 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 2-7-6(1) and (6)][326 IAC 1-6-3]

(a) A Preventive Maintenance Plan meets the requirements of 326 IAC 1-6-3 if it includes, at a minimum:

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

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

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

The Permittee shall implement the PMPs.

(b) If required by specific condition(s) in Section D of this permit where no PMP was previously required, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) no later than ninety (90) days after issuance of this permit or ninety (90) days after initial start-up, whichever is later, including the following information on each facility:

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

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

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

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

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

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

The Permittee shall implement the PMPs.

(c) A copy of the PMPs shall be submitted to IDEM, OAQ upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions. The PMPs and their submittal do not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

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

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

(a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for noncompliance with a federal or state health-based emission limitation.

(b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that describe the following:

(1) An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;

(2) The permitted facility was at the time being properly operated;

(3) During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit;

(4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ, or Northern Regional Office within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

Telephone Number: 1-800-451-6027 (ask for Office of Air Quality, Compliance and Enforcement Branch), or
Telephone Number: 317-233-0178 (ask for Office of Air Quality, Compliance and Enforcement Branch)
Facsimile Number: 317-233-6865
Northern Regional Office phone: (574) 245-4870; fax: (574) 245-4877.

(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 T085-30768-00003 and issued pursuant to permitting programs approved into the state implementation plan have been either:

(1) incorporated as originally stated,

(2) revised under 326 IAC 2-7-10.5, or

(3) deleted under 326 IAC 2-7-10.5.

(b) Provided that all terms and conditions are accurately reflected in this permit, all previous registrations and permits are superseded by this Part 70 operating permit.

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

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

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

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

meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

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

(1) That this permit contains a material mistake.

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

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

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

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

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

(a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ and shall include the information specified in 326 IAC 2-7-4. Such information shall be included in the application for each emission unit at this source, except those emission units included on the trivial or insignificant activities list contained in 326 IAC 2-7-1(21) and 326 IAC 2-7-1(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) or (c). 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(11)] [40 CFR 68]

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

C.14 Response to Excursions or Exceedances [326 IAC 2-7-5] [326 IAC 2-7-6] [40 CFR 64] [326 IAC 3-8]

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

(a) The Permittee shall take reasonable response steps to restore operation of the emissions unit (including any control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing excess emissions.

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

(1) initial inspection and evaluation;

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

(3) any necessary follow-up actions to return operation to normal or usual manner of operation.

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

(1) monitoring results;

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

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

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

(e) The Permittee shall record the reasonable response steps taken.

(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 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)(c), (d), (e), (f), and (g) 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(a)(1), the Permittee shall submit by July 1 of each year 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] [326 IAC 2-3] [40 CFR 64] [326 IAC 3-8]

(a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Proper notice submittal under Section B –Emergency Provisions satisfies the reporting requirements of this paragraph. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response

steps taken must be reported except that a deviation required to be reported pursuant to an applicable requirement that exists independent of this permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. This report shall be submitted not later than thirty (30) days after the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35). A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.

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

A report for monitoring under 40 CFR Part 64 and 326 IAC 3-8 shall include, at a minimum, the information required under paragraph (a) of this condition and the following information, as applicable:

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

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

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

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

(b) The address for report submittal is:

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

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

(d) Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit “calendar year” means the twelve (12) month period from January 1 to December 31 inclusive.

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

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

(2) The emissions differ from the preconstruction projection as documented and maintained under Section C - General Record Keeping Requirements (c)(1)(C)(ii).

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

(1) The name, address, and telephone number of the major stationary source.

(2) The annual emissions calculated in accordance with (d)(1) and (2) in Section C - General Record Keeping Requirements.

(3) The emissions calculated under the actual-to-projected actual test stated in 326 IAC 2-2-2(d)(3) and/or 326 IAC 2-3-2(c)(3).

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

Reports required in this part shall be submitted to:

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

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

Stratospheric Ozone Protection

C.19 Compliance with 40 CFR 82 and 326 IAC 22-1

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

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(1) **Cupola Charge Handling**
Cupola Charge Handling operations, constructed prior to 1977, with a nominal charging capacity of 53.45 tons per hour of solid metal, coke, and limestone.

Emissions from the Cupola Charge Handling operations are uncontrolled.

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

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

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

Metal Charge Limit

(a) The amount of metal charged in the Cupola Charge Handling shall be limited to 199,194 tons per twelve (12) consecutive month period, rolled on a monthly basis, with compliance determined at the end of each month.

Cupola Charge Handling

(b) The PM emissions from the Cupola Charge Handling shall be limited to 0.6 pounds per ton of metal charged.

(c) The PM_{10} emissions from the Cupola Charge Handling shall be limited to 0.36 pounds per ton of metal charged.

(d) The lead emissions from the Cupola Charge Handling shall be limited to 0.002 pounds per ton of metal charged.

Compliance with these limits and the limits specified in Conditions D.2.1, D.3.1, D.5.1, D.6.1 and D.8.2(b) will render the requirements of 326 IAC 2-2 (PSD) not applicable to permit No. 085-14027-00003 (the former Hot Box Core Making Line #9 installation), and to the Significant Permit Modification No. 085-25675-00003 (Conversion of the Hot Box Core Making Line #9 to Phenolic Urethane Core Making Line #9).

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

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the Cupola Charge Handling shall not exceed 45.20 pounds per hour when operating at a process weight rate of 53.45 tons of metal melted per hour.

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

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

$E = 55\ P^{0.11} - 40$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

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

D.1.3 Record Keeping Requirements

(a) To document the compliance status with Condition D.1.1 – PSD Minor Limits, the Permittee shall maintain records of the amount of metal charged each month in the Cupola Charge Handling.

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

D.1.4 Reporting Requirements

A quarterly summary of the information to document the compliance status with Condition D.1.1(a) – PSD Minor Limits, shall be submitted using the reporting forms located at the end of this permit, or the equivalent, not later than thirty (30) days following the end of each calendar quarter. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a “responsible official” as defined by 326 IAC 2-7-1(35). Section C - General Reporting Requirements contains the Permittee's obligations with regard to the reporting required by this condition.

SECTION D.2 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(14)]

(2) **Cupola Melt Furnace**
One (1) Cupola Melt Furnace, constructed prior to 1977, with a nominal capacity of 48.5 tons per hour of metal melted, and a maximum heat input capacity of 69.95 million British thermal units (MMBtu) per hour. The Cupola Melt Furnace is equipped with two (2) electric holding furnaces.

Particulate emissions are captured and controlled by Wet Scrubber A and Wet Electrostatic Precipitator WESP (for NESHAP EEEEE compliance).

Carbon monoxide emissions are captured and controlled by three (3) natural gas fired afterburners, each with a maximum heat input capacity of 5 million British thermal units (MMBtu) per hour. Emissions exhaust through Stack A.

Fugitive particulate emissions from the Cupola Charge Door are captured and controlled by Baghouse #14, exhausting through Stack AD.

(3) **Hot Blast Preheater**
One natural gas fired Hot Blast Preheater, constructed in 1981, with a maximum heat input capacity of 22 million British thermal units (MMBtu) per hour for preheating the blast air for the Cupola Melt Furnace.

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

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

D.2.1 PSD Minor Limits [326 IAC 2-2]

Metal Melted Limit

(a) The amount of metal melted in the Cupola Melt Furnace shall be limited to 187,919 tons per twelve (12) consecutive month period, rolled on a monthly basis, with compliance determined at the end of each month.

Cupola Melt Furnace

(b) The PM emissions from the Cupola Melt Furnace shall be limited to 0.821 pounds per ton of metal.

(c) The PM_{10} emissions from the Cupola Melt Furnace shall be limited to 0.738 pounds per ton of metal.

(d) The SO_2 emissions from the Cupola Melt Furnace shall be limited to 1.25 pounds per ton of metal.

(e) The NO_X emissions from the Cupola Melt Furnace shall be limited to 0.42 pounds per ton of metal.

(f) The VOC emissions from the Cupola Melt Furnace shall be limited to 0.009 pounds per ton of metal.

(g) The CO emissions from the Cupola Melt Furnace shall be limited to 7.250 pounds per ton of metal.

(h) The Lead emissions from the Cupola Melt Furnace shall be limited to 0.002 pounds per

ton of metal.

These limitations for the Cupola Melt Furnace are for Stack A and Stack AD combined.

Compliance with the limits above and the limits specified in Conditions D.1.1, D.3.1, D.5.1(a) & (b), D.6.1 and D.7.2 will render the requirements of 326 IAC 2-2 (PSD) not applicable to permit No. 085-14027-00003 (the former Hot Box Core Making Line #9 installation), and to the Significant Permit Modification No. 085-25675-00003 (Conversion of the Hot Box Core Making Line #9 to Phenolic Urethane Core Making Line #9).

D.2.2 Particulate Emission Limitation [326 IAC 11-1-2]

Pursuant to 326 IAC 11-1-2, the allowable particulate emission rate from the Cupola Melt Furnace shall not exceed the values listed in the table below when operating at the corresponding process weight rate:

Allowable Emissions from Foundry Cupolas	
Process Weight Rate (lbs/hr)	**Allowable Emission of Particulate Matter** (lbs/hr)
1,000	3.05
2,000	4.70
3,000	6.35
4,000	8.00
5,000	9.65
6,000	11.30
7,000	12.90
8,000	14.00
9,000	15.50
10,000	16.65
12,000	18.70
16,000	21.60
18,000	22.80
20,000	24.00
30,000	30.00
40,000	36.00
50,000	42.00
60,000	48.00
70,000	49.00
80,000	50.50
90,000	51.60
100,000	52.60

D.2.3 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

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

Compliance Determination Requirements

D.2.4 Emission Controls Operation [326 IAC 2-7-6(6)]

(a) Wet Scrubber A – Cupola Melt Furnace
The Wet Scrubber A for particulate emissions control shall be in operation and control emissions from the Cupola Melt Furnace at all times when:

(1) the Cupola Melt Furnace is in operation, and
(2) during startup of the Cupola Melt Furnace.

(b) Baghouse #14 – Charge Door

(1) The Baghouse #14 for particulate emissions control shall be in operation and control fugitive particulate emissions from the charge door when the Cupola Melt Furnace is in operation.

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

(c) Afterburners – Cupola Melt Furnace
The afterburner system shall be in operation for CO emissions control from the Cupola Melt Furnace at all times when:

(1) the Cupola Melt Furnace is in operation, and

(2) during startup of the Cupola Melt Furnace.

D.2.5 Testing Requirements [326 IAC 2-7-6(1),(6)]

(a) The Permittee shall perform PM testing on the Cupola Melt Furnace in order to demonstrate compliance with Conditions D.2.1(b) and D.2.2.

(b) In order to demonstrate the compliance status with Condition D.2.1(c), the Permittee shall perform emissions testing to determine PM_{10} emissions from the Cupola Melt Furnace. PM_{10} includes filterable and condensable PM.

(c) The Permittee shall perform VOC testing on Cupola Melt Furnace in order to demonstrate compliance with Condition D.2.1(f).

(d) The Permittee shall perform CO testing on Cupola Melt Furnace in order to demonstrate compliance with Condition D.2.1(g).

(e) The Permittee shall perform Pb testing on Cupola Melt Furnace in order to demonstrate compliance with Condition D.2.1(h).

(f) Testing shall be conducted utilizing methods as approved by the Commissioner. Testing of PM, PM_{10}, VOC, CO and Pb, shall be repeated at least once every five (5) years from the date of the last valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligations with regard to the testing required by this condition.

D.2.6 Scrubber Failure Detection [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

In the event that scrubber failure has been observed, the failed scrubber and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B – Emergency Provisions).

D.2.7 Broken or Failed Bag Detection [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

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

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

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

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

D.2.8 Visible Emissions Notations [40 CFR 64]

(a) Visible emission notations of the:

(1) Wet Scrubber A exhaust (Stack A), and
(2) Baghouse #14 exhaust (Stack AD)

shall be performed once per day during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.

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

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

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

(e) If abnormal emissions are observed, the Permittee shall take reasonable response steps. 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.2.9 Cupola Melt Furnace Temperature Monitoring [40 CFR 64]

(a) A continuous monitoring system shall be calibrated, maintained, and operated on the Cupola Melt Furnace for measuring the temperature of the Cupola Melt Furnace gas stream. For the purposes of this condition, continuous shall mean no less than once every fifteen (15) minutes. The output of this system shall be recorded as a three (3) hour average. The Permittee shall maintain the cupola gas stream at or above 1300°F or the three (3) hour average temperature established during the most recent valid stack test. The Permittee shall take appropriate response steps whenever the temperature of the cupola gas stream is below 1300°F or the three (3) hour average established during the most recent valid stack test. A three (3) hour average temperature that is below the minimum established during the latest stack test is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

(b) The Permittee shall determine the three (3) hour average temperature from the most recent valid stack test that demonstrates compliance with the limits in Condition D.2.1 – PSD Minor Limits.

(c) On and after the date the stack test results are available, the Permittee shall maintain the cupola gas stream at or above the three (3) hour average temperature established during the compliant stack test.

(d) This minimum temperature requirement applies at all times during cupola operation, except for the following:

(1) periods when the Cupola Melt Furnace blast air is turned off;

(2) periods when the blast air has been turned on for less than 30 consecutive minutes; and

(3) during the last 30 minutes of operation of the Cupola Melt Furnace.

The Permittee shall monitor the times that the Cupola Melt Furnace blast air is turned on and off.

D.2.10 Scrubber Parametric Monitoring [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)] [40 CFR 64]

(a) The Permittee shall record the pressure drop and flow rate of the Wet Scrubber A, at least once per day when the Cupola Melt Furnace is in operation.

(1) When for any one reading, the pressure drop across Wet Scrubber A is below a minimum of 34 inches of water or a minimum established during the latest stack test, the Permittee shall take reasonable response steps.

(2) When for any one reading, the flow rate across Wet Scrubber A is below a minimum of 225 gallons per minute or a minimum flow rate established during the latest stack test, the Permittee shall take reasonable response steps.

A pressure reading or flow rate that is below the above mentioned minimum 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.

(b) The instruments used for determining the pressure and flow rate 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.2.11 Baghouse Parametric Monitoring [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)] [40 CFR 64]

(a) The Permittee shall record the pressure drop across the Baghouse #14, at least once per day when the associated process is in operation. When for any one reading, the pressure drop across the baghouses is outside the normal range, the Permittee shall take reasonable response. The normal range for Baghouse #14 is a pressure drop range between 3.0 and 9.0 inches of water unless a different upper-bound or lower-bound value for this range is determined during the most recent valid stack test. 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. 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.

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

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

D.2.12 Record Keeping Requirements

(a) To document the compliance status with Condition D.2.1(a) – PSD Minor Limits, the Permittee shall maintain records of the amount of metal melted in the Cupola Melt Furnace.

(b) To document the compliance status with Condition D.2.8 – Visible Emission Notations, the Permittee shall maintain daily records of visible emission notations of the wet scrubber A and baghouse #14 stack exhausts. 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.2.9 – Cupola Melt Furnace Temperature Monitoring, the Permittee shall maintain records of the continuous temperature readings of the Cupola Melt Furnace gas stream and make such records available upon request to IDEM, OAQ.

(d) To document the compliance status with Condition D.2.10 – Scrubber Parametric Monitoring, the Permittee shall maintain the daily records of the pressure drop and flow rate reading across wet scrubber A. The Permittee shall include in its daily record when a pressure drop and flow rate reading are not taken and the reason for the lack of a pressure drop and flow rate readings, (e.g. the process did not operate that day).

(e) To document the compliance status with Condition D.2.11 – Baghouse Parametric Monitoring, the Permittee shall maintain the daily records of the pressure drop across baghouse #14. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading, (e.g. the process did not operate that day).

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

D.2.13 Reporting Requirements

A quarterly summary of the information to document the compliance status with Condition D.2.1(a) – PSD Minor Limits, shall be submitted using the reporting forms located at the end of this permit, or the equivalent, not later than thirty (30) days following the end of each calendar quarter. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a “responsible official” as defined by 326 IAC 2-7-1(35). Section C - General Reporting Requirements contains the Permittee's obligations with regard to the reporting required by this condition.

SECTION D.3 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(14)]

(4) **Herman 2 Mold Line**

(a) One (1) electric holding furnace, constructed prior to 1977, with a nominal throughput of 37 tons of iron per hour, with emissions captured, but uncontrolled, and exhausting to the general building ventilation system.

(b) One (1) Herman 2 Pouring Station, constructed prior to 1977, with a nominal throughput of 37 tons of iron per hour and 166 tons of mold and core sand per hour, with emissions captured, but uncontrolled, and exhausting to the atmosphere through Vent V-19.

(c) One (1) Herman 2 Castings Cooling process, constructed prior to 1977, with a nominal throughput of 37 tons of iron per hour and 166 tons of mold and core sand per hour, with emissions captured, but uncontrolled, and exhausting to the atmosphere through Vents V-8 and V-9.

(d) One (1) Herman 2 Shakeout process, constructed prior to 1977, with a nominal throughput of 37 tons of iron per hour and 166 tons of mold and core sand per hour, with particulate emissions captured and controlled by Wet Collector #3, exhausting through Stack B.

(e) One (1) Herman 2 Sand Handling process, constructed prior to 1977, modified in 2009, and approved for modification in 2013, with a nominal throughput of 166 tons of mold and core sand per hour.

The Herman 2 Sand Handling process includes

(1) sand screening, sand cooling, water addition, sand mulling, and the ancillary equipment associated with each, all constructed prior to 1977, with particulate emissions captured and controlled by Baghouse #1, exhausting through Stack F, and Baghouse #13, exhausting through Stack Y.

(2) One (1) waste sand handling system supporting the Herman 2 Mold Line, consisting of one (1) Klein transport, constructed in 2009 and approved for modification in 2013, identified as:

(A) PF504-5, with a total nominal capacity of 12.0 tons per hour, with particulate emissions from sending operations captured and controlled by Baghouse #13, exhausting through Stack Y; and

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

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

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

(a) Sand Limit
The combined amount of core and mold sand handled for the:

(1) Herman 2 Sand Handling, and

(2) Herman 3 Sand Handling

shall be limited to 1,127,516 tons of sand per twelve (12) consecutive month period, rolled on a monthly basis, with compliance determined at the end of each month.

This core and mold sand limitation is for the Herman 2 and Herman 3 Sand Handling combined.

(b) Herman 2 Pouring (V-19)

(1) The PM emissions from the Herman 2 Pouring shall be limited to 0.118 pounds per ton of metal.

(2) The PM_{10} emissions from the Herman 2 Pouring shall be limited to 0.052 pounds per ton of metal.

(3) The VOC emissions from the Herman 2 Pouring shall be limited to 0.163 pounds per ton of metal.

(4) The Lead emissions from the Herman 2 Pouring shall be limited to 0.016 pounds per ton of metal.

(c) Herman 2 Castings Cooling (V-8 and V-9)

(1) The PM emissions from the Herman 2 Castings Cooling shall be limited to 0.288 pounds per ton of metal.

(2) The PM_{10} emissions from the Herman 2 Castings Cooling shall be limited to 0.196 pounds per ton of metal.

(3) The VOC emissions from the Herman 2 Castings Cooling shall be limited to 0.687 pounds per ton of metal.

These limitations for the Herman 2 Castings Cooling are for vents V-8 and V-9 combined.

(d) Herman 2 Shakeout (Stack B)

(1) The PM emissions from the Herman 2 Shakeout shall be limited to 0.034 pounds per ton of metal and sand.

(2) The PM_{10} emissions from the Herman 2 Shakeout shall be limited to 0.058 pounds per ton of metal and sand.

(3) The VOC emissions from the Herman 2 Shakeout shall be limited to 0.115 pounds per ton of metal and sand.

(4) The lead emissions from the Herman 2 Shakeout shall be limited to 0.00018 pounds per ton of metal.

(e) Herman 2 Sand Handling (Stack F and Stack Y)

(1) The PM emissions from the Herman 2 Sand Handling shall be limited to 0.034 pounds per ton of metal and sand.

(2) The PM_{10} emissions from the Herman 2 Sand Handling shall be limited to 0.058 pounds per ton of metal and sand.

(3) The VOC emissions from the Herman 2 Sand Handling shall be limited to 0.115 pounds per ton of metal and sand.

(4) The lead emissions from the Herman 2 Sand Handling shall be limited to 0.00018 pounds per ton of metal.

These limitations for the Herman 2 Sand Handling are for Stack F and Stack Y combined.

Compliance with the limits above and the limits specified in Conditions D.1.1, D.2.1, D.5.1(a) & (b), D.6.1 and D.7.2 will render the requirements of 326 IAC 2-2 (PSD) not applicable to permit No. 085-14027-00003 (the former Hot Box Core Making Line #9 installation), and to the Significant Permit Modification No. 085-25675-00003 (Conversion of the Hot Box Core Making Line #9 to Phenolic Urethane Core Making Line #9).

D.3.2 PSD Minor Limits [326 IAC 2-2]

Herman 2 Waste Sand Handling System (Stack Y)

(a) The PM emissions from the Klein transport shall be limited to 0.356 pounds per ton of sand.

(b) The PM_{10} emissions from the Klein transport shall be limited to 0.214 pounds per ton of sand.

(c) The amount of waste sand handled for the Klein transport shall be limited to 106,000 tons of sand per twelve (12) consecutive month period, rolled on a monthly basis, with compliance determined at the end of each month.

Compliance with the limits above and the limits specified in Conditions D.4.2(h) and D.6.1.3 will restrict the potential to emit from the 2009 modification to add the Klein Transports (Waste Sand Handling), Return Sand Conveyor, and Robotic Grinders to less than twenty-five (25) tons of PM per year and less than fifteen (15) tons of PM_{10} per year. Therefore the requirements of 326 IAC 2-2 (PSD) are not applicable to the 2009 modification to add the Klein Transports (Waste Sand Handling), Return Sand Conveyor, and Robotic Grinders, including the unrestricted PTE of the 'fugitive' emissions from these emission units.

D.3.3 Particulate Emission Limitation [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2, the particulate matter (PM) emissions from each process shall not exceed the pounds per hour limitations specified in the table below:

Process / Emission Unit	**P** (ton/hr)	**E** (lb/hr)	**Equation Used**
Herman 2 Pouring (V-19)	203	58.7	(b)
Herman 2 Castings Cooling (V-8 and V-9)	203	58.7	(b)
Herman 2 Shakeout (Wet Collector #3, Stack B)	203	58.7	(b)
Herman 2 Sand Handling (Baghouse #1, Stack F, and Baghouse #13, Stack Y)	166	56.5	(b)
Klein Transport (Waste Sand Handling)	12.0	4.9	(a)

The pound per hour limitations was calculated with the following equations:

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

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

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

$E = 55.0\ P^{0.11} - 40$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

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

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

Compliance Determination Requirements

D.3.5 Emission Controls Operation [326 IAC 2-7-6(6)]

(a) Wet Collector #3
The Wet Collector #3 for particulate emissions control shall be in operation and control emissions from the Herman 2 Shakeout at all times when this processes is in operation.

(b) Baghouse #1
The Baghouse #1 for particulate emissions control shall be in operation and control emissions from the Herman 2 Sand Handling at all times when the Herman 2 Sand Handling is in operation.

(c) Baghouse #13
The Baghouse #13 for particulate emissions control shall be in operation and control emissions from the Herman 2 Sand Handling at all times when the Herman 2 Sand Handling is in operation.

(d) 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)]

(a) The Permittee shall perform PM testing on the:

(A) Herman 2 Pouring (V-19),
(B) Herman 2 Castings Cooling (V-8 and V-9),
(C) Herman 2 Shakeout (Stack B),
(D) Herman 2 Sand Handling (Stack F and Stack Y), and
(E) Herman 2 Waste Sand Handling System (Stack Y)

in order to demonstrate the compliance status with paragraphs (b)(1), (c)(1), (d)(1), and (e)(1) of Condition D.3.1, Condition D.3.2}(a)(1), and Condition D.3.3.

(b) In order to demonstrate the compliance status with paragraphs (b)(2), (c)(2), (d)(2), and (e)(2) of Condition D.3.1 and Condition D.3.2(b)(2), the Permittee shall perform emissions testing to determine the PM_{10} emissions from the stack exhaust for:

(A) Herman 2 Pouring (V-19),

(B) Herman 2 Castings Cooling (V-8 and V-9),
(C) Herman 2 Shakeout (Stack B),
(D) Herman 2 Sand Handling (Stack F and Stack Y), and
(E) Herman 2 Waste Sand Handling System (Stack Y)

PM_{10} includes filterable and condensable PM.

(c) The Permittee shall perform VOC testing on the:

(A) Herman 2 Pouring (V-19),
(B) Herman 2 Castings Cooling (V-8 and V-9),
(C) Herman 2 Shakeout (Stack B), and
(D) Herman 2 Sand Handling (Stack F and Stack Y)

in order to demonstrate the compliance status with paragraphs (b)(3), (c)(3), (d)(3), and (e)(3), of Condition D.3.1.

(d) The Permittee shall perform Pb testing on the:

(A) Herman 2 Pouring (V-19),
(B) Herman 2 Castings Cooling (V-8 and V-9),
(C) Herman 2 Shakeout (Stack B), and
(D) Herman 2 Sand Handling (Stack F and Stack Y)

in order to demonstrate the compliance status with paragraphs (b)(4), (d)(4), and (e)(4), of Condition D.3.1.

(e) Testing shall be conducted utilizing methods as approved by the Commissioner. Testing of PM, PM_{10}, VOC and Pb, shall be repeated at least once every five (5) years from the date of the last valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligations with regard to the testing required by this condition.

NOTE: Herman 2 and Herman 3 testing shall be performed alternatively, that is if Herman 2 testing for pollutants PM, PM_{10}, VOC, and Pb are performed in the first five (5) year cycle, Herman 3 testing for pollutants PM, PM_{10}, VOC, CO, and Pb shall be performed in the next five (5) year testing cycle.

D.3.7 Wet Collector Failure Detection [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

In the event that wet collector failure has been observed, the failed wet collector and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B – Emergency Provisions).

D.3.8 Broken or Failed Bag Detection [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

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

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

processing of the material in the emission unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B – Emergency Provisions).

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

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

D.3.9 Visible Emissions Notations [40 CFR 64]

(a) Visible Emission Notations:

(1) Pursuant to Agreed Order 2001-11054-A, issued on May 25, 2006, visible emission notations of the:

(A) Herman 2 Pouring Station vent (Vent V-19),
(B) Herman 2 Castings Cooling process vents (Vents V-8 and V-9),
(C) Herman 2 Shakeout process – Wet Collector #3 exhaust stack (Stack B),
(D) Herman 2 Sand Handling process – Baghouse #1 exhaust stack (Stack F), and
(E) Herman 2 Sand Handling process – Baghouse #13 exhaust stack (Stack Y)

shall be performed once per shift during normal daylight operations when exhausting to the atmosphere and when the associated processes are in operation. A trained employee shall record whether emissions are normal or abnormal.

(2) Visible emission notations of the:

(A) Klein Transport PF504-5 – Baghouse #13 exhaust stack (Stack Y)

shall be performed once per day during normal daylight operations when exhausting to the atmosphere and when the associated processes are in operation. 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.3.10 Wet Collector Parametric Monitoring [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)] [40 CFR 64]

(a) Wet Collector #3 –Herman 2 Shakeout
The Permittee shall record the pressure drop and flow rate of or Herman 2 Shakeout process is in operation.

(1) When for any one reading, the pressure drop across Wet Collector #3 is below a minimum of 8 inches of water or a minimum pressure drop established during the latest stack test, the Permittee shall take reasonable response steps.

(2) When for any one reading, the flow rate across Wet Collector #3 is below a minimum of 200 gallons per minute or a minimum flow rate established during the latest stack test, the Permittee shall take reasonable response steps.

(b) 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. 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.

(c) The instruments used for determining the pressures and flow rates 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.3.11 Baghouse Parametric Monitoring [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)] [40 CFR 64]

(a) Baghouse #1 – Herman 2 Sand Handling
The Permittee shall record the pressure drop across Baghouse #1, at least once per day when the associated Herman 2 Sand Handling process is in operation. When for any one reading, the pressure drop across Baghouse #1 is outside the normal range, the Permittee shall take reasonable response. The normal range for Baghouse #1 is a pressure drop range between 4.0 and 10.0 inches of water unless a different upper-bound or lower-bound value for this range is determined during the most recent valid stack test.

(b) Baghouse #13 – Herman 2 Sand Handling
The Permittee shall record the pressure drop across Baghouse #13, at least once per day when the associated Herman 2 Sand Handling process is in operation. When for any one reading, the pressure drop across Baghouse #13 is outside the normal range, the Permittee shall take reasonable response. The normal range for Baghouse #13 is a pressure drop range between 2.0 and 8.0 inches of water unless a different upper-bound or lower-bound value for this range is determined during the most recent valid stack test.

(c) 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. 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) 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.

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

D.3.12 Record Keeping Requirements

(a) To document the compliance status with Condition D.3.1 – PSD Minor Limits, the Permittee shall maintain records of the combined amount of core and mold sand handled for the:

(1) Herman 2 Sand Handling, and
(2) Herman 3 Sand Handling.

(b) To document the compliance status with Condition D.3.2 – PSD Minor Limits, the Permittee shall maintain records of the amount of waste sand handled for the:

(1) Klein Transport PF504-5

(c) To document the compliance status with Condition D.3.9(a)(1) – Visible Emissions Notations:

(1) Herman 2 Pouring Station exhaust (Vent V-19),
(2) Herman 2 Castings Cooling process exhaust (Vents V-8 and V-9),
(3) Herman 2 Shakeout process – Wet Collector #3 exhaust (Stack B),
(4) Herman 2 Sand Handling process – Baghouse #1 exhaust (Stack F), and
(5) Herman 2 Sand Handling process – Baghouse #13 exhaust (Stack Y)

once per shift and make such records available, upon request, to IDEM, OAQ. The Permittee shall include in its record when a visible emission notations was not taken and the reason for the lack of a visible emission notations, (e.g. the process did not operate that day).

(d) To document the compliance status with Condition D.3.9(a)(2) – Visible Emissions Notations, the Permittee shall maintain records of the visible emission notations of the:

(1) Klein Transport PF504-5 – Baghouse #13 exhaust stack (Stack Y)

once per day and make such records available, upon request, to IDEM, OAQ. The Permittee shall include in its daily record when a visible emission notations was not taken and the reason for the lack of a visible emission notations, (e.g. the process did not operate that day).

(e) To document the compliance status with Condition D.3.10 – Wet Collector Parametric Monitoring, the Permittee shall maintain the daily records of the pressure drop and flow rate reading across Wet Collector #3. The Permittee shall include in its daily record when a pressure drop and flow rate reading are not taken and the reason for the lack of a pressure drop and flow rate readings, (e.g. the process did not operate that day).

(f) To document the compliance status with Condition D.3.11 – Baghouse Parametric Monitoring, the Permittee shall maintain the daily records of the pressure drop across Baghouse #1 and #13. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading, (e.g. the process did not operate that day).

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

D.3.13 Reporting Requirements

A quarterly summary of the information to document the compliance status with Conditions D.3.1(a) – PSD Minor Limits, and D.3.2(c) – PSD Minor Limits, shall be submitted using the reporting forms located at the end of this permit, or the equivalent, not later than thirty (30) days following the end of each calendar quarter. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a “responsible official” as defined by 326 IAC 2-7-1(35). Section C - General Reporting Requirements contains the Permittee's obligations with regard to the reporting required by this condition.

SECTION D.4 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(14)]

(5) **Herman 3 Mold Line**

The volatile organic compound (VOC) emissions from the Herman 3 Mold line are reduced by one (1) Sonoperoxone® system (or an equivalent advanced oxidation system), sand system optimization, use of low VOC core resin binder materials, and automatic mold vent-off gas ignition.

(a) One (1) Herman 3 Pouring Station, constructed in 1991, with a nominal throughput of 28 tons of iron per hour and 165 tons of mold and core sand per hour, with emissions captured, but uncontrolled, and exhausting to the atmosphere through Vent V-10.

(b) One (1) Herman 3 Castings Cooling process, constructed in 1991, and modified in 2004, with a nominal throughput of 28 tons of iron per hour, and 165 tons of mold and core sand per hour, with emissions captured, but uncontrolled and exhausting to the atmosphere through Vent V-12.

(c) One (1) Herman 3 Shakeout process, constructed in 1991, with a nominal throughput of 28 tons of iron per hour, and 165 tons of mold and core sand per hour, with particulate emissions captured and controlled by Wet Collector #1, exhausting to Stack D, Wet Collector #4, exhausting through Stack E, and Baghouse #11, exhausting through Stack W.

(d) One (1) Herman 3 Sand Handling process, constructed in 1991, modified in 2009, and approved for modification in 2013, with a nominal throughput of 165 tons of mold and core sand per hour.

The Herman 3 Sand Handling process includes:

(1) sand screening, sand cooling, water addition, sand mulling, and the ancillary equipment associated with each, all constructed in 1991, with particulate emissions captured and controlled by Wet Collector #1, exhausting through Stack D, Wet Collector #2, exhausting through Stack C, Wet Collector #4, exhausting through Stack E, and Baghouse #11, exhausting through Stack W.

(2) one (1) Return Sand Conveyor, constructed in 2009, identified as RSC1, with particulate emissions captured and controlled by Wet Collector #1, exhausting through Stack D.

and

(3) one (1) Return Sand Surge Bin, approved for construction in 2013, identified as RSSB-1, with particulate emissions captured by Wet Collector #2, which is a voluntary control, exhausting through Stack C.

(e) One (1) dust mixing acoustic reactor (DMAR) tank sand transport system, approved for construction in 2013, recycling dust collected in baghouses #1 and #11 to increase the concentration of solids being processed within the dust mixing acoustic reactor (DMAR) loop in order to increase the VOC reduction of the Sonoperoxone® system, with a maximum capacity of 1.45 tons of waste dust per hour, uncontrolled, and exhausting indoors.

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

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

D.4.1 BACT Requirements [326 IAC 2-2-3] [326 IAC 8-1-6]

(a) Pursuant to SSM 085-18009-00003, issued on December 9, 2003, and the requirements of 326 IAC 2-2-3 (PSD) and 326 IAC 8-1-6 (General Reduction Requirements for New Facilities), the Best Available Control Technology (BACT) shall consist of the following:

(1) Metal Throughput Limit:

The amount of metal throughput to the Herman 3 Mold Line shall not exceed 90,578 tons per 12 consecutive month period, rolled on a monthly basis, with compliance determined at the end of each month.

This limitation on the amount of metal throughput is the same as the metal throughput limit specified in Condition D.4.2 – PSD Minor Limits.

(2) Sand Throughput Limits:

The amount of sand throughput to the Herman 3 Mold Line shall not exceed 543,470 tons per 12 consecutive month period, rolled on a monthly basis, with compliance determined at the end of each month.

This limitation on the amount of sand throughput is the same as the sand throughput limit specified in Condition D.4.2 – PSD Minor Limits.

(3) VOC Limits and Standards

(A) The VOC emissions from the Herman 3 Pouring Station shall not exceed 0.163 pounds per ton of metal.

(B) The VOC emissions from the Herman 3 Castings Cooling process shall not exceed 0.36 pounds per ton of metal. The Department may revise this permit to adjust the VOC limitation based upon the results of the stack test required in Condition D.4.6. The Department will provide an opportunity for public notice and comment prior to finalizing any permit revision. IC 13-15-7-3 (Revocation or Modification of a Permit: Appeal to Board) shall apply to this permit condition.

(C) The combined VOC emissions from the Herman 3 Shakeout and Herman 3 Sand Handling operations shall not exceed 0.115 pounds per ton of metal and sand total.

This VOC limitation is for the Herman 3 Shakeout and Herman 3 Sand Handling combined.

(D) The VOC emissions from the Herman 3 Mold Line shall be reduced through the continuous use of the Sonoperoxone® system or an equivalent system, sand system optimization, low VOC core resin binder materials, and automatic mold vent-off gas ignition.

(b) Pursuant to PSD/SSM 085-25816-00003 and 326 IAC 2-2-3 (PSD), Best Available Control Technology (BACT for Herman 3 Pouring, Cooling and Shakeout), the Permittee shall comply with the following:

Emission Units	CO Limits (Pounds per ton metal)
Herman 3 Mold Pouring	1.80
Herman 3 Cast Cooling	2.88
Herman 3 Shakeout	1.32

D.4.2 PSD Minor Limits [326 IAC 2-2]

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

(a) Metal Throughput Limit:
The amount of metal throughput to the Herman 3 Mold Line shall not exceed 90,578 tons per 12 consecutive month period, rolled on a monthly basis, with compliance determined at the end of each month.

This limitation on the amount of metal throughput is the same as the metal throughput limit specified in Condition D.4.1 – BACT Requirements.

(b) Sand Throughput Limits:

(1) The amount of sand throughput to the Herman 3 Mold Line shall not exceed 543,470 tons per 12 consecutive month period, rolled on a monthly basis, with compliance determined at the end of each month.

This limitation on the amount of sand throughput is the same as the sand throughput limit specified in Condition D.4.1 – BACT Requirements.

(2) The combined amount of core and mold sand handled for the:

(A) Herman 2 Sand Handling, and

(B) Herman 3 Sand Handling

shall be limited to 1,127,516 tons of sand per twelve (12) consecutive month period, rolled on a monthly basis, with compliance determined at the end of each month.

This core and mold sand limitation is for the Herman 2 and Herman 3 Sand Handling combined.

(c) Herman 3 Mold Line Lead Emissions
The combined lead emissions from the Herman 3 Mold Line shall not exceed 0.013 pounds per ton of metal throughput.

(d) Herman 3 Pouring (V-10)

(1) The PM emissions from the Herman 3 Pouring Station shall not exceed 0.1176 pounds per ton of metal throughput.

(2) The PM_{10} emissions from the Herman 3 Pouring Station shall not exceed 0.0524 pounds per ton of metal throughput.

(e) Herman 3 Castings Cooling (V-12)

(1) The PM emissions from the Herman 3 Castings Cooling process shall not exceed 0.2881 pounds per ton of metal throughput.

(2) The PM_{10} emissions from the Herman 3 Castings Cooling process shall not exceed 0.1959 pounds per ton of metal throughput.

(f) Herman 3 Shakeout (Stack D, Stack E, and Stack W)

(1) The PM emissions from the Herman 3 Shakeout process shall not exceed 0.034 pounds per ton of metal and sand throughput.

This PM limitation for the Herman 3 Shakeout is for Stack D, Stack E, and Stack W combined.

(2) The PM_{10} emissions from the Herman 3 Shakeout process shall not exceed 0.058 pounds per ton of metal and sand throughput.

This PM_{10} limitation for the Herman 3 Shakeout is for Stack D, Stack E, and Stack W combined.

(g) Herman 3 Sand Handling (Stack C, Stack D, Stack E, and Stack W)

(1) The PM emissions from the Herman 3 Sand Handling process shall not exceed 0.034 pounds per ton of metal and sand throughput.

This PM limitation for the Herman 3 Sand Handling is for Stack C, Stack D, Stack E, and Stack W combined.

(2) The PM_{10} emissions from the Herman 3 Sand Handling process shall not exceed 0.058 pounds per ton of metal and sand throughput.

This PM_{10} limitation for the Herman 3 Sand Handling is for Stack C, Stack D, Stack E, and Stack W combined.

(h) Herman 3 Sand Handling (Stack D)

(1) The PM emissions from the Return Sand Conveyor shall not exceed 0.000911 pounds per ton of sand.

This PM limitation for the Return Sand Conveyor is for Stack D.

(2) The PM_{10} emissions from the Return Sand Conveyor shall not exceed 0.000431 pounds per ton of sand.

This PM_{10} limitation for the Return Sand Conveyor is for Stack D.

(i) Herman 3 Sand Handling - Return Sand Surge Bin (Stack C)

(1) The uncontrolled PM emissions from the Return Sand Surge Bin shall not exceed 0.000911 pounds per ton of sand.

(2) The uncontrolled PM_{10} emissions from the Return Sand Surge Bin shall not exceed 0.000431 pounds per ton of sand.

(3) The uncontrolled $PM_{2.5}$ emissions from the Return Sand Surge Bin shall not exceed 0.000065 pounds per ton of sand.

(j) Compliance with the limits listed under (a) through (g) above, restrict the PM, PM_{10}, and lead emissions from the modification to add the Herman 3 process (2003) to less than twenty-five (25) tons per year of PM, less than fifteen (15) tons per year of PM_{10}, and less than six tenths (0.6) tons per year of lead (Pb). Therefore, the requirements of 326 IAC 2-2 (PSD) are not applicable for PM, PM_{10}, and lead emissions from the 2003 modification to add the Herman 3 process.

(k) Compliance with the limits listed under (h) above, combined with the limits in Conditions D.4.2(b)(1), D.3.2 and D.6.1.3 restrict the PM and PM_{10} emissions from the modification to add the Return Sand Conveyor, robotic grinders, and Klein Transports for waste sand handling (2009) to less than twenty-five (25) tons per year of PM and less than fifteen (15) tons per year of PM_{10}. Therefore, the requirements of 326 IAC 2-2 (PSD) are not applicable for PM and PM_{10} emissions from the 2009 modification to add the Return Sand Conveyor, robotic grinders, and Klein Transports for waste sand handling, including the unrestricted PTE of the fugitive emissions from these emission units.

(l) Compliance with the limits listed under (i) above, combined with the uncaptured emissions and the limits in Conditions D.6.1(e) through (i) and D.8.2 will limit the modification to less than twenty-five (25) tons of PM per year, less than fifteen (15) tons of PM_{10} per year, less than ten (10) tons of $PM_{2.5}$ per year, and less than 0.6 tons of lead (Pb) per year. Therefore, the requirements of 326 IAC 2-2 (PSD) are not applicable to the 2013 modification to the shot blast machine (SB-9), core sand heater and mixer- core making line #1, and return sand bin - Herman 3 mold line.

D.4.3 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2, the particulate matter (PM) emissions from each process shall not exceed the pounds per hour limitations specified in the table below:

Process / Emission Unit	**P** (ton/hr)	**E** (lb/hr)	Equation Used
Herman 3 Pouring (V-10)	193	58.1	(b)
Herman 3 Castings Cooling (V-12)	193	58.1	(b)
Herman 3 Shakeout (Wet Collector #4, Stack E and Baghouse #11, Stack W)	193	58.1	(b)
Herman 3 Sand Handling (Wet Collector #1, Stack D, Wet Collector #2, Stack C, Wet Collector #4, Stack E, and Baghouse #11, Stack W)	165	56.4	(b)
Herman 3 DMAR Tank Sand Transport System (Indoors)	1.45	5.26	(a)

The pound per hour limitations was calculated with the following equations:

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

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

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

$E = 55.0\ P^{0.11} - 40$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

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

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

Compliance Determination Requirements

D.4.5 Emission Controls Operation [326 IAC 2-7-6(6)]

(a) Wet Collector #1 – Herman 3 Shakeout and Herman 3 Sand Handling
The Wet Collector #1 for particulate emissions control shall be in operation and control emissions from the Herman 3 Sand Handling and Herman 3 Shakeout processes at all times when either of these processes are in operation.

(b) Wet Collector #2 – Herman 3 Sand Handling
The Wet Collector #2 for particulate emissions control shall be in operation and control emissions from the Herman 3 Sand Handling at all times when the Herman 3 Sand Handling process is in operation.

(c) Wet Collector #4 –Herman 3 Sand Handling and Herman 3 Shakeout
The Wet Collector #4 for particulate control shall be in operation at all times and control emissions from the Herman 3 Sand Handling and Herman 3 Shakeout processes at all times when either of these processes are in operation.

(d) Baghouse #11 – Herman 3 Shakeout and Herman 3 Sand Handling

(1) The Baghouse #11 for particulate control shall be in operation and control emissions from the Herman 3 Shakeout and Herman 3 Sand Handling processes at all times when either of these processes are in operation.

(2) 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.

(e) Sonoperoxone® System or Equivalent System – Herman 3 Mold Line
The Sonoperoxone® system or an equivalent system in association with the DMAR Tank Sand Transport System for volatile organic compounds emissions control shall be in operation and control emissions from the Herman 3 Mold Line at all times when the Herman 3 Mold Line is in operation.

D.4.6 Testing Requirements [326 IAC 2-7-6(1),(6)]

(a) The Permittee shall perform VOC testing on the:

(1) Herman 3 Pouring (V-10),
(2) Herman 3 Castings Cooling (V-12), and
(3) Herman 3 Shakeout (Stack D, Stack E, and Stack W)
(4) Herman 3 Sand Handling (Stack C, Stack D, Stack E and Stack W)

in order to demonstrate the compliance status with Condition D.4.1(a)(3).

(b) The Permittee shall perform CO testing on the:

(1) Herman 3 Pouring (V-10),
(2) Herman 3 Castings Cooling (V-12), and
(3) Herman 3 Shakeout (Stack D, Stack E, and Stack W)

in order to demonstrate the compliance status with Condition D.4.1(b).

(c) The Permittee shall perform lead (Pb) testing on the:

(1) Herman 3 Pouring (V-10),
(2) Herman 3 Castings Cooling (V-12),
(3) Herman 3 Shakeout (Stack D, Stack E, and Stack W),
(4) Herman 3 Sand Handling (Stack C, Stack D, Stack E, and Stack W), and
(5) Return Sand Conveyor (Stack D)

in order to demonstrate the compliance status with Condition D.4.2(c).

(d) The Permittee shall perform PM testing on the:

(1) Herman 3 Pouring (V-10),
(2) Herman 3 Castings Cooling (V-12),
(3) Herman 3 Shakeout (Stack D, Stack E, and Stack W), and
(4) Herman 3 Sand Handling (Stack C, Stack D, Stack E, and Stack W)

in order to demonstrate the compliance status with paragraphs (d)(1), (e)(1), (f)(1), (g)(1) of Conditions D.4.2 and Condition D.4.3.

(e) The Permittee shall perform PM_{10} testing on the:

(1) Herman 3 Pouring (V-10),
(2) Herman 3 Castings Cooling (V-12),
(3) Herman 3 Shakeout (Stack D, Stack E, and Stack W),
(4) Herman 3 Sand Handling (Stack C, Stack D, Stack E, and Stack W)

in order to demonstrate the compliance status with paragraphs (d)(2), (e)(2), (f)(2), (g)(2) of Conditions D.4.2. PM_{10} includes filterable and condensable PM.

(f) Testing shall be conducted utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the last valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligations with regard to the testing required by this condition.

NOTE: Herman 2 and Herman 3 testing shall be performed alternatively, that is if Herman 3 testing for pollutants PM, PM_{10}, VOC, CO, and Pb are performed in the first five (5) year

cycle, Herman 2 testing for pollutants PM, PM_{10}, VOC, and Pb shall be performed in the next five (5) year testing cycle.

D.4.7 Continuous Opacity Monitoring [326 IAC 3-5] [326 IAC 2-2-3]

(a) Continuous Opacity Monitoring (COM)

(1) Pursuant to 326 IAC 2-2-3, upon startup of the Herman 3 Castings Cooling, a continuous monitoring system shall be installed, calibrated, maintained, and operated for measuring opacity from the Herman 3 Castings Cooling vent (V-12).

(2) The continuous monitoring systems shall meet the performance specifications of 326 IAC 3-5-2.

(b) Opacity – 10%
Pursuant to CP 085-2141-00003, issued on December 12, 1991, and SSM 085-18009-00003, issued on December 9, 2003:

The Permittee shall take appropriate response steps whenever the opacity exceeds 10% for three (3) consecutive six (6) minute averaging periods. 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.4.8 Maintenance of Continuous Opacity Monitoring Equipment [326 IAC 2-7-5(3)(A)(iii)]

(a) The Permittee shall install, calibrate, maintain, and operate all necessary continuous opacity monitoring systems (COMS) and related equipment.

(b) All COMS shall meet the performance specifications of 40 CFR 60, Appendix B, Performance Specification No. 1, and are subject to monitor system certification requirements pursuant to 326 IAC 3-5.

(c) In the event that a breakdown of a COMS occurs, a record shall be made of the times and reasons of the breakdown and efforts made to correct the problem.

(d) Whenever a COMS is malfunctioning or is down for maintenance or repairs for a period of twenty-four (24) hours or more and a backup COMS is not online within twenty-four (24) hours of shutdown or malfunction of the primary COMS, the Permittee shall provide a certified opacity reader, who may be an employee of the Permittee or an independent contractor, to self-monitor Emissions from the emission unit stack.

(1) Visible emission readings shall be performed in accordance with 40 CFR 60, Appendix A, Method 9, for a minimum of five (5) consecutive six (6) minute averaging periods beginning not more than twenty-four (24) hours after the start of the malfunction or down time.

(2) Method 9 opacity readings shall be repeated for a minimum of five (5) consecutive six (6) minute averaging periods at least twice per day during daylight operations, with at least four (4) hours between each set of readings, until a COMS is online.

(3) Method 9 readings may be discontinued once a COMS is online.

(4) Any opacity exceedances determined by Method 9 readings shall be reported with the Quarterly Opacity Exceedances Reports.

(e) Nothing in this permit shall excuse the Permittee from complying with the requirements to

operate a continuous opacity monitoring system pursuant to 326 IAC 3-5.

D.4.9 Wet Collector Failure Detection [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

In the event that wet collector failure has been observed, the failed wet collector and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B – Emergency Provisions).

D.4.10 Broken or Failed Bag Detection [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

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

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

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

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

D.4.11 Visible Emissions Notations [40 CFR 64]

(a) Visible emission notations of the:

(1) Wet Collector #1 exhaust stack (Stack D),
(2) Wet Collector #2 exhaust stack (Stack C),
(3) Wet Collector #4 exhaust stack (Stack E), and
(4) Baghouse #11 exhaust stack (Stack W)

shall be performed once per day during normal daylight operations when exhausting to the atmosphere and when the associated processes are in operation. 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.4.12 Wet Collector Parametric Monitoring [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)] [40 CFR 64]

(a) Wet Collector #1 – Herman 3 Sand Handling and Herman 3 Shakeout
The Permittee shall record the pressure drop and flow rate across the Wet Collector #1, at least once per day, when either the Herman 3 sand handling process or the Herman 3 Shakeout process is in operation.

(1) When for any one reading, the pressure drop across Wet Collector #1 is below a minimum of 8 inches of water or a minimum established during the latest stack test, the Permittee shall take reasonable response steps.

(2) When for any one reading, the flow rate across Wet Collector #1 is below a minimum of 200 gallons per minute or a minimum flow rate established during the latest stack test, the Permittee shall take reasonable response steps.

(b) Wet Collector #2 – Herman 3 Sand Handling
The Permittee shall record the pressure drop and flow rate across the Wet Collector #2, at least once per day, when the Herman 3 Sand Handling process is in operation.

(1) When for any one reading, the pressure drop across Wet Collector #2 is below a minimum of 8 inches of water or a minimum established during the latest stack test, the Permittee shall take reasonable response steps.

(2) When for any one reading, the flow rate across Wet Collector #2 is below a minimum of 200 gallons per minute or a minimum flow rate established during the latest stack test, the Permittee shall take reasonable response steps.

(c) Wet Collector #4 –Herman 3 Sand Handling and Herman 3 Shakeout
The Permittee shall record the pressure drop and flow rate across Wet Collector #4, at least once per day, when either the Herman 3 the Herman 3 Sand Handling process or Shakeout process is in operation.

(1) When for any one reading, the pressure drop across Wet Collector #4 is below a minimum of 8 inches of water or a minimum established during the latest stack test, the Permittee shall take reasonable response steps.

(2) When for any one reading, the flow rate across Wet Collector #4 is below a minimum of 200 gallons per minute or a minimum flow rate established during the latest stack test, the Permittee shall take reasonable response steps.

(d) A pressure reading or flow rate that is below the above mentioned minimums 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.

(e) The instruments used for determining the pressures and flow rates 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.4.13 Baghouse Parametric Monitoring [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)] [40 CFR 64]

(a) The Permittee shall record the pressure drop across the Baghouse #11, at least once per day, when either of the following processes:

(1) Herman 3 Shakeout, or

(2) Herman 3 Sand Handling

are in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range, the Permittee shall take reasonable response. The normal range for Baghouse #11 is a pressure drop range between 4.0 and 10.0 inches of water unless a different upper-bound or lower-bound value for this range is determined during the most recent valid stack test. 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. 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.

(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 at least once every six (6) months.

D.4.14 Parametric Monitoring of Sonoperoxone® System or Equivalent System [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)] [40 CFR 64]

(a) Ultra-Sonic Power – Herman 3 Mold Line
The Permittee shall monitor and record the ultra-sonic power of the Sonoperoxone® system or equivalent system used in conjunction with the Herman 3 Mold Line, at least once per day when the Herman 3 Mold Line is in operation. When for any one reading, the ultra-sonic power is less than 1500 W or a minimum established during the latest stack test, the Permittee shall take reasonable response steps. An ultra-sonic power reading that is below the above mentioned minimum is not a deviation from this permit.

(b) Ozone Generator Plasma Voltage – Herman 3 Mold Line
The Permittee shall monitor and record the ozone generator plasma voltage of the Sonoperoxone® system or equivalent system used in conjunction with the Herman 3 Mold Line, at least once per day when the Herman 3 Mold Line is in operation. When for any one reading, the ozone generator plasma voltage is less than 2700 V or a minimum established during the latest stack test, the Permittee shall take reasonable response steps. An ozone generator plasma voltage reading that is below the above mentioned minimum is not a deviation from this permit.

(c) Hydrogen Peroxide Usage – Herman 3 Mold line
The Permittee shall monitor and record the hydrogen peroxide usage of the Sonoperoxone® system or equivalent system used in conjunction with the Herman 3 Mold Line, at least once per day when the Herman 3 Mold Line is in operation. When for any one reading, the hydrogen peroxide is less than 1 gallon per hour of muller operation, or a minimum established during the latest stack test, the Permittee shall take reasonable response steps. A peroxide usage reading that is below the above mentioned minimum is not a deviation from this permit. The instruments used for determining the ultra-sonic power, the ozone generator plasma voltage and the hydrogen peroxide usage 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) 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.

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

D.4.15 Record Keeping Requirements

(a) To document the compliance status with Conditions D.4.1 – BACT Requirements, and D.4.2 – PSD Minor Limits, the Permittee shall maintain records of the amounts of metal and sand throughputs to the Herman 3 Mold Line.

(b) To document the compliance status with Conditions D.4.1 – BACT Requirements, and D.4.2 – PSD Minor Limits, the Permittee shall maintain records of the combined amount of core and mold sand handled for the:

(1) Herman 2 Sand Handling, and
(2) Herman 3 Sand Handling.

(c) To document the compliance status with Condition D.4.7 – Continuous Opacity Monitoring and Section C – Opacity, the Permittee shall maintain records of opacity from the continuous opacity monitor on the Herman 3 Castings Cooling vent (V-12), including raw data and supporting information, for a minimum of five (5) years, and make such records available upon request to IDEM, OAQ.

(d) To document the compliance status with Condition D.4.11 – Visible Emission Notations, the Permittee shall maintain daily records of visible emission notations of the wet collector #1, wet collector #2, wet collector #4, and baghouse #11 stack exhausts. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).

(e) To document the compliance status with Condition D.4.12 – Wet Collector Parametric Monitoring, the Permittee shall maintain the daily records of the pressure drop and flow rate reading across wet collector #1, wet collector #2, and wet collector #4. The Permittee shall include in its daily record when a pressure drop and flow rate reading are not taken and the reason for the lack of a pressure drop and flow rate readings, (e.g. the process did not operate that day).

(f) To document the compliance status with Condition D.4.13 – Baghouse Parametric Monitoring, the Permittee shall maintain the daily records of the pressure drop across baghouse #11. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading, (e.g. the process did not operate that day).

(g) To document the compliance status with Condition D.4.14 – Parametric Monitoring of Sonoperoxone® System or Equivalent System, the Permittee shall maintain records of the:

(1) ultra-sonic power,
(2) ozone generator plasma voltage, and
(3) hydrogen peroxide usage of the Sonoperoxone® system

and make such records available upon request to IDEM, OAQ.

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

D.4.16 Reporting Requirements

(a) A quarterly summary of the information to document the compliance status with Condition D.4.1 (a)(1) and (a)(2) – BACT Requirements, and Condition D.4.2 (a) and (b) – PSD Minor Limits, shall be submitted not later than thirty (30) days following the end of each calendar quarter.

(b) A quarterly summary of excess opacity emissions, as defined in 326 IAC 3-5-7, from the continuous monitoring system, shall be submitted not later than thirty (30) days following the end of each calendar quarter.

(c) These reports submitted by the Permittee do require a certification that meets the requirements of 326 IAC 2-7-6(1) by a “responsible official” as defined by 326 IAC 2-7-1(35). Section C - General Reporting Requirements contains the Permittee's obligations with regard to the reporting required by this condition.

SECTION D.5 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(14)]

(6) **Inclined Shakeout and Sort System (servicing Herman 2 and Herman 3)**

(a) One (1) Inclined Shakeout and Sort System, constructed prior to 1977, with a nominal throughput of 48.5 tons of iron per hour, with particulate emissions captured and controlled by Baghouse #2, exhausting through Stack G.

(b) One (1) vibratory shaker, permitted in 2011, identified as VB1, with a nominal capacity of 48.5 tons iron per hour, with particulate emissions captured and controlled by Baghouse #2, exhausting through Stack G.

(7) **Waste Sand Handling, Screening and Transport System (servicing Herman 2 and Herman 3)**
One (1) Waste Sand Handling, Screening and Transport System, constructed prior to 1977, with a nominal throughput of 20 tons of waste sand per hour.

The Waste Sand Handling, Screening and Transport System consists of a rotary screen process, a magnetic separator, a silo, an elevated bin hopper, and a transport (Dependable) system.

Particulate emissions from the Waste Sand Handling, Screening and Transport system are captured and controlled by Baghouse #9, exhausting through Stack R.

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

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

D.5.1 PSD Minor Limits [326 IAC 2-2]

(a) Inclined Shakeout and Sort System (Stack G)

(1) The PM emissions from the Inclined Shakeout and Sort system shall be limited to 0.072 pounds per ton of metal.

(2) The PM_{10} emissions from the Inclined Shakeout and Sort system shall be limited to 0.072 pounds per ton of metal.

(b) Waste Sand Handling, Screening and Transport Sand Throughput Limit (Stack R)

(1) The amount of sand throughput to the Waste Sand Handling, Screening and Transport system shall be limited to 112,752 tons of sand per twelve (12) consecutive month period, rolled on a monthly basis, with compliance determined at the end of each month.

(2) The PM emissions from the Waste Sand Handling, Screening and Transport system shall be limited to 0.072 pounds per ton of sand.

(3) The PM_{10} emissions from the Waste Sand Handling, Screening and Transport system shall be limited to 0.011 pounds per ton of sand.

Compliance with the limits in (a) and (b) above and the limits specified in Conditions D.1.1, D.2.1, D.3.1, D.6.1 and D.7.2 will render the requirements of 326 IAC 2-2 (PSD) not applicable to permit No. 085-14027-00003 (the former Hot Box Core Making Line #9 installation), and to the Significant Permit Modification No. 085-25675-00003 (Conversion of the Hot Box Core Making Line #9 to Phenolic Urethane Core Making Line #9).

(c) The PM emissions from the Vibratory Shaker shall be limited to 0.188 pounds per ton of iron.

(d) The PM_{10} emissions from the Vibratory Shaker shall be limited to 0.154 pounds per ton of iron.

(e) The amount of metal throughput to the Vibratory Shaker shall be limited to 142,000 tons of metal per twelve (12) consecutive month period, rolled on a monthly basis, with compliance determined at the end of each month.

Compliance with the limits listed in (c), (d) & (e) above and the limits specified in Condition D.6.1.2 will restrict the potential to emit from the 2011 modification to add the Vibratory Shaker, and Hose Blast system to less than twenty-five (25) tons of PM per year, and less than fifteen (15) tons of PM_{10} per year. Therefore the requirements of 326 IAC 2-2 (PSD) are not applicable to the 2011 modification to add the Vibratory Shaker, and Hose Blast system, including the unrestricted PTE of the 'fugitive' emissions from these emission units.

D.5.2 Particulate Emission Limitation [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2, the particulate matter (PM) emissions from each process shall not exceed the pounds per hour limitations specified in the table below:

Process / Emission Unit	**P** (ton/hr)	**E** (lb/hr)	**Equation Used**
Inclined Shakeout and Sort System (Baghouse #2, Stack G)	48.5	44.3	(b)
Vibratory Shaker (Baghouse #2, Stack G)	48.5	44.3	(b)
Waste Sand Handling, Screening and Transport System (Baghouse #9, Stack R)	20	30.5	(a)

The pound per hour limitations was calculated with the following equations:

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

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

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

$E = 55.0\ P^{0.11} - 40$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

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

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

Compliance Determination Requirements

D.5.4 Emission Controls Operation [326 IAC 2-7-6(6)]

(a) Baghouse #2 – Inclined Shakeout and Sort System and Vibratory Shaker
The Baghouse #2 for particulate emissions control shall be in operation and control emissions from the Inclined Shakeout and Sort system and/or Vibratory Shaker at all times when the Inclined Shakeout and Sorting system and/or Vibratory Shaker is in operation.

(b) Baghouse #9 – Waste Sand Handling, Screening and Transport System
The Baghouse #9 for particulate emissions control shall be in operation and control emissions from the Waste Sand Transport at all times when the Waste Sand Handling, Screening and Transport system is in operation.

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

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

(a) In order to demonstrate the compliance status with Conditions D.5.1(c) and D.5.2, the Permittee shall perform PM testing on the vibratory shaker.

(b) In order to demonstrate the compliance status with Condition D.5.1(d), the Permittee shall perform emissions testing to determine the PM_{10} emissions for the vibratory shaker. PM_{10} includes filterable and condensable PM.

(c) Testing shall be conducted using methods as approved by the Commissioner at least once every five (5) years for PM and PM_{10}, from the date of the last valid compliance demonstration. Testing shall be conducted using the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's obligations with regard to the testing required by this condition.

D.5.6 Broken or Failed Bag Detection [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

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

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

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

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

D.5.7 Visible Emissions Notations [40 CFR 64]

(a) Visible emission notations of the:

(1) Baghouse #2 exhaust stack (Stack G), and
(2) Baghouse #9 exhaust stack (Stack R),

shall be performed once per day during normal daylight operations when exhausting to the atmosphere and when the associated processes are in operation. 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.5.8 Baghouse Parametric Monitoring [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)] [40 CFR 64]

(a) Baghouse #2 – Inclined Shakeout and Sort System
The Permittee shall record the pressure drop across Baghouse #2, at least once per day when the associated Inclined Shakeout and Sorting system is in operation when venting to the atmosphere. When for any one reading, the pressure drop across Baghouse #2 is outside the normal range, the Permittee shall take reasonable response. The normal range for Baghouse #2 is a pressure drop range between 2.0 and 8.0 inches of water unless a different upper-bound or lower-bound value for this range is determined during the most recent valid stack test.

(b) Baghouse #9 – Waste Sand Handling, Screening and Transport
The Permittee shall record the pressure drop across Baghouse #9, at least once per day when the associated Waste Sand Handling, Screening and Transport system is in operation when venting to the atmosphere. When for any one reading, the pressure drop across Baghouse #9 is outside the normal range, the Permittee shall take reasonable response. The normal range for Baghouse #9 is a pressure drop range between 2.0 and 8.0 inches of water unless a different upper-bound or lower-bound value for this range is determined during the most recent valid stack test.

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

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

D.5.9 Record Keeping Requirements

(a) To document the compliance status with Condition D.5.1 – PSD Minor Limits, the Permittee shall maintain records of the amount of sand throughput to the Waste Sand Handling, Screening and Transport system and the amount of metal throughput to the Vibratory Shaker.

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(b) To document the compliance status with Condition D.5.7 – Visible Emission Notations, the Permittee shall maintain daily records of visible emission notations of the baghouse #2 and baghouse #9 stack exhausts. 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.5.8 – Baghouse Parametric Monitoring, the Permittee shall maintain the daily records of the pressure drop across baghouse #2 and baghouse #9. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading, (e.g. the process did not operate that day).

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

D.5.10 Reporting Requirements

A quarterly summary of the information to document the compliance status with Condition D.5.1(b)(1) and D.5.1(e), shall be submitted not later than thirty (30) days following the end of each calendar quarter. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a “responsible official” as defined by 326 IAC 2-7-1(35). Section C - General Reporting Requirements contains the Permittee's obligations with regard to the reporting required by this condition.

SECTION D.6 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(14)]

(8) **Shot Blast Machines**

(a) Five (5) Shot Blast Machines:

(1) Three (3) Shot Blast Machines, identified as SB-1, SB-2, and SB-4, each constructed prior to 1977, each with a nominal capacity of 5.0 tons of iron castings per hour.

(2) One (1) Shot Blast Machine, identified as SB-3, constructed in 1981, with a nominal throughput of 5.0 tons of iron castings per hour.

(3) One (1) Shot Blast Machine, permitted in 2006 and modified in 2011 to add a manual blow-off chamber, identified as SB-10, with a nominal capacity of 5 tons of iron castings per hour.

Particulate emissions from these Shot Blast Machines are captured and controlled by Baghouse #3, exhausting through Stack H.

Particulate emissions from the manual blow-off chamber for SB-10 are captured and controlled by a fabric filter control device exhausted internally.

(b) Three (3) Shot Blast Machines:

(1) One (1) Shot Blast Machine, identified as SB-5, constructed prior to 1977, with a nominal throughput of 5.0 tons of iron castings per hour.

(2) One (1) Shot Blast Machine, identified as SB-6, constructed in 1981, with a nominal throughput of 5.0 tons of iron castings per hour.

(3) One (1) Shot Blast Machine, identified as SB-8, constructed in 1988, with a nominal throughput of 8.0 tons of iron castings per hour.

(4) One (1) hose blast operation for Shot Blast #8, permitted in 2011, identified as HB1, with a nominal capacity of 8.0 tons of iron castings per hour.

Particulate emissions from these Shot Blast Machines and the hose blast operation are captured and controlled by Baghouse #16, exhausting through Stack AG.

(c) One (1) Shot Blast Machine, identified as SB-7, constructed in 1978 with a nominal throughput of 6.0 tons of iron castings per hour.

Particulate emissions from this Shot Blast Machine are captured and controlled by Baghouse #6, exhausting through Stack K.

(d) One (1) Shot Blast Machine, identified as SB-9, constructed in 1995 and approved for modification in 2013 by adding shot wheels, with a nominal throughput of 12.5 tons of iron castings per hour.

Particulate emissions from this Shot Blast Machine are captured and controlled by Baghouse #12, exhausting through Stack X.

(9) **Grinders**

(a) Fourteen (14) Grinders:

(1) Twelve (12) Grinders, identified as GR-1 through GR-4, GR-9, GR-10, GR-29, and GR-30, constructed prior to 1977, each with a nominal throughput of 4.0 tons of iron castings per hour.

(2) Two (2) robotic grinders, constructed in 2009, identified as:

(A) ABB, with a total nominal capacity of 1.0 tons of iron castings per hour, and

(B) FANUC, with a total nominal capacity of 1.5 tons of iron castings per hour.

Particulate emissions from these Grinders are captured and controlled by Baghouse #15, exhausting through Stack AE.

(b) Six (6) Grinders, identified as GR-11 through GR-14, GR-16, and GR-17, constructed prior to 1977, each with a nominal throughput of 4.0 tons of iron castings per hour, with particulate emissions from these Grinders are captured and controlled by Baghouse #16, exhausting through Stack AG.

(c) Eight (8) Grinders, identified as GR-19, GR-20, GR-23, GR-25, GR-26, and GR-34 through GR-36, constructed prior to 1977, each with a nominal throughput of 4.0 tons of iron castings per hour.

Particulate emissions from these Grinders are captured and controlled by Baghouse #6, exhausting through Stack K.

(d) Four (4) Grinders, identified as GR-31 through GR-33; and GR-37, constructed prior to 1977, each with a nominal throughput of 4.0 tons of iron castings per hour.

Particulate emissions from these Grinders are captured and controlled by Baghouse #12, exhausting through Stack X.

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

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

D.6.1 PSD Minor Limits [326 IAC 2-2]

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

(a) The amount of total finished castings from Shot Blast Machines (SB-1 through SB-9) combined shall not exceed 112,752 tons of castings finished per twelve (12) consecutive month period, rolled on a monthly basis, with compliance determined at the end of each month.

(b) The PM emissions from each Shot Blast Machine (SB-1 through SB-8) shall be limited to 0.5066 pounds per ton of metal finished.

(c) The PM_{10} emissions from each Shot Blast Machine (SB-1 through SB-8) shall be limited

to 0.5066 pounds per ton of metal finished.

(d) The lead emissions from each Shot Blast Machine (SB-1 through SB-8) shall be limited to 0.0045 pounds per ton of metal finished.

(e) The amount of total finished castings from Shot Blast Machine (SB-9) shall not exceed 60,500 tons of castings finished per twelve (12) consecutive month period, rolled on a monthly basis, with compliance determined at the end of each month.

(f) The PM emissions from the Shot Blast Machine (SB-9), controlled by Baghouse #12, shall not exceed 0.167 pounds per ton.

(g) The PM_{10} emissions from the Shot Blast Machine (SB-9), controlled by Baghouse #12, shall not exceed 0.151 pounds per ton.

(h) The $PM_{2.5}$ emissions from the Shot Blast Machine (SB-9), controlled by Baghouse #12, shall not exceed 0.12 pounds per ton.

(i) The lead (Pb) emissions from the Shot Blast Machine (SB-9), controlled by Baghouse #12, shall not exceed 0.0045 pounds per ton.

Compliance with the limits listed above under (a), (b), (c), (d), (f), (g), and (i) and the limits specified in Conditions D.1.1, D.2.1, D.3.1, D.5.1(a) & (b) and D.7.2 will restrict the potential to emit from the conversion of the hot box core making line #9 to Phenolic Urethane core making line #9 to less than twenty-five (25) tons of PM per year, less than fifteen (15) tons of PM_{10} per year, and less than 0.6 tons of lead (Pb) per year. Therefore, the requirements of 326 IAC 2-2 (PSD) are not applicable to the 2002 modification, which involved the conversion of the hot box core making line #9 to Phenolic Urethane core making line #9.

Compliance with the limits listed above under (e) through (i), combined with the uncaptured emissions and the limits in Conditions D.4.2(i) and D.8.2 will limit the modification to less than twenty-five (25) tons of PM per year, less than fifteen (15) tons of PM_{10} per year, less than ten (10) tons of $PM_{2.5}$ per year, and less than 0.6 tons of lead (Pb) per year. Therefore, the requirements of 326 IAC 2-2 (PSD) are not applicable to the 2013 modification to the shot blast machine (SB-9), core sand heater and mixer- core making line #1, and return sand surge bin - Herman 3 mold line.

D.6.1.1 PSD Minor Limits [326 IAC 2-2]

(a) The PM emission rate from Shot Blast Machine SB-10 controlled by Baghouse #3 shall not exceed 5.7 pounds per hour.

(b) The PM_{10} emission rate from Shot Blast Machine SB-10 controlled by Baghouse #3 shall not exceed 3.40 pounds per hour.

Compliance with the limits above will restrict the potential to emit from SB-10 to less than twenty-five (25) tons of PM per year and less than fifteen (15) tons of PM_{10} per year. Therefore, the requirements of 326 IAC 2-2 (PSD) are not applicable to SB-10.

D.6.1.2 PSD Minor Limits [326 IAC 2-2]

(a) The amount of total finished castings from the Hose Blast system for Shot Blast Machine SB-8 shall not exceed 16,500 tons of castings finished per twelve (12) consecutive month period, rolled on a monthly basis, with compliance determined at the end of each month.

(b) The PM emission rate from the Hose Blast system for Shot Blast Machine SB-8 controlled by Baghouse #16 shall not exceed 0.67 pounds per ton.

(c) The PM_{10} emission rate from the Hose Blast system for Shot Blast Machine SB-8

controlled by Baghouse #16 shall not exceed 0.34 pounds per ton.

(d) The Pb emission rate from the Hose Blast system for Shot Blast Machine SB-8 controlled by Baghouse #16 shall not exceed 0.066 pounds per ton.

Compliance with the limits above and the limits specified in Condition D.5.1(c), (d) & (e) will restrict the potential to emit from the 2011 modification to add the Vibratory Shaker, and Hose Blast system to less than twenty-five (25) tons of PM per year, less than fifteen (15) tons of PM_{10} per year, and less than 0.6 tons of lead (Pb) per year. Therefore the requirements of 326 IAC 2-2 (PSD) are not applicable to the 2011 modification to add the Vibratory Shaker, and Hose Blast system, including the unrestricted PTE of the 'fugitive' emissions from these emission units.

D.6.1.3 PSD Minor Limits [326 IAC 2-2]

(a) The amount of total finished castings from the ABB and FANUC grinders shall not exceed 15,500 tons of castings finished per twelve (12) consecutive month period, rolled on a monthly basis, with compliance determined at the end of each month.

(b) The PM emission rate from the ABB and FANUC grinders controlled by Baghouse #16 shall not exceed 0.34 pounds per ton.

(c) The PM_{10} emission rate from the ABB and FANUC grinders controlled by Baghouse #16 shall not exceed 0.34 pounds per ton.

(d) The lead (Pb) emission rate from the ABB and FANUC grinders controlled by Baghouse #16 shall not exceed 0.07 pounds per ton.

Compliance with the limits above and the limits specified in Conditions D.3.2 and D.4.2(h) will restrict the potential to emit from the 2009 modification to add the Klein Transports (Waste Sand Handling), Return Sand Conveyor, and Robotic Grinders to less than twenty-five (25) tons of PM per year, less than fifteen (15) tons of PM_{10} per year, and less than 0.6 tons of lead (Pb) per year. Therefore the requirements of 326 IAC 2-2 (PSD) are not applicable to the 2009 modification to add the Klein Transports (Waste Sand Handling), Return Sand Conveyor, and Robotic Grinders, including the unrestricted PTE of the 'fugitive' emissions from these emission units.

D.6.1.4 PSD Minor Limits [326 IAC 2-2]

(a) The total amount of casting into the SB 10 Blow-Off Chamber shall not exceed 20,000 tons per twelve (12) consecutive month period, rolled on a monthly basis, with compliance determined at the end of each month.

(b) The PM emission rate from the SB 10 Blow-Off Chamber controlled by an internally exhausted fabric filter control device shall not exceed 0.605 pounds per ton.

(c) The PM_{10} emission rate from the SB 10 Blow-Off Chamber controlled by an internally exhausted fabric filter control device shall not exceed 1.088 pounds per ton.

(d) The lead (Pb) emission rate from the SB 10 Blow-Off Chamber controlled by an internally exhausted fabric filter control device shall not exceed 0.058 pounds per ton.

Compliance with the above limits and the fugitive emissions will limit the modification to less than twenty-five (25) tons of PM per year, less than fifteen (15) tons of PM_{10} per year, and less than 0.6 tons of lead (Pb) per year and render the requirements of 326 IAC 2-2 (PSD) are not applicable to the 2011 modification.

D.6.2 Particulate Emission Limitation for Manufacturing Processes [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2, the particulate matter (PM) emissions from each process shall not exceed the pounds per hour limitations specified in the table below:

Process / Emission Unit	**P** (ton/hr)	**E** (lb/hr)
Shot Blast Machines SB-1, SB-2, SB-3, SB-4, and SB-10 (Baghouse #3)	5.0, each	12.1, each
Shot Blast Machines SB-5 and SB-6 (Baghouse #16)	5.0, each	12.1, each
Shot Blast Machine SB-7 (Baghouse #6)	6.0	13.6
Shot Blast Machine SB-8 and Hose Blast for SB-8 (Baghouse #16)	8.0, each	8.56, each
Shot Blast Machine SB-9 (Baghouse #12)	12.5	22.3
Shot Blast Machine SB-10 Blow-off Chamber (Fabric Filter)	5.0	12.1
Grinders GR-1 through GR-4, GR-9, GR-10, GR-29, and GR-30 (Baghouse #15)	4.0, each	10.4, each
Grinder ABB (Baghouse #15)	1.0	4.1
Grinder FANUC (Baghouse #15)	1.5	5.4
Grinders GR-11 through GR-14 and GR-17 (Baghouse #16)	4.0, each	10.4, each
Grinders GR-19, GR-20, GR-23, GR-25, GR-26, GR-34, GR-35, and GR-36 (Baghouse #6)	4.0, each	10.4, each
Grinders GR-31, GR-32, GR-33, and GR-37 (Baghouse #12)	4.0, each	10.4, each

The pound per hour limitations was calculated with the following equations:

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

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

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

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

Compliance Determination Requirements

D.6.4 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

(a) In order to demonstrate the compliance status with Conditions D.6.1(b), D.6.1.1(a), D.6.1.2(b), D.6.1.3(b), and D.6.2, the Permittee shall perform PM testing on:

(1) Baghouse #3 exhaust stack (Stack H),
(2) Baghouse #6 exhaust stack (Stack K),
(3) Baghouse #15 exhaust stack (Stack AE), and
(4) Baghouse #16 exhaust stack (Stack AG),

when any of the controlled emission units are in operation. Testing shall be conducted utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the last valid compliance demonstration.

(b) In order to demonstrate compliance with Conditions D.6.1(c), D.6.1.1(b), D.6.1.2(c), and D.6.1.3(c), the Permittee shall perform PM_{10} emissions testing on:

(1) Baghouse #3 exhaust stack (Stack H),
(2) Baghouse #6 exhaust stack (Stack K),
(3) Baghouse #15 exhaust stack (Stack AE), and
(4) Baghouse #16 exhaust stack (Stack AG),

when any of the controlled emission units are in operation. Testing shall be conducted utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the last valid compliance demonstration. PM_{10} includes filterable and condensable PM.

(c) In order to demonstrate the compliance status with Conditions D.6.1(d), D.6.1.2(d) and D.6.1.3(d), the Permittee shall perform Pb testing on:

(1) Baghouse #3 exhaust stack (Stack H),
(2) Baghouse #6 exhaust stack (Stack K),
(3) Baghouse #15 exhaust stack (Stack AE), and
(4) Baghouse #16 exhaust stack (Stack AG),

when any of the controlled emission units are in operation. Testing shall be conducted utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the last valid compliance demonstration.

(d) In order to demonstrate the compliance status with Conditions D.6.1(f), D.6.1(g), D.6.1(h), D.6.1(i), and D.6.2, the Permittee shall perform PM, PM10, PM2.5, and Pb testing of Baghouse #12 (Stack X), when shot blast machine (SB-9) and grinders (GR-31 through GR-33 and GR-37) are all in operation, not later than one hundred eighty (180) days after initial startup of the modified shot blast machine (SB-9). Testing shall be conducted utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the last valid compliance demonstration. PM10 and PM2.5 includes filterable and condensable PM.

(e) Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligations with regard to the testing required by this condition.

D.6.5 Emission Controls Operation [326 IAC 2-7-6(6)]

(a) Baghouse #3
The Baghouse #3 for particulate emissions control shall be in operation and control emissions from the Shot Blast Machines, SB-1 through SB-4, and SB-10, at all times that any one of these Shot Blast Machines is in operation.

(b) Baghouse #6
(1) The Baghouse #6 for particulate emissions control shall be in operation and control emissions from the Shot Blast Machine SB-7 at all times that Shot Blast Machine SB-7 is in operation.

(2) The Baghouse #6 for particulate emissions control shall be in operation and control emissions from the Grinders GR-19, GR-20, GR-23, GR-25, GR-26, and GR-34 through GR-36 at all times that any of these Grinders is in operation.

(c) Baghouse #12
(1) The Baghouse #12 for particulate emissions control shall be in operation and control emissions from the Shot Blast Machine SB-9 all times that Shot Blast Machine SB-9 is in operation.

(2) The Baghouse #12 for particulate emissions control shall be in operation and control emissions from the Grinders GR-31 through GR-33, and GR-37 all times that any of these Grinders is in operation.

(d) Baghouse #15
The Baghouse #15 for particulate emissions control shall be in operation and control emissions from the Grinders GR-1 through GR-4, GR-9, GR-10, GR-29, GR-30, ABB, and FANUC, at all times that any one of these Grinders is in operation.

(e) Baghouse #16
(1) The Baghouse #16 for particulate emissions control shall be in operation and control emissions from the Shot Blast Machines SB-5, SB-6, SB-8, and Hose Blast HB1, at all times that any one of these Shot Blast Machines or the Hose Blast Machine is in operation.

(2) The Baghouse #16 for particulate emissions control shall be in operation and control emissions from the Grinders GR-11 through GR-14, GR-16, GR-17 at all times that any one of these Grinders is in operation.

(f) 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.6.6 Broken or Failed Bag Detection [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

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

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

processing of the material in the emission unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B – Emergency Provisions).

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

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

D.6.7 Visible Emissions Notations [40 CFR 64]

(a) Visible emission notations of the:

(1) Baghouse #3 exhaust stack (Stack H),
(2) Baghouse #6 exhaust stack (Stack K),
(3) Baghouse #12 exhaust stack (Stack X),
(4) Baghouse #15 exhaust stack (Stack AE), and
(5) Baghouse #16 exhaust stack (Stack AG),

shall be performed once per day during normal daylight operations when exhausting to the atmosphere and when the associated processes are in operation. 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.6.8 Baghouse Parametric Monitoring [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)] [40 CFR 64]

(a) Baghouse #3
The Permittee shall record the pressure drop across Baghouse #3, at least once per day, when the associated Shot Blast Machines are in operation when venting to the atmosphere. When for any one reading, the pressure drop across Baghouse #3 is outside the normal range, the Permittee shall take reasonable response. The normal range for Baghouse #3 is a pressure drop range between 2.0 and 8.0 inches of water unless a different upper-bound or lower-bound value for this range is determined during the most recent valid stack test.

(b) Baghouse #6
The Permittee shall record the pressure drop across Baghouse #6, at least once per day when the associated Shot Blast Machines and Grinders are in operation when venting to the atmosphere. When for any one reading, the pressure drop across Baghouse #6 is outside the normal range, the Permittee shall take reasonable response. The normal range for Baghouse #6 is a pressure drop range between 2.0 and 8.0 inches of water unless a different upper-bound or lower-bound value for this range is determined during the most recent valid stack test.

(c) Baghouse #12
The Permittee shall record the pressure drop across Baghouse #12, at least once per day when the associated Shot Blast Machines and Grinders are in operation when venting to the atmosphere. When for any one reading, the pressure drop across Baghouse #12 is outside the normal range, the Permittee shall take reasonable response. The normal range for Baghouse #12 is a pressure drop range between 4.0 and 10.0 inches of water unless a different upper-bound or lower-bound value for this range is determined during the most recent valid stack test.

(d) Baghouse #15
The Permittee shall record the pressure drop across Baghouse #15, at least once per day when the associated Grinders are in operation when venting to the atmosphere. When for any one reading, the pressure drop across Baghouse #15 is outside the normal range, the Permittee shall take reasonable response. The normal range for Baghouse #15 is a pressure drop range between 2.0 and 8.0 inches of water unless a different upper-bound or lower-bound value for this range is determined during the most recent valid stack test.

(e) Baghouse #16
The Permittee shall record the pressure drop across Baghouse #16, at least once per day, when the associated Shot Blast Machines and Grinders are in operation when venting to the atmosphere. When for any one reading, the pressure drop across Baghouse #16 is outside the normal range, the Permittee shall take reasonable response. The normal range for Baghouse #16 is a pressure drop range between 2.0 and 8.0 inches of water unless a different upper-bound or lower-bound value for this range is determined during the most recent valid stack test.

(f) SB-10 blow-off chamber fabric filter control device
The Permittee shall record the pressure drop across SB-10 blow-off chamber fabric filter control device, at least once per day, when the associated blow-off chamber is in operation. When for any one reading, the pressure drop across SB-10 blow-off chamber fabric filter control device is outside the normal range, the Permittee shall take reasonable response. The normal range for SB-10 blow-off chamber fabric filter control device is a pressure drop range between 0.1 and 6.1 inches of water unless a different upper-bound or lower-bound value for this range is determined during the most recent valid stack test.

(g) 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. 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.

(h) 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.

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

D.6.9 Record Keeping Requirements

(a) To document the compliance status with Condition D.6.1(a) – PSD Minor Limits, the Permittee shall maintain records of the amount of cumulative total finished castings from each of the following Shot Blast Machines: SB-1 through SB-9.

(b) To document the compliance status with Condition D.6.1.2(a) – PSD Minor Limits, the Permittee shall maintain records of the amount of total finished castings from the Hose Blast system for Shot Blast Machine SB-8.

(c) To document the compliance status with conditions D.6.1.3(a) – PSD Minor Limits, the Permittee shall maintain records of the total finished casting from the ABB and FANUC grinders.

(d) To document the compliance status with Condition D.6.1.4(a) - PSD Minor Limit, the Permittee shall maintain monthly records of casting throughput to the SB 10 Blow-Off Chamber.

(e) To document the compliance status with Condition D.6.1(e) – PSD Minor Limits, the Permittee shall maintain records of the amount of total finished castings from Shot Blast Machine SB-9.

(f) To document the compliance status with Condition D.6.6 – Visible Emission Notations, the Permittee shall maintain daily records of visible emission notations of the baghouse #3, baghouse #6, baghouse #12, baghouse #15 and baghouse #16 stack exhausts. 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).

(g) To document the compliance status with Condition D.6.7– Baghouse Parametric Monitoring, the Permittee shall maintain the daily records of the pressure drop across baghouse #3, baghouse #6, baghouse #12, baghouse #15 and baghouse #16 and the blow-off chamber fabric filter control device. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading, (e.g. the process did not operate that day).

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

D.6.10 Reporting Requirements

A quarterly summary of the information to document the compliance status with Condition D.6.1(a) – PSD Minor Limits, Condition D.6.1(e) - PSD Minor Limits, Condition D.6.1.2(a) – PSD Minor Limits, Condition D.6.1.3(a) – PSD Minor Limits, and Condition D.6.1.4(a) - PSD Minor Limits shall be submitted within thirty (30) days following the end of each calendar quarter. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a “responsible official” as defined by 326 IAC 2-7-1(35). Section C - General Reporting Requirements contains the Permittee's obligations with regard to the reporting required by this condition.

SECTION D.7 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(14)]

(11) **Phenolic Urethane Core Making Line #9 (also referred to as Core Making Line #9)**

One (1) Phenolic Urethane Core Making Line #9, constructed in 2002 as a hotbox process and modified in 2008 to be a phenolic process, with a nominal sand throughput of 18.0 tons of sand per hour. The Phenolic Urethane Core Making line #9 consists of the following emission units:

(a) One (1) Core Sand Handling Process, with a nominal sand throughput of 18.0 tons of sand per hour:

(1) One (1) Northeast (NE) Sand Silo, constructed prior to 1977, with an integral bin vent to control particulate emissions when loading.

(2) One (1) enclosed Pneumatic Sand Transporter #1, constructed in 1996, for transferring sand from the Northeast (NE) Sand Silo to the Sand Hopper #9.

(3) One (1) Sand Hopper #9, constructed in 2002, with particulate emissions captured and controlled by Baghouse Z, exhausting through Stack Z.

(4) One (1) electric Sand Heater #9, constructed in 2002, with particulate emissions captured and controlled by Baghouse Z, exhausting through Stack Z.

(b) One (1) Sand Mixer #9, constructed in 2002 and modified in 2008, with a nominal throughput of 18 tons of sand per hour.
Emissions from the Sand Mixer #9 are uncontrolled.

(c) Three (3) Core Machines, constructed in 2002 and modified in 2008, three (3) Core Wash Dip Tanks and one (1) natural gas fired Core Oven:

(1) One (1) Phenolic Urethane Core Machine #31 and its corresponding Core Wash Dip Tank #31 and natural gas fired Core Oven #10, each with a nominal throughput of 4.5 tons of sand per hour.

Emissions from the Phenolic Urethane Core Machine #31 are uncontrolled.
Emissions from the Core Wash Dip Tank #31 are uncontrolled.

(2) One (1) Phenolic Urethane Core Machine #32, and its corresponding Core Wash Dip Tank #32 and natural gas fired Core Oven #10, each with a nominal throughput of 4.5 tons of sand per hour.

Emissions from the Phenolic Urethane Core Machine #32 are uncontrolled.
Emissions from the Core Wash Dip Tank #32 are uncontrolled.

(3) One (1) Phenolic Urethane Core Machine #33, and its corresponding Core Wash Dip Tank #33 and natural gas fired Core Oven #10, each with a nominal throughput of 4.5 tons of sand per hour.

Emissions from the Phenolic Urethane Core Machine #33 are uncontrolled.
Emissions from the Core Wash Dip Tank #33 are uncontrolled.

The natural gas fired Core Oven #10 has a maximum heat input capacity of 6.0 million British thermal units (MMBtu) per hour.

(d) One (1) electric Phenolic Urethane Core Oven #5.

Emissions from the Phenolic Urethane Core Oven #5 are uncontrolled.

(e) One (1) natural gas fired Core Oven #11, constructed in 2011, has a maximum heat input capacity of 3.0 million British thermal units (MMBtu) per hour.

Emissions from the Phenolic Urethane Core Oven #11 are uncontrolled.

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

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

D.7.1 VOC Minor Limits [326 IAC 2-2] [326 IAC 8-1-6]

(a) The amount of resin usage in the Phenolic Urethane Core Making Line #9 operations shall not exceed 295,000 pounds per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) The amount of catalyst usage in the Phenolic Urethane Core Making Line #9 operations shall not exceed 32,935 pounds per twelve (12) consecutive month period, with compliance determined at the end of the month.

(c) The VOC emissions from the Phenolic Urethane Core Making Operation shall not exceed 0.02904 pounds of noncatalyst VOC per pounds of resin.

Compliance with these limits, combined with potential VOC emissions from the core box cleaner, release agent, core wash, and core oven #10 will restrict the VOC emissions from the the Phenolic Urethane Core Making Line #9 to less than 25 tons per year. Therefore, the requirements of 326 IAC 8-1-6 (New Facilities, General Reduction requirements) and 326 IAC 2-2 (PSD) are not applicable to the Phenolic Urethane Core Making Line #9.

D.7.2 PSD Minor Limits [326 IAC 2-2]

(a) The amount of sand used in the Phenolic Urethane Core Making Line #9 shall not exceed 12,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

(b) Total PM emissions from the Phenolic Urethane Core Making Line #9 shall not exceed 0.33 pounds per ton of sand.

(c) PM_{10} Limit (Stack Z)
Total PM_{10} emissions from the Phenolic Urethane Core Making Line #9 shall not exceed 0.065 pound per ton of sand.

Compliance with these limits will restrict the potential to emit from this modification to less than twenty-five (25) tons of PM per year, less than fifteen (15) tons of PM_{10} per year. Therefore, the requirements of 326 IAC 8-1-6 (New Facilities, General Reduction requirements) and 326 IAC 2-2 (PSD) are not applicable to the Phenolic Urethane Core Making Line #9.

D.7.3 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2, the particulate matter (PM) emissions from each process shall not exceed the pounds per hour limitations specified in the table below:

Process / Emission Unit	**P** (ton/hr)	**E** (lb/hr)	**Equation Used**
Northeast (NE) Sand Silo (Bin Vent)	38.7	42.2	(b)
Pneumatic Sand Transporter #1	38.7	42.2	(b)
Sand Hopper #9 and Sand Heater #9 (Baghouse Z, Stack Z)	18.0, each	28.4, each	(a)
Sand Mixer #9	18.0	28.4	(a)

The pound per hour limitations was calculated with the following equations:

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

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

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

$E = 55.0\ P^{0.11} - 40$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

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

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

Compliance Determination Requirements

D.7.5 Emission Controls Operation

(a) The Northeast (NE) Sand Silo's integrated bin vent for particulate emissions control shall be in operation at all times that the Northeast (NE) Sand Silo is being loaded.

(b) The Baghouse Z for particulate emissions control shall be in operation at all times that any of the following:

(1) Sand Hopper #9, or
(2) Sand Heater #9,
are in operation.

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

D.7.6 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

(a) In order to demonstrate the compliance status with Condition D.7.1(c), the Permittee shall perform VOC testing for Phenolic Urethane Core Making Line #9.

(b) In order to demonstrate the compliance status with Conditions D.7.2(b) and D.7.3, the Permittee shall perform PM testing on the stack exhaust for Baghouse Z when Sand Hopper #9 and Sand Heater #9 are in operation.

(c) In order to demonstrate the compliance status with Condition D.7.2(c), the Permittee shall perform emissions testing on the stack exhaust for Baghouse Z when Sand Hopper #9 and Sand Heater #9 are in operation to determine the PM_{10} emissions for Sand Hopper #9 and Sand Heater #9. PM_{10} includes filterable and condensable PM.

(d) Testing shall be conducted utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the last valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligations with regard to the testing required by this condition.

D.7.7 Broken or Failed Bag Detection [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

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

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

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

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

D.7.8 Visible Emissions Notations

(a) Visible emission notations of the Baghouse Z exhaust stack (Stack Z) shall be performed once per day during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.

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

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

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

(e) If abnormal emissions are observed, the Permittee shall take reasonable response steps. 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.7.9 Baghouse Parametric Monitoring [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

(a) The Permittee shall record the pressure drop across the Baghouse Z, at least once per day, when the following are in operation:

(1) Sand Hopper #9, and/or
(2) Sand Heater #9.

When for any one reading, the pressure drop across the baghouse is outside the normal range, the Permittee shall take reasonable response. The normal range for Baghouse Z is a pressure drop range between 3.0 and 9.0 inches of water unless a different upper-bound or lower-bound value for this range is determined during the most recent valid stack test. 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. 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.

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

Record Keeping and Reporting Requirement [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.7.1, the Permittee shall maintain monthly records of the resin and catalyst usage for the Phenolic urethane Core Making Line #9. The Permittee shall keep records of suppliers' data sheets and material safety data sheets (MSDS) necessary to verify the VOC contents of the resin, core wash, release agent and core box cleaner used.

(b) To document the compliance status with D.7.2(a) – PSD Minor Limits, the Permittee shall maintain records of the amount of sand input to the Sand Mixer #9 on a monthly basis.

(c) To document the compliance status with Condition D.7.8, the Permittee shall maintain daily records of visible emission notations of the Baghouse Z 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).

(d) To document the compliance status with Condition D.7.9, the Permittee shall maintain the daily records of the pressure drop across Baghouse Z. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading, (e.g. the process did not operate that day).

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

D.7.11 Reporting Requirements

A quarterly summary of the information to document the compliance status with Condition D.7.1 (a) and (b) – VOC Minor Limits, and D.7.2(a) - PSD Minor Limits, shall be submitted not later than thirty (30) days following the end of each calendar quarter. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a “responsible official” as defined by 326 IAC 2-7-1(35). Section C - General Reporting Requirements contains the Permittee's obligations with regard to the reporting required by this condition.

SECTION D.8 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(14)]

(12) **Phenolic Urethane Core Making Line #1**
One (1) Phenolic Urethane Core Making Line #1, approved for modification in 2013, with a nominal sand throughput of 15.0 tons of sand per hour. The Phenolic Urethane Core Making Line #1 consists of the following emission units:

(a) One (1) Core Sand Handling Process, approved for modification in 2013, with a nominal sand throughput of 15.0 tons of sand per hour:

(1) One (1) South (S) Sand Silo, constructed prior to 1977, with an integral bin vent to control particulate emissions when loading.

(2) One (1) enclosed Pneumatic Sand Transporter #2, constructed in 1996, for transferring sand from the South (S) Sand Silo to the Phenolic Urethane Core Sand Hopper #1.

(3) One (1) Phenolic Urethane Core Sand Hopper #1, constructed in 1989, with particulate emissions controlled by Baghouse Q, exhausting through Stack Q.

(4) One (1) electric Phenolic Urethane Sand Heater #1, constructed in 1989 and approved for modification in 2013, for heating sand, with particulate emissions controlled by Baghouse Q, exhausting through Stack Q.

(b) One (1) Phenolic Urethane Core Sand Mixer #1, constructed in 1989 and approved for modification in 2013, with a nominal throughput of 15.0 tons of sand per hour and 0.185 pounds of VOC (from resin) per ton of sand.

Emissions from the Phenolic Urethane Core Sand Mixer #1 are uncontrolled.

(c) Five (5) Core Machines, five (5) Core Wash Dip Tanks, and three (3) natural gas fired Core Ovens

(1) One (1) Phenolic Urethane Core Machine #15, constructed in 1986 and modified to incorporate a larger blow plate in 2011, and its corresponding Core Wash Dip Tank #15 and natural gas fired Core Oven #1, constructed in 1986, each with a nominal throughput of 7.0 tons of sand per hour, 0.541 pounds of VOC (from resin) per ton of sand, and 2.75 pounds of catalyst per ton of sand.

Emissions from the Core Wash Dip Tank #15 are uncontrolled.

(2) One (1) Phenolic Urethane Core Machine #16, constructed in 1986 and modified to incorporate a larger blow plate in 2011, and its corresponding Core Wash Dip Tank #16 and natural gas fired Core Oven #1, each with a nominal throughput of 7.0 tons of sand per hour, 0.541 pounds of VOC (from resin) per ton of sand, and 2.75 pounds of catalyst per ton of sand.

Emissions from the Core Wash Dip Tank #16 are uncontrolled.

(3) One (1) Phenolic Urethane Core Machine #17, constructed in 1988, and its corresponding Core Wash Dip Tank #17 and natural gas fired Core Oven #17, each with a nominal throughput of 7.0 tons of sand per hour, 0.541 pounds of VOC (from resin) per ton of sand, and 2.75 pounds of catalyst per ton of sand.

Emissions from the Core Wash Dip Tank #17 are uncontrolled.

(4) One (1) Phenolic Urethane Core Machine #18, constructed in 1989, and its corresponding Core Wash Dip Tank #18 and natural gas fired Core Oven #2, each with a nominal throughput of 7.0 tons of sand per hour, 0.541 pounds of VOC (from resin) per ton of sand, and 2.75 pounds of catalyst per ton of sand.

Emissions from the Core Wash Dip Tank #18 are uncontrolled.

(5) One (1) Phenolic Urethane Core Machine #19, constructed in 1989, and its corresponding Core Wash Dip Tank #19 and natural gas fired Core Oven #2, each with a nominal throughput of 7.0 tons sand per hour, 0.541 pounds of VOC (from resin) per ton of sand, and 2.75 pounds of catalyst per ton of sand.

Emissions from the Core Wash Dip Tank #19 are uncontrolled.

Each natural gas fired Core Oven on Phenolic Urethane Core Making Line #1 has a maximum heat input capacity of 2.0 million British thermal units (Btu) per hour.

The catalyst used is Dimethylisopropylamine (DMIPA) or an equivalent, non-HAP containing catalyst.

The VOC emissions from the catalyst captured at the core box of the Phenolic Urethane Core Machine #15, Phenolic Urethane Core Machine #16, Phenolic Urethane Core Machine #17, Phenolic Urethane Core Machine #18, and Phenolic Urethane Core Machine #19 are controlled by Acid Scrubber AF, exhausting through Stack AF.

(13) **Phenolic Urethane Core Making Line #2**
One (1) Phenolic Urethane Core Making Line #2, with a nominal sand throughput of 3.0 tons of sand per hour. The Phenolic Urethane Core Making Line #2 consists of the following emission units:

(a) One (1) Core Sand Handling Process, with a nominal sand throughput of 3.0 tons of sand per hour:

(1) One (1) South (S) Sand Silo, constructed prior to 1977, with an integral bin vent to control particulate emissions when loading.

(2) One (1) enclosed Pneumatic Sand Transporter #2, constructed in 1996, for transferring sand from the South (S) Sand Silo to the Phenolic Urethane Core Sand Hopper #1.

(3) One (1) Phenolic Urethane Core Sand Hopper #1, constructed in 1989, with particulate emissions controlled by Baghouse Q, exhausting through Stack Q.

(b) One (1) Phenolic Urethane Core Sand Mixer #2, constructed in 1987, with a nominal throughput of 3.0 tons of sand per hour and 0.185 pounds of VOC (from resin) per ton of sand.

Emissions from the Phenolic Urethane Core Sand Mixer #2 are uncontrolled.

(c) Five (5) Core Machines, five (5) Core Wash Dip Tanks, and one (1) portable electric Core Oven

(1) One (1) Phenolic Urethane Core Machine #8, constructed in 1968, and its corresponding Core Wash Dip Tank #8 and portable electric Core Oven #1, each

with a nominal throughput of 3.0 tons of sand per hour, 0.541 pounds of VOC (from resin) per ton of sand, and 2.75 pounds of catalyst per ton of sand.

Emissions from the Core Wash Dip Tank #8 are uncontrolled.

(2) One (1) Phenolic Urethane Core Machine #9, constructed in 1968, and its corresponding Core Wash Dip Tank #9 and portable electric Core Oven #1, each with a nominal throughput of 3.0 tons of sand per hour, 0.541 pounds of VOC (from resin) per ton of sand, and 2.75 pounds of catalyst per ton of sand.

Emissions from the Core Wash Dip Tank #9 are uncontrolled.

(3) One (1) Phenolic Urethane Core Machine #12, constructed in 1978, and its corresponding Core Wash Dip Tank #12 and portable electric Core Oven #1, each with a nominal throughput of 3.0 tons of sand per hour, 0.541 pounds of VOC (from resin) per ton of sand, and 2.75 pounds of catalyst per ton of sand.

Emissions from the Core Wash Dip Tank #12 are uncontrolled.

(4) One (1) Phenolic Urethane Core Machine #13, constructed in 1979, and its corresponding Core Wash Dip Tank #13 and portable electric Core Oven #1, each with a nominal throughput of 3.0 tons of sand per hour, 0.541 pounds of VOC (from resin) per ton of sand, and 2.75 pounds of catalyst per ton of sand.

Emissions from the Core Wash Dip Tank #13 are uncontrolled.

(5) One (1) Phenolic Urethane Core Machine #14, constructed in 1992, and its corresponding Core Wash Dip Tank #14 and portable electric Core Oven #1, each with a nominal throughput of 3.0 tons of sand per hour, 0.541 pounds of VOC (from resin) per ton of sand, and 2.75 pounds of catalyst per ton of sand.

Emissions from the Core Wash Dip Tank #14 are uncontrolled.

The catalyst used is Dimethylisopropylamine (DMIPA) or an equivalent, non-HAP containing catalyst.

The VOC emissions from the catalyst captured at the core box of the Phenolic Urethane Core Machine #8, Phenolic Urethane Core Machine #9, Phenolic Urethane Core Machine #12, Phenolic Urethane Core Machine #13, and Phenolic Urethane Core Machine #14 are controlled by Acid Scrubber AF, exhausting through Stack AF.

(14) **Phenolic Urethane Core Making Line #3**
One (1) Phenolic Urethane Core Making Line #3, with a nominal sand throughput of 7.0 tons of sand per hour. The Phenolic Urethane Core Making Line #3 consists of the following emission units:

(a) One (1) Core Sand Handling Process, with a nominal sand throughput of 7.0 tons of sand per hour:

(1) One (1) South (S) Sand Silo, constructed prior to 1977, with an integral bin vent to control particulate emissions when loading.

(2) One (1) enclosed Pneumatic Sand Transporter #2, constructed in 1996, for transferring sand from the South (S) Sand Silo to the Phenolic Urethane Core Sand Hopper #3.

(3) One (1) Phenolic Urethane Core Sand Hopper #3, constructed in 1980:

The particulate emissions from the Phenolic Urethane Core Sand Hopper #3 are captured and controlled by Baghouse U, exhausting through Stack U.

(4) One (1) electric Phenolic Urethane Sand Heater #3, constructed in 1980.

The particulate emissions from the Phenolic Urethane Sand Heater #3 are captured and controlled by Baghouse U, exhausting through Stack U.

(b) One (1) Phenolic Urethane Core Sand Mixer #3, constructed in 1980, with a nominal throughput of 7.0 tons of sand per hour and 0.185 pounds of VOC (from resin) per ton of sand.

Emissions from the Phenolic Urethane Core Sand Mixer #3 are uncontrolled.

(c) Three (3) Core Machines, three (3) Core Wash Dip Tanks, and two (2) natural gas fired Core Ovens

(1) One (1) Phenolic Urethane Core Machine #2, constructed in 1982, and its corresponding Core Wash Dip Tank #2 and natural gas fired Core Oven #3, each with a nominal throughput of 7.0 tons of sand per hour, 0.541 pounds of VOC (from resin) per ton of sand, and 2.75 pounds of catalyst per ton of sand.

Emissions from the Core Wash Dip Tank #2 are uncontrolled.

(2) One (1) Phenolic Urethane Core Machine #4, constructed in 1981, and its corresponding Core Wash Dip Tank #4 and natural gas fired Core Oven #4, each with a nominal throughput of 7.0 tons of sand per hour, 0.541 pounds of VOC (from resin) per ton of sand, and 2.75 pounds of catalyst per ton of sand.

Emissions from the Core Wash Dip Tank #4 are uncontrolled.

(3) One (1) Phenolic Urethane Core Machine #5, constructed in 1968, and its corresponding Core Wash Dip Tank #5 and natural gas fired Core Oven #4, each with a nominal throughput of 7.0 tons of sand per hour, 0.541 pounds of VOC (from resin) per ton of sand, and 2.75 pounds of catalyst per ton of sand.

Emissions from the Core Wash Dip Tank #5 are uncontrolled.

Each natural gas fired Core Oven on Phenolic Urethane Core Making Line #3 has a maximum heat input capacity of 2.0 million British thermal units (Btu) per hour.

The catalyst used is Dimethylisopropylamine (DMIPA) or an equivalent, non-HAP containing catalyst.

The VOC emissions from the catalyst captured at the core box of the Phenolic Urethane Core Machine #2, Phenolic Urethane Core Machine #4, and Phenolic Urethane Core Machine #5 are controlled by Acid Scrubber AF, exhausting through Stack AF.

(15) **Phenolic Urethane Core Making Line #4**
One (1) Phenolic Urethane Core Making Line #4, with a nominal sand throughput of 7.0 tons of sand per hour. The Phenolic Urethane Core Making Line #4 consists of the following emission units:

(a) One (1) Core Sand Handling Process, with a nominal sand throughput of 7.0 tons of sand per hour:

(1) One (1) South (S) Sand Silo, constructed prior to 1977, with an integral bin vent to control particulate emissions when loading.

(2) One (1) enclosed Pneumatic Sand Transporter #2, constructed in 1996, for transferring sand from the South (S) Sand Silo to the Phenolic Urethane Core Sand Hopper #4.

(3) One (1) Phenolic Urethane Core Sand Hopper #4, constructed in 1986.

The particulate emissions from the Phenolic Urethane Core Sand Hopper #4 are captured and controlled by Baghouse U, exhausting through Stack U.

(4) One (1) electric Phenolic Urethane Sand Heater #4, constructed in 1986:

The particulate emissions from the Phenolic Urethane Sand Heater #4 are captured and controlled by Baghouse U, exhausting through Stack U.

(b) One (1) Phenolic Urethane Core Sand Mixer #4, constructed in 1986, with a nominal throughput of 7.0 tons of sand per hour and 0.185 pounds of VOC (from resin) per ton of sand.

Emissions from the Phenolic Urethane Core Sand Mixer #4 are uncontrolled.

(c) Two (2) Core Machines, one (1) Core Wash Dip Tank, and two (2) natural gas fired Core Ovens

(1) One (1) Phenolic Urethane Core Machine #7, constructed in 1986 and modified to incorporate a larger blow plate in 2011, with a nominal throughput of 7.0 tons of sand per hour, 0.541 pounds of VOC (from resin) per ton of sand, and 2.75 pounds of catalyst per ton of sand.

(2) One (1) Phenolic Urethane Core Machine #25, constructed in 1993, that contains two (2) core boxes that cannot be operated simultaneously due to having only one blow head for blowing sand into the box, and its corresponding Core Wash Dip Tank #25, natural gas fired Core Oven #8, and natural gas fired Core Oven #25, each with a nominal throughput of 7.0 tons of sand per hour, 0.541 pounds of VOC (from resin) per ton of sand, and 2.75 pounds of catalyst per ton of sand.

Emissions from the Core Wash Dip Tank #25 are uncontrolled.

(A) The natural gas fired Core Oven #8 has a maximum heat input capacity of at 2.4 British thermal units (Btu) per hour.

(B) The natural gas fired Core Oven #25 has a maximum heat input capacity of at 800,000 British thermal units (Btu) per hour.

The catalyst used is Dimethylisopropylamine (DMIPA) or an equivalent, non-HAP containing catalyst.

The VOC emissions from the catalyst captured at the core box of the Phenolic Urethane Core Machine #7 and Phenolic Urethane Core Machine #25 are controlled by Acid

Scrubber AF, exhausting through Stack AF.

(16) **Phenolic Urethane Core Making Line #5**
One (1) Phenolic Urethane Core Making Line #5, with a nominal sand throughput of 5.0 tons of sand per hour. The Phenolic Urethane Core Making Line #5 consists of the following emission units:

(a) One (1) Core Sand Handling Process, with a nominal sand throughput of 5.0 tons of sand per hour:

(1) One (1) South (S) Sand Silo, constructed prior to 1977, with an integral bin vent to control particulate emissions when loading.

(2) One (1) enclosed Pneumatic Sand Transporter #2, constructed in 1996, for transferring sand from the South (S) Sand Silo to the Phenolic Urethane Core Sand Hopper #3.

(3) One (1) Phenolic Urethane Core Sand Hopper #3, constructed in 1980:

The particulate emissions from the Phenolic Urethane Core Sand Hopper #3 are captured and controlled by Baghouse U, exhausting through Stack U.

(4) One (1) natural gas fired Phenolic Urethane Sand Heater #5, constructed in 1992, with a maximum heat input capacity of 192,000 British thermal units (Btu) per hour.

The particulate emissions from the Phenolic Urethane Sand Heater #5 are captured and controlled by Baghouse Z, exhausting through Stack Z.

(b) One (1) Phenolic Urethane Core Sand Mixer #5, constructed in 1992, with a nominal throughput of 5.0 tons of core sand per hour and 0.185 pounds of VOC (from resin) per ton of sand.

Emissions from the Phenolic Urethane Core Sand Mixer #5 are uncontrolled.

(c) Three (3) Core Machines, three (3) Core Wash Dip Tanks, and one (1) natural gas fired Core Oven

(1) One (1) Phenolic Urethane Core Machine #21, constructed in 1992, and its corresponding Core Wash Dip Tank #21 and natural gas fired Core Oven #9, each with a nominal throughput of 5.0 tons of sand per hour, 0.541 pounds of VOC (from resin) per ton of sand, and 2.75 pounds of catalyst per ton of sand.

Emissions from the Core Wash Dip Tank #21 are uncontrolled.

(2) One (1) Phenolic Urethane Core Machine #22, constructed in 1992, and its corresponding Core Wash Dip Tank #22 and natural gas fired Core Oven #9, each with a nominal throughput of 5.0 tons of sand per hour, 0.541 pounds of VOC (from resin) per ton of sand, and 2.75 pounds of catalyst per ton of sand.

Emissions from the Core Wash Dip Tank #22 are uncontrolled.

(3) One (1) Phenolic Urethane Core Machine #28, constructed in 1998, and its corresponding Core Wash Dip Tank #28 and natural gas fired Core Oven #9, each with a nominal throughput of 5.0 tons of sand per hour, 0.541 pounds of VOC (from resin) per ton of sand, and 2.75 pounds of catalyst per ton of sand.

Emissions from the Core Wash Dip Tank #28 are uncontrolled.

The natural gas fired Core Oven #9 on Phenolic Urethane Core Making Line #5 has a maximum heat input capacity of 2.4 million British thermal units (Btu) per hour.

The catalyst used is Dimethylisopropylamine (DMIPA) or an equivalent, non-HAP containing catalyst.

The VOC emissions from the catalyst captured at the core box of the Phenolic Urethane Core Machine #21, Phenolic Urethane Core Machine #22, and Phenolic Urethane Core Machine #28 are controlled by Acid Scrubber AF, exhausting through Stack AF.

(17) **Phenolic Urethane Core Making Line #8**
One (1) Phenolic Urethane Core Making Line #8, with a nominal sand throughput of 5.0 tons of sand per hour. The Phenolic Urethane Core Making Line #8 consists of the following emission units:

(a) One (1) Core Sand Handling Process, with a nominal sand throughput of 5.0 tons of sand per hour:

(1) One (1) Northeast (NE) Sand Silo, constructed prior to 1977, with an integral bin vent to control particulate emissions when loading.

(2) One (1) enclosed Pneumatic Sand Transporter #1, constructed in 1996, for transferring sand from the Northeast (NE) Sand Silo to the Phenolic Urethane Core Sand Hopper #8.

(3) One (1) Phenolic Urethane Core Sand Hopper #8, constructed in 1997:

The particulate emissions from the Phenolic Urethane Core Sand Hopper #8 are captured and controlled by Baghouse Z, exhausting through Stack Z.

(4) One (1) natural gas fired Phenolic Urethane Sand Heater #8, constructed in 1997, with a maximum heat input capacity of 192,000 British thermal units (Btu) per hour.

The particulate emissions from the Phenolic Urethane Sand Heater #8 are captured and controlled by Baghouse Z, exhausts through Stack Z.

(b) One (1) Phenolic Urethane Core Sand Mixer #8, constructed in 1997, with a nominal throughput of 5.0 tons of core sand per hour and 0.185 pounds of VOC (from resin) per ton of sand.

Emissions from the Phenolic Urethane Core Sand Mixer #8 are uncontrolled.

(c) Two (2) Core Machines, two (2) Core Wash Dip Tank, and one (1) natural gas fired Core Oven

(1) One (1) Phenolic Urethane Core Machine #1, constructed in 1982, and its corresponding Core Wash Dip Tank #1 and natural gas fired Core Oven #27, each with a nominal throughput of 7.0 tons of sand per hour, 0.541 pounds of VOC (from resin) per ton of sand, and 2.75 pounds of catalyst per ton of sand.

Emissions from the Core Wash Dip Tank #1 are uncontrolled.

(2) One (1) Phenolic Urethane Core Machine #27, constructed in 1996, and its corresponding Core Wash Dip Tank #27 and natural gas fired Core Oven #27, each with a nominal throughput of 5.0 tons of sand per hour, 0.541 pounds of VOC (from resin) per ton of sand, and 2.75 pounds of catalyst per ton of sand.

Emissions from the Core Wash Dip Tank #27 are uncontrolled.

The natural gas fired Core Oven #27 has a maximum heat input capacity of 1.6 million British thermal units (Btu) per hour.

The catalyst used is Dimethylisopropylamine (DMIPA) or an equivalent, non-HAP containing catalyst.

The VOC emissions from the catalyst captured at the core box of Phenolic Urethane Core Machine #1 and Phenolic Urethane Core Machine #27 are controlled by Acid Scrubber AF, exhausting through Stack AF.

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

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

D.8.1 BACT Requirements [326 IAC 2-2] [326 IAC 8-1-6]

Pursuant to 326 IAC 2-2 (PSD) and 326 IAC 8-1-6 (New Facilities General Reduction Requirements), the following requirements shall apply:

(a) Sand Throughput Limit

(1) The amount of sand throughput to the Phenolic Urethane Core Making Line #1 shall not exceed 17,922 tons per 12 consecutive month period, rolled on a monthly basis, with compliance determined at the end of each month.

(2) The amount of sand throughput to the Phenolic Urethane Core Making Line #2 shall not exceed 4,656 tons per 12 consecutive month period, rolled on a monthly basis, with compliance determined at the end of each month.

(3) The amount of sand throughput to the Phenolic Urethane Core Making Line #3 shall not exceed 23,200 tons per 12 consecutive month period, rolled on a monthly basis, with compliance determined at the end of each month.

(4) The amount of sand throughput to the Phenolic Urethane Core Making Line #4 shall not exceed 12,910 tons per 12 consecutive month period, rolled on a monthly basis, with compliance determined at the end of each month.

(5) The amount of sand throughput to the Phenolic Urethane Core Making Line #5 shall not exceed 2,383 tons per 12 consecutive month period, rolled on a monthly basis, with compliance determined at the end of each month.

(6) The amount of sand throughput to the Phenolic Urethane Core Making Line #8 shall not exceed 6,350 tons per 12 consecutive month period, rolled on a monthly basis, with compliance determined at the end of each month.

(b) Mixers
The VOC emissions from each of the following mixers shall not exceed 0.185 pounds per ton of sand:

(1) Phenolic Urethane Core Sand Mixer #1,
(2) Phenolic Urethane Core Sand Mixer #2,
(3) Phenolic Urethane Core Sand Mixer #3,
(4) Phenolic Urethane Core Sand Mixer #4,
(5) Phenolic Urethane Core Sand Mixer #5, and
(6) Phenolic Urethane Core Sand Mixer #8.

(c) Core Machines

(1) The VOC emissions from the catalyst (DMIPA) captured at the following core machines shall be controlled by Acid Scrubber AF:

(A) Phenolic Urethane Core Making Line #1
Phenolic Urethane Core Machine #15, Phenolic Urethane Core Machine #16, Phenolic Urethane Core Machine #17, Phenolic Urethane Core Machine #18, and Phenolic Urethane Core Machine #19

(B) Phenolic Urethane Core Making Line #2
Phenolic Urethane Core Machine #8, Phenolic Urethane Core Machine #9, Phenolic Urethane Core Machine #12, Phenolic Urethane Core Machine #13, and Phenolic Urethane Core Machine #14

(C) Phenolic Urethane Core Making Line #3
Phenolic Urethane Core Machine #2, Phenolic Urethane Core Machine #4, and Phenolic Urethane Core Machine #5

(D) Phenolic Urethane Core Making Line #4
Phenolic Urethane Core Machine #7 and Phenolic Urethane Core Machine #25

(E) Phenolic Urethane Core Making Line #5
Phenolic Urethane Core Machine #21, Phenolic Urethane Core Machine #22, and Phenolic Urethane Core Machine #28

(F) Phenolic Urethane Core Making Line #8
Phenolic Urethane Core Machine #1, and Phenolic Urethane Core Machine #27

The catalyst capture efficiency of Acid Scrubber AF shall be at least 89.3%.
The catalyst control efficiency of Acid Scrubber AF shall be at least 99%.
The overall catalyst control efficiency of Acid Scrubber AF shall be at least 88.4%.

(2) The VOC emissions from the amine catalysts (after the Acid Scrubber AF) shall not exceed 0.319 pounds per ton of sand.

(3) The VOC content of the core wash shall be limited to less than 0.12 pounds per gallon. The amount of annual usage of core wash shall not exceed 117,260 gallons per twelve (12) consecutive month period with compliance determined at the end of each month. These usage limits are required to limit the potential to emit of VOC to less than 0.20 pounds per ton of sand.

(4) The VOC emissions from the core machines resins shall not exceed 0.541 pounds per ton of sand.

(5) The VOC content of the core machines cleaner shall be limited to less than 8.17 pounds per gallon. The amount of annual usage of core machines cleaner shall not exceed 1188 gallons per twelve (12) consecutive month period with compliance determined at the end of each month. These usage limits are required to limit the potential to emit of VOC to less than 0.144 pounds per ton of sand.

(6) The VOC content of the core release agent shall be limited to less than 6.15 pounds per gallon. The amount of annual usage of core release agent shall not exceed 1150 gallons per twelve (12) consecutive month period with compliance determined at the end of each month. These usage limits are required to limit the potential to emit of VOC to less than 0.105 pounds per ton of sand.

D.8.2 PSD Minor Limits [326 IAC 2-2]

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

(a) The amount of sand throughput to the Phenolic Urethane Core Making Line #1 shall not exceed 17,922 tons per 12 consecutive month period, rolled on a monthly basis, with compliance determined at the end of each month.

(b) The PM emission rate from the Core Sand Heater #1, controlled by Baghouse Q, shall not exceed 0.330 pounds per ton.

(c) The PM_{10} emission rate from the Core Sand Heater #1, controlled by Baghouse Q, shall not exceed 0.096 pounds per ton.

(d) The $PM_{2.5}$ emissions from the Core Sand Heater #1, controlled by Baghouse Q, shall not exceed 0.096 pounds per ton.

Compliance with the limits above, combined with the uncaptured emissions and the limits in Conditions D.4.2(i) and D.6.1(e) through (i) will limit the modification to less than twenty-five (25) tons of PM per year, less than fifteen (15) tons of PM_{10} per year, less than ten (10) tons of $PM_{2.5}$ per year, and less than 0.6 tons of lead (Pb) per year. Therefore, the requirements of 326 IAC 2-2 (PSD) are not applicable to the 2013 modification to the shot blast machine (SB-9), core sand heater and mixer- core making line #1, and return sand surge bin - Herman 3 mold line.

D.8.3 Particulate Emission Limitation [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2, the particulate matter (PM) emissions from each process shall not exceed the pounds per hour limitations specified in the table below:

Process / Emission Unit	**P** (ton/hr)	**E** (lb/hr)	**Equation Used**
Northeast (NE) Sand Silo (Bin Vent)	38.7	42.2	(b)
South (S) Sand Silo (Bin Vent)	42.0	43.0	(b)
Pneumatic Sand Transporter #1	38.7	42.2	(b)
Pneumatic Sand Transporter #2	42.0	43.0	(b)
Phenolic Urethane Core Sand Hopper #1 (Baghouse Q)	18.0	28.4	(a)
Phenolic Urethane Core Sand Heater #1 (Baghouse Q)	15.0	25.2	(a)
Phenolic Urethane Core Sand Hopper #3 (Baghouse U)	18.0	28.4	(a)

Process / Emission Unit	**P** (ton/hr)	**E** (lb/hr)	Equation Used
Phenolic Urethane Core Sand Heater #3 (Baghouse U)	7.0	15.1	(a)
Phenolic Urethane Core Sand Hopper #4 (Baghouse U)	7.0	15.1	(a)
Phenolic Urethane Core Sand Heater #4 (Baghouse U)	7.0	15.1	(a)
Phenolic Urethane Core Sand Heater #5 (Baghouse Z)	5.0	12.1	(a)
Phenolic Urethane Core Sand Hopper #8 (Baghouse Z)	5.0	12.1	(a)
Phenolic Urethane Core Sand Heater #8 (Baghouse Z)	5.0	12.1	(a)
Phenolic Urethane Core Sand Mixer #1	15.0	25.2	(a)
Phenolic Urethane Core Sand Mixer #2	3.0	8.6	(a)
Phenolic Urethane Core Sand Mixer #3	7.0	15.1	(a)
Phenolic Urethane Core Sand Mixer #4	7.0	15.1	(a)
Phenolic Urethane Core Sand Mixer #5	5.0	12.1	(a)
Phenolic Urethane Core Sand Mixer #8	5.0	12.1	(a)

The pound per hour limitations was calculated with the following equations:

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

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

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

$E = 55.0\ P^{0.11} - 40$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

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

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

Compliance Determination Requirements

D.8.5 Emission Controls Operation [326 IAC 2-7-6(6)]

(a) The Northeast (NE) Sand Silo's integrated bin vent for particulate emissions control shall be in operation at all times that the Northeast (NE) Sand Silo is being loaded.

(b) The South (S) Sand Silo's integrated bin vent for particulate emissions control shall be in operation at all times that the South (S) Sand Silo is being loaded.

(c) Baghouse Q
The Baghouse Q for particulate emissions control shall be in operation at all times that any of the following:

(1) Phenolic Urethane Core Sand Hopper #1, or
(2) Phenolic Urethane electric Sand Heater #1,

are in operation.

(d) Baghouse U
The Baghouse U for particulate emissions control shall be in operation at all times that any of the following:

(1) Phenolic Urethane Core Sand Hopper #3,
(2) Phenolic Urethane Core Sand Hopper #4,
(3) Phenolic Urethane electric Sand Heater #3, or
(4) Phenolic Urethane electric Sand Heater #4,

are in operation.

(e) The Baghouse Z for particulate emissions control shall be in operation at all times that any of the following:

(1) Phenolic Urethane Core Sand Hopper #8,
(2) Phenolic Urethane natural gas fired Sand Heater #5, or
(3) Phenolic Urethane electric Sand Heater #8

are in operation.

(f) 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.

(g) The Acid Scrubber AF shall be in operation at all times when any of the following:

(1) Phenolic Urethane Core Machine #1,
(2) Phenolic Urethane Core Machine #2,
(3) Phenolic Urethane Core Machine #4,
(4) Phenolic Urethane Core Machine #5,
(5) Phenolic Urethane Core Machines #7 - #9 and #12 - #19,
(6) Phenolic Urethane Core Machine #21,
(7) Phenolic Urethane Core Machine #22,
(8) Phenolic Urethane Core Machine #25,
(9) Phenolic Urethane Core Machine #27, or
(10) Phenolic Urethane Core Machine #28,

are in operation.

D.8.6 Testing Requirements [326 IAC 2-7-6(1),(6)]

(a) In order to demonstrate the compliance status with Condition D.8.1(c) – VOC PSD and BACT Requirements, the Permittee shall perform VOC testing (including amine catalysts emission rate, catalyst capture efficiency, and catalyst control efficiency) on a representative phenolic urethane core machine and the Acid Scrubber AF exhaust stack (Stack AF) utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the last valid compliance demonstration. During the VOC tests, the Permittee shall monitor and record those parameters required to be measured and monitored by Condition D.8.9 – Scrubber Parametric Monitoring.

(b) In order to demonstrate the compliance status with Conditions D.8.2(b), D.8.2(c), D.8.2(d), and D.8.3, the Permittee shall perform PM, PM10, and PM2.5 testing of Baghouse #Q (Stack Q), when core sand hopper #1 and core sand heater #1 are both in operation, no later than sixty (60) day after achieving the new maximum capacity, but no later than one hundred eighty (180) days after initial startup of the modified core sand heater #1. Testing shall be conducted utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the last valid compliance demonstration. PM10 and PM2.5 includes filterable and condensable PM.

(c) Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C - Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

D.8.7 Scrubber Failure Detection [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

In the event that scrubber failure has been observed, the failed scrubber and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B – Emergency Provisions).

D.8.8 Broken or Failed Bag Detection [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

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

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

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

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

D.8.9 Visible Emissions Notations

(a) Visible emission notations of the:

(1) Baghouse Q exhaust stack (Stack Q),
(2) Baghouse U exhaust stack (Stack U), and
(3) Baghouse Z exhaust stack (Stack Z),

shall be performed once per day during normal daylight operations when any of the associated core sand hopper and core machines is in operation and exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.

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

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

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

(e) If abnormal emissions are observed, the Permittee shall take reasonable response steps. 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.8.10 Scrubber Parametric Monitoring [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)] [40 CFR 64]

(a) The Permittee shall record the flow rate and pH of the Acid Scrubber AF, at least once per day when any of the associated core machines is in operation and venting to the atmosphere.

(1) When for any one reading, the flow rate across Acid Scrubber AF is below a minimum of 200 gallons per minute or a minimum flow rate established during the latest stack test, the Permittee shall take reasonable response steps.

(2) When for any one reading, the pH across Acid Scrubber AF is greater a maximum of 4.5 or a maximum pH established during the latest stack test, the Permittee shall take reasonable response steps.

A flow rate or pH reading that is outside the above mentioned thresholds 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.

(b) The instruments used for determining the flow rate and pH 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.8.11 Baghouse Parametric Monitoring [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

(a) Baghouse Q
The Permittee shall record the pressure drop across the Baghouse Q, at least once per day, when the following are in operation:

(1) Phenolic Urethane Core Sand Hopper #1,
(2) Phenolic Urethane Sand Heater #1.

When for any one reading, the pressure drop across the baghouse is outside the normal range, the Permittee shall take reasonable response. The normal range for Baghouse Q is a pressure drop range between 3.0 and 9.0 inches of water unless a different upper-bound or lower-bound value for this range is determined during the most recent valid stack test.

(b) Baghouse U
The Permittee shall record the pressure drop across the Baghouse U, at least once per day, when the following are in operation:

(1) Phenolic Urethane Core Sand Hopper #3,
(2) Phenolic Urethane Core Sand Hopper #4,
(3) Phenolic Urethane Sand Heater #3, and
(4) Phenolic Urethane Sand Heater #4.

When for any one reading, the pressure drop across the baghouse is outside the normal range, the Permittee shall take reasonable response. The normal range for Baghouse U is a pressure drop range between 1.0 and 7.0 inches of water unless a different upper-bound or lower-bound value for this range is determined during the most recent valid stack test.

(c) Baghouse Z
The Permittee shall record the pressure drop across the Baghouse Z, at least once per day, when any of the following are in operation:

(1) Phenolic Urethane Core Sand Hopper #8,
(2) Phenolic Urethane Sand Heater #5, and
(3) Phenolic Urethane Sand Heater #8.

When for any one reading, the pressure drop across the baghouse is outside the normal range, the Permittee shall take reasonable response. The normal range for Baghouse Z is a pressure drop range between 3.0 and 9.0 inches of water unless a different upper-bound or lower-bound value for this range is determined during the most recent valid stack test.

(d) 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. 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.

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

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

D.8.12 Record Keeping Requirements

(a) To document the compliance status with Condition D.8.1 – BACT Requirements, the Permittee shall maintain records of the amount of sand throughput for each core making line.

(b) To document the compliance status with Condition D.8.1 – BACT Requirements, the Permittee shall maintain records of the VOC content and usage amounts of:

(1) core wash,
(2) core machines cleaner, and
(3) core release agent

for each core making line. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the VOC content of the core wash, core machines cleaner, and core release agent used.

(c) To document the compliance status with Condition D.8.2(a) - PSD Minor Limits, the Permittee shall maintain records of the amount of sand throughput for core making line #1.

(d) To document the compliance status with Condition D.8.9 – Visible Emission Notations, the Permittee shall maintain daily records of visible emission notations of the Baghouse Q, Baghouse U, and Baghouse Z stack exhausts. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).

(e) To document the compliance status with Condition D.8.10 – Scrubber Parametric Monitoring, the Permittee shall maintain the daily records of the flow rate and pH for the Acid Scrubber AF. The Permittee shall include in its daily record when the flow rate or pH reading is not taken and the reason for the lack of flow rate of pH readings, (e.g. the process did not operate that day).

(f) To document the compliance status with Condition D.8.11 – Baghouse Parametric Monitoring, the Permittee shall maintain the daily records of the pressure drop across Baghouse Q, Baghouse U and Baghouse Z. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading, (e.g. the process did not operate that day).

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

D.8.13 Reporting Requirements

A quarterly summary of the information to document the compliance status with Conditions D.8.1 (a), (c)(3), (c)(5), and (c)(6) – BACT Requirements and D.8.2(a) - PSD Minor Limits, shall be submitted not later than thirty (30) days following the end of each calendar quarter. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a “responsible official” as defined by 326 IAC 2-7-1(35). Section C - General Reporting Requirements contains the Permittee's obligations with regard to the reporting required by this condition.

SECTION D.9 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(14)]

(18) **Shell Core Making Process**
One (1) Shell Core Sand Making Process, with a nominal sand throughput of 0.8 tons of sand per hour. The Shell Core Sand Making Process consists of the following emission units:

(a) One (1) Shell Core Sand Handling Process, with a nominal sand throughput of 0.8 tons of sand per hour:

(1) North (N) Shell Sand Silo and South (S) Shell Sand Silo, each constructed prior to 1977, with a capacity to provide coated sand to the two (2) Shell Core Sand Hoppers.

Emissions from the North (N) Shell Sand Silo and South (S) Shell Sand Silo are uncontrolled.

(2) Two (2) Shell Core Sand Hoppers, identified as Shell Core Sand Hopper #1 and Shell Core Sand Hopper #2, constructed prior to 1977, with a capacity to provide shell core sand to all Shell Core Machines.

Emissions from the Shell Core Sand Hoppers are uncontrolled.

(b) Three (3) Core Machines, and Three (3) Core Wash Dip Tanks

(1) One (1) Shell Core Machine #6, constructed prior to 1977, and its corresponding Shell Core Wash Dip Tank #6, with a nominal throughput of 0.2 tons of sand per hour.

Emissions from the Shell Core Machine #6 are uncontrolled.

Emissions from the Shell Core Wash Dip Tank #6 are uncontrolled.

(2) One (1) Shell Core Machine #7, constructed prior to 1977, and its corresponding Shell Core Wash Dip Tank #7, with a nominal throughput of 0.3 tons of sand per hour.

Emissions from the Shell Core Machine #7 are uncontrolled.

Emissions from the Shell Core Wash Dip Tank #7 are uncontrolled.

(3) One (1) Shell Core Machine #8, constructed prior to 1977, and its corresponding Shell Core Wash Dip Tank #8, with a nominal throughput of 0.3 tons of sand per hour.

Emissions from the Shell Core Machine #8 are uncontrolled.

Emissions from the Shell Core Wash Dip Tank #8 are uncontrolled.

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

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

D.9.1 Particulate Emission Limitation [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2, the particulate matter (PM) emissions from each process shall not exceed the pounds per hour limitations specified in the table below:

Process / Emission Unit	**P** (ton/hr)	**E** (lb/hr)
North (N) Shell Sand Silo	0.4	2.2
South (S) Shell Sand Silo	0.4	2.2
Shell Core Sand Hopper #1	0.4	2.2
Shell Core Sand Hopper #2	0.4	2.2
Shell Core Machine #6	0.2	1.4
Shell Core Machine #7	0.3	1.8
Shell Core Machine #8	0.3	1.8

The pound per hour limitations was calculated with the following equations:

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

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

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

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

SECTION D.10 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(14)]

(19) **Air Set Core Making Process**
One (1) Air Set Core Making Process, with a nominal sand throughput of 6.0 tons of sand per hour. The Air Set Core Making Process consists of the following emission units:

(a) One (1) Air Set Core Sand Handling Process, with a nominal sand throughput of 6.0 tons of sand per hour:

(1) One (1) South (S) Sand Silo, constructed prior to 1977, with an integral bin vent to control particulate emissions when loading.

(2) One (1) enclosed Pneumatic Sand Transporter #2, constructed in 1996, for transferring sand from the South (S) Sand Silo to the Air Set Core Sand Hopper #3.

(3) One (1) Phenolic Urethane Core Sand Hopper #3, constructed in 1980:

The particulate emissions from the Phenolic Urethane Core Sand Hopper #3 are captured and controlled by Baghouse U, exhausting through Stack U.

(b) One (1) Air Set Core Sand Mixer #2, constructed prior to 1977, with a nominal throughput of 6.0 tons of sand per hour.
Emissions from the Air Set Core Sand Mixer #2 are uncontrolled.

(c) One (1) Air Set Core Machine #2, constructed prior to 1977, with a nominal throughput of 6.0 tons of sand per hour.
Emissions from the Air Set Core Machine #2 are uncontrolled.

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

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

D.10.1 Particulate Emission Limitation [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2, the particulate matter (PM) emissions from each process shall not exceed the pounds per hour limitations specified in the table below:

Process / Emission Unit	**P** (ton/hr)	**E** (lb/hr)	**Equation Used**
South (S) Sand Silo (Bin Vent)	35.0	41.3	(b)
Pneumatic Sand Transporter #2	35.0	41.3	(b)
Phenolic Urethane Core Sand Hopper #3 (Baghouse U)	18.0	28.4	(a)
Air Set Core Sand Mixer #2	6.0	13.6	(a)

The pound per hour limitations was calculated with the following equations:

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

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

P = process weight rate in tons per hour

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

$E = 55.0\ P^{0.11} - 40$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

D.10.2 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

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

Compliance Determination Requirements

D.10.3 Emission Controls Operation [326 IAC 2-7-6(6)]

(a) The South (S) Sand Silo's integrated bin vent for particulate emissions control shall be in operation at all times that the South (S) Sand Silo is being loaded.

(b) The Baghouse U for particulate emissions control shall be in operation at all times that the Phenolic Urethane Core Sand Hopper #3 is in operation.

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

D.10.4 Broken or Failed Bag Detection [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

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

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

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

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

D.10.5 Visible Emissions Notations

(a) Visible emission notations of the Baghouse U exhaust (Stack U) shall be performed once per day during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.

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

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

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

(e) If abnormal emissions are observed, the Permittee shall take reasonable response steps. 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.10.6 Baghouse Parametric Monitoring [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

(a) The Permittee shall record the pressure drop across the Baghouse U, at least once per day, when the Phenolic Urethane Core Sand Hopper #3 is in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range, the Permittee shall take reasonable response. The normal range for Baghouse U is a pressure drop range between 1.0 and 7.0 inches of water unless a different upper-bound or lower-bound value for this range is determined during the most recent valid stack test. 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. 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.

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

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

D.10.7 Record Keeping Requirements

(a) To document the compliance status with Condition D.10.5 – Visible Emission Notations, the Permittee shall maintain daily records of visible emission notations of the Baghouse U stack exhausts. 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.10.6– Baghouse Parametric Monitoring, the Permittee shall maintain the daily records of the pressure drop across Baghouse U. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading, (e.g. the process did not operate that day).

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

SECTION D.11 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(14)]:

(20) **Large Core Production Cell**
One (1) Large Core Production Cell (ID LCC), permitted in 2006, which will initially be utilized as a phenolic urethane cold box core making operation. The Large Core Production Cell consists of the following emission units:

(a) One (1) Northeast (NE) Sand Silo, constructed prior to 1977, with an integral bin vent to control particulate emissions when loading.

(b) One (1) enclosed Pneumatic Sand Transporter #1, constructed in 1996, for transferring sand from the Northeast (NE) Sand Silo to the Phenolic Urethane Core Sand Hopper #8.

(c) One (1) Large Core Sand Weigh Hopper, permitted to be constructed in 2006, with a nominal throughput capacity of 15 tons of sand per hour.

The particulate emissions from the Large Core Sand Weigh Hopper are captured and controlled by Baghouse Q, exhausting through Stack Q.

(d) Large Core Production Cell Line #10, constructed in 2006, consisting of the following emission units:

(1) One (1) Sand / Resin Mixer #10, with a nominal throughput capacity of 15 tons of sand per hour and 34.18 pounds of resin per hour

Emissions from the Sand / Resin Mixer #10 are uncontrolled.

(2) One (1) Large Core Sand Holding Hopper #10, with a nominal sand throughput of 15 tons of sand per hour.

The particulate emissions from the Large Core Sand Holding Hopper #10 are captured and controlled by Baghouse Q, exhausting through Stack Q.

(3) One (1) electric Large Core Sand Heater #10, with a nominal sand throughput of 15 tons of sand per hour.

The particulate emissions from the Large Core Sand Heater #10 are captured and controlled by Baghouse Q, exhausting through Stack Q.

(4) One (1) Cold Box Phenolic Urethane Core Machine #29, with a nominal throughput capacity of 7 tons of cores per hour, using a nominal of 2.75 pounds of catalyst per ton of core sand;

(A) Operating Scenario #1
The current operating scenario, Operating Scenario #1, will use Resin #1 and Catalyst #1. Resin #1 is a phenolic urethane resin. Catalyst #1 is Dimethylisopropylamine (DMIPA) or an equivalent, non-HAP containing catalyst.

The VOC emissions from the Cold Box Phenolic Urethane Core Machine #29, when using Resin #1 and Catalyst #1, are captured at the core box and controlled by Acid Scrubber AF, exhausting through Stack AF. The Acid Scrubber AF is a voluntary control for this processes and cannot be used to demonstrate compliance with any applicable VOC emission limitations.

(B) Operating Scenario #2
Operating Scenario #2 will use Resin #2 and Catalyst #2. This system will be tested within 180 days of commencing operations using this resin/catalyst system.

(C) Operating Scenario #3
Operating Scenario #3 will use Resin #3 and Catalyst #3. This system will be tested within 180 days of commencing operations using this resin/catalyst system.

(5) One (1) Core Wash Dip Tank #29, with a nominal capacity of 15 tons of cores per hour and 20.408 pounds of core wash per ton of core sand.

Emissions from the Core Wash Dip Tank #29 are uncontrolled.

(e) One (1) natural gas fired Core Oven #29, with a maximum heat input capacity of 6.0 million British thermal units (MMBtu) per hour.

Emissions from the natural gas fired Core Oven #29 are captured, but uncontrolled, and exhaust to Stack V-45.

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

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

D.11.1 PSD Minor Limits [326 IAC 8-1-6]

(a) The total volatile organic compound (VOC) emissions from the Sand / Resin Mixer #10, the Cold Box Phenolic Urethane Core Machine #29, and the Core Wash Dip Tanks #29 shall not exceed the following:

(1) 0.02904 pounds of noncatalyst VOC per pound of resin used;

(2) 1.0 pounds of VOC per pound of catalyst used;

(3) 0.02 pounds of VOC per pound of core wash used;

(4) 0.9 pounds of VOC per pound of release agent used; and

(5) 1.0 pounds of VOC per pound of core box cleaner used.

Where: Resin #1 and Catalyst #1 shall represent the current resin / catalyst system in use. Resin #2 / Catalyst #2 and Resin #3 / Catalyst #3 shall represent the other resin / catalyst systems in the Large Core Production Cell that may be used in the future. The VOC emission rates for the mixture of Resin #2 and Catalyst #2 and Resin #3 and Catalyst #3 shall be determined by VOC stack testing to be conducted within 180 days of commencing operations using either of these resin / catalyst systems.

(b) The amount of resin used in the Sand / Resin Mixer #10 and the Cold Box Phenolic Urethane Core Machine #29 combined shall not exceed 299,399.3 pounds per twelve (12) consecutive month period, with compliance determined at the end of each month.

(c) The amount of catalyst used in the Cold Box Phenolic Urethane Core Machine #29 shall not exceed 32,934.6 pounds per twelve (12) consecutive month period, with compliance

determined at the end of each month.

(d) The amount of core wash used in the Core Wash Dip Tanks #29 shall not exceed 245,504.7 pounds per twelve (12) consecutive month period, with compliance determined at the end of each month.

(e) The amount of release agent used in the Cold Box Phenolic Urethane Core Machine #29 shall not exceed 1,397 pounds per twelve (12) consecutive month period, with compliance determined at the end of each month.

(f) The amount of core box cleaner used in the Cold Box Phenolic Urethane Core Machine #29 shall not exceed 1,725 pounds per twelve consecutive month period, with compliance determined at the end of each month.

A summary of the above VOC emission limits is included in the following table:

Usage Limit (pounds per year)	**VOC Content Limit** (lb VOC from material per lb material)	**VOC Emission Limit** (tons/yr)
299,399.3 (resin)	0.02904	4.35
32,934.6 (catalyst)	1.0	16.47
245,504.7 (core wash)	0.02	2.46
1,397 (release agent)	0.9	0.63
1,725 (core box cleaner)	1.0	0.86
Total		**24.77**

Compliance with these limitations shall limit emissions of VOC from the Large Core Production Cell (ID LCC) to less than 25 tons per year such that the requirements of 326 IAC 8-1-6 (New Facilities, General Reduction Requirements) do not apply. Compliance with these limitations shall also limit emissions of VOC from the LCC such that the emissions increases from the existing emission units, based on the Actual to Projected Actual test in 326 IAC 2-2-2, plus the limited potential to emit from the LCC will be less than the PSD significant threshold of 40 tons per year. Therefore, the PSD requirements of 326 IAC 2-2-1 will not apply.

D.11.2 PSD Minor Limits [326 IAC 2-2]

(a) Total PM emissions from the Large Core Production Cell (ID LCC) shall not exceed 0.33 pounds PM per ton of sand throughput;

(b) Total PM_{10} emissions from the Large Core Production Cell (ID LCC) shall not exceed 0.065 pound PM_{10} per ton of sand throughput;

(c) The amount of throughput of sand to the Large Core Production Cell (ID LCC) shall not exceed 12,005 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with the above limitations shall limit PM and PM_{10} emissions from the Large Core Production Cell (ID LCC) such that the emissions increases from the existing emission units, based on the Actual to Projected Actual test in 326 IAC 2-2-2, plus the limited potential to emit from the LCC will be less than the PSD significant thresholds of 25 and 15 tons per year, respectively. Therefore, the Large Core Production Cell (ID LCC) will not be major for Prevention of Significant Deterioration under 326 IAC 2-2-1.

D.11.3 Particulate Emission Limitation [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2, the particulate matter (PM) emissions from each process shall not exceed the pounds per hour limitations specified in the table below:

Process / Emission Unit	**P** (ton/hr)	**E** (lb/hr)	**Equation Used**
Northeast (NE) Sand Silo (Bin Vent)	38.7	42.2	(b)
Pneumatic Sand Transporter #1	38.7	42.2	(b)
Large Core Sand Weigh Hopper (Baghouse Q)	15.0	25.2	(a)
Large Core Sand Holding Hopper #10 (Baghouse Q)	15.0	25.2	(a)
Large Core Sand Heater #10 (Baghouse Q)	15.0	25.2	(a)
Sand / Resin Mixer #10	15.0	25.2	(a)

The pound per hour limitations was calculated with the following equations:

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

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

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

$E = 55.0\ P^{0.11} - 40$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

D.11.4 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

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

Compliance Determination Requirements

D.11.5 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

(a) Resin #1 / Catalyst #1 (DMIPA) – Operating Scenario #1
In order to demonstrate the compliance status with Condition D.11.1 – VOC PSD Minor Limits, the Permittee shall perform VOC testing of the uncontrolled exhaust for the Sand / Resin Mixer #10 and of the uncontrolled exhaust for the Cold Box Phenolic Urethane Core Machine #29 when using the resin identified as Resin #1 and the catalyst identified as Catalyst #1 (DMIPA). Testing shall be conducted utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the last valid compliance demonstration.

(b) Resin #2 / Catalyst #2 – Operating Scenario #2
During the period within 60 days of achieving the nominal production rate but no later than 180 days after start-up of the Sand / resin Mixer #10 and the Cold Box Phenolic Urethane Core Machine #29 using the resin identified as Resin #2 and the catalyst identified as Catalyst #2, In order to demonstrate the compliance status with Condition D.11.1 – VOC PSD Minor Limits, the Permittee shall perform VOC testing in the event of a change in the operating scenario of the uncontrolled exhaust for the Sand / Resin Mixer #10 and of the uncontrolled exhaust for the Cold Box Phenolic Urethane Core Machine #29 when using the resin identified as Resin #2 and the catalyst identified as Catalyst #2. Testing shall be conducted utilizing methods as approved by the Commissioner at least

once every five (5) years from the date of the last valid compliance demonstration.

(c) Resin #3 / Catalyst #3 – Operating Scenario #3
During the period within 60 days of achieving the nominal production rate but no later than 180 days after start-up of the Sand / resin Mixer #10 and the Cold Box Phenolic Urethane Core Machine #29 using the resin identified as Resin #3 and the catalyst identified as Catalyst #2, In order to demonstrate the compliance status with Condition D.11.1 – VOC PSD Minor Limits, the Permittee shall perform VOC testing in the event of a change in the operating scenario of the uncontrolled exhaust for the Sand / Resin Mixer #10 and of the uncontrolled exhaust for the Cold Box Phenolic Urethane Core Machine #29 when using the resin identified as Resin #3 and the catalyst identified as Catalyst #3. Testing shall be conducted utilizing methods as approved by the Commissioner at least once every five (5) years from the date of the last valid compliance demonstration.

(d) 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 testing required by this condition.

D.11.6 VOC Emissions

Compliance with the VOC emission limit in Condition D.11.1 – VOC PSD Minor Limits shall be determined using the following equation:

Total VOC Emissions (lb/month)	=	(lb Resin # 1 used/month) x (0.02904 lb noncatalyst VOC/lb resin used)
	+	(lb Catalyst # 1 used/month) x (1.0 lb VOC/lb of catalyst used)
	+	(lb Resin # 2 used and Pounds Catalyst # 2 used/month[1]) x (VOC emission per unit of use (determined from stack test))
	+	(lb Resin # 3 used and Pounds Catalyst # 3 used/month[1]) x (VOC emission per unit of use (determined from stack test))
	+	(lb Core Wash used/month) x (0.02 lb VOC/lb of core wash used)
	+	(lb Release Agent used) x (0.9 lb VOC/lb of Release Agent used)
	+	(lb core box cleaner) x (1.0 lb VOC/lb of core box cleaner used)

[1] If catalyst used contains a VOC.

D.11.7 Emission Controls Operation [326 IAC 2-7-6(6)]

(a) The Northeast (NE) Sand Silo's integrated bin vent for particulate emissions control shall be in operation at all times that the Northeast (NE) Sand Silo is being loaded.

(b) Baghouse Q
In order to comply with Condition D.12.2 – PM and PM_{10} PSD Minor Limits and Condition D.12.3 – Particulate Emission Limitation, the Baghouse Q for particulate emissions control shall be in operation at all times that any of the following:

(1) Large Core Sand Weigh Hopper,
(2) Large Core Sand Holding Hopper #10, or
(3) Large Core Sand Heater #10.

are in operation.

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

D.11.8 Broken or Failed Bag Detection [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

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

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

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

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

D.11.9 Visible Emissions Notations

(a) Visible emission notations of the Baghouse Q exhaust (Stack Q) shall be performed once per day during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.

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

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

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

(e) If abnormal emissions are observed, the Permittee shall take reasonable response steps. 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.11.10 Baghouse Parametric Monitoring [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

(a) Baghouse Q
The Permittee shall record the pressure drop across Baghouse Q, at least once per day, when the following are in operation:

(1) Large Core Sand Weigh Hopper,
(2) Large Core Sand Holding Hopper #10, or
(3) Large Core Sand Heater #10.

When for any one reading, the pressure drop across the baghouse is outside the normal range, the Permittee shall take reasonable response. The normal range for Baghouse Q is a pressure drop range between 3.0 and 9.0 inches of water unless a different upper-bound or lower-bound value for this range is determined during the most recent valid stack test. 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. 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.

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

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

D.11.11 Record Keeping Requirements

(a) To document the compliance status with Condition D.11.1 – VOC Minor Limits, the Permittee shall maintain records of the VOC content and usage amounts of:

(1) resin,
(2) catalyst,
(3) core wash,
(4) release agent, and
(5) core box cleaner

for the Large Core Production Cell (ID LCC). Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the VOC content of the core wash, release agent, and core box cleaner used.

(b) To document the compliance status with Condition D.11.2 – PSD Minor Limits, the Permittee shall maintain records of the sand throughput to the Large Core Production Cell (ID LCC).

(c) To document the compliance status with Condition D.11.9 – Visible Emission Notations, the Permittee shall maintain daily records of visible emission notations of the Baghouse Q 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).

(d) To document the compliance status with Condition D.11.10– Baghouse Parametric Monitoring, the Permittee shall maintain the daily records of the pressure drop across Baghouse Q. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading, (e.g. the process did not operate that day).

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

D.11.12 Reporting Requirements

A quarterly summary of the information to document the compliance status with Condition D.11.1 – VOC Minor Limits and Condition D.11.2(c) – PSD Minor Limits shall be submitted not later than thirty (30) days following the end of each calendar quarter. The report submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a “responsible official” as defined by 326 IAC 2-7-1(35). Section C - General Reporting Requirements contains the Permittee's obligations with regard to the reporting required by this condition.

SECTION D.12 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(14)]:

Insignificant Activities

(1) Degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6. [326 IAC 8-3-2]

(2) The following equipment related to manufacturing activities no resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment. [326 IAC 6-3-2]

(3) Cutting 200,000 linear feet or less than one (1") plate or equivalent. [326 IAC 6-3-2]

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

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

D.12.1 Volatile Organic Compounds (VOC) [326 IAC 8-3-2]

(a) Pursuant to 326 IAC 8-3-2(a), the Permittee shall ensure the following control equipment and operating requirements are met for the degreasing operations:

(1) Equip the degreaser with a cover.

(2) Equip the degreaser with a device for draining cleaned parts.

(3) Close the degreaser cover whenever parts are not being handled in the degreaser.

(4) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases.

(5) Provide a permanent, conspicuous label that lists the operating requirements in subdivisions (3), (4), (6), and (7).

(6) Store waste solvent only in closed containers.

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

(b) Pursuant to 326 IAC 8-3-2(b), the Permittee shall ensure the following additional control equipment and operating requirements are met for the degreasing operations:

(1) Equip the degreaser with one (1) of the following control devices if the solvent is heated to a temperature of greater than forty-eight and nine-tenths (48.9) degrees Celsius (one hundred twenty (120) degrees Fahrenheit):

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

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

(C) A refrigerated chiller.

(D) Carbon adsorption.

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

(2) Ensure the degreaser cover is designed so that it can be easily operated with one (1) hand if the solvent is agitated or heated.

(3) If used, solvent spray:

(A) must be a solid, fluid stream; and

(B) shall be applied at a pressure that does not cause excessive splashing.

D.12.2 Particulate Emission Limitation [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the above listed processes shall not exceed the pounds per hour limitations as calculated with the following equation:

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

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

SECTION E.1 NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS (NESHAP) REQUIREMENTS [326 IAC 2-7-5(1)]

Facility Description [326 IAC 2-7-5(14)]

(1) **Cupola Melt Furnace**

One (1) Cupola Melt Furnace, constructed prior to 1977, with a nominal capacity of 48.5 tons per hour of metal melted, and a maximum heat input capacity of 69.95 million British thermal units (MMBtu) per hour. The Cupola Melt Furnace is equipped with two (2) electric holding furnaces.

Particulate emissions are captured and controlled by Wet Scrubber A and Wet Electrostatic Precipitator WESP (for NESHAP EEEEE compliance). Carbon monoxide emissions are captured and controlled by three (3) natural gas fired afterburners, each with a maximum heat input capacity of 2.2 million British thermal units (MMBtu) per hour. Emissions exhaust through Stack A.

Fugitive particulate emissions from the Cupola Charge Door are captured and controlled by Baghouse #14, exhausting through Stack AD.

(2) **Herman 2 Mold Line**

One (1) Herman 2 Pouring Station, constructed prior to 1977, with a nominal throughput of 37 tons of iron per hour and 166 tons of mold and core sand per hour.

Emissions from the Herman 2 Pouring Station are captured, but uncontrolled, and exhaust to the atmosphere through Vent V-19.

(3) **Herman 3 Mold Line**

The volatile organic compound (VOC) emissions from the Herman 3 Mold line are reduced by one (1) Sonoperoxone® system (or an equivalent advanced oxidation system), sand system optimization, use of low VOC core resin binder materials, and automatic mold vent-off gas ignition.

One (1) Herman 3 Pouring Station, constructed in 1991, with a nominal throughput of 28 tons of iron per hour and 165 tons of mold and core sand per hour.

Emissions from the Herman 3 Pouring Station are captured, but uncontrolled, and exhaust to the atmosphere through Vent V-10.

Under the Iron and Steel Foundries NESHAP (40 CFR 63, Subpart EEEEE)), the following affected facilities are considered an existing affected source:
– Cupola Melt Furnace
– Herman 2 Pouring Station
– Herman 3 Pouring Station

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

NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS (NESHAP) REQUIREMENTS [326 IAC 2-7-5(1)]

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

Pursuant to 40 CFR 63.7760, the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 20-1-1 for the affected facilities as specified in Table 1 of 40 CFR 63, Subpart EEEEE in accordance with schedule in 40 CFR 63 Subpart EEEEE.

E.1.2 Iron and Steel Foundries NESHAP Requirements [40 CFR Part 63, Subpart EEEEE]

Pursuant to 40 CFR 63.7683, the Permittee shall comply with the following provisions of 40 CFR Part 63, Subpart EEEEE (National Emission Standards for Hazardous Air Pollutants for Iron and Steel Foundries), which are incorporated by reference as 326 IAC 20-92 and included as Attachment A:

(1) 40 CFR 63.7680
(2) 40 CFR 63.7681
(3) 40 CFR 63.7682
(4) 40 CFR 63.7683
(5) 40 CFR 63.7690
(6) 40 CFR 63.7700
(7) 40 CFR 63.7710
(8) 40 CFR 63.7720
(9) 40 CFR 63.7730
(10) 40 CFR 63.7731
(11) 40 CFR 63.7732
(12) 40 CFR 63.7733
(13) 40 CFR 63.7734
(14) 40 CFR 63.7735
(15) 40 CFR 63.7736
(16) 40 CFR 63.7740
(17) 40 CFR 63.7741
(18) 40 CFR 63.7742
(19) 40 CFR 63.7743
(20) 40 CFR 63.7744
(21) 40 CFR 63.7745
(22) 40 CFR 63.7746
(23) 40 CFR 63.7747
(24) 40 CFR 63.7750
(25) 40 CFR 63.7751
(26) 40 CFR 63.7753
(27) 40 CFR 63.7760
(28) 40 CFR 63.7761
(29) 40 CFR 63.7765
(30) Appendix - Table 1 to Subpart EEEEE of Part 63

SECTION E.2 NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS (NESHAP) REQUIREMENTS [326 IAC 2-7-5(1)]

Facility Description [326 IAC 2-7-5(14)]

(4) One (1) diesel fired emergency generator, constructed in 1968, with a maximum power output rate of 170 horsepower.

Under 40 CFR 63, Subpart ZZZZ, this generator is considered an affected facility.

(5) One (1) gasoline generator, powering a portable maintenance welder, constructed in 2004, with a maximum power output rate of 23 horsepower.

Under 40 CFR 63, Subpart ZZZZ, this generator is considered an affected facility.

(6) One (1) gasoline generator, powering a portable maintenance welder, constructed in 2011, with a maximum power output rate of 23 horsepower.

Under 40 CFR 60, Subpart JJJJ and 40 CFR 63, Subpart ZZZZ, this generator is considered an affected facility.

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

NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS (NESHAP) REQUIREMENTS [326 IAC 2-7-5(1)]

E.2.1 General Provisions Relating to NESHAP [326 IAC 20-1] [40 CFR 63, Subpart A]

(a) Pursuant to 40 CFR 63.6665, the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A - General Provisions, which are incorporated by reference as 326 IAC 20-1, as specified in Table 8 of 40 CFR 63, Subpart ZZZZ in accordance with the schedule in 40 CFR 63, Subpart ZZZZ.

(b) Pursuant to 40 CFR 63.10, the Permittee shall submit all required notifications and reports to:

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

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

E.2.2 National Emission Standard for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines [40 CFR Part 63, Subpart ZZZZ] [326 IAC 20-82]

(a) The Permittee shall comply with the following provisions of 40 CFR Part 63, Subpart ZZZZ (included as Attachment B of this permit) for the diesel emergency generator, which are incorporated by reference as 326 IAC 20-82:

(1) 40 CFR 63.6580
(2) 40 CFR 63.6585
(3) 40 CFR 63.6590(a)(1)(ii) and (iv)
(4) 40 CFR 63.6595(a)(1) and (c)
(5) 40 CFR 63.6602
(6) 40 CFR 63.6605
(7) 40 CFR 63.6612
(8) 40 CFR 63.6615
(9) 40 CFR 63.6625(e)(2), (f), (h), and (i)
(10) 40 CFR 63.6635
(11) 40 CFR 63.6640(a), (b), (e), and (f)
(12) 40 CFR 63.6645(a)(5)
(13) 40 CFR 63.6650
(14) 40 CFR 63.6655
(15) 40 CFR 63.6660
(16) 40 CFR 63.6665
(17) 40 CFR 63.6670
(18) 40 CFR 63.6675
(19) Table 2c (item 1)
(20) Table 6 (item 9)
(21) Table 8

(b) The Permittee shall comply with the following provisions of 40 CFR Part 63, Subpart ZZZZ (included as Attachment B of this permit) for the gasoline generator, constructed in 2004, which are incorporated by reference as 326 IAC 20-82:

(1) 40 CFR 63.6580
(2) 40 CFR 63.6585
(3) 40 CFR 63.6590(a)(1)(ii) and (iv)
(4) 40 CFR 63.6595(a)(1) and (c)
(5) 40 CFR 63.6602
(6) 40 CFR 63.6605
(7) 40 CFR 63.6612
(8) 40 CFR 63.6625(e)(1), (h), and (j)
(9) 40 CFR 63.6635
(10) 40 CFR 63.6640(a), (b), and (e)
(11) 40 CFR 63.6645(a)(5)
(12) 40 CFR 63.6650
(13) 40 CFR 63.6655
(14) 40 CFR 63.6660
(15) 40 CFR 63.6665
(16) 40 CFR 63.6670
(17) 40 CFR 63.6675
(18) Table 2c (item 7)
(19) Table 6 (item 9)
(20) Table 8

(c) The Permittee shall comply with the following provisions of 40 CFR Part 63, Subpart ZZZZ (included as Attachment B of this permit) for the gasoline generator, constructed in 2011, which are incorporated by reference as 326 IAC 20-82:

(1) 40 CFR 63.6580
(2) 40 CFR 63.6585
(3) 40 CFR 63.6590(a)(2)(ii) and (c)
(4) 40 CFR 63.6595(a)(5)
(5) 40 CFR 63.6665
(6) 40 CFR 63.6670
(7) 40 CFR 63.6675

SECTION E.3 NEW SOURCE PERFORMANCE STANDARDS (NSPS) REQUIREMENTS [326 IAC 2-7-5(1)]

Facility Description [326 IAC 2-7-5(14)]

(6) One (1) gasoline generator, powering a portable maintenance welder, constructed in 2011, with a maximum power output rate of 23 horsepower.

Under 40 CFR 60, Subpart JJJJ and 40 CFR 63, Subpart ZZZZ, this generator is considered an affected facility.

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

NEW SOURCE PERFORMANCE STANDARDS (NSPS) REQUIREMENTS [326 IAC 2-7-5(1)]

E.3.1 General Provisions Relating to NSPS [326 IAC 12-1] [40 CFR Part 60, Subpart A]

The Permittee shall comply with the provisions of 40 CFR Part 60, Subpart A - General Provisions, which are incorporated by reference in 326 IAC 12-1, except when otherwise specified in 40 CFR Part 60, Subpart JJJJ.

E.3.2 New Source Performance Standards (NSPS) for Stationary Spark Ignition Internal Combustion Engines [326 IAC 12] [40 CFR Part 60, Subpart JJJJ]

The gasoline generator, constructed in 2011, shall comply with the following provisions of 40 CFR Part 60, Subpart JJJJ (included as Attachment C of this permit):

(1) 40 CFR 60.4230
(2) 40 CFR 60.4233(a)
(3) 40 CFR 60.4234
(4) 40 CFR 60.4235
(5) 40 CFR 60.4236
(6) 40 CFR 60.4243(a)
(7) 40 CFR 60.4245(a)
(8) 40 CFR 60.4246
(9) 40 CFR 60.4248
(10) Table 3

SECTION F.1 **FUGITIVE DUST CONTROL PLAN**

Facility Description [326 IAC 2-7-5(14)]:

(1) **Scrap Yard**

(2) **Herman 2 Mold Line**

(a) One (1) electric holding furnace, constructed prior to 1977, with a nominal throughput of 37 tons of iron per hour, with emissions captured, but uncontrolled, and exhausting to the general building ventilation system.

(b) One (1) Herman 2 Pouring Station, constructed prior to 1977, with a nominal throughput of 37 tons of iron per hour and 166 tons of mold and core sand per hour.

Emissions from the Herman 2 Pouring Station are captured, but uncontrolled, and exhaust to the atmosphere through Vent V-19.

(c) One (1) Herman 2 Castings Cooling process, constructed prior to 1977, with a nominal throughput of 37 tons of iron per hour and 166 tons of mold and core sand per hour.

Emissions from the Herman 2 Castings Cooling process are captured, but uncontrolled, and exhaust to the atmosphere through Vents V-8 and V-9.

(d) One (1) Herman 2 Shakeout process, constructed prior to 1977, with a nominal throughput of 37 tons of iron per hour and 166 tons of mold and core sand per hour.

The particulate emissions from the Herman 2 Shakeout process are captured and controlled by Wet Collector #3, exhausting through Stack B.

(e) One (1) Herman 2 Sand Handling process, constructed prior to 1977, modified in 2009, and approved for modification in 2013, with a nominal throughput of 166 tons of mold and core sand per hour.

The Herman 2 Sand Handling process includes

(1) sand screening, sand cooling, water addition, sand mulling, and the ancillary equipment associated with each, all constructed prior to 1977, with particulate emissions captured and controlled by Baghouse #1, exhausting through Stack F, and Baghouse #13, exhausting through Stack Y.

and

(2) One (1) waste sand handling system supporting the Herman 2 Mold Line, consisting of one (1) Klein transport, constructed in 2009 and approved for modification in 2013, identified as:

(A) PF504-5, with a total nominal capacity of 12.0 tons per hour, with particulate emissions from sending operations captured and controlled by Baghouse #13, exhausting through Stack Y; and

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

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

F.1.1 Scrap Yard Sweeping and Watering Requirements

Pursuant to Agreed Order 2001-11054-A, issued on May 25, 2006, the Permittee shall:

(a) Perform sweeping of the scrap yard at least once per shift, whenever truck traffic is present or the cupola is operating; and

(b) Perform watering of the scrap yard at least once per day, whenever truck traffic is present or the cupola is operating, from April through October

unless:

(a) There is at least one tenth of an inch (1/10") of rainfall within the past twenty-four (24) hours; or

(b) There is at least one inch (1") of snow on the ground; or

(c) The ambient air temperature is below thirty-two degrees Fahrenheit (32F).

F.1.2 Herman 2 Mold Line Visible Emissions

Pursuant to 326 IAC 6-4, Fugitive Dust Emissions, and Agreed Order 2001-11054-A, issued on May 25, 2006, the Permittee shall eliminate visible emissions from the Herman 2 Sand Handling system, including the mold cooling, pouring, and shakeout operations, lasting sixty (60) or more seconds, traveling beyond the property boundaries at or near ground level.

If such visible emissions occur, the Permittee shall immediately take all necessary corrective actions, including but not limited to, production decrease or cessation of operation of the Herman 2 Mold Line.

F.1.3 Herman 2 Mold Line Blackwater Advanced Oxidation System

Pursuant to Agreed Order 2001-11054-A, issued on May 25, 2006, the Permittee shall purchase, install, operate, and optimize a blackwater advanced oxidation system (Sonoperoxone® or equivalent system) on the Herman 2 Mold Line according to the timelines set forth in Agreed Order 2001-11054-A.

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

F.1.4 Scrap Yard Visual Observations

Pursuant to Agreed Order 2001-11054-A, issued on May 25, 2006:

(a) The Permittee shall conduct visual observations of the scrap yard at least once per shift every day during daylight hours, whenever truck traffic is present or the cupola is operating. The visual observations shall be made at a time not less than two (2) hours after either sweeping or watering has been performed in accordance with Condition F.1.1 – Sweeping and Watering Requirements.

(b) Should any visible airborne dust be observed within ten (10) feet of the fence line, generated by either wind, vehicular traffic, or any other activities, the Permittee shall perform additional sweeping or watering, in accordance with Condition F.1.1 – Sweeping and Watering Requirements, immediately after the observation.

(c) Compliance with paragraphs (a) and (b) of this condition and Condition F.1.1 – Sweeping and Watering Requirements does not relieve the Permittee from its duty to comply with the fugitive dust requirements in Section C – Fugitive Dust Emissions and 326 IAC 6-4

nor reduce the Permittee's liabilities for any noncompliance with these requirements.

F.1.5 Herman 2 Mold Line Emissions Observations and Monitoring Requirements

Pursuant to Agreed Order 2001-11054-A, issued on May 25, 2006:

(a) The Permittee shall conduct emissions observations of the Herman 2 cooling stacks at least once per shift during daylight hours in accordance with Condition F.1.2 – Herman 2 Mold Line Visible Emissions.

(b) The Permittee shall monitor the operating parameters of the Sonoperoxone® system at least once per shift, including, but not limited to,

(1) The hydrogen peroxide usage in gallons per hour of muller operation,

(2) The ozone generator plasma voltage, and

(3) The ultrasonic power in watts

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

F.1.6 Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

Pursuant to Agreed Order 2001-11054-A, issued on May 25, 2006:

(a) To document compliance with Condition F.1.1 – Scrap Yard Sweeping and Watering Requirements and Condition F.1.4 – Scrap Yard Visual Observations, the Permittee shall maintain records of:

(1) The once per shift and daily visual observations;

(2) The results of once per shift and daily visual observations;

(3) The scrap yard sweeping events;

(4) The scrap yard watering events; and

(5) The weather conditions prohibiting sweeping of the paved areas and / or watering of the yard.

The records shall include the date and time of each observation or event.

(b) To document compliance with Condition F.1.2 – Herman 2 Mold Line Visible Emissions and Condition F.1.5 – Herman 2 Mold Line Emissions Observations and Monitoring Requirements, the Permittee shall record the emissions observations and results and the parametric monitoring and any corrective actions taken. These records shall include:

(1) The date and time of each once per shift emissions observation;

(2) The results of once per shift emissions observations; and

(3) Documentation of the parametric monitoring and any corrective actions taken;

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

F.1.7 Notification Requirements

Pursuant to Agreed Order 2001-11054-A, issued on May 25, 2006, the Permittee shall notify the current OAQ Compliance Inspector by telephone and in writing via facsimile of:

(a) Every event of deviation from the requirements specified in conditions F.1.1 – Sweeping and Watering Requirements and F.1.4 – Scrap Yard Visual Observations;

(b) Each observation of visible dust leaving the property at or near ground level; and

(c) Every observation of visible emissions from the Herman 2 Sand Handling system, including the mold cooling, pouring, and shakeout operations, lasting sixty (60) or more seconds, traveling beyond the property boundaries at or near ground level;

within twenty-four (24) hours of the event or observation, or by the next business day.

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

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

Source Name: Dalton Corporation, Warsaw Manufacturing Facility
Source Address: 1900 E. Jefferson Street, Warsaw, Indiana 46580
Part 70 Permit No.: T085-30768-00003

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: Dalton Corporation, Warsaw Manufacturing Facility
Source Address: 1900 E. Jefferson Street, Warsaw, Indiana 46580
Part 70 Permit No.: T085-30768-00003

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: Dalton Corporation, Warsaw Manufacturing Facility
Source Address: 1900 E. Jefferson Street, Warsaw, Indiana 46580
Part 70 Permit No.: T085-30768-00003
Facilities: Cupola Charge Handling
Parameters: Amount of Metal Charged
Limits: 199,194 tons of metal per twelve (12) consecutive month period, rolled on a monthly basis, with compliance determined at the end of each month. (Section D.1)

QUARTER : YEAR:

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

☐ No deviation occurred in this quarter.

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

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

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

Part 70 Quarterly Report

Source Name: Dalton Corporation, Warsaw Manufacturing Facility
Source Address: 1900 Jefferson Street, Warsaw, Indiana 46580
Part 70 Permit No.: T 085-30768-00003
Facilities: Cupola Melt Furnace
Parameters: Amount of Metal Melted
Limits: 187,919 tons of metal per twelve (12) consecutive month period, rolled on a monthly basis, with compliance determined at the end of each month. (Section D.2)

YEAR: _____

Month	This Month	Previous 11 Months	12 Month Total

☐ No deviation occurred in this quarter.

☐ Deviations 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: Dalton Corporation, Warsaw Manufacturing Facility
Source Address: 1900 Jefferson Street, Warsaw, Indiana 46580
Part 70 Permit No.: T 085-30768-00003
Facilities: Herman 2 Sand Handling - Klein Transport
Parameters: Amount of Core and Mold Sand Handled
Limits: 106,000 tons of sand per twelve (12) consecutive month period, rolled on a monthly basis, with compliance determined at the end of each month. (Section D.3)

YEAR: _____

Month	This Month	Previous 11 Months	12 Month Total

☐ No deviation occurred in this quarter.

☐ Deviations 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: Dalton Corporation, Warsaw Manufacturing Facility
Source Address: 1900 Jefferson Street, Warsaw, Indiana 46580
Part 70 Permit No.: T 085-30768-00003
Facilities: Herman 2 and Herman 3 Sand Handling
Parameters: Amount of Core and Mold Sand Handled
Limits: 1,127,516 tons of sand per twelve (12) consecutive month period, rolled on a monthly basis, with compliance determined at the end of each month. (Sections D.3 and D.4)

YEAR: _____

Month	This Month	Previous 11 Months	12 Month Total

☐ No deviation occurred in this quarter.

☐ Deviations 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: Dalton Corporation, Warsaw Manufacturing Facility
Source Address: 1900 Jefferson Street, Warsaw, Indiana 46580
Part 70 Permit No.: T 085-30768-00003
Facilities: Herman 3 Mold Line
Parameters: Amount of Metal Throughput
Limits: 90,578 tons of metal per twelve (12) consecutive month period, rolled on a monthly basis, with compliance determined at the end of each month. (Section D.4)

YEAR: _____

Month	This Month	Previous 11 Months	12 Month Total

☐ No deviation occurred in this quarter.

☐ Deviations 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: Dalton Corporation, Warsaw Manufacturing Facility
Source Address: 1900 Jefferson Street, Warsaw, Indiana 46580
Part 70 Permit No.: T 085-30768-00003
Facilities: Herman 3 Mold Line
Parameters: Amount of Sand Throughput
Limits: 543,470 tons of sand per twelve (12) consecutive month period, rolled on a monthly basis, with compliance determined at the end of each month. (Section D.4)

YEAR: _____

Month	This Month	Previous 11 Months	12 Month Total

☐ No deviation occurred in this quarter.

☐ Deviations 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:	Dalton Corporation, Warsaw Manufacturing Facility
Source Address:	1900 Jefferson Street, Warsaw, Indiana 46580
Part 70 Permit No.:	T 085-30768-00003
Facilities:	Waste Sand Handling, Screening and Transport System
Parameters:	Amount of Sand Throughput
Limits:	112,752 tons of sand per twelve (12) consecutive month period, rolled on a monthly basis, with compliance determined at the end of each month. (Section D.5)

YEAR: _____

Month	This Month	Previous 11 Months	12 Month Total

☐ No deviation occurred in this quarter.

☐ Deviations 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:	Dalton Corporation, Warsaw Manufacturing Facility
Source Address:	1900 Jefferson Street, Warsaw, Indiana 46580
Part 70 Permit No.:	T 085-30768-00003
Facilities:	Vibratory Shaker
Parameters:	Amount of Metal Throughput
Limits:	142,000 tons of metal per twelve (12) consecutive month period, rolled on a monthly basis, with compliance determined at the end of each month. (Section D.5)

YEAR: _____

Month	This Month	Previous 11 Months	12 Month Total

☐ No deviation occurred in this quarter.

☐ Deviations 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:	Dalton Corporation, Warsaw Manufacturing Facility
Source Address:	1900 Jefferson Street, Warsaw, Indiana 46580
Part 70 Permit No.:	T 085-30768-00003
Facilities:	Shot Blast Machines (SB-1 through SB-9)
Parameters:	Amount of Finished Castings
Limits:	112,752 tons of finished castings per twelve (12) consecutive month period, rolled on a monthly basis, with compliance determined at the end of each month. (Section D.6)

YEAR: _____

Month	This Month	Previous 11 Months	12 Month Total

☐ No deviation occurred in this quarter.

☐ Deviations 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: Dalton Corporation, Warsaw Manufacturing Facility
Source Address: 1900 Jefferson Street, Warsaw, Indiana 46580
Part 70 Permit No.: T 085-30768-00003
Facilities: Shot Blast Machine (SB-9)
Parameters: Amount of Finished Castings
Limits: 60,500 tons of finished castings per twelve (12) consecutive month period, rolled on a monthly basis, with compliance determined at the end of each month. (Section D.6)

YEAR: _____

Month	This Month	Previous 11 Months	12 Month Total

☐ No deviation occurred in this quarter.

☐ Deviations 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:	Dalton Corporation, Warsaw Manufacturing Facility
Source Address:	1900 Jefferson Street, Warsaw, Indiana 46580
Part 70 Permit No.:	T 085-30768-00003
Facilities:	Hose Blast System for Shot Blast Machine SB-8
Parameters:	Amount of Finished Castings
Limits:	16,500 tons of finished castings per twelve (12) consecutive month period, rolled on a monthly basis, with compliance determined at the end of each month. (Section D.6)

YEAR: _____

Month	This Month	Previous 11 Months	12 Month Total

☐ No deviation occurred in this quarter.

☐ Deviations 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: Dalton Corporation, Warsaw Manufacturing Facility
Source Address: 1900 Jefferson Street, Warsaw, Indiana 46580
Part 70 Permit No.: T 085-30768-00003
Facilities: Robotic Grinders ABB and FANUC
Parameters: Amount of Finished Castings
Limits: 15,500 tons of finished castings per twelve (12) consecutive month period, rolled on a monthly basis, with compliance determined at the end of each month. (Section D.6)

YEAR: _____

Month	This Month	Previous 11 Months	12 Month Total

☐ No deviation occurred in this quarter.

☐ Deviations 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: Dalton Corporation, Warsaw Manufacturing Facility
Source Address: 1900 Jefferson Street, Warsaw, Indiana 46580
Part 70 Permit No.: T 085-30768-00003
Facilities: SB 10 Blow-Off Chamber
Parameters: Casting Throughput
Limits: 20,000 tons per twelve (12) consecutive month period, rolled on a monthly basis with compliance determined at the end of each month. (Section D.6)

YEAR: _____

Month	This Month	Previous 11 Months	12 Month Total

☐ No deviation occurred in this quarter.

☐ Deviations 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 DATA SECTION

Part 70 Quarterly Report

Source Name: Dalton Corporation, Warsaw Manufacturing Facility
Source Address: 1900 Jefferson Street, Warsaw, Indiana 46580
Part 70 Permit No.: T 085-30768-00003
Facilities: Phenolic Urethane Core Making Line #9 (Sand Mixer #9)
Parameters: Amount of Input Resin
Limits: 295,000 pounds per twelve (12) consecutive month period, rolled on a monthly basis, and compliance determined at the end of each month. (Section D.8)

YEAR: _____

Month	This Month	Previous 11 Months	12 Month Total

☐ No deviation occurred in this quarter.

☐ Deviations 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:	Dalton Corporation, Warsaw Manufacturing Facility
Source Address:	1900 Jefferson Street, Warsaw, Indiana 46580
Part 70 Permit No.:	T 085-30768-00003
Facilities:	Phenolic Urethane Core Making Line #9 (Sand Mixer #9)
Parameters:	Amount of Input Catalysts
Limits:	32,935 pounds per twelve (12) consecutive month period, rolled on a monthly basis, and compliance determined at the end of each month. (Section D.8)

YEAR: _____

Month	This Month	Previous 11 Months	12 Month Total

☐ No deviation occurred in this quarter.

☐ Deviations 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: Dalton Corporation, Warsaw Manufacturing Facility
Source Address: 1900 Jefferson Street, Warsaw, Indiana 46580
Part 70 Permit No.: T 085-30768-00003
Facilities: Phenolic Urethane Core Making Line #1
Parameters: Amount of Sand Throughput
Limits: 17,922 tons per twelve (12) consecutive month period, rolled on a monthly basis, with compliance determined at the end of each month. (Section D.9)

YEAR: _____

Month	This Month	Previous 11 Months	12 Month Total

☐ No deviation occurred in this quarter.

☐ Deviations 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:	Dalton Corporation, Warsaw Manufacturing Facility
Source Address:	1900 Jefferson Street, Warsaw, Indiana 46580
Part 70 Permit No.:	T 085-30768-00003
Facilities:	Phenolic Urethane Core Making Line #2
Parameters:	Amount of Sand Throughput
Limits:	4,656 tons per twelve (12) consecutive month period, rolled on a monthly basis, with compliance determined at the end of each month. (Section D.9)

YEAR: _____

Month	This Month	Previous 11 Months	12 Month Total

☐ No deviation occurred in this quarter.

☐ Deviations 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:	Dalton Corporation, Warsaw Manufacturing Facility
Source Address:	1900 Jefferson Street, Warsaw, Indiana 46580
Part 70 Permit No.:	T 085-30768-00003
Facilities:	Phenolic Urethane Core Making Line #3
Parameters:	Amount of Sand Throughput
Limits:	23,200 tons per twelve (12) consecutive month period, rolled on a monthly basis, with compliance determined at the end of each month. (Section D.9)

YEAR: _____

Month	This Month	Previous 11 Months	12 Month Total

☐ No deviation occurred in this quarter.

☐ Deviations 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: Dalton Corporation, Warsaw Manufacturing Facility
Source Address: 1900 Jefferson Street, Warsaw, Indiana 46580
Part 70 Permit No.: T 085-30768-00003
Facilities: Phenolic Urethane Core Making Line #4
Parameters: Amount of Sand Throughput
Limits: 12,910 tons per twelve (12) consecutive month period, rolled on a monthly basis, with compliance determined at the end of each month. (Section D.9)

YEAR: _____

Month	This Month	Previous 11 Months	12 Month Total

☐ No deviation occurred in this quarter.

☐ Deviations 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: Dalton Corporation, Warsaw Manufacturing Facility
Source Address: 1900 Jefferson Street, Warsaw, Indiana 46580
Part 70 Permit No.: T 085-30768-00003
Facilities: Phenolic Urethane Core Making Line #5
Parameters: Amount of Sand Throughput
Limits: 2,383 tons per twelve (12) consecutive month period, rolled on a monthly basis, with compliance determined at the end of each month. (Section D.9)

YEAR: _____

Month	This Month	Previous 11 Months	12 Month Total

☐ No deviation occurred in this quarter.

☐ Deviations 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: Dalton Corporation, Warsaw Manufacturing Facility
Source Address: 1900 Jefferson Street, Warsaw, Indiana 46580
Part 70 Permit No.: T 085-30768-00003
Facilities: Phenolic Urethane Core Making Line #8
Parameters: Amount of Sand Throughput
Limits: 6,350 tons per twelve (12) consecutive month period, rolled on a monthly basis, with compliance determined at the end of each month. (Section D.9)

YEAR: _____

Month	This Month	Previous 11 Months	12 Month Total

☐ No deviation occurred in this quarter.

☐ Deviations 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:	Dalton Corporation, Warsaw Manufacturing Facility
Source Address:	1900 Jefferson Street, Warsaw, Indiana 46580
Part 70 Permit No.:	T 085-30768-00003
Facilities:	Phenolic Urethane Core Making Lines #1 through #5, and #8
Parameters:	Amount of Core Wash Used
Limits:	117,260 gallons per twelve (12) consecutive month period, rolled on a monthly basis, and VOC content of the core wash shall not exceed 0.12 pounds per gallon. Compliance determined at the end of each month. (Section D.9)

YEAR: _____

Month	This Month	Previous 11 Months	12 Month Total

☐ No deviation occurred in this quarter.

☐ Deviations 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:	Dalton Corporation, Warsaw Manufacturing Facility
Source Address:	1900 Jefferson Street, Warsaw, Indiana 46580
Part 70 Permit No.:	T 085-30768-00003
Facilities:	Phenolic Urethane Core Making Lines #1 through #5, and #8
Parameters:	Amount of Core Machines Cleaner Used
Limits:	1188 gallons per twelve consecutive month period, rolled on a monthly basis, and VOC content of the core machines cleaner shall not exceed 8.17 pounds per gallon. Compliance determined at the end of each month. (Section D.9)

YEAR: _____

Month	This Month	Previous 11 Months	12 Month Total

☐ No deviation occurred in this quarter.

☐ Deviations 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:	Dalton Corporation, Warsaw Manufacturing Facility
Source Address:	1900 Jefferson Street, Warsaw, Indiana 46580
Part 70 Permit No.:	T 085-30768-00003
Facilities:	Phenolic Urethane Core Making Lines #1 through #5, and #8
Parameters:	Amount of Core Release Agent Used
Limits:	1150 gallons per twelve (12) consecutive month period, rolled on a monthly basis, and VOC content of the core release agent shall not exceed 6.15 pounds per gallon. Compliance determined at the end of each month. (Section D.9)

YEAR: _____

Month	This Month	Previous 11 Months	12 Month Total

☐ No deviation occurred in this quarter.

☐ Deviations 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: Dalton Corporation, Warsaw Manufacturing Facility
Source Address: 1900 Jefferson Street, Warsaw, Indiana 46580
Part 70 Permit No.: T 085-30768-00003
Facilities: Large Core Production Cell (ID LCC)
Parameters: Amount of Resin Used
Limits: 299,399.3 pounds per twelve (12) consecutive month period, rolled on a monthly basis, and VOC content of the resin shall not exceed 0.02904 pounds of VOC per pound of resin. Compliance determined at the end of each month. (Section D.12)

YEAR: _____

Month	This Month	Previous 11 Months	12 Month Total

☐ No deviation occurred in this quarter.

☐ Deviations 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:	Dalton Corporation, Warsaw Manufacturing Facility
Source Address:	1900 Jefferson Street, Warsaw, Indiana 46580
Part 70 Permit No.:	T 085-30768-00003
Facilities:	Large Core Production Cell (ID LCC)
Parameters:	Amount of Catalyst Used
Limits:	32,934.6 pounds per twelve (12) consecutive month period, rolled on a monthly basis, and VOC content of the catalyst shall not exceed 1.0 pounds of VOC per pound of catalyst. Compliance determined at the end of each month. (Section D.12)

YEAR: _____

Month	This Month	Previous 11 Months	12 Month Total

☐ No deviation occurred in this quarter.

☐ Deviations 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: Dalton Corporation, Warsaw Manufacturing Facility
Source Address: 1900 Jefferson Street, Warsaw, Indiana 46580
Part 70 Permit No.: T 085-30768-00003
Facilities: Large Core Production Cell (ID LCC)
Parameters: Amount of Core Wash Used
Limits: 245,504.7 pounds per twelve (12) consecutive month period, rolled on a monthly basis, and VOC content of the core wash shall not exceed 0.02 pounds of VOC per pound of core wash. Compliance determined at the end of each month. (Section D.12)

YEAR: _____

Month	This Month	Previous 11 Months	12 Month Total

☐ No deviation occurred in this quarter.

☐ Deviations 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: Dalton Corporation, Warsaw Manufacturing Facility
Source Address: 1900 Jefferson Street, Warsaw, Indiana 46580
Part 70 Permit No.: T 085-30768-00003
Facilities: Large Core Production Cell (ID LCC)
Parameters: Amount of Release Agent Used
Limits: 1,397 pounds per twelve (12) consecutive month period, rolled on a monthly basis, and VOC content of the release agent shall not exceed 0.9 pounds of VOC per pound of release agent. Compliance determined at the end of each month. (Section D.12)

YEAR: _____

Month	This Month	Previous 11 Months	12 Month Total

☐ No deviation occurred in this quarter.

☐ Deviations 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: Dalton Corporation, Warsaw Manufacturing Facility
Source Address: 1900 Jefferson Street, Warsaw, Indiana 46580
Part 70 Permit No.: T 085-30768-00003
Facilities: Large Core Production Cell (ID LCC)
Parameters: Amount of Core Box Cleaner Used
Limits: 1,725 pounds per twelve consecutive month period, rolled on a monthly basis, and VOC content of the core box cleaner shall not exceed 1.0 pounds of VOC per pound of core box cleaner. Compliance determined at the end of each month. (Section D.12)

YEAR: _____

Month	This Month	Previous 11 Months	12 Month Total

☐ No deviation occurred in this quarter.

☐ Deviations 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: Dalton Corporation, Warsaw Manufacturing Facility
Source Address: 1900 Jefferson Street, Warsaw, Indiana 46580
Part 70 Permit No.: T 085-30768-00003
Facilities: Large Core Production Cell (ID LCC)
Parameters: Amount of Sand Throughput
Limits: 12,005 tons per twelve (12) consecutive month period, rolled on a monthly basis, with compliance determined at the end of each month. (Section D.12)

YEAR: _____

Month	This Month	Previous 11 Months	12 Month Total

☐ No deviation occurred in this quarter.

☐ Deviations 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: Dalton Corporation, Warsaw Manufacturing Facility
Source Address: 1900 Jefferson Street, Warsaw, Indiana 46580
Part 70 Permit No.: T 085-30768-00003
Facilities: Core Making Line #9
Parameters: Amount of Sand Throughput
Limits: 12,000 tons per twelve (12) consecutive month period, rolled on a monthly basis, with compliance determined at the end of each month. (Section D.12)

YEAR: _____

Month	This Month	Previous 11 Months	12 Month Total

☐ **No deviation occurred in this quarter.**

☐ **Deviations 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: Dalton Corporation, Warsaw Manufacturing Facility
Source Address: 1900 E. Jefferson Street, Warsaw, Indiana 46580
Part 70 Permit No.: T085-30768-00003

Months: _____ to _____ Year: _____

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 [40 CFR 63, Subpart EEEEE]

Source Description and Location

Source Name:	Dalton Corporation, Warsaw Manufacturing Facility
Source Location:	1900 E. Jefferson Street, Warsaw, Indiana 46580
County:	Kosciusko

Iron and Steel Foundries NESHAP [40 CFR 63, Subpart EEEEE]

40 CFR 63, Subpart EEEEE — National Emission Standards for Hazardous Air Pollutants for Iron and Steel Foundries

Source: 69 FR 21923, Apr. 22, 2004, unless otherwise noted.

What this Subpart Covers

§ 63.7680 What is the purpose of this subpart?

This subpart establishes national emission standards for hazardous air pollutants (NESHAP) for iron and steel foundries. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emissions limitations, work practice standards, and operation and maintenance requirements in this subpart.

§ 63.7681 Am I subject to this subpart?

You are subject to this subpart if you own or operate an iron and steel foundry that is (or is part of) a major source of hazardous air pollutant (HAP) emissions. Your iron and steel foundry is a major source of HAP for purposes of this subpart if it emits or has the potential to emit any single HAP at a rate of 10 tons or more per year or any combination of HAP at a rate of 25 tons or more per year or if it is located at a facility that emits or has the potential to emit any single HAP at a rate of 10 tons or more per year or any combination of HAP at a rate of 25 tons or more per year as defined in §63.2.

[69 FR 21923, Apr. 22, 2004, as amended at 73 FR 7218, February 7, 2008]

§ 63.7682 What parts of my foundry does this subpart cover?

(a) The affected source is each new or existing iron and steel foundry.

(b) This subpart covers emissions from metal melting furnaces, scrap preheaters, pouring areas, pouring stations, automated conveyor and pallet cooling lines, automated shakeout lines, and mold and core making lines. This subpart also covers fugitive emissions from foundry operations.

(c) An affected source is existing if you commenced construction or reconstruction of the affected source before December 23, 2002.

(d) An affected source is new if you commenced construction or reconstruction of the affected source on or after December 23, 2002. An affected source is reconstructed if it meets the definition of “reconstruction” in §63.2.

§ 63.7683 When do I have to comply with this subpart?

(a) Except as specified in paragraph (b) of this section, if you have an existing affected source, you must comply with each emissions limitation, work practice standard, and operation and maintenance requirement in this subpart that applies to you no later than April 23, 2007. Major source status for existing affected sources must be determined no later than April 23, 2007.

(b) If you have an existing affected source, you must comply with the work practice standards in §63.7700(b) or (c), as applicable, no later than April 22, 2005.

(c) If you have a new affected source for which the initial startup date is on or before April 22, 2004, you must comply with each emissions limitation, work practice standard, and operation and maintenance requirement in this subpart that applies to you by April 22, 2004.

(d) If you have a new affected source for which the initial startup date is after April 22, 2004, you must comply with each emissions limitation, work practice standard, and operation and maintenance requirement in this subpart that applies to you upon initial startup.

(e) If your iron and steel foundry is an area source that becomes a major source of HAP, you must meet the requirements of §63.6(c)(5).

(f) You must meet the notification and schedule requirements in §63.7750. Note that several of these notifications must be submitted before the compliance date for your affected source.

Emissions Limitations

§ 63.7690 What emissions limitations must I meet?

(a) You must meet the emissions limits or standards in paragraphs (a)(1) through (11) of this section that apply to you. When alternative emissions limitations are provided for a given emissions source, you are not restricted in the selection of which applicable alternative emissions limitation is used to demonstrate compliance.

(1) For each electric arc metal melting furnace, electric induction metal melting furnace, or scrap preheater at an existing iron and steel foundry, you must not discharge emissions through a conveyance to the atmosphere that exceed either the limit for particulate matter (PM) in paragraph (a)(1)(i) of this section or, alternatively the limit for total metal HAP in paragraph (a)(1)(ii) of this section:

(i) 0.005 grains of PM per dry standard cubic foot (gr/dscf), or

(ii) 0.0004 gr/dscf of total metal HAP.

(2) For each cupola metal melting furnace at an existing iron and steel foundry, you must not discharge emissions through a conveyance to the atmosphere that exceed either the limit for PM in paragraph (a)(2)(i) or (ii) of this section or, alternatively the limit for total metal HAP in paragraph (a)(2)(iii) or (iv) of this section:

(i) 0.006 gr/dscf of PM; or

(ii) 0.10 pound of PM per ton (lb/ton) of metal charged, or

(iii) 0.0005 gr/dscf of total metal HAP; or

(iv) 0.008 pound of total metal HAP per ton (lb/ton) of metal charged.

(3) For each cupola metal melting furnace or electric arc metal melting furnace at a new iron and steel foundry, you must not discharge emissions through a conveyance to the atmosphere that exceed either the limit for PM in paragraph (a)(3)(i) of this section or, alternatively the limit for total metal HAP in paragraph (a)(3)(ii) of this section:

(i) 0.002 gr/dscf of PM, or

(ii) 0.0002 gr/dscf of total metal HAP.

(4) For each electric induction metal melting furnace or scrap preheater at a new iron and steel foundry, you must not discharge emissions through a conveyance to the atmosphere that exceed either the limit for PM in paragraph (a)(4)(i) of this section or, alternatively the limit for total metal HAP in paragraph (a)(4)(ii) of this section:

(i) 0.001 gr/dscf of PM, or

(ii) 0.00008 gr/dscf of total metal HAP.

(5) For each pouring station at an existing iron and steel foundry, you must not discharge emissions through a conveyance to the atmosphere that exceed either the limit for PM in paragraph (a)(5)(i) of this section or, alternatively the limit for total metal HAP in paragraph (a)(5)(ii) of this section:

(i) 0.010 gr/dscf of PM, or

(ii) 0.0008 gr/dscf of total metal HAP.

(6) For each pouring area or pouring station at a new iron and steel foundry, you must not discharge emissions through a conveyance to the atmosphere that exceed either the limit for PM in paragraph (a)(6)(i) of this section or, alternatively the limit for total metal HAP in paragraph (a)(6)(ii) of this section:

(i) 0.002 gr/dscf of PM, or

(ii) 0.0002 gr/dscf of total metal HAP.

(7) For each building or structure housing any iron and steel foundry emissions source at the iron and steel foundry, you must not discharge any fugitive emissions to the atmosphere 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 27 percent opacity.

(8) For each cupola metal melting furnace at a new or existing iron and steel foundry, you must not discharge emissions of volatile organic hazardous air pollutants (VOHAP) through a conveyance to the atmosphere that exceed 20 parts per million by volume (ppmv) corrected to 10 percent oxygen.

(9) As an alternative to the work practice standard in §63.7700(e) for a scrap preheater at an existing iron and steel foundry or in §63.7700(f) for a scrap preheater at a new iron and steel foundry, you must not discharge emissions of VOHAP through a conveyance to the atmosphere that exceed 20 ppmv.

(10) For one or more automated conveyor and pallet cooling lines that use a sand mold system or automated shakeout lines that use a sand mold system at a new iron and steel foundry, you must not discharge emissions of VOHAP through a conveyance to the atmosphere that exceed a flow-weighted average of 20 ppmv.

(11) For each triethylamine (TEA) cold box mold or core making line at a new or existing iron and steel foundry, you must meet either the emissions limit in paragraph (a)(11)(i) of this section or, alternatively the emissions standard in paragraph (a)(11)(ii) of this section:

(i) You must not discharge emissions of TEA through a conveyance to the atmosphere that exceed 1 ppmv, as determined according to theperformance test procedures in § 63.7732(g); or

(ii) You must reduce emissions of TEA from each TEA cold box mold or core making line by at least 99 percent, as determined according to the performance test procedures in § 63.7732(g).

(b) You must meet each operating limit in paragraphs (b)(1) through (5) of this section that applies to you.

(1) You must install, operate, and maintain a capture and collection system for all emissions sources subject to an emissions limit for VOHAP or TEA in paragraphs (a)(8) through (11) of this section.

(i) Each capture and collection system must meet accepted engineering standards, such as those published by the American Conference of Governmental Industrial Hygienists.

(ii) You must operate each capture system at or above the lowest value or settings established as operating limits in your operation and maintenance plan.

(2) You must operate each wet scrubber applied to emissions from a metal melting furnace, scrap preheater, pouring area, or pouring station subject to an emissions limit for PM or total metal HAP in paragraphs (a)(1) through (6) of this section such that the 3-hour average pressure drop and scrubber water flow rate does not fall below the minimum levels established during the initial or subsequent performance test.

(3) You must operate each combustion device applied to emissions from a cupola metal melting furnace subject to the emissions limit for VOHAP in paragraph (a)(8) of this section, such that the 15-minute average combustion zone temperature does not fall below 1,300 degrees Fahrenheit (°F). Periods when the cupola is off blast and for 15 minutes after going on blast from an off blast condition are not included in the 15-minute average.

(4) You must operate each combustion device applied to emissions from a scrap preheater subject to the emissions limit for VOHAP in paragraph (a)(9) of this section or from a TEA cold box mold or core making line subject to the emissions limit for TEA in paragraph (a)(11) of this section, such that the 3-hour average combustion zone temperature does not fall below the minimum level established during the initial or subsequent performance test.

(5) You must operate each wet acid scrubber applied to emissions from a TEA cold box mold or core making line subject to the emissions limit for TEA in paragraph (a)(11) of this section such that:

(i) The 3-hour average scrubbing liquid flow rate does not fall below the minimum level established during the initial or subsequent performance test; and

(ii) The 3-hour average pH of the scrubber blowdown, as measured by a continuous parameter monitoring system (CPMS), does not exceed 4.5 or the pH of the scrubber blowdown, as measured once every 8 hours during process operations, does not exceed 4.5.

(c) If you use a control device other than a baghouse, wet scrubber, wet acid scrubber, or combustion device, you must prepare and submit a monitoring plan containing the information listed in paragraphs (c)(1) through (5) of this section. The monitoring plan is subject to approval by the Administrator.

(1) A description of the device;

(2) Test results collected in accordance with §63.7732 verifying the performance of the device for reducing emissions of PM, total metal HAP, VOHAP, or TEA to the levels required by this subpart;

(3) A copy of the operation and maintenance plan required by §63.7710(b);

(4) A list of appropriate operating parameters that will be monitored to maintain continuous compliance with the applicable emissions limitation(s); and

(5) Operating parameter limits based on monitoring data collected during the performance test.

[69 FR 21923, Apr. 22, 2004, as amended at 73 FR 7218, February 7, 2008]

Work Practice Standards

§ 63.7700 What work practice standards must I meet?

(a) For each segregated scrap storage area, bin or pile, you must either comply with the certification requirements in paragraph (b) of this section, or prepare and implement a plan for the selection and inspection of scrap according to the requirements in paragraph (c) of this section. You may have certain scrap subject to paragraph (b) of this section and other scrap subject to paragraph (c) of this section at your facility provided the scrap remains segregated until charge make-up.

(b) You must prepare and operate at all times according to a written certification that the foundry purchases and uses 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, mercury switches, plastics, or free organic liquids. For the purpose of this paragraph (b), “free organic liquids” is defined as material that fails the paint filter test by EPA Method 9095A, “Paint Filter Liquids Test” (Revision 1, December 1996), as published in EPA Publication SW–846 “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods” (incorporated by reference—see §63.14). Any post-consumer engine blocks, post-consumer oil filters, or oily turnings that are processed and/or cleaned to the extent practicable such that the materials do not include lead components, mercury switches, chlorinated plastics, or free organic liquids can be included in this certification.

(c) You must prepare and operate at all times according to a written plan for the selection and inspection of iron and steel scrap to minimize, to the extent practicable, the amount of organics and HAP metals in the charge materials used by the iron

and steel foundry. This scrap selection and inspection plan is subject to approval by the Administrator. You must keep a copy of the plan onsite and readily available to all plant personnel with materials acquisition or inspection duties. You must provide a copy of the material specifications to each of your scrap vendors. Each plan must include the information specified in paragraphs (c)(1) through (3) of this section.

(1) A materials acquisition program to limit organic contaminants according to the requirements in paragraph (c)(1)(i) or (ii) of this section, as applicable.

(i) For scrap charged to a scrap preheater, electric arc metal melting furnace, or electric induction metal melting furnace, specifications for scrap materials to be depleted (to the extent practicable) of the presence of used oil filters, chlorinated plastic parts, organic liquids, and a program to ensure the scrap materials are drained of free liquids; or

(ii) For scrap charged to a cupola metal melting furnace, specifications for scrap materials to be depleted (to the extent practicable) of the presence of chlorinated plastic, and a program to ensure the scrap materials are drained of free liquids.

(2) A materials acquisition program specifying that the scrap supplier remove accessible mercury switches from the trunks and hoods of any automotive bodies contained in the scrap and remove accessible lead components such as batteries and wheel weights. You must either obtain and maintain onsite a copy of the procedures used by the scrap supplier for either removing accessible mercury switches or for purchasing automobile bodies that have had mercury switches removed, as applicable, or document your attempts to obtain a copy of these procedures from the scrap suppliers servicing your area.

(3) Procedures for visual inspection of a representative portion, but not less than 10 percent, of all incoming scrap shipments to ensure the materials meet the specifications.

(i) The inspection procedures must identify the location(s) where inspections are to be performed for each type of shipment. Inspections may be performed at the scrap supplier's facility. The selected location(s) must provide a reasonable vantage point, considering worker safety, for visual inspection.

(ii) The inspection procedures must include recordkeeping requirements that document each visual inspection and the results.

(iii) The inspection procedures must include provisions for rejecting or returning entire or partial scrap shipments that do not meet specifications and limiting purchases from vendors whose shipments fail to meet specifications for more than three inspections in one calendar year.

(iv) If the inspections are performed at the scrap supplier's facility, the inspection procedures must include an explanation of how the periodic inspections ensure that not less than 10 percent of scrap purchased from each supplier is subject to inspection.

(d) For each furan warm box mold or core making line in a new or existing iron and steel foundry, you must use a binder chemical formulation that does not contain methanol as a specific ingredient of the catalyst formulation as determined by the Material Safety Data Sheet. This requirement does not apply to the resin portion of the binder system.

(e) For each scrap preheater at an existing iron and steel foundry, you must meet either the requirement in paragraph (e)(1) or (2) of this section. As an alternative to the requirement in paragraph (e)(1) or (2) of this section, you must meet the VOHAP emissions limit in §63.7690(a)(9).

(1) You must operate and maintain a gas-fired preheater where the flame directly contacts the scrap charged; or

(2) You must charge only material that is subject to and in compliance with the scrap certification requirement in paragraph (b) of this section.

(f) For each scrap preheater at a new iron and steel foundry, you must charge only material that is subject to and in compliance with the scrap certification requirement in paragraph (b) of this section. As an alternative to this requirement, you must meet the VOHAP emissions limit in §63.7690(a)(9).

[69 FR 21923, Apr. 22, 2004, as amended at 70 FR 29404, May 20, 2005; 73 FR 7218, February 7, 2008]

Operation and Maintenance Requirements

§ 63.7710 What are my operation and maintenance requirements?

(a) As required by §63.6(e)(1)(i), you must always operate and maintain your iron and steel foundry, including air pollution control and monitoring equipment, in a manner consistent with good air pollution control practices for minimizing emissions at least to the levels required by this subpart.

(b) You must prepare and operate at all times according to a written operation and maintenance plan for each capture and collection system and control device for an emissions source subject to a PM, metal HAP, TEA, or VOHAP emissions limit in §63.7690(a). Your operation and maintenance plan also must include procedures for igniting gases from mold vents in pouring areas and pouring stations that use a sand mold system. This operation and maintenance plan is subject to approval by the Administrator. Each plan must contain the elements described in paragraphs (b)(1) through (6) of this section.

(1) 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). The operation and maintenance plan must also include requirements to repair the defect or deficiency as soon as practicable.

(2) Operating limits for each capture system for an emissions source subject to an emissions limit or standard for VOHAP or TEA in §63.7690(a)(8) through (11). You must establish the operating according to the requirements in paragraphs (b)(2)(i) through (iii) of this section.

(i) Select operating limit parameters appropriate for the capture system design that are representative and reliable indicators of the performance of the capture system. At a minimum, you must use appropriate operating limit parameters that indicate the level of the ventilation draft and damper position settings for the capture system when operating to collect emissions, including revised settings for seasonal variations. Appropriate operating limit parameters for ventilation draft include, but are not limited to: volumetric flow rate through each separately ducted hood, total volumetric flow rate at the inlet to the control device to which the capture system is vented, fan motor amperage, or static pressure. Any parameter for damper position setting may be used that indicates the duct damper position related to the fully open setting.

(ii) For each operating limit parameter selected in paragraph (b)(2)(i) of this section, designate the value or setting for the parameter at which the capture system operates during the process operation. If your operation allows for more than one process to be operating simultaneously, designate the value or setting for the parameter at which the capture system operates during each possible configuration that you may operate (i.e., the operating limits with one furnace melting, two melting, as applicable to your plant).

(iii) Include documentation in your plan to support your selection of the operating limits established for your capture system. This documentation must include a description of the capture system design, a description of the capture system operating during production, a description of each selected operating limit parameter, a rationale for why you chose the parameter, a description of the method used to monitor the parameter according to the requirements of §63.7740(a), and the data used to set the value or setting for the parameter for each of your process configurations.

(3) Preventative maintenance plan for each control device, including a preventative maintenance schedule that is consistent with the manufacturer's instructions for routine and long-term maintenance.

(4) A site-specific monitoring plan for each bag leak detection system. For each bag leak detection system that operates on the triboelectric effect, the monitoring plan must be consistent with the recommendations contained in the U.S. Environmental Protection Agency guidance document “Fabric Filter Bag Leak Detection Guidance” (EPA–454/R–98–015). This baghouse monitoring plan is subject to approval by the Administrator. The owner or operator shall operate and maintain the bag leak detection system according to the site-specific monitoring plan at all times. The plan must address all of the items identified in paragraphs (b)(4)(i) through (v) 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) How the bag leak detection system will be maintained including a routine maintenance schedule and spare parts inventory list.

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

(5) Corrective action plan for each baghouse. The plan must include the requirement that, in the event 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 the corrective action as soon as practicable. Corrective actions taken may include, but are not limited to:

(i) Inspecting the baghouse 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 compartment.

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

(vi) Making process changes.

(vii) Shutting down the process producing the PM emissions.

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

(i) Mold vents that ignite more than 75 percent of the time without the presence of an auxiliary ignition source are considered to ignite automatically; and

(ii) Mold vents that do not ignite automatically and cannot be ignited in the presence of an auxiliary ignition source more than 25 percent of the time are considered to be not ignitable.

[69 FR 21923, Apr. 22, 2004, as amended at 73 FR 7218, February 7, 2008]

General Compliance Requirements

§ 63.7720 What are my general requirements for complying with this subpart?

(a) You must be in compliance with the emissions limitations, work practice standards, and operation and maintenance requirements in this subpart at all times, except during periods of startup, shutdown, or malfunction.

(b) During the period between the compliance date specified for your iron and steel foundry in §63.7683 and the date when applicable operating limits have been established during the initial performance test, you must maintain a log detailing the operation and maintenance of the process and emissions control equipment.

(c) You must develop a written startup, shutdown, and malfunction plan according to the provisions in §63.6(e)(3). The startup, shutdown, and malfunction plan also must specify what constitutes a shutdown of a cupola and how to determine that operating conditions are normal following startup of a cupola.

[69 FR 21923, Apr. 22, 2004, as amended at 71 FR 20468, Apr. 20, 2006]

Initial Compliance Requirements

§ 63.7730 By what date must I conduct performance tests or other initial compliance demonstrations?

(a) As required by §63.7(a)(2), you must conduct a performance test no later than 180 calendar days after the compliance date that is specified in §63.7683 for your iron and steel foundry to demonstrate initial compliance with each emissions limitation in §63.7690 that applies to you.

(b) For each work practice standard in §63.7700 and each operation and maintenance requirement in §63.7710 that applies to you where initial compliance is not demonstrated using a performance test, you must demonstrate initial compliance no later than 30 calendar days after the compliance date that is specified for your iron and steel foundry in §63.7683.

(c) If you commenced construction or reconstruction between December 23, 2002 and April 22, 2004, you must demonstrate initial compliance with either the proposed emissions limit or the promulgated emissions limit no later than October 19, 2004 or no later than 180 calendar days after startup of the source, whichever is later, according to §63.7(a)(2)(ix).

(d) If you commenced construction or reconstruction between December 23, 2002 and April 22, 2004, and you chose to comply with the proposed emissions limit when demonstrating initial compliance, you must conduct a second performance test to demonstrate compliance with the promulgated emissions limit by October 19, 2007 or after startup of the source, whichever is later, according to §63.7(a)(2)(ix).

§ 63.7731 When must I conduct subsequent performance tests?

(a) You must conduct subsequent performance tests to demonstrate compliance with all applicable PM or total metal HAP, VOHAP, and TEA emissions limitations in §63.7690 for your iron and steel foundry no less frequently than every 5 years and each time you elect to change an operating limit or to comply with a different alternative emissions limit, if applicable. The requirement to conduct performance tests every 5 years does not apply to an emissions source for which a continuous emissions monitoring system (CEMS) is used to demonstrate continuous compliance.

(b) You must conduct subsequent performance tests to demonstrate compliance with the opacity limit in §63.7690(a)(7) for your iron and steel foundry no less frequently than once every 6 months.

[69 FR 21923, Apr. 22, 2004, as amended at 73 FR 7219, February 7, 2008]

§ 63.7732 What test methods and other procedures must I use to demonstrate initial compliance with the emissions limitations?

(a) You must conduct each performance test that applies to your iron and steel foundry based on your selected compliance alternative, if applicable, according to the requirements in §63.7(e)(1) and the conditions specified in paragraphs (b) through (i) of this section.

(b) To determine compliance with the applicable emissions limit for PM in §63.7690(a)(1) through (6) for a metal melting furnace, scrap preheater, pouring station, or pouring area, follow the test methods and procedures in paragraphs (b)(1) through (6) of this section.

(1) Determine the concentration of PM according to the test methods in 40 CFR part 60, appendix A that are specified in paragraphs (b)(1)(i) through (v) of this section.

(i) Method 1 or 1A to select sampling port locations and the number of traverse points in each stack or duct. 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.

(ii) Method 2, 2A, 2C, 2D, 2F, or 2G to determine the volumetric flow rate of the stack gas.

(iii) Method 3, 3A, or 3B to determine the dry molecular weight of the stack gas.

(iv) Method 4 to determine the moisture content of the stack gas.

(v) Method 5, 5B, 5D, 5F, or 5I, as applicable, to determine the PM concentration. The PM concentration is determined using only the front-half (probe rinse and filter) of the PM catch.

(2) Collect a minimum sample volume of 60 dscf of gas during each PM sampling run. A minimum of three valid test runs are needed to comprise a performance test.

(3) For cupola metal melting furnaces, sample only during times when the cupola is on blast.

(4) For electric arc and electric induction metal melting furnaces, sample only during normal production conditions, which may include, but are not limited to the following cycles: Charging, melting, alloying, refining, slagging, and tapping.

(5) For scrap preheaters, sample only during normal production conditions, which may include, but are not limited to the following cycles: Charging, heating, and discharging.

(6) Determine the total mass of metal charged to the furnace or scrap preheater. For a cupola metal melting furnace at an existing iron and steel foundry that is subject to the PM emissions limit in §63.7690(a)(ii), calculate the PM emissions rate in pounds of PM per ton (lb/ton) of metal charged using Equation 1 of this section:

$$EF_{PM} = C_{PM} x \left(\frac{Q}{M_{charge}} \right) x \left(\frac{t_{test}}{7{,}000} \right) \qquad \text{(Eq. 1)}$$

Where:

EF_{PM} = Mass emissions rate of PM, pounds of PM per ton (lb/ton) of metal charged;

C_{PM} = Concentration of PM measured during performance test run, gr/dscf;

Q = Volumetric flow rate of exhaust gas, dry standard cubic feet per minute (dscfm);

M_{charge} = Mass of metal charged during performance test run, tons;

t_{test} = Duration of performance test run, minutes; and
7,000 = Unit conversion factor, grains per pound (gr/lb).

(c) To determine compliance with the applicable emissions limit for total metal HAP in § 63.7690(a)(1) through (6) for a metal melting furnace, scrap preheater, pouring station, or pouring area, follow the test methods and procedures in paragraphs (c)(1) through (6) of this section.

(1) Determine the concentration of total metal HAP according to the test methods in 40 CFR part 60, appendix A that are specified in paragraphs (c)(1)(i) through (v) of this section.

(i) Method 1 or 1A to select sampling port locations and the number of traverse points in each stack or duct. 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.

(ii) Method 2, 2A, 2C, 2D, 2F, or 2G to determine the volumetric flow rate of the stack gas.

(iii) Method 3, 3A, or 3B to determine the dry molecular weight of the stack gas.

(iv) Method 4 to determine the moisture content of the stack gas.

(v) Method 29 to determine the total metal HAP concentration.

(2) A minimum of three valid test runs are needed to comprise a performance test.

(3) For cupola metal melting furnaces, sample only during times when the cupola is on blast.

(4) For electric arc and electric induction metal melting furnaces, sample only during normal production conditions, which may include, but are not limited to the following cycles: Charging, melting, alloying, refining, slagging, and tapping.

(5) For scrap preheaters, sample only during normal production conditions, which may include, but are not limited to the following cycles: Charging, heating, and discharging.

(6) Determine the total mass of metal charged to the furnace or scrap preheater during each performance test run and calculate the total metal HAP emissions rate (pounds of total metal HAP per ton (lb/ton) of metal charged) using Equation 2 of this section:

$$EF_{TMHAP} = C_{TMHAP} x \left(\frac{Q}{M_{charge}} \right) x \left(\frac{t_{test}}{7{,}000} \right) \qquad \text{(Eq. 2)}$$

Where:

EF_{TMHAP} = Emissions rate of total metal HAP, pounds of total metal HAP per ton (lb/ton) of metal charged;

C_{TMHAP} = Concentration of total metal HAP measured during performance test run, gr/dscf;

Q = Volumetric flow rate of exhaust gas, dscfm;

M_{charge} = Mass of metal charged during performance test run, tons;

t_{test} = Duration of performance test run, minutes; and

7,000 = Unit conversion factor, gr/lb.

(d) To determine compliance with the opacity limit in §63.7690(a)(7) for fugitive emissions from buildings or structures housing any iron and steel foundry emissions source at the iron and steel foundry, follow the procedures in paragraphs (d)(1) and (2) of this section.

(1) Using a certified observer, conduct each opacity test according to the requirements in EPA Method 9 (40 CFR part 60, appendix A) and §63.6(h)(5). 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.

(2) During testing intervals when PM performance tests, if applicable, are being conducted, conduct the opacity test such the opacity observations are recorded during the PM performance tests.

(e) To determine compliance with the applicable VOHAP emissions limit in §63.7690(a)(8) for a cupola metal melting furnace or in §63.7690(a)(9) for a scrap preheater, follow the test methods and procedures in paragraphs (e)(1) through (4) of this section.

(1) Determine the VOHAP concentration for each test run according to the test methods in 40 CFR part 60, appendix A that are specified in paragraphs (b)(1)(i) through (v) of this section.

(i) Method 1 or 1A to select sampling port locations and the number of traverse points in each stack or duct. 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.

(ii) Method 2, 2A, 2C, 2D, 2F, or 2G to determine the volumetric flow rate of the stack gas.

(iii) Method 3, 3A, or 3B to determine the dry molecular weight of the stack gas.

(iv) Method 4 to determine the moisture content of the stack gas.

(v) Method 18 to determine the VOHAP concentration. Alternatively, you may use Method 25 to determine the concentration of total gaseous nonmethane organics (TGNMO) or Method 25A to determine the concentration of total organic compounds (TOC), using hexane as the calibration gas.

(2) Determine the average VOHAP, TGNMO, or TOC concentration using a minimum of three valid test runs. Each test run must include a minimum of 60 continuous operating minutes.

(3) For a cupola metal melting furnace, correct the measured concentration of VOHAP, TGNMO, or TOC for oxygen content in the gas stream using Equation 3 of this section:

$$C_{VOHAP,10\%O_2} = C_{VOHAP}\left(\frac{10.9\%}{20.9\% - \%O_2}\right) \qquad \text{(Eq. 3)}$$

Where:

C_{VOHAP} = Concentration of VOHAP in ppmv as measured by Method 18 in 40 CFR part 60, appendix A or the concentration of TGNMO or TOC in ppmv as hexane as measured by Method 25 or 25A in 40 CFR part 60, appendix A; and

$\%O_2$ = Oxygen concentration in gas stream, percent by volume (dry basis).

(4) For a cupola metal melting furnace, measure the combustion zone temperature of the combustion device with the CPMS required in §63.7740(d) during each sampling run in 15-minute intervals. Determine and record the 15-minute average of the three runs.

(f) Follow the applicable procedures in paragraphs (f)(1) through (3) of this section to determine compliance with the VOHAP emissions limit in §63.7690(a)(10) for automated pallet cooling lines or automated shakeout lines.

(1) Follow these procedures to demonstrate compliance by direct measurement of total hydrocarbons (a surrogate for VOHAP) using a volatile organic compound (VOC) CEMS.

(i) Using the VOC CEMS required in §63.7740(g), measure and record the concentration of total hydrocarbons (as hexane) for 180 continuous operating minutes. You must measure emissions 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.

(ii) Reduce the monitoring data to hourly averages as specified in §63.8(g)(2).

(iii) Compute and record the 3-hour average of the monitoring data.

(2) As an alternative to the procedures in paragraph (f)(1) of this section, you may demonstrate compliance with the VOHAP emissions limit in §63.7690(a)(10) by establishing a site-specific TOC emissions limit that is correlated to the VOHAP emissions limit according to the procedures in paragraph (f)(2)(i) through (ix) of this section.

(i) Determine the VOHAP concentration for each test run according to the test methods in 40 CFR part 60, appendix A that are specified in paragraph (f)(2)(ii) through (vi) of this section.

(ii) Method 1 or 1A to select sampling port locations and the number of traverse points in each stack or duct. 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.

(iii) Method 2, 2A, 2C, 2D, 2F, or 2G to determine the volumetric flow rate of the stack gas.

(iv) Method 3, 3A, or 3B to determine the dry molecular weight of the stack gas.

(v) Method 4 to determine the moisture content of the stack gas.

(vi) Method 18 to determine the VOHAP concentration. Alternatively, you may use Method 25 to determine the concentration of TGNMO using hexane as the calibration gas.

(vii) Using the CEMS required in §63.7740(g), measure and record the concentration of total hydrocarbons (as hexane) during each of the Method 18 (or Method 25) sampling runs. You must measure emissions 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.

(viii) Calculate the average VOHAP (or TGNMO) concentration for the source test as the arithmetic average of the concentrations measured for the individual test runs, and determine the average concentration of total hydrocarbon (as hexane) as measured by the CEMS during all test runs.

(ix) Calculate the site-specific VOC emissions limit using Equation 4 of this section:

$$VOC_{limit} = 20x\frac{C_{VOHAP,avg}}{C_{CEM}} \qquad \text{(Eq. 4)}$$

Where:

$C_{VOHAP,avg}$ = Average concentration of VOHAP for the source test in ppmv as measured by Method 18 in 40 CFR part 60, appendix A or the average concentration of TGNMO for the source test in ppmv as hexane as measured by Method 25 in 40 CFR part 60, appendix A; and

C_{CEM} = Average concentration of total hydrocarbons in ppmv as hexane as measured using the CEMS during the source test.

(3) For two or more exhaust streams from one or more automated conveyor and pallet cooling lines or automated shakeout lines, compute the flow-weighted average concentration of VOHAP emissions for each combination of exhaust streams using Equation 5 of this section:

$$C_W = \frac{\sum_{i=1}^{n} C_i Q_i}{\sum_{i=1}^{n} Q_i} \qquad \text{(Eq. 5)}$$

Where:

C_W = Flow-weighted concentration of VOHAP or VOC, ppmv (as hexane);

C_i = Concentration of VOHAP or VOC from exhaust stream ‘‘i’’, ppmv (as hexane);

n = Number of exhaust streams sampled; and

Q_i = Volumetric flow rate of effluent gas from exhaust stream ‘‘i,’’, dscfm.

(g) To determine compliance with the emissions limit or standard in §63.7690(a)(11) for a TEA cold box mold or core making line, follow the test methods in 40 CFR part 60, appendix A, specified in paragraphs (g)(1) through (4) of this section.

(1) Determine the TEA concentration for each test run according to the test methods in 40 CFR part 60, appendix A that are specified in paragraphs (g)(1)(i) through (v) of this section.

(i) Method 1 or 1A to select sampling port locations and the number of traverse points in each stack or duct. If you elect to meet the 99 percent reduction standard, sampling sites must be located both at the inlet to the control device and at the outlet of the control device prior to any releases to the atmosphere. If you elect to meet the concentration limit, the sampling site 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.

(ii) Method 2, 2A, 2C, 2D, 2F, or 2G to determine the volumetric flow rate of the stack gas.

(iii) Method 3, 3A, or 3B to determine the dry molecular weight of the stack gas.

(iv) Method 4 to determine the moisture content of the stack gas.

(v) Method 18 to determine the TEA concentration. Alternatively, you may use NIOSH Method 2010 (incorporated by reference—see §63.14) to determine the TEA concentration provided the performance requirements outlined in section 13.1 of EPA Method 18 are satisfied. The sampling option and time must be sufficiently long such that either the TEA concentration in the field sample is at least 5 times the limit of detection for the analytical method or the test results calculated using the laboratory's reported analytical detection limit for the specific field samples are less than 1/5 of the applicable emissions limit. When using
Method 18, the adsorbent tube approach, as described in section 8.2.4 of Method 18, may be required to achieve the necessary analytical detection limits. The sampling time must be at least 1 hour in all cases.

(2) If you use a wet acid scrubber, conduct the test as soon as practicable after adding fresh acid solution and the system has reached normal operating conditions.

(3) If you use a wet acid scrubber that is subject to the operating limit in §63.7690(b)(5)(ii) for pH level, determine the pH of the scrubber blowdown using the procedures in paragraph (g)(3)(i) or (ii) of this section.

(i) Measure the pH of the scrubber blowdown with the CPMS required in §63.7740(f)(2) during each TEA sampling run in intervals of no more than 15 minutes. Determine and record the 3-hour average; or

(ii) Measure and record the pH level using the probe and meter required in §63.7740(f)(2) once each sampling run. Determine and record the average pH level for the three runs.

(4) If you are subject to the 99 percent reduction standard, calculate the mass emissions reduction using Equation 6 of this section:

$$\%\text{reduction} = \frac{E_i - E_o}{E_i} x100\% \qquad \text{(Eq. 6)}$$

Where:

E_i = Mass emissions rate of TEA at control device inlet, kilograms per hour (kg/hr); and

E_o = Mass emissions rate of TEA at control device outlet, kg/hr.

(h) To determine compliance with the PM or total metal HAP emissions limits in §63.7690(a)(1) through (6) when one or more regulated emissions sources are combined with either another regulated emissions source subject to a different emissions limit or other non-regulated emissions sources, you may demonstrate compliance using one of the procedures in paragraphs (h)(1) through (3) of this section.

(1) Meet the most stringent applicable emissions limit for the regulated emissions sources included in the combined emissions stream for the combined emissions stream.

(2) Use the procedures in paragraphs (h)(2)(i) through (iii) of this section.

(i) Determine the volumetric flow rate of the individual regulated streams for which emissions limits apply.

(ii) Calculate the flow-weighted average emissions limit, considering only the regulated streams, using Equation 5 of this section, except C_w is the flow-weighted average emissions limit for PM or total metal HAP in the exhaust stream, gr/dscf; and C_i is the concentration of PM or total metal HAP in exhaust stream ''i'', gr/dscf.

(iii) Meet the calculated flow-weighted average emissions limit for the regulated emissions sources included in the combined emissions stream for the combined emissions stream.

(3) Use the procedures in paragraphs (h)(3)(i) through (iii) of this section.

(i) Determine the PM or total metal HAP concentration of each of the regulated streams prior to the combination with other exhaust streams or control device.

(ii) 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 6 of this section, except E_i is

the mass emissions rate of PM or total metal HAP at the control device inlet, lb/hr and E_o is the mass emissions rate of PM or total metal HAP at the control device outlet, lb/hr.

(iii) Meet the applicable emissions limit based on the calculated PM or total metal HAP concentration for the regulated emissions sources using Equation 7 of this section:

$$C_{released} = C_i x\left(1 - \frac{\%reduction}{100}\right) \qquad \text{(Eq. 7)}$$

Where:

$C_{released}$= Calculated concentration of PM (or total metal HAP) predicted to be released to the atmosphere from the regulated emissions source, gr/dscf; and

C_i= Concentration of PM (or total metal HAP) in the uncontrolled regulated exhaust stream, gr/dscf.

(i) 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 (b) through (h) of this section, a site-specific test plan should be submitted to the Administrator for approval according to the requirements in § 63.7(c)(2) and (3).

[69 FR 21923, Apr. 22, 2004, as amended at 73 FR 7219, February 7, 2008]

§ 63.7733 What procedures must I use to establish operating limits?

(a) For each capture system subject to operating limits in §63.7690(b)(1)(ii), you must establish site-specific operating limits in your operation and maintenance plan according to the procedures in paragraphs (a)(1) through (3) of this section.

(1) Concurrent with applicable emissions and opacity tests, measure and record values for each of the operating limit parameters in your capture system operation and maintenance plan according to the monitoring requirements in §63.7740(a).

(2) For any dampers that are manually set and remain at the same position at all times the capture system is operating, the damper position must be visually checked and recorded at the beginning and end of each run.

(3) Review and record the monitoring data. Identify and explain any times the capture system operated outside the applicable operating limits.

(b) For each wet scrubber subject to the operating limits in §63.7690(b)(2) for pressure drop and scrubber water flow rate, you must establish site-specific operating limits according to the procedures specified in paragraphs (b)(1) and (2) of this section.

(1) Using the CPMS required in §63.7740(c), measure and record the pressure drop and scrubber water flow rate in intervals of no more than 15 minutes during each PM test run.

(2) Compute and record the average pressure drop and average scrubber water flow rate for each valid sampling run in which the applicable emissions limit is met.

(c) For each combustion device applied to emissions from a scrap preheater or TEA cold box mold or core making line subject to the operating limit in §63.7690(b)(4) for combustion zone temperature, you must establish a site-specific operating limit according to the procedures specified in paragraphs (c)(1) and (2) of this section.

(1) Using the CPMS required in §63.7740(e), measure and record the combustion zone temperature during each sampling run in intervals of no more than 15 minutes.

(2) Compute and record the average combustion zone temperature for each valid sampling run in which the applicable emissions limit is met.

(d) For each acid wet scrubber subject to the operating limit in §63.7690(b)(5), you must establish a site-specific operating limit for scrubbing liquid flow rate according to the procedures specified in paragraphs (d)(1) and (2) of this section.

(1) Using the CPMS required in §63.7740(f), measure and record the scrubbing liquid flow rate during each TEA sampling run in intervals of no more than 15 minutes.

(2) Compute and record the average scrubbing liquid flow rate for each valid sampling run in which the applicable emissions limit is met.

(e) You may change the operating limits for a capture system, wet scrubber, acid wet scrubber, or combustion device if you meet the requirements in paragraphs (e)(1) through (3) of this section.

(1) Submit a written notification to the Administrator of your request 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 §63.7690.

(3) Establish revised operating limits according to the applicable procedures in paragraphs (a) through (d) of this section.

(f) You may use a previous performance test (conducted since December 22, 2002) to establish an operating limit provided the test meets the requirements of this subpart.

[69 FR 21923, Apr. 22, 2004, as amended at 73 FR 7221, February 7, 2008]

§ 63.7734 How do I demonstrate initial compliance with the emissions limitations that apply to me?

(a) You have demonstrated initial compliance with the emissions limits in §63.7690(a) by meeting the applicable conditions in paragraphs (a)(1) through (11) of this section. When alternative emissions limitations are provided for a given emissions source, you are not restricted in the selection of which applicable alternative emissions limitation is used to demonstrate compliance.

(1) For each electric arc metal melting furnace, electric induction metal melting furnace, or scrap preheater at an existing iron and steel foundry,

(i) The average PM concentration in the exhaust stream, determined according to the performance test procedures in §63.7732(b), did not exceed 0.005 gr/dscf; or

(ii) The average total metal HAP concentration in the exhaust stream, determined according to the performance test procedures in §63.7732(c), did not exceed 0.0004 gr/dscf.

(2) For each cupola metal melting furnace at an existing iron and steel foundry,

(i) The average PM concentration in the exhaust stream, determined according to the performance test procedures in §63.7732(b), did not exceed 0.006 gr/dscf; or

(ii) The average total metal HAP concentration in the exhaust stream, determined according to the performance test procedures in §63.7732(c), did not exceed 0.0005 gr/dscf; or

(iii) The average PM mass emissions rate, determined according to the performance test procedures in §63.7732(b), did not exceed 0.10 pound of PM per ton (lb/ton) of metal charged; or

(iv) The average total metal HAP mass emissions rate, determined according to the performance test procedures in §63.7732(c), did not exceed 0.008 pound of total metal HAP per ton (lb/ton) of metal charged.

(3) For each cupola metal melting furnace or electric arc metal melting furnace at a new iron and steel foundry,

(i) The average PM concentration in the exhaust stream, determined according to the performance test procedures in §63.7732(b), did not exceed 0.002 gr/dscf; or

(ii) The average total metal HAP concentration in the exhaust stream, determined according to the performance test procedures in §63.7732(c), did not exceed 0.0002 gr/dscf.

(4) For each electric induction metal melting furnace or scrap preheater at a new iron and steel foundry,

(i) The average PM concentration in the exhaust stream, determined according to the performance test procedures in §63.7732(b), did not exceed 0.001 gr/dscf; or

(ii) The average total metal HAP concentration in the exhaust stream, determined according to the performance test procedures in §63.7732(c), did not exceed 0.00008 gr/dscf.

(5) For each pouring station at an existing iron and steel foundry,

(i) The average PM concentration in the exhaust stream, measured according to the performance test procedures in §63.7732(b), did not exceed 0.010 gr/dscf; or

(ii) The average total metal HAP concentration in the exhaust stream, determined according to the performance test procedures in §63.7732(c), did not exceed 0.0008 gr/dscf.

(6) For each pouring area or pouring station at a new iron and steel foundry,

(i) The average PM concentration in the exhaust stream, measured according to the performance test procedures in §63.7732(b), did not exceed 0.002 gr/dscf; or

(ii) The average total metal HAP concentration in the exhaust stream, determined according to the performance test procedures in §63.7732(c), did not exceed 0.0002 gr/dscf.

(7) For each building or structure housing any iron and steel foundry emissions source at the iron and steel foundry, the opacity of fugitive emissions from foundry operations discharged to the atmosphere, determined according to the performance test procedures in §63.7732(d), did not exceed 20 percent (6-minute average), except for one 6-minute average per hour that did not exceed 27 percent opacity.

(8) For each cupola metal melting furnace at a new or existing iron and steel foundry, the average VOHAP concentration, determined according to the performance test procedures in §63.7732(e), did not exceed 20 ppmv corrected to 10 percent oxygen.

(9) For each scrap preheater at an existing iron and steel foundry that does not meet the work practice standards in §63.7700(e)(1) or (2) and for each scrap preheater at a new iron and steel foundry that does not meet the work practice standard in §63.7700(f), the average VOHAP concentration determined according to the performance test procedures in §63.7732(e), did not exceed 20 ppmv.

(10) For one or more automated conveyor and pallet cooling lines that use a sand mold system or automated shakeout lines that use a sand mold system at a new foundry,

(i) You have reduced the data from the CEMS to 3-hour averages according to the performance test procedures in §63.7732(f)(1) or (2); and

(ii) The 3-hour flow-weighted average VOHAP concentration, measured according to the performance test procedures in §63.7332(f)(1) or (2), did not exceed 20 ppmv.

(11) For each TEA cold box mold or core making line in a new or existing iron and steel foundry, the average TEA concentration, determined according to the performance test procedures in §63.7732(g), did not exceed 1 ppmv or was reduced by 99 percent.

(b) You have demonstrated initial compliance with the operating limits in §63.7690(b) if:

(1) For each capture system subject to the operating limit in §63.7690(b)(1)(ii),

(i) You have established appropriate site-specific operating limits in your operation and maintenance plan according to the requirements in §63.7710(b); and

(ii) You have a record of the operating parameter data measured during the performance test in accordance with §63.7733(a); and

(2) For each wet scrubber subject to the operating limits in §63.7690(b)(2) for pressure drop and scrubber water flow rate, you have established appropriate site-specific operating limits and have a record of the pressure drop and scrubber water flow rate measured during the performance test in accordance with §63.7733(b).

(3) For each combustion device subject to the operating limit in §63.7690(b)(3) for combustion zone temperature, you have a record of the combustion zone temperature measured during the performance test in accordance with §63.7732(e)(4).

(4) For each combustion device subject to the operating limit in §63.7690(b)(4) for combustion zone temperature, you have established appropriate site-specific operating limits and have a record of the combustion zone temperature measured during the performance test in accordance with §63.7733(c).

(5) For each acid wet scrubber subject to the operating limits in §63.7690(b)(5) for scrubbing liquid flow rate and scrubber blowdown pH,

(i) You have established appropriate site-specific operating limits for the scrubbing liquid flow rate and have a record of the scrubbing liquid flow rate measured during the performance test in accordance with §63.7733(d); and

(ii) You have a record of the pH of the scrubbing liquid blowdown measured during the performance test in accordance with §63.7732(g)(3).

[69 FR 21923, Apr. 22, 2004, as amended at 73 FR 7221, February 7, 2008]

§ 63.7735 How do I demonstrate initial compliance with the work practice standards that apply to me?

(a) For each iron and steel foundry subject to the certification requirement in §63.7700(b), you have demonstrated initial compliance if you have certified in your notification of compliance status that: “At all times, your foundry will purchase and use 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, mercury switches, plastics, or free organic liquids.”

(b) For each iron and steel foundry subject to the requirements in §63.7700(c) for a scrap inspection and selection plan, you have demonstrated initial compliance if you have certified in your notification of compliance status that:

(1) You have submitted a written plan to the Administrator for approval according to the requirements in §63.7700(c); and

(2) You will operate at all times according to the plan requirements.

(c) For each furan warm box mold or core making line in a new or existing foundry subject to the work practice standard in §63.7700(d), you have demonstrated initial compliance if you have certified in your notification of compliance status that:

(1) You will meet the no methanol requirement for the catalyst portion of each binder chemical formulation; and

(2) You have records documenting your certification of compliance, such as a material safety data sheet (provided that it contains appropriate information), a certified product data sheet, or a manufacturer's hazardous air pollutant data sheet, onsite and available for inspection.

(d) For each scrap preheater at an existing iron and steel foundry subject to the work practice standard in §63.7700(e)(1) or (2), you have demonstrated initial compliance if you have certified in your notification of compliance status that:

(1) You have installed a gas-fired preheater where the flame directly contacts the scrap charged, you will operate and maintain each gas-fired scrap preheater such that the flame directly contacts the scrap charged, and you have records documenting your certification of compliance that are onsite and available for inspection; or

(2) You will charge only material that is subject to and in compliance with the scrap certification requirements in §63.7700(b) and you have records documenting your certification of compliance that are onsite and available for inspection.

(e) For each scrap preheater at a new iron and steel foundry subject to the work practice standard in §63.7700(f), you have demonstrated initial compliance if you have certified in your notification of compliance status that you will charge only material that is subject to and in compliance with the scrap certification requirements in §63.7700(b) and you have records documenting your certification of compliance that are onsite and available for inspection.

[69 FR 21923, Apr. 22, 2004, as amended at 70 FR 29404, May 20, 2005]

§ 63.7736 How do I demonstrate initial compliance with the operation and maintenance requirements that apply to me?

(a) For each capture system subject to an operating limit in §63.7690(b), you have demonstrated initial compliance if you have met the conditions in paragraphs (a)(1) and (2) of this section.

(1) You have certified in your notification of compliance status that:

(i) You have submitted the capture system operation and maintenance plan to the Administrator for approval according to the requirements of §63.7710(b); and

(ii) You will inspect, operate, and maintain each capture system according to the procedures in the plan.

(2) You have certified in your performance test report that the system operated during the test at the operating limits established in your operation and maintenance plan.

(b) For each control device subject to an operating limit in §63.7690(b), you have demonstrated initial compliance if you have certified in your notification of compliance status that:

(1) You have submitted the control device operation and maintenance plan to the Administrator for approval according to the requirements of §63.7710(b); and

(2) You will inspect, operate, and maintain each control device according to the procedures in the plan.

(c) For each bag leak detection system, you have demonstrated initial compliance if you have certified in your notification of compliance status that:

(1) You have submitted the bag leak detection system monitoring information to the Administrator within the written O&M plan for approval according to the requirements of §63.7710(b);

(2) You will inspect, operate, and maintain each bag leak detection system according to the procedures in the plan; and

(3) You will follow the corrective action procedures for bag leak detection system alarms according to the requirements in the plan.

(d) For each pouring area and pouring station in a new or existing foundry, you have demonstrated initial compliance if you have certified in your notification of compliance status report that:

(1) You have submitted the mold vent ignition plan to the Administrator for approval according to the requirements in §63.7710(b); and

(2) You will follow the procedures for igniting mold vent gases according to the requirements in the plan.

[69 FR 21923, Apr. 22, 2004, as amended at 73 FR 7221, February 7, 2008]

Continuous Compliance Requirements

§ 63.7740 What are my monitoring requirements?

(a) For each capture system subject to an operating limit in §63.7690(b)(1), you must install, operate, and maintain a CPMS according to the requirements in §63.7741(a) and the requirements in paragraphs (a)(1) and (2) of this section.

(1) If you use a flow measurement device to monitor the operating limit parameter, you must at all times monitor the hourly average rate (e.g., the hourly average actual volumetric flow rate through each separately ducted hood or the average hourly total volumetric flow rate at the inlet to the control device).

(2) Dampers that are manually set and remain in the same position are exempt from the requirement to install and operate a CPMS. If dampers are not manually set and remain in the same position, you must make a visual check at least once every 24 hours to verify that each damper for the capture system is in the same position as during the initial performance test.

(b) For each negative pressure baghouse or positive pressure baghouse equipped with a stack that is applied to meet any PM or total metal HAP emissions limitation in this subpart, you must at all times monitor the relative change in PM loadings using a bag leak detection system according to the requirements in § 63.7741(b).

(c) For each baghouse, regardless of type, that is applied to meet any PM or total metal HAP emissions limitation in this subpart, you must conduct inspections at their specified frequencies according to the requirements specified in paragraphs (c)(1) through (8) of this section.

(1) Monitor the pressure drop across each baghouse cell each day to ensure pressure drop is within the normal operating range identified in the manual.

(2) Confirm that dust is being removed from hoppers through weekly visual inspections or other means of ensuring the proper functioning of removal mechanisms.

(3) Check the compressed air supply for pulse-jet baghouses each day.

(4) Monitor cleaning cycles to ensure proper operation using an appropriate methodology.

(5) Check bag cleaning mechanisms for proper functioning through monthly visual inspections or equivalent means.

(6) Make monthly visual checks of bag tension on reverse air and shaker-type baghouses to ensure that bags are not kinked (kneed or bent) or lying on their sides. You do not have to make this check for shaker-type baghouses using self-tensioning (spring-loaded) devices.

(7) Confirm the physical integrity of the baghouse through quarterly visual inspections of the baghouse interior for air leaks.

(8) Inspect fans for wear, material buildup, and corrosion through quarterly visual inspections, vibration detectors, or equivalent means.

(d) For each wet scrubber subject to the operating limits in §63.7690(b)(2), you must at all times monitor the 3-hour average pressure drop and scrubber water flow rate using CPMS according to the requirements in §63.7741(c).

(e) For each combustion device subject to the operating limit in §63.7690(b)(3), you must at all times monitor the 15-minute average combustion zone temperature using a CPMS according to the requirements of §63.7741(d).

(f) For each combustion device subject to the operating limit in §63.7690(b)(4), you must at all times monitor the 3-hour average combustion zone temperature using CPMS according to the requirements in §63.7741(d).

(g) For each wet acid scrubber subject to the operating limits in §63.7690(b)(5),

(1) You must at all times monitor the 3-hour average scrubbing liquid flow rate using CPMS according to the requirements of §63.7741(e)(1); and

(2) You must at all times monitor the 3-hour average pH of the scrubber blowdown using CPMS according to the requirements in §63.7741(e)(2) or measure and record the pH of the scrubber blowdown once per production cycle using a pH probe and meter according to the requirements in §63.7741(e)(3).

(h) For one or more automated conveyor and pallet cooling lines and automated shakeout lines at a new iron and steel foundry subject to the VOHAP emissions limit in §63.7690(a)(10), you must at all times monitor the 3-hour average VOHAP concentration using a CEMS according to the requirements of §63.7741(g).

[69 FR 21923, Apr. 22, 2004, as amended at 73 FR 7221, February 7, 2008]

§ 63.7741 What are the installation, operation, and maintenance requirements for my monitors?

(a) For each capture system subject to an operating limit in §63.7690(b)(1), you must install, operate, and maintain each CPMS according to the requirements in paragraphs (a)(1) through (3) of this section.

(1) If you use a flow measurement device to monitor an operating limit parameter for a capture system, you must meet the requirements in paragraphs (a)(1)(i) through (iv) of this section.

(i) Locate the flow sensor and other necessary equipment such as straightening vanes in a position that provides a representative flow and that reduces swirling flow or abnormal velocity distributions due to upstream and downstream disturbances.

(ii) Use a flow sensor with a minimum measurement sensitivity of 2 percent of the flow rate.

(iii) Conduct a flow sensor calibration check at least semiannually.

(iv) At least monthly, visually inspect all components, including all electrical and mechanical connections, for proper functioning.

(2) If you use a pressure measurement device to monitor the operating limit parameter for a capture system, you must meet the requirements in paragraphs (a)(2)(i) through (vi) of this section.

(i) Locate the pressure sensor(s) in or as close as possible to a position that provides a representative measurement of the pressure and that minimizes or eliminates pulsating pressure, vibration, and internal and external corrosion.

(ii) Use a gauge with a minimum measurement sensitivity of 0.5 inch of water or a transducer with a minimum measurement sensitivity of 1 percent of the pressure range.

(iii) Check the pressure tap for pluggage daily. If a ‘‘non-clogging’’ pressure tap is used, check for pluggage monthly.

(iv) Using a manometer or equivalent device such as a magnahelic or other pressure indicating transmitter, check gauge and transducer calibration quarterly.

(v) Conduct calibration checks any time the sensor exceeds the manufacturer's specified maximum operating pressure range, or install a new pressure sensor.

(vi) At least monthly, visually inspect all components, including all electrical and mechanical connections, for proper functioning.

(3) Record the results of each inspection, calibration, and validation check.

(b) For each negative pressure baghouse or positive pressure baghouse equipped with a stack that is applied to meet any PM or total metal HAP emissions limitation in this subpart, you must install, operate, and maintain a bag leak detection system according to the requirements in paragraphs (b)(1) through (7) of this section.

(1) 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 (0.0044 grains per actual cubic foot) or less.

(2) 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 electronic or other means (e.g., using a strip chart recorder or a data logger).

(3) 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.

(4) 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 and the alarm delay time (if applicable).

(5) Following the initial adjustment, do not adjust the sensitivity or range, averaging period, alarm set point, or alarm delay time without approval from the Administrator. 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 operation and maintenance plan required by §63.7710(b).

(6) For negative pressure, 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.

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

(c) For each wet scrubber subject to the operating limits in §63.7690(b)(2), you must install and maintain CPMS to measure and record the pressure drop and scrubber water flow rate according to the requirements in paragraphs (c)(1) and (2) of this section.

(1) For each CPMS for pressure drop you must:

(i) Locate the pressure sensor in or as close as possible to a position that provides a representative measurement of the pressure drop and that minimizes or eliminates pulsating pressure, vibration, and internal and external corrosion.

(ii) Use a gauge with a minimum measurement sensitivity of 0.5 inch of water or a transducer with a minimum measurement sensitivity of 1 percent of the pressure range.

(iii) Check the pressure tap for pluggage daily. If a ‘‘non-clogging’’ pressure tap is used, check for pluggage monthly

(iv) Using a manometer or equivalent device such as a magnahelic or other pressure indicating transmitter, check gauge and transducer calibration quarterly.

(v) Conduct calibration checks any time the sensor exceeds the manufacturer's specified maximum operating pressure range, or install a new pressure sensor.

(vi) At least monthly, visually inspect all components, including all electrical and mechanical connections, for proper functioning.

(2) For each CPMS for scrubber liquid flow rate, you must:

(i) Locate the flow sensor and other necessary equipment in a position that provides a representative flow and that reduces swirling flow or abnormal velocity distributions due to upstream and downstream disturbances.

(ii) Use a flow sensor with a minimum measurement sensitivity of 2 percent of the flow rate.

(iii) Conduct a flow sensor calibration check at least semiannually according to the manufacturer's instructions.

(iv) At least monthly, visually inspect all components, including all electrical and mechanical connections, for proper functioning.

(d) For each combustion device subject to the operating limit in §63.7690(b)(3) or (4), you must install and maintain a CPMS to measure and record the combustion zone temperature according to the requirements in paragraphs (d)(1) through (8) of this section.

(1) Locate the temperature sensor in a position that provides a representative temperature.

(2) For a noncryogenic temperature range, use a temperature sensor with a minimum tolerance of 2.2 °C or 0.75 percent of the temperature value, whichever is larger.

(3) For a cryogenic temperature range, use a temperature sensor with a minimum tolerance of 2.2 °C or 2 percent of the temperature value, whichever is larger.

(4) Shield the temperature sensor system from electromagnetic interference and chemical contaminants.

(5) If you use a chart recorder, it must have a sensitivity in the minor division of at least 20 °F.

(6) Perform an electronic calibration at least semiannually according to the procedures in the manufacturer's owners manual. Following the electronic calibration, conduct a temperature sensor validation check, in which a second or redundant temperature sensor placed nearby the process temperature sensor must yield a reading within 16.7 °C of the process temperature sensor's reading.

(7) Conduct calibration and validation checks any time the sensor exceeds the manufacturer's specified maximum operating temperature range, or install a new temperature sensor.

(8) At least monthly, visually inspect all components, including all electrical and mechanical connections, for proper functioning.

(e) For each wet acid scrubber subject to the operating limits in §63.7690(b)(5), you must:

(1) Install and maintain CPMS to measure and record the scrubbing liquid flow rate according to the requirements in paragraph (c)(2) of this section; and

(2) Install and maintain CPMS to measure and record the pH of the scrubber blowdown according to the requirements in paragraph (e)(2)(i) through (iv) of this section.

(i) Locate the pH sensor in a position that provides a representative measurement of the pH and that minimizes or eliminates internal and external corrosion.

(ii) Use a gauge with a minimum measurement sensitivity of 0.1 pH or a transducer with a minimum measurement sensitivity of 5 percent of the pH range.

(iii) Check gauge calibration quarterly and transducer calibration monthly using a manual pH gauge.

(iv) At least monthly, visually inspect all components, including all electrical and mechanical connections, for proper functioning.

(3) As an alternative to the CPMS required in paragraph (e)(2) of this section, you may use a pH probe to extract a sample for analysis by a pH meter that meets the requirements in paragraphs (e)(3)(i) through (iii) of this section.

(i) The pH meter must have a range of at least 1 to 5 or more;

(ii) The pH meter must have an accuracy of ±0.1; and

(iii) The pH meter must have a resolution of at least 0.1 pH.

(f) You must operate each CPMS used to meet the requirements of this subpart according to the requirements specified in paragraphs (f)(1) through (3) of this section.

(1) Each CPMS must complete a minimum of one cycle of operation for each successive 15-minute period. You must have a minimum of three of the required four data points to constitute a valid hour of data.

(2) Each CPMS must have valid hourly data for 100 percent of every averaging period.

(3) Each CPMS must determine and record the hourly average of all recorded readings and the 3-hour average of all recorded readings.

(g) For each automated conveyor and pallet cooling line and automated shakeout line at a new iron and steel foundry subject to the VOHAP emissions limit in §63.7690(a)(10), you must install, operate, and maintain a CEMS to measure and record the concentration of VOHAP emissions according to the requirements in paragraphs (g)(1) through (3) of this section.

(1) You must install, operate, and maintain each CEMS according to Performance Specification 8 in 40 CFR part 60, appendix B.

(2) You must conduct a performance evaluation of each CEMS according to the requirements of §63.8 and Performance Specification 8 in 40 CFR part 60, appendix B.

(3) You must operate each CEMS according to the requirements specified in paragraph (g)(3)(i) through (iv) of this section.

(i) 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.

(ii) You must reduce CEMS data as specified in §63.8(g)(2).

(iii) Each CEMS must determine and record the 3-hour average emissions using all the hourly averages collected for periods during which the CEMS is not out-of-control.

(iv) Record the results of each inspection, calibration, and validation check.

[69 FR 21923, Apr. 22, 2004, as amended at 73 FR 7221, February 7, 2008]

§ 63.7742 How do I monitor and collect data to demonstrate continuous compliance?

(a) Except for monitoring malfunctions, associated repairs, and required quality assurance or control activities (including as applicable, calibration checks and required zero and span adjustments), you must monitor continuously (or collect data at all required intervals) any time a source of emissions is operating.

(b) 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 emissions or operating levels or to fulfill a minimum data availability requirement, if applicable. You must use all the data collected during all other periods in assessing compliance.

(c) A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring system to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

§ 63.7743 How do I demonstrate continuous compliance with the emissions limitations that apply to me?

(a) You must demonstrate continuous compliance by meeting the applicable conditions in paragraphs (a)(1) through (12) of this section. When alternative emissions limitations are provided for a given emissions source, you must comply with the alternative emissions limitation most recently selected as your compliance alternative.

(1) For each electric arc metal melting furnace, electric induction metal melting furnace, or scrap preheater at an existing iron and steel foundry,

(i) Maintaining the average PM concentration in the exhaust stream at or below 0.005 gr/dscf; or

(ii) Maintaining the average total metal HAP concentration in the exhaust stream at or below 0.0004 gr/dscf.

(2) For each cupola metal melting furnace at an existing iron and steel foundry,

(i) Maintaining the average PM concentration in the exhaust stream at or below 0.006 gr/dscf; or

(ii) Maintaining the average total metal HAP concentration in the exhaust stream at or below 0.0005 gr/dscf; or

(iii) Maintaining the average PM mass emissions rate at or below 0.10 pound of PM per ton (lb/ton) of metal charged; or

(iv) Maintaining the average total metal HAP mass emissions rate at or below 0.008 pound of total metal HAP per ton (lb/ton) of metal charged.

(3) For each cupola metal melting furnace or electric arc metal melting furnace at new iron and steel foundry, (i) Maintaining the average PM concentration in the exhaust stream at or below 0.002 gr/dscf; or

(ii) Maintaining the average total metal HAP concentration in the exhaust stream at or below 0.0002 gr/dscf.

(4) For each electric induction metal melting furnace or scrap preheater at a new iron and steel foundry,

(i) Maintaining the average PM concentration in the exhaust stream at or below 0.001 gr/dscf; or

(ii) Maintaining the average total metal HAP concentration in the exhaust stream at or below 0.00008 gr/dscf.

(5) For each pouring station at an existing iron and steel foundry,

(i) Maintaining the average PM concentration in the exhaust stream at or below 0.010 gr/dscf; or

(ii) Maintaining the average total metal HAP concentration in the exhaust stream at or below 0.0008 gr/dscf.

(6) For each pouring area or pouring station at a new iron and steel foundry,

(i) Maintaining the average PM concentration in the exhaust stream at or below 0.002 gr/dscf; or

(ii) Maintaining the average total metal HAP concentration in the exhaust stream at or below 0.0002 gr/dscf.

(7) For each building or structure housing any iron and steel foundry emissions source at the iron and steel foundry, maintaining the opacity of any fugitive emissions from foundry operations discharged to the atmosphere at or below 20 percent opacity (6-minute average), except for one 6-minute average per hour that does not exceed 27 percent opacity.

(8) For each cupola metal melting furnace at a new or existing iron and steel foundry, maintaining the average VOHAP concentration in the exhaust stream at or below 20 ppmv corrected to 10 percent oxygen.

(9) For each scrap preheater at an existing new iron and steel foundry that does not comply with the work practice standard in §63.7700(e)(1) or (2) and for each scrap preheater at a new iron and steel foundry that does not comply with the work practice standard in §63.7700(f), maintaining the average VOHAP concentration in the exhaust stream at or below 20 ppmv.

(10) For one or more automated conveyor and pallet cooling lines or automated shakeout lines that use a sand mold system at a new iron and steel foundry,

(i) Maintaining the 3-hour flow-weighted average VOHAP concentration in the exhaust stream at or below 20 ppmv;

(ii) Inspecting and maintaining each CEMS according to the requirements of §63.7741(g) and recording all information needed to document conformance with these requirements; and

(iii) Collecting and reducing monitoring data for according to the requirements of §63.7741(g) and recording all information needed to document conformance with these requirements.

(11) For each TEA cold box mold or core making line at a new or existing iron and steel foundry, maintaining a 99 percent reduction in the VOHAP concentration in the exhaust stream or maintaining the average VOHAP concentration in the exhaust stream at or below 1 ppmv.

(12) Conducting subsequent performance tests at least every 5 years for each emissions source subject to an emissions limit for PM, total metal HAP, VOHAP, or TEA in §63.7690(a) and subsequent performance tests at least every 6 months for each building or structure subject to the opacity limit in §63.7690(a)(7).

(b) You must demonstrate continuous compliance for each capture system subject to an operating limit in §63.7690(b)(1) by meeting the requirements in paragraphs (b)(1) and (2) of this section.

(1) Operating the capture system at or above the lowest values or settings established for the operating limits in your operation and maintenance plan; and

(2) Monitoring the capture system according to the requirements in §63.7740(a) and collecting, reducing, and recording the monitoring data for each of the operating limit parameters according to the applicable requirements in this subpart.

(c) For each baghouse,

(1) Inspecting and maintaining each baghouse according to the requirements of §63.7740(c)(1) through (8) and recording all information needed to document conformance with these requirements; and

(2) If the baghouse is equipped with a bag leak detection system, maintaining records of the times the bag leak detection system sounded, and for each valid alarm, the time you initiated corrective action, the corrective action taken, and the date on which corrective action was completed.

(d) For each wet scrubber that is subject to the operating limits in §63.7690(b)(2), you must demonstrate continuous compliance by:

(1) Maintaining the 3-hour average pressure drop and 3-hour average scrubber water flow rate at levels no lower than those established during the initial or subsequent performance test;

(2) Inspecting and maintaining each CPMS according to the requirements of §63.7741(c) and recording all information needed to document conformance with these requirements; and

(3) Collecting and reducing monitoring data for pressure drop and scrubber water flow rate according to the requirements of §63.7741(f) and recording all information needed to document conformance with these requirements.

(e) For each combustion device that is subject to the operating limit in §63.7690(b)(3), you must demonstrate continuous compliance by:

(1) Maintaining the 15-minute average combustion zone temperature at a level no lower than 1,300 °F;

(2) Inspecting and maintaining each CPMS according to the requirements of §63.7741(d) and recording all information needed to document conformance with these requirements; and

(3) Collecting and reducing monitoring data for combustion zone temperature according to the requirements of §63.7741(f) and recording all information needed to document conformance with these requirements.

(f) For each combustion device that is subject to the operating limit in §63.7690(b)(4), you must demonstrate continuous compliance by:

(1) Maintaining the 3-hour average combustion zone temperature at a level no lower that established during the initial or subsequent performance test;

(2) Inspecting and maintaining each CPMS according to the requirements of §63.7741(d) and recording all information needed to document conformance with these requirements; and

(3) Collecting and reducing monitoring data for combustion zone temperature according to the requirements of §63.7741(f) and recording all information needed to document conformance with these requirements.

(g) For each acid wet scrubber subject to the operating limits in §63.7690(b)(5), you must demonstrate continuous compliance by:

(1) Maintaining the 3-hour average scrubbing liquid flow rate at a level no lower than the level established during the initial or subsequent performance test;

(2) Maintaining the 3-hour average pH of the scrubber blowdown at a level no higher than 4.5 (if measured by a CPMS) or maintaining the pH level of the scrubber blowdown during each production shift no higher than 4.5;

(3) Inspecting and maintaining each CPMS according to the requirements of §63.7741(e) and recording all information needed to document conformance with these requirements; and

(4) Collecting and reducing monitoring data for scrubbing liquid flow rate and scrubber blowdown pH according to the requirements of §63.7741(f) and recording all information needed to document conformance with these requirements. If the pH level of the scrubber blowdown is measured by a probe and meter, you must demonstrate continuous compliance by maintaining records that document the date, time, and results of each sample taken for each production shift.

[69 FR 21923, Apr. 22, 2004, as amended at 73 FR 7222, February 7, 2008]

§ 63.7744 How do I demonstrate continuous compliance with the work practice standards that apply to me?

(a) You must maintain records that document continuous compliance with the certification requirements in §63.7700(b) or with the procedures in your scrap selection and inspection plan required in §63.7700(c). Your records documenting compliance with the scrap selection and inspection plan must include a copy (kept onsite) of the procedures used by the scrap supplier for either removing accessible mercury switches or for purchasing automobile bodies that have had mercury switches removed, as applicable.

(b) You must keep records of the chemical composition of all catalyst binder formulations applied in each furan warm box mold or core making line at a new or existing iron and steel foundry to demonstrate continuous compliance with the requirements in §63.7700(d).

(c) For a scrap preheater at an existing iron and steel foundry, you must operate and maintain each gas-fired preheater such that the flame directly contacts the scrap charged to demonstrate continuous compliance with the requirement §63.7700(e)(1). If you choose to meet the work practice standard in §63.7700(e)(2), you must keep records to document that the scrap preheater charges only material that is subject to and in compliance with the scrap certification requirements in §63.7700(b).

(d) For a scrap preheater at a new iron and steel foundry, you must keep records to document that each scrap preheater charges only material that is subject to and in compliance with the scrap certification requirements in §63.7700(b) to demonstrate continuous compliance with the requirement in §63.7700(f).

§ 63.7745 How do I demonstrate continuous compliance with the operation and maintenance requirements that apply to me?

(a) For each capture system and control device for an emissions source subject to an emissions limit in §63.7690(a), you must demonstrate continuous compliance with the operation and maintenance requirements of §63.7710 by:

(1) Making monthly inspections of capture systems and initiating corrective action according to §63.7710(b)(1) and recording all information needed to document conformance with these requirements;

(2) Performing preventative maintenance for each control device according to the preventive maintenance plan required by §63.7710(b)(3) and recording all information needed to document conformance with these requirements;

(3) Operating and maintaining each bag leak detection system according to the site-specific monitoring plan required by §63.7710(b)(4) and recording all information needed to demonstrate conformance with these requirements;

(4) Initiating and completing corrective action for a bag leak detection system alarm according to the corrective action plan required by §63.7710(b)(5) and recording all information needed to document conformance with these requirements; and

(5) Igniting gases from mold vents according to the procedures in the plan required by §63.7710(b)(6). (Any instance where you fail to follow the procedures is a deviation that must be included in your semiannual compliance report.)

(b) You must maintain a current copy of the operation and maintenance plans required by §63.7710(b) onsite and available for inspection upon request. You must keep the plans for the life of the iron and steel foundry or until the iron and steel foundry is no longer subject to the requirements of this subpart.

§ 63.7746 What other requirements must I meet to demonstrate continuous compliance?

(a) Deviations. You must report each instance in which you did not meet each emissions limitation in §63.7690 (including each operating limit) that applies to you. This requirement includes periods of startup, shutdown, and malfunction. You also must report each instance in which you did not meet each work practice standard in §63.7700 and each operation and maintenance requirement of §63.7710 that applies to you. These instances are deviations from the emissions limitations, work practice standards, and operation and maintenance requirements in this subpart. These deviations must be reported according to the requirements of §63.7751.

(b) Startups, shutdowns, and malfunctions. (1) Consistent with the requirements of §§63.6(e) and 63.7(e)(1), deviations that occur during a period of startup, shutdown, or malfunction are not violations if you demonstrate to the Administrator's satisfaction that you were operating in accordance with §63.6(e)(1).

(2) The Administrator will determine whether deviations that occur during a period of startup, shutdown, or malfunction are violations according to the provisions in §63.6(e).

[69 FR 21923, Apr. 22, 2004, as amended at 71 FR 20468, Apr. 20, 2006]

§ 63.7747 How do I apply for alternative monitoring requirements for a continuous emissions monitoring system?

(a) You may request an alternative monitoring method to demonstrate compliance with the VOHAP emissions limits in §63.7690(a)(10) for automated pallet cooling lines or automated shakeout lines at a new iron and steel foundry according to the procedures in this section.

(b) You can request approval to use an alternative monitoring method in the notification of construction or reconstruction for new sources, or at any time.

(c) You must submit a monitoring plan that includes a description of the control technique or pollution prevention technique, a description of the continuous monitoring system or method including appropriate operating parameters that will be monitored, test results demonstrating compliance with the emissions limit, operating limit(s) (if applicable) determined according to the test results, and the frequency of measuring and recording to establish continuous compliance. If applicable, you must also include operation and maintenance requirements for the monitors.

(d) The monitoring plan is subject to approval by the Administrator. Use of the alternative monitoring method must not begin until approval is granted by the Administrator.

Notifications, Reports, and Records

§ 63.7750 What notifications must I submit and when?

(a) You must submit all of the notifications required by §§63.6(h)(4) and (5), 63.7(b) and (c); 63.8(e); 63.8(f)(4) and (6); 63.9(b) through (h) that apply to you by the specified dates.

(b) As specified in §63.9(b)(2), if you start up your iron and steel foundry before April 22, 2004, you must submit your initial notification no later than August 20, 2004.

(c) If you start up your new iron and steel foundry on or after April 22, 2004, you must submit your initial notification no later than 120 calendar days after you become subject to this subpart.

(d) If you are required to conduct a performance test, you must submit a notification of intent to conduct a performance test at least 60 calendar days before the performance test is scheduled to begin as required by §63.7(b)(1).

(e) If you are required to conduct a performance test or other initial compliance demonstration, you must submit a notification of compliance status according to the requirements of §63.9(h)(2)(ii). For opacity performance tests, the notification of compliance status may be submitted with the semiannual compliance report in §63.7751(a) and (b) or the semiannual part 70 monitoring report in § 63.7551(d).

(1) For each initial compliance demonstration that does not include a performance test, you must submit the notification of compliance status before the close of business on the 30th calendar day following completion of the initial compliance demonstration.

(2) For each initial compliance demonstration that does include a performance test, you must submit the notification of compliance status, including the performance test results, before the close of business on the 60th calendar day following the completion of the performance test according to the requirement specified in §63.10(d)(2).

§ 63.7751 What reports must I submit and when?

(a) Compliance report due dates. Unless the Administrator has approved a different schedule, you must submit a semiannual compliance report to your permitting authority according to the requirements specified in paragraphs (a)(1) through (5) of this section.

(1) The first compliance report must cover the period beginning on the compliance date that is specified for your iron and steel foundry by §63.7683 and ending on June 30 or December 31, whichever date comes first after the compliance date that is specified for your iron and steel foundry.

(2) The first compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date comes first after your first compliance report is due.

(3) 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) Each subsequent compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date comes first after the end of the semiannual reporting period.

(5) For each iron and steel foundry that is subject to permitting regulations pursuant to 40 CFR part 70 or 40 CFR part 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 the dates specified in paragraphs (a)(1) through (4) of this section.

(b) Compliance report contents. Each compliance report must include the information specified in paragraphs (b)(1) through (3) of this section and, as applicable, paragraphs (b)(4) through (8) of this section.

(1) Company name and address.

(2) Statement by a responsible official, with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.

(3) Date of report and beginning and ending dates of the reporting period.

(4) If you had a startup, shutdown, or malfunction during the reporting period and you took action consistent with your startup, shutdown, and malfunction plan, the compliance report must include the information in §63.10(d)(5)(i).

(5) If there were no deviations from any emissions limitations (including operating limit), work practice standards, or operation and maintenance requirements, a statement that there were no deviations from the emissions limitations, work practice standards, or operation and maintenance requirements during the reporting period.

(6) If there were no periods during which a continuous monitoring system (including a CPMS or CEMS) was out-of-control as specified by §63.8(c)(7), a statement that there were no periods during which the CPMS was out-of-control during the reporting period.

(7) For each deviation from an emissions limitation (including an operating limit) that occurs at an iron and steel foundry for which you are not using a continuous monitoring system (including a CPMS or CEMS) to comply with an emissions limitation or work practice standard required in this subpart, the compliance report must contain the information specified in paragraphs (b)(1) through (4) and (b)(7)(i) and (ii) of this section. This requirement includes periods of startup, shutdown, and malfunction.

(i) The total operating time of each emissions source during the reporting period.

(ii) Information on the number, duration, and cause of deviations (including unknown cause) as applicable and the corrective action taken.

(8) For each deviation from an emissions limitation (including an operating limit) or work practice standard occurring at an iron and steel foundry where you are using a continuous monitoring system (including a CPMS or CEMS) to comply with the emissions limitation or work practice standard in this subpart, you must include the information specified in paragraphs (b)(1) through (4) and (b)(8)(i) through (xi) of this section. This requirement includes periods of startup, shutdown, and malfunction.

(i) The date and time that each malfunction started and stopped.

(ii) The date and time that each continuous monitoring system was inoperative, except for zero (low-level) and high-level checks.

(iii) The date, time, and duration that each continuous monitoring system was out-of-control, including the information in §63.8(c)(8).

(iv) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of startup, shutdown, or malfunction or during another period.

(v) A summary of the total duration of the deviations during the reporting period and the total duration as a percent of the total source operating time during that reporting period.

(vi) A breakdown of the total duration of the deviations during the reporting period into those that are due to startup, shutdown, control equipment problems, process problems, other known causes, and unknown causes.

(vii) A summary of the total duration of continuous monitoring system downtime during the reporting period and the total duration of continuous monitoring system downtime as a percent of the total source operating time during the reporting period.

(viii) A brief description of the process units.

(ix) A brief description of the continuous monitoring system.

(x) The date of the latest continuous monitoring system certification or audit.

(xi) A description of any changes in continuous monitoring systems, processes, or controls since the last reporting period.

(c) Immediate startup, shutdown, and malfunction report. If you had a startup, shutdown, or malfunction during the semiannual reporting period that was not consistent with your startup, shutdown, and malfunction plan and the source exceeds any applicable emissions limitation in § 63.7690, you must submit an immediate startup, shutdown, and malfunction report according to the requirements of §63.10(d)(5)(ii).

(d) Part 70 monitoring report. If you have obtained a title V operating permit for an iron and steel foundry pursuant to 40 CFR part 70 or 40 CFR part 71, you 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 you submit a compliance report for an iron and steel foundry 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 the required information concerning deviations from any emissions limitation or operation and maintenance requirement in this subpart, submission of the compliance report satisfies any obligation to report the same deviations in the semiannual monitoring report. However, submission of a compliance report does not otherwise affect any obligation you may have to report deviations from permit requirements for an iron and steel foundry to your permitting authority.

[69 FR 21923, Apr. 22, 2004, as amended at 73 FR 7222, February 7, 2008]

§ 63.7752 What records must I keep?

(a) You must keep the records specified in paragraphs (a)(1) through (4) 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 requirements of §63.10(b)(2)(xiv).

(2) The records specified in §63.6(e)(3)(iii) through (v) related to startup, shutdown, and malfunction.

(3) Records of performance tests and performance evaluations as required by §63.10(b)(2)(viii).

(4) Records of the annual quantity of each chemical binder or coating material used to coat or make molds and cores, the Material Data Safety Sheet or other documentation that provides the chemical composition of each component, and the annual quantity of HAP used in these chemical binder or coating materials at the foundry as calculated from the recorded quantities and chemical compositions (from Material Data Safety Sheets or other documentation).

(b) You must keep the following records for each CEMS.

(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) Request for alternatives to relative accuracy tests for CEMS as required in §63.8(f)(6)(i).

(4) Records of the date and time that each deviation started and stopped, and whether the deviation occurred during a period of startup, shutdown, or malfunction or during another period.

(c) You must keep the records required by §§63.7743, 63.7744, and 63.7745 to show continuous compliance with each emissions limitation, work practice standard, and operation and maintenance requirement that applies to you.

[69 FR 21923, Apr. 22, 2004, as amended at 73 FR 7222, February 7, 2008]

§ 63.7753 In what form and for how long must I keep my records?

(a) You must keep your records in a form suitable and readily available for expeditious review, according to the requirements of §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 onsite for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record according to the requirements in §63.10(b)(1). You can keep the records for the previous 3 years offsite.

Other Requirements and Information

§ 63.7760 What parts of the General Provisions apply to me?

Table 1 to this subpart shows which parts of the General Provisions in §§63.1 through 63.15 apply to you.

§ 63.7761 Who implements and enforces this subpart?

(a) This subpart can be implemented and enforced by us, the U.S. Environmental Protection Agency (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, in addition to 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 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 Administrator of the U.S. EPA 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 (4) of this section.

(1) Approval of alternatives to non-opacity emissions limitations in §63.7690 and work practice standards in §63.7700 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.

Definitions

§ 63.7765 What definitions apply to this subpart?

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

Automated conveyor and pallet cooling line means any dedicated conveyor line or area used for cooling molds received from pouring stations.

Automated shakeout line means any mechanical process unit designed for and dedicated to separating a casting from a mold. These mechanical processes include, but are not limited to, shaker decks, rotary separators, and high-frequency vibration units. Automated shakeout lines do not include manual processes for separating a casting from a mold, such as personnel using a hammer, chisel, pick ax, sledge hammer, or jackhammer.

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.

Cold box mold or core making line means a mold or core making line in which the formed aggregate is hardened by catalysis with a gas.

Combustion device means an afterburner, thermal incinerator, or scrap preheater.

Conveyance means the system of equipment that is designed to capture pollutants at the source, convey them through ductwork, and exhaust them using forced ventilation. A conveyance may, but does not necessarily include, control equipment designed to reduce emissions of the pollutants. Emissions that are released through windows, vents, or other general building ventilation or exhaust systems are not considered to be discharged through a conveyance.

Cooling means the process of molten metal solidification within the mold and subsequent temperature reduction prior to shakeout.

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), work practice standard, 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 work practice standard in this subpart during startup, shutdown, or malfunction, regardless of whether or not such failure is permitted by this subpart. A deviation is not always a violation. The determination of whether a deviation constitutes a violation of the standard is up to the discretion of the entity responsible for enforcement of the standards.

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.

Emissions limitation means any emissions limit or operating limit.

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

Free organic liquids means material that fails the paint filter test by EPA Method 9095A (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.

Fresh acid solution means a sulfuric acid solution used for the control of triethylamine emissions that has a pH of 2.0 or less.

Fugitive emissions means any pollutant released to the atmosphere that is not discharged through a conveyance as defined in this subpart.

Furan 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 furan warm box system by the foundry industry.

Hazardous air pollutant means any substance on the list originally established in 112(b)(1) of the CAA and subsequently amended as published in the Code of Federal Regulations.

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 and operations that only produce non-commercial castings are not included in this definition.

Metal melting furnace means a cupola, electric arc furnace, or electric induction furnace 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 green sand molds or cores.

Mold vent means an intentional opening in a mold through which gases containing pyrolysis products of organic mold and core constituents produced by contact with or proximity to molten metal normally escape the mold during and after metal pouring.

Off blast means those periods of cupola operation when the cupola is not actively being used to produce molten metal. Off blast conditions include cupola startup when air is introduced to the cupola to preheat the sand bed and other cupola startup procedures as defined in the startup, shutdown, and malfunction plan. Off blast conditions also include idling conditions when the blast air is turned off or down to the point that the cupola does not produce additional molten metal.

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.

Pouring area means an area, generally associated with floor and pit molding operations, in which molten metal is brought to each individual mold. Pouring areas include all pouring operations that do not meet the definition of a pouring station.

Pouring station means the fixed location to which molds are brought in a continuous or semicontinuous manner to receive molten metal, after which the molds are moved to a cooling area.

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.

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 before being returned to the scrubber.

Total metal HAP means, for the purposes of this subpart, the sum of the concentrations 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). 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.

Work practice standard means any design, equipment, work practice, or operational standard, or combination thereof, that is promulgated pursuant to section 112(h) of the CAA.

[69 FR 21923, Apr. 22, 2004, as amended at 70 FR 29404, May 20, 2005; 73 FR 7222, February 7, 2008]

Table 1 to Subpart EEEEE of Part 63—Applicability of General Provisions to Subpart EEEEE

[As stated in §63.7760, you must meet each requirement in the following table that applies to you.]

Citation	Subject	Applies to Subpart EEEEE?	Explanation
63.1	Applicability	Yes	

Citation	Subject	Applies to Subpart EEEEE?	Explanation
63.2	Definitions	Yes	
63.3	Units and abbreviations	Yes	
63.4	Prohibited activities	Yes	
63.5	Construction/reconstruction	Yes	
63.6(a)–(g)	Compliance with standards and maintenance requirements	Yes	
63.6(h)	Opacity and visible emissions standards	Yes	
63.6(i)–(j)	Compliance extension and Presidential compliance exemption	Yes	
63.7(a)(1)–(a)(2)	Applicability and performance test dates	No	Subpart EEEEE specifies applicability and performance test dates.
63.7(a)(3), (b)–(h)	Performance testing requirements	Yes	
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	Subpart EEEEE specifies requirements for alternative monitoring systems.
63.8(a)(4)	Additional monitoring requirements for control devices in §63.11	No	Subpart EEEEE does not require flares.
63.8(c)(4)	Continuous monitoring system (CMS) requirements	No	Subpart EEEEE specifies requirements for operation of CMS and CEMS.
63.8(c)(5)	Continuous opacity monitoring system (COMS) Minimum Procedures	No	Subpart EEEEE does not require COMS.
63.8(g)(5)	Data reduction	No	Subpart EEEEE specifies data reduction requirements.
63.9	Notification requirements	Yes	Except: for opacity performance tests, Subpart EEEEE allows the notification of compliance status to be submitted with the semiannual compliance report or the semiannual part 70 monitoring report.
63.10(a)–(b), (c)(1)–(6), (c)(9)–(15), (d)(1)–(2), (e)(1)–(2), (f)	Recordkeeping and reporting requirements	Yes	Additional records for CMS in §63.10(c)(1)–(6), (9)–(15) apply only to CEMS.
63.10(c)(7)–(8)	Records of excess emissions and parameter monitoring exceedances for CMS	No	Subpart EEEEE specifies records requirements.
63.10(d)(3)	Reporting opacity or visible emissions observations	Yes	
63.10(e)(3)	Excess emissions reports	No	Subpart EEEEE specifies reporting requirements.
63.10(e)(4)	Reporting COMS data	No	Subpart EEEEE data does not require COMS.
63.11	Control device requirements	No	Subpart EEEEE does not require

Citation	Subject	Applies to Subpart EEEEE?	Explanation
			flares.
63.12	State authority and delegations	Yes	
63.13–63.15	Addresses of State air pollution control agencies and EPA regional offices. Incorporation by reference. Availability of information and confidentiality	Yes	

[69 FR 21923, Apr. 22, 2004, as amended at 73 FR 7223, February 7, 2008]

Attachment B

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:

$$\frac{C_i - C_o}{C_i} \times 100 = R \quad (Eq.\ 1)$$

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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:

$$F_o = \frac{0.209\ F_d}{F_c} \quad (Eq.\ 2)$$

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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:

$$X_{CO2} = \frac{5.9}{F_o} \quad (Eq. 3)$$

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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:

$$C_{adj} = C_d \frac{X_{CO2}}{\%CO_2} \quad (Eq. 4)$$

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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 1** a **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 1 b 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 2** a **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 2 b 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.
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]

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.	
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.	

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
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]	
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.	

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 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]

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.	
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.	

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
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	
	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	

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
	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.	
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,	

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
	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.	

[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]

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_2at 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_2must 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_2at 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_2concentration 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.
		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.	a. limit the	i. Select the sampling port	(1) Method 1 or 1A of 40 CFR	(a) if using a control

Stationary RICE	concentration of formaldehyde or CO in the stationary RICE exhaust	location and the number of traverse points; and	part 60, appendix A § 63.7(d)(1)(i)	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.
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_2or CO_2at 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_2or CO_2at the 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 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	i. The average reduction of emissions of formaldehyde determined from the initial performance test is equal to or greater than

	using NSCR	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.
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;

		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.
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.
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.
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
		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
		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.
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.
		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	i. See item 2.a.i.

		with the meters.	
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.	
§ 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.	

§ 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.
		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	Yes	Except that § 63.9(g) only applies as

	evaluation		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.	
§ 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

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											
″											
″											
″											
″											

[78 FR 6721, Jan. 30, 2013]

Attachment C

Title 40: Protection of Environment

PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

Subpart JJJJ - Standards of Performance for Stationary Spark Ignition Internal Combustion Engines

Source: 73 FR 3591, Jan. 18, 2008, unless otherwise noted.

What This Subpart Covers

§ 60.4230 Am I subject to this subpart?

(a) The provisions of this subpart are applicable to manufacturers, owners, and operators of stationary spark ignition (SI) internal combustion engines (ICE) as specified in paragraphs (a)(1) through (6) 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 SI ICE with a maximum engine power less than or equal to 19 kilowatt (KW) (25 horsepower (HP)) that are manufactured on or after July 1, 2008.

(2) Manufacturers of stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) that are gasoline fueled or that are rich burn engines fueled by liquefied petroleum gas (LPG), where the date of manufacture is:

(i) On or after July 1, 2008; or

(ii) On or after January 1, 2009, for emergency engines.

(3) Manufacturers of stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) that are not gasoline fueled and are not rich burn engines fueled by LPG, where the manufacturer participates in the voluntary manufacturer certification program described in this subpart and where the date of manufacture is:

(i) On or after July 1, 2007, for engines with a maximum engine power greater than or equal to 500 HP (except lean burn engines with a maximum engine power greater than or equal to 500 HP and less than 1,350 HP);

(ii) On or after January 1, 2008, for lean burn engines with a maximum engine power greater than or equal to 500 HP and less than 1,350 HP;

(iii) On or after July 1, 2008, for engines with a maximum engine power less than 500 HP; or

(iv) On or after January 1, 2009, for emergency engines.

(4) Owners and operators of stationary SI ICE that commence construction after June 12, 2006, where the stationary SI ICE are manufactured:

(i) On or after July 1, 2007, for engines with a maximum engine power greater than or equal to 500 HP (except lean burn engines with a maximum engine power greater than or equal to 500 HP and less than 1,350 HP);

(ii) on or after January 1, 2008, for lean burn engines with a maximum engine power greater than or equal to 500 HP and less than 1,350 HP;

(iii) on or after July 1, 2008, for engines with a maximum engine power less than 500 HP; or

(iv) on or after January 1, 2009, for emergency engines with a maximum engine power greater than 19 KW (25 HP).

(5) Owners and operators of stationary SI ICE that are modified or reconstructed after June 12, 2006, and any person that modifies or reconstructs any stationary SI ICE after June 12, 2006.

(6) The provisions of § 60.4236 of this subpart are applicable to all owners and operators of stationary SI ICE that commence construction after June 12, 2006.

(b) The provisions of this subpart are not applicable to stationary SI ICE being tested at an engine 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 as applicable.

(d) For the purposes of this subpart, stationary SI ICE using alcohol-based fuels are considered gasoline engines.

(e) Stationary SI 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 parts 90 and 1048, 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.

(f) Owners and operators of facilities with internal combustion engines 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.

[73 FR 3591, Jan. 18, 2008, as amended at 76 FR 37972, June 28, 2011]

Emission Standards for Manufacturers

§ 60.4231 What emission standards must I meet if I am a manufacturer of stationary SI internal combustion engines or equipment containing such engines?

(a) Stationary SI internal combustion engine manufacturers must certify their stationary SI ICE with a maximum engine power less than or equal to 19 KW (25 HP) manufactured on or after July 1, 2008 to the certification emission standards and other requirements for new nonroad SI engines in 40 CFR part 90 or 1054, as follows:

If engine displacement is * * *	and manufacturing dates are * * *	the engine must meet emission standards and related requirements for nonhandheld engines under * * *
(1) below 225 cc	July 1, 2008 to December 31, 2011	40 CFR part 90.
(2) below 225 cc	January 1, 2012 or later	40 CFR part 1054.
(3) at or above 225 cc	July 1, 2008 to December 31, 2010	40 CFR part 90.
(4) at or above 225 cc	January 1, 2011 or later	40 CFR part 1054.

(b) Stationary SI internal combustion engine manufacturers must certify their stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) (except emergency stationary ICE with a maximum engine power greater than 25 HP and less than 130 HP) that use gasoline and that are manufactured on or after the applicable date in § 60.4230(a)(2), or manufactured on or after the applicable date in § 60.4230(a)(4) for emergency stationary ICE with a maximum engine power greater than or equal to 130 HP, to the certification emission standards and other requirements for new nonroad SI engines in 40 CFR part 1048. Stationary SI internal combustion engine manufacturers must certify their emergency stationary SI ICE with a maximum engine power greater than 25 HP and less than 130 HP that use gasoline and that are manufactured on or after the applicable date in § 60.4230(a)(4) to the Phase 1 emission standards in 40 CFR 90.103, applicable to class II engines, and other requirements for new nonroad SI engines in 40 CFR part 90. Stationary SI internal combustion engine manufacturers may certify their stationary SI ICE with a maximum engine power less than or equal to 30 KW (40 HP) with a total displacement less than or equal to 1,000 cubic centimeters (cc) that use gasoline to the certification emission standards and other requirements for new nonroad SI engines in 40 CFR part 90 or 1054, as appropriate.

(c) Stationary SI internal combustion engine manufacturers must certify their stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) (except emergency stationary ICE with a maximum engine power greater than 25 HP and less than 130 HP) that are rich burn engines that use LPG and that are manufactured on or after the applicable date in § 60.4230(a)(2), or manufactured on or after the applicable date in § 60.4230(a)(4) for emergency stationary ICE with a maximum engine power greater than or equal to 130 HP, to the certification emission standards and other requirements for new nonroad SI engines in 40 CFR part 1048. Stationary SI internal combustion engine manufacturers must certify their emergency stationary SI ICE greater than 25 HP and less than 130 HP that are rich burn engines that use LPG and that are manufactured on or after the applicable date in § 60.4230(a)(4) to the Phase 1 emission standards in 40 CFR 90.103, applicable to class II engines, and other requirements for new nonroad SI engines in 40 CFR part 90. Stationary SI internal combustion engine manufacturers may certify their stationary SI ICE with a maximum engine power less than or equal to 30 KW (40 HP) with a total displacement less than or equal to 1,000 cc that are rich burn engines that use LPG to the certification emission standards and other requirements for new nonroad SI engines in 40 CFR part 90 or 1054, as appropriate.

(d) Stationary SI internal combustion engine manufacturers who choose to certify their stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) and less than 75 KW (100 HP) (except gasoline and rich burn engines that use LPG and emergency stationary ICE with a maximum engine power greater than 25 HP and less than 130 HP) under the voluntary manufacturer certification program described in this subpart must certify those engines to the certification emission standards for new nonroad SI engines in 40 CFR part 1048. Stationary SI internal combustion engine manufacturers who choose to certify their emergency stationary SI ICE greater than 25 HP and less than 130 HP (except gasoline and rich burn engines that use LPG), must certify those engines to the Phase 1 emission standards in 40 CFR 90.103, applicable to class II engines, for new nonroad SI engines in 40 CFR part 90. Stationary SI internal combustion engine manufacturers may certify their stationary SI ICE with a maximum engine power less than or equal to 30 KW (40 HP) with a total displacement less than or equal to 1,000 cc (except gasoline and rich burn engines that use LPG) to the certification emission standards for new nonroad SI engines in 40 CFR part 90 or 1054, as appropriate. For stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) and less than 75 KW (100 HP) (except gasoline and rich burn engines that use LPG and emergency stationary ICE with a maximum engine power greater than 25 HP and less than 130 HP) manufactured prior to January 1, 2011, manufacturers may choose to certify these engines to the standards in Table 1 to this subpart applicable to engines with a maximum engine power greater than or equal to 100 HP and less than 500 HP.

(e) Stationary SI internal combustion engine manufacturers who choose to certify their stationary SI ICE with a maximum engine power greater than or equal to 75 KW (100 HP) (except gasoline and rich burn engines that use LPG) under the voluntary manufacturer certification program described in this subpart must certify those engines to the emission standards in Table 1 to this subpart. Stationary SI internal combustion engine manufacturers may certify their stationary SI ICE with a maximum engine power greater than or equal to 75 KW (100 HP) that are lean burn engines that use LPG to the certification emission standards for new nonroad SI engines in 40 CFR part 1048. For stationary SI ICE with a maximum engine power greater than or equal to 100 HP (75 KW) and less than 500 HP (373 KW) manufactured prior to January 1, 2011, and for stationary SI ICE with a maximum engine power greater than or equal to 500 HP (373 KW) manufactured prior to July 1, 2010, manufacturers may choose to certify these engines to the certification emission standards for new nonroad SI engines in 40 CFR part 1048 applicable to engines that are not severe duty engines.

(f) Manufacturers of equipment containing stationary SI internal combustion engines meeting the provisions of 40 CFR part 1054 must meet the provisions of 40 CFR part 1060, to the extent they apply to equipment manufacturers.

(g) Notwithstanding the requirements in paragraphs (a) through (c) of this section, stationary SI 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 SI ICE.

[73 FR 3591, Jan. 18, 2008, as amended at 73 FR 59175, Oct. 8, 2008; 76 FR 37973, June 28, 2011; 78 FR 6697, Jan. 30, 2013]

§ 60.4232 How long must my engines meet the emission standards if I am a manufacturer of stationary SI internal combustion engines?

Engines manufactured by stationary SI internal combustion engine manufacturers must meet the emission standards as required in § 60.4231 during the certified emissions life of the engines.

Emission Standards for Owners and Operators

§ 60.4233 What emission standards must I meet if I am an owner or operator of a stationary SI internal combustion engine?

(a) Owners and operators of stationary SI ICE with a maximum engine power less than or equal to 19 KW (25 HP) manufactured on or after July 1, 2008, must comply with the emission standards in § 60.4231(a) for their stationary SI ICE.

(b) Owners and operators of stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) manufactured on or after the applicable date in § 60.4230(a)(4) that use gasoline must comply with the emission standards in § 60.4231(b) for their stationary SI ICE.

(c) Owners and operators of stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) manufactured on or after the applicable date in § 60.4230(a)(4) that are rich burn engines that use LPG must comply with the emission standards in § 60.4231(c) for their stationary SI ICE.

(d) Owners and operators of stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) and less than 75 KW (100 HP) (except gasoline and rich burn engines that use LPG) must comply with the emission standards for field testing in 40 CFR 1048.101(c) for their non-emergency stationary SI ICE and with the emission standards in Table 1 to this subpart for their emergency stationary SI ICE. Owners and operators of stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) and less than 75 KW (100 HP) manufactured prior to January 1, 2011, that were certified to the standards in Table 1 to this subpart applicable to engines with a maximum engine power greater than or equal to 100 HP and less than 500 HP, may optionally choose to meet those standards.

(e) Owners and operators of stationary SI ICE with a maximum engine power greater than or equal to 75 KW (100 HP) (except gasoline and rich burn engines that use LPG) must comply with the emission standards in Table 1 to this subpart for their stationary SI ICE. For owners and operators of stationary SI ICE with a maximum engine power greater than or equal to 100 HP (except gasoline and rich burn engines that use LPG) manufactured prior to January 1, 2011 that were certified to the certification emission standards in 40 CFR part 1048 applicable to engines that are not severe duty engines, if such stationary SI ICE was certified to a carbon monoxide (CO) standard above the standard in Table 1 to this subpart, then the owners and operators may meet the CO certification (not field testing) standard for which the engine was certified.

(f) Owners and operators of any modified or reconstructed stationary SI ICE subject to this subpart must meet the requirements as specified in paragraphs (f)(1) through (5) of this section.

(1) Owners and operators of stationary SI ICE with a maximum engine power less than or equal to 19 KW (25 HP), that are modified or reconstructed after June 12, 2006, must comply with emission standards in § 60.4231(a) for their stationary SI ICE. Engines with a date of manufacture prior to July 1, 2008 must comply with the emission standards specified in § 60.4231(a) applicable to engines manufactured on July 1, 2008.

(2) Owners and operators of stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) that are gasoline engines and are modified or reconstructed after June 12, 2006, must comply with the emission standards in § 60.4231(b) for their stationary SI ICE. Engines with a date of manufacture prior to July 1, 2008 (or January 1, 2009 for emergency engines) must comply with the emission standards specified in § 60.4231(b) applicable to engines manufactured on July 1, 2008 (or January 1, 2009 for emergency engines).

(3) Owners and operators of stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) that are rich burn engines that use LPG, that are modified or reconstructed after June 12, 2006,

must comply with the same emission standards as those specified in § 60.4231(c). Engines with a date of manufacture prior to July 1, 2008 (or January 1, 2009 for emergency engines) must comply with the emission standards specified in § 60.4231(c) applicable to engines manufactured on July 1, 2008 (or January 1, 2009 for emergency engines).

(4) Owners and operators of stationary SI natural gas and lean burn LPG engines with a maximum engine power greater than 19 KW (25 HP), that are modified or reconstructed after June 12, 2006, must comply with the same emission standards as those specified in paragraph (d) or (e) of this section, except that such owners and operators of non-emergency engines and emergency engines greater than or equal to 130 HP must meet a nitrogen oxides (NO_x) emission standard of 3.0 grams per HP-hour (g/HP-hr), a CO emission standard of 4.0 g/HP-hr (5.0 g/HP-hr for non-emergency engines less than 100 HP), and a volatile organic compounds (VOC) emission standard of 1.0 g/HP-hr, or a NO_x emission standard of 250 ppmvd at 15 percent oxygen (O_2), a CO emission standard 540 ppmvd at 15 percent O_2 (675 ppmvd at 15 percent O_2 for non-emergency engines less than 100 HP), and a VOC emission standard of 86 ppmvd at 15 percent O_2 , where the date of manufacture of the engine is:

(i) Prior to July 1, 2007, for non-emergency engines with a maximum engine power greater than or equal to 500 HP (except lean burn natural gas engines and LPG engines with a maximum engine power greater than or equal to 500 HP and less than 1,350 HP);

(ii) Prior to July 1, 2008, for non-emergency engines with a maximum engine power less than 500 HP;

(iii) Prior to January 1, 2009, for emergency engines;

(iv) Prior to January 1, 2008, for non-emergency lean burn natural gas engines and LPG engines with a maximum engine power greater than or equal to 500 HP and less than 1,350 HP.

(5) Owners and operators of stationary SI landfill/digester gas ICE engines with a maximum engine power greater than 19 KW (25 HP), that are modified or reconstructed after June 12, 2006, must comply with the same emission standards as those specified in paragraph (e) of this section for stationary landfill/digester gas engines. Engines with maximum engine power less than 500 HP and a date of manufacture prior to July 1, 2008 must comply with the emission standards specified in paragraph (e) of this section for stationary landfill/digester gas ICE with a maximum engine power less than 500 HP manufactured on July 1, 2008. Engines with a maximum engine power greater than or equal to 500 HP (except lean burn engines greater than or equal to 500 HP and less than 1,350 HP) and a date of manufacture prior to July 1, 2007 must comply with the emission standards specified in paragraph (e) of this section for stationary landfill/digester gas ICE with a maximum engine power greater than or equal to 500 HP (except lean burn engines greater than or equal to 500 HP and less than 1,350 HP) manufactured on July 1, 2007. Lean burn engines greater than or equal to 500 HP and less than 1,350 HP with a date of manufacture prior to January 1, 2008 must comply with the emission standards specified in paragraph (e) of this section for stationary landfill/digester gas ICE that are lean burn engines greater than or equal to 500 HP and less than 1,350 HP and manufactured on January 1, 2008.

(g) Owners and operators of stationary SI wellhead gas ICE engines may petition the Administrator for approval on a case-by-case basis to meet emission standards no less stringent than the emission standards that apply to stationary emergency SI engines greater than 25 HP and less than 130 HP due to the presence of high sulfur levels in the fuel, as specified in Table 1 to this subpart. The request must, at a minimum, demonstrate that the fuel has high sulfur levels that prevent the use of aftertreatment controls and also that the owner has reasonably made all attempts possible to obtain an engine that will meet the standards without the use of aftertreatment controls. The petition must request the most stringent standards reasonably applicable to the engine using the fuel.

(h) Owners and operators of stationary SI ICE that are required to meet standards that reference 40 CFR 1048.101 must, if testing their engines in use, meet the standards in that section applicable to field testing, except as indicated in paragraph (e) of this section.

[73 FR 3591, Jan. 18, 2008, as amended at 76 FR 37973, June 28, 2011]

§ 60.4234 How long must I meet the emission standards if I am an owner or operator of a stationary SI internal combustion engine?

Owners and operators of stationary SI ICE must operate and maintain stationary SI ICE that achieve the emission standards as required in § 60.4233 over the entire life of the engine.

Other Requirements for Owners and Operators

§ 60.4235 What fuel requirements must I meet if I am an owner or operator of a stationary SI gasoline fired internal combustion engine subject to this subpart?

Owners and operators of stationary SI ICE subject to this subpart that use gasoline must use gasoline that meets the per gallon sulfur limit in 40 CFR 80.195.

§ 60.4236 What is the deadline for importing or installing stationary SI ICE produced in previous model years?

(a) After July 1, 2010, owners and operators may not install stationary SI ICE with a maximum engine power of less than 500 HP that do not meet the applicable requirements in § 60.4233.

(b) After July 1, 2009, owners and operators may not install stationary SI ICE with a maximum engine power of greater than or equal to 500 HP that do not meet the applicable requirements in § 60.4233, except that lean burn engines with a maximum engine power greater than or equal to 500 HP and less than 1,350 HP that do not meet the applicable requirements in § 60.4233 may not be installed after January 1, 2010.

(c) For emergency stationary SI ICE with a maximum engine power of greater than 19 KW (25 HP), owners and operators may not install engines that do not meet the applicable requirements in § 60.4233 after January 1, 2011.

(d) In addition to the requirements specified in §§ 60.4231 and 60.4233, it is prohibited to import stationary SI ICE less than or equal to 19 KW (25 HP), stationary rich burn LPG SI ICE, and stationary gasoline SI ICE that do not meet the applicable requirements specified in paragraphs (a), (b), and (c) of this section, after the date specified in paragraph (a), (b), and (c) of this section.

(e) The requirements of this section do not apply to owners and operators of stationary SI ICE that have been modified or reconstructed, and they do not apply to engines that were removed from one existing location and reinstalled at a new location.

§ 60.4237 What are the monitoring requirements if I am an owner or operator of an emergency stationary SI internal combustion engine?

(a) Starting on July 1, 2010, if the emergency stationary SI internal combustion engine that is greater than or equal to 500 HP that was built on or after July 1, 2010, does not meet the standards applicable to non-emergency engines, the owner or operator must install a non-resettable hour meter.

(b) Starting on January 1, 2011, if the emergency stationary SI internal combustion engine that is greater than or equal to 130 HP and less than 500 HP that was built on or after January 1, 2011, does not meet the standards applicable to non-emergency engines, the owner or operator must install a non-resettable hour meter.

(c) If you are an owner or operator of an emergency stationary SI internal combustion engine that is less than 130 HP, was built on or after July 1, 2008, and does not meet the standards applicable to non-emergency engines, you must install a non-resettable hour meter upon startup of your emergency engine.

Compliance Requirements for Manufacturers

§ 60.4238 What are my compliance requirements if I am a manufacturer of stationary SI internal combustion engines ≤19 KW (25 HP) or a manufacturer of equipment containing such engines?

Stationary SI internal combustion engine manufacturers who are subject to the emission standards specified in § 60.4231(a) must certify their stationary SI ICE using the certification procedures required in 40 CFR part 90, subpart B, or 40 CFR part 1054, subpart C, as applicable, and must test their engines as specified in those parts. Manufacturers of equipment containing stationary SI internal combustion engines meeting the provisions of 40 CFR part 1054 must meet the provisions of 40 CFR part 1060, subpart C, to the extent they apply to equipment manufacturers.

[73 FR 59176, Oct. 8, 2008]

§ 60.4239 What are my compliance requirements if I am a manufacturer of stationary SI internal combustion engines >19 KW (25 HP) that use gasoline or a manufacturer of equipment containing such engines?

Stationary SI internal combustion engine manufacturers who are subject to the emission standards specified in § 60.4231(b) must certify their stationary SI ICE using the certification procedures required in 40 CFR part 1048, subpart C, and must test their engines as specified in that part. Stationary SI internal combustion engine manufacturers who certify their stationary SI ICE with a maximum engine power less than or equal to 30 KW (40 HP) with a total displacement less than or equal to 1,000 cc to the certification emission standards and other requirements for new nonroad SI engines in 40 CFR part 90 or 40 CFR part 1054, and manufacturers of stationary SI emergency engines that are greater than 25 HP and less than 130 HP who meet the Phase 1 emission standards in 40 CFR 90.103, applicable to class II engines, must certify their stationary SI ICE using the certification procedures required in 40 CFR part 90, subpart B, or 40 CFR part 1054, subpart C, as applicable, and must test their engines as specified in those parts. Manufacturers of equipment containing stationary SI internal combustion engines meeting the provisions of 40 CFR part 1054 must meet the provisions of 40 CFR part 1060, subpart C, to the extent they apply to equipment manufacturers.

[73 FR 59176, Oct. 8, 2008]

§ 60.4240 What are my compliance requirements if I am a manufacturer of stationary SI internal combustion engines >19 KW (25 HP) that are rich burn engines that use LPG or a manufacturer of equipment containing such engines?

Stationary SI internal combustion engine manufacturers who are subject to the emission standards specified in § 60.4231(c) must certify their stationary SI ICE using the certification procedures required in 40 CFR part 1048, subpart C, and must test their engines as specified in that part. Stationary SI internal combustion engine manufacturers who certify their stationary SI ICE with a maximum engine power less than or equal to 30 KW (40 HP) with a total displacement less than or equal to 1,000 cc to the certification emission standards and other requirements for new nonroad SI engines in 40 CFR part 90 or 40 CFR part 1054, and manufacturers of stationary SI emergency engines that are greater than 25 HP and less than 130 HP who meet the Phase 1 emission standards in 40 CFR 90.103, applicable to class II engines, must certify their stationary SI ICE using the certification procedures required in 40 CFR part 90, subpart B, or 40 CFR part 1054, subpart C, as applicable, and must test their engines as specified in those parts. Manufacturers of equipment containing stationary SI internal combustion engines meeting the provisions of 40 CFR part 1054 must meet the provisions of 40 CFR part 1060, subpart C, to the extent they apply to equipment manufacturers.

[73 FR 59176, Oct. 8, 2008]

§ 60.4241 What are my compliance requirements if I am a manufacturer of stationary SI internal combustion engines participating in the voluntary certification program or a manufacturer of equipment containing such engines?

(a) Manufacturers of stationary SI internal combustion engines with a maximum engine power greater than 19 KW (25 HP) that do not use gasoline and are not rich burn engines that use LPG can choose to certify their engines to the emission standards in § 60.4231(d) or (e), as applicable, under the voluntary certification program described in this subpart. Manufacturers who certify their engines under the voluntary certification program must meet the requirements as specified in paragraphs (b) through (g) of this section. In addition, manufacturers of stationary SI internal combustion engines who choose to certify their engines under the voluntary certification program, must also meet the requirements as specified in § 60.4247.

(b) Manufacturers of engines other than those certified to standards in 40 CFR part 90 or 40 CFR part 1054 must certify their stationary SI ICE using the certification procedures required in 40 CFR part 1048, subpart C, and must follow the same test procedures that apply to large SI nonroad engines under 40 CFR part 1048, but must use the D-1 cycle of International Organization of Standardization 8178-4: 1996(E) (incorporated by reference, see 40 CFR 60.17) or the test cycle requirements specified in Table 3 to 40 CFR 1048.505, except that Table 3 of 40 CFR 1048.505 applies to high load engines only. Stationary SI internal combustion engine manufacturers who certify their stationary SI ICE with a maximum engine power less than or equal to 30 KW (40 HP) with a total displacement less than or equal to 1,000 cc to the certification emission standards and other requirements for new nonroad SI engines in 40 CFR part 90 or 40 CFR part 1054, and manufacturers of emergency engines that are greater than 25 HP and less than 130 HP who meet the Phase 1 standards in 40 CFR 90.103, applicable to class II engines, must certify their stationary SI ICE using the certification procedures required in 40 CFR part 90, subpart B, or 40 CFR part 1054, subpart C, as applicable, and must test their engines as specified in those parts. Manufacturers of equipment containing stationary SI internal combustion engines meeting the provisions of 40 CFR part 1054 must meet the provisions of 40 CFR part 1060, subpart C, to the extent they apply to equipment manufacturers.

(c) Certification of stationary SI ICE to the emission standards specified in § 60.4231(d) or (e), as applicable, is voluntary, but manufacturers who decide to certify are subject to all of the requirements indicated in this subpart with regard to the engines included in their certification. Manufacturers must clearly label their stationary SI engines as certified or non-certified engines.

(d) Manufacturers of natural gas fired stationary SI ICE who conduct voluntary certification of stationary SI ICE to the emission standards specified in § 60.4231(d) or (e), as applicable, must certify their engines for operation using fuel that meets the definition of pipeline-quality natural gas. The fuel used for certifying stationary SI natural gas engines must meet the definition of pipeline-quality natural gas as described in § 60.4248. In addition, the manufacturer must provide information to the owner and operator of the certified stationary SI engine including the specifications of the pipeline-quality natural gas to which the engine is certified and what adjustments the owner or operator must make to the engine when installed in the field to ensure compliance with the emission standards.

(e) Manufacturers of stationary SI ICE that are lean burn engines fueled by LPG who conduct voluntary certification of stationary SI ICE to the emission standards specified in § 60.4231(d) or (e), as applicable, must certify their engines for operation using fuel that meets the specifications in 40 CFR 1065.720.

(f) Manufacturers may certify their engines for operation using gaseous fuels in addition to pipeline-quality natural gas; however, the manufacturer must specify the properties of that fuel and provide testing information showing that the engine will meet the emission standards specified in § 60.4231(d) or (e), as applicable, when operating on that fuel. The manufacturer must also provide instructions for configuring the stationary engine to meet the emission standards on fuels that do not meet the pipeline-quality natural gas definition. The manufacturer must also provide information to the owner and operator of the certified stationary SI engine regarding the configuration that is most conducive to reduced emissions where the engine will be operated on gaseous fuels with different quality than the fuel that it was certified to.

(g) A stationary SI engine manufacturer may certify an engine family solely to the standards applicable to landfill/digester gas engines as specified in § 60.4231(d) or (e), as applicable, but must certify their engines for operation using landfill/digester gas and must add a permanent label stating that the engine is for use only in landfill/digester gas applications. The label must be added according to the labeling requirements specified in 40 CFR 1048.135(b).

(h) For purposes of this subpart, when calculating emissions of volatile organic compounds, emissions of formaldehyde should not be included.

(i) For engines being certified to the voluntary certification standards in Table 1 of this subpart, the VOC measurement shall be made by following the procedures in 40 CFR 1065.260 and 1065.265 in order to determine the total NMHC emissions by using a flame-ionization detector and non-methane cutter. As an alternative to the nonmethane cutter, manufacturers may use a gas chromatograph as allowed under 40 CFR 1065.267 and may measure ethane, as well as methane, for excluding such levels from the total VOC measurement.

[73 FR 3591, Jan. 18, 2008, as amended at 73 FR 59176, Oct. 8, 2008; 76 FR 37974, June 28, 2011]

§ 60.4242 What other requirements must I meet if I am a manufacturer of stationary SI internal combustion engines or equipment containing stationary SI internal combustion engines or a manufacturer of equipment containing such engines?

(a) Stationary SI internal combustion engine manufacturers must meet the provisions of 40 CFR part 90, 40 CFR part 1048, or 40 CFR part 1054, as applicable, as well as 40 CFR part 1068 for engines that are certified to the emission standards in 40 CFR part 1048 or 1054, except that engines certified pursuant to the voluntary certification procedures in § 60.4241 are subject only to the provisions indicated in § 60.4247 and are permitted to provide instructions to owners and operators allowing for deviations from certified configurations, if such deviations are consistent with the provisions of paragraphs § 60.4241(c) through (f). Manufacturers of equipment containing stationary SI internal combustion engines meeting the provisions of 40 CFR part 1054 must meet the provisions of 40 CFR part 1060, as

applicable. Labels on engines certified to 40 CFR part 1048 must refer to stationary engines, rather than or in addition to nonroad engines, as appropriate.

(b) An engine manufacturer certifying an engine family or families to standards under this subpart that are identical to standards applicable under 40 CFR part 90, 40 CFR part 1048, or 40 CFR part 1054 for that model year may certify any such family that contains both nonroad 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. This provision also applies to equipment or component manufacturers certifying to standards under 40 CFR part 1060.

(c) Manufacturers of engine families certified to 40 CFR part 1048 may meet the labeling requirements referred to in paragraph (a) of this section for stationary SI ICE by either adding a separate label containing the information required in paragraph (a) of this section or by adding the words “and stationary” after the word “nonroad” to the label.

(d) For all engines manufactured on or after January 1, 2011, and for all engines with a maximum engine power greater than 25 HP and less than 130 HP manufactured on or after July 1, 2008, a stationary SI engine manufacturer that certifies an engine family solely to the standards applicable to emergency engines must add a permanent label stating that the engines in that family are for emergency use only. The label must be added according to the labeling requirements specified in 40 CFR 1048.135(b).

(e) All stationary SI engines subject to mandatory certification 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. Stationary SI engines subject to standards in 40 CFR part 90 may use the provisions in 40 CFR 90.909. Manufacturers of stationary engines with a maximum engine power greater than 25 HP that are not certified to standards and other requirements under 40 CFR part 1048 are subject to the labeling provisions of 40 CFR 1048.20 pertaining to excluded stationary engines.

(f) For manufacturers of gaseous-fueled stationary engines required to meet the warranty provisions in 40 CFR 90.1103 or 1054.120, we may establish an hour-based warranty period equal to at least the certified emissions life of the engines (in engine operating hours) if we determine that these engines are likely to operate for a number of hours greater than the applicable useful life within 24 months. We will not approve an alternate warranty under this paragraph (f) for nonroad engines. An alternate warranty period approved under this paragraph (f) will be the specified number of engine operating hours or two years, whichever comes first. The engine manufacturer shall request this alternate warranty period in its application for certification or in an earlier submission. We may approve an alternate warranty period for an engine family subject to the following conditions:

(1) The engines must be equipped with non-resettable hour meters.

(2) The engines must be designed to operate for a number of hours substantially greater than the applicable certified emissions life.

(3) The emission-related warranty for the engines may not be shorter than any published warranty offered by the manufacturer without charge for the engines. Similarly, the emission-related warranty for any component shall not be shorter than any published warranty offered by the manufacturer without charge for that component.

[73 FR 3591, Jan. 18, 2008, as amended at 73 FR 59177, Oct. 8, 2008]

Compliance Requirements for Owners and Operators

§ 60.4243 What are my compliance requirements if I am an owner or operator of a stationary SI internal combustion engine?

(a) If you are an owner or operator of a stationary SI internal combustion engine that is manufactured after July 1, 2008, and must comply with the emission standards specified in § 60.4233(a) through (c), you must comply by purchasing an engine certified to the emission standards in § 60.4231(a) through (c), as applicable, for the same engine class and maximum engine power. In addition, you must meet one of the requirements specified in (a)(1) and (2) of this section.

(1) If you operate and maintain the certified stationary SI internal combustion engine and control device according to the manufacturer's emission-related written instructions, you must keep records of conducted maintenance to demonstrate compliance, but no performance testing is required if you are an owner or operator. You must also meet the requirements as specified in 40 CFR part 1068, subparts A through D, as they apply to you. If you adjust engine settings according to and consistent with the manufacturer's instructions, your stationary SI internal combustion engine will not be considered out of compliance.

(2) If you do not operate and maintain the certified stationary SI internal combustion engine and control device according to the manufacturer's emission-related written instructions, your engine will be considered a non-certified engine, and you must demonstrate compliance according to (a)(2)(i) through (iii) of this section, as appropriate.

(i) If you are an owner or operator of a stationary SI internal combustion engine 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, but no performance testing is required if you are an owner or operator.

(ii) If you are an owner or operator of a stationary SI 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 within 1 year of engine startup to demonstrate compliance.

(iii) If you are an owner or operator of a stationary SI 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 within 1 year of engine startup and conduct subsequent performance testing every 8,760 hours or 3 years, whichever comes first, thereafter to demonstrate compliance.

(b) If you are an owner or operator of a stationary SI internal combustion engine and must comply with the emission standards specified in § 60.4233(d) or (e), you must demonstrate compliance according to one of the methods specified in paragraphs (b)(1) and (2) of this section.

(1) Purchasing an engine certified according to procedures specified in this subpart, for the same model year and demonstrating compliance according to one of the methods specified in paragraph (a) of this section.

(2) Purchasing a non-certified engine and demonstrating compliance with the emission standards specified in § 60.4233(d) or (e) and according to the requirements specified in § 60.4244, as applicable, and according to paragraphs (b)(2)(i) and (ii) of this section.

(i) If you are an owner or operator of a stationary SI internal combustion engine greater than 25 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.

(ii) If you are an owner or operator of a stationary SI 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 and conduct subsequent performance testing every 8,760 hours or 3 years, whichever comes first, thereafter to demonstrate compliance.

(c) If you are an owner or operator of a stationary SI internal combustion engine that must comply with the emission standards specified in § 60.4233(f), you must demonstrate compliance according paragraph (b)(2)(i) or (ii) of this section, except that if you comply according to paragraph (b)(2)(i) of this section, you demonstrate that your non-certified engine complies with the emission standards specified in § 60.4233(f).

(d) If you own or operate an emergency stationary ICE, you must operate the emergency stationary ICE according to the requirements in paragraphs (d)(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 (d)(1) through (3) of this section, is prohibited. If you do not operate the engine according to the requirements in paragraphs (d)(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 (d)(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 (d)(3) of this section counts as part of the 100 hours per calendar year allowed by this paragraph (d)(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 (d)(2) of this section. Except as provided in paragraph (d)(3)(i) 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) 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]

(e) Owners and operators of stationary SI natural gas fired engines may operate their engines using propane for a maximum of 100 hours per year as an alternative fuel solely during emergency operations, but must keep records of such use. If propane is used for more than 100 hours per year in an engine that is not certified to the emission standards when using propane, the owners and operators are required to conduct a performance test to demonstrate compliance with the emission standards of § 60.4233.

(f) If you are an owner or operator of a stationary SI internal combustion engine that is less than or equal to 500 HP and you purchase a non-certified engine or you do not operate and maintain your certified stationary SI internal combustion engine and control device according to the manufacturer's written emission-related instructions, you are required to perform initial performance testing as indicated in this section, but you are not required to conduct subsequent performance testing unless the stationary engine is rebuilt or undergoes major repair or maintenance. A rebuilt stationary SI ICE means an engine that has been rebuilt as that term is defined in 40 CFR 94.11(a).

(g) It is expected that air-to-fuel ratio controllers will be used with the operation of three-way catalysts/non-selective catalytic reduction. The AFR controller must be maintained and operated appropriately in order to ensure proper operation of the engine and control device to minimize emissions at all times.

(h) If you are an owner/operator of an stationary SI internal combustion engine with maximum engine power greater than or equal to 500 HP that is manufactured after July 1, 2007 and before July 1, 2008, and must comply with the emission standards specified in sections 60.4233(b) or (c), you must comply by one of the methods specified in paragraphs (h)(1) through (h)(4) of this section.

(1) Purchasing an engine certified according to 40 CFR part 1048. 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.

(i) If you are an owner or operator of a modified or reconstructed stationary SI internal combustion engine and must comply with the emission standards specified in § 60.4233(f), you must demonstrate compliance according to one of the methods specified in paragraphs (i)(1) or (2) of this section.

(1) Purchasing, or otherwise owning or operating, an engine certified to the emission standards in § 60.4233(f), as applicable.

(2) Conducting a performance test to demonstrate initial compliance with the emission standards according to the requirements specified in § 60.4244. The test must be conducted within 60 days after the engine commences operation after the modification or reconstruction.

[73 FR 3591, Jan. 18, 2008, as amended at 76 FR 37974, June 28, 2011; 78 FR 6697, Jan. 30, 2013]

Testing Requirements for Owners and Operators

§ 60.4244 What test methods and other procedures must I use if I am an owner or operator of a stationary SI internal combustion engine?

Owners and operators of stationary SI ICE who conduct performance tests must follow the procedures in paragraphs (a) through (f) of this section.

(a) Each performance test must be conducted within 10 percent of 100 percent peak (or the highest achievable) load and according to the requirements in § 60.8 and under the specific conditions that are specified by Table 2 to this subpart.

(b) You may not conduct performance tests during periods of startup, shutdown, or malfunction, as specified in § 60.8(c). If your stationary SI internal combustion engine is non-operational, you do not need to startup the engine solely to conduct a performance test; however, you must conduct the performance test immediately upon startup of the engine.

(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 be conducted within 10 percent of 100 percent peak (or the highest achievable) load and last at least 1 hour.

(d) 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 1 of this section:

$$ER = \frac{C_d \times 1.912 \times 10^{-3} \times Q \times T}{HP - hr} \qquad \text{(Eq. 1)}$$

Where:

ER = Emission rate of NO_x in g/HP-hr.

C_d = Measured NO_x concentration in parts per million by volume (ppmv).

1.912×10^{-3} = Conversion constant for ppm NO_x to grams per standard cubic meter at 20 degrees Celsius.

Q = Stack gas volumetric flow rate, in standard cubic meter per hour, dry basis.

T = Time of test run, in hours.

HP-hr = Brake work of the engine, horsepower-hour (HP-hr).

(e) To determine compliance with the CO mass per unit output emission limitation, convert the concentration of CO in the engine exhaust using Equation 2 of this section:

$$ER = \frac{C_d \times 1.164 \times 10^{-3} \times Q \times T}{HP - hr} \qquad \text{(Eq. 2)}$$

Where:

ER = Emission rate of CO in g/HP-hr.

C_d = Measured CO concentration in ppmv.

1.164×10^{-3} = Conversion constant for ppm CO to grams per standard cubic meter at 20 degrees Celsius.

Q = Stack gas volumetric flow rate, in standard cubic meters per hour, dry basis.

T = Time of test run, in hours.

HP-hr = Brake work of the engine, in HP-hr.

(f) For purposes of this subpart, when calculating emissions of VOC, emissions of formaldehyde should not be included. To determine compliance with the VOC mass per unit output emission limitation, convert the concentration of VOC in the engine exhaust using Equation 3 of this section:

$$ER = \frac{C_d \times 1.833 \times 10^{-3} \times Q \times T}{HP - hr} \qquad \text{(Eq. 3)}$$

Where:

ER = Emission rate of VOC in g/HP-hr.

C_d = VOC concentration measured as propane in ppmv.

1.833×10^{-3} = Conversion constant for ppm VOC measured as propane, to grams per standard cubic meter at 20 degrees Celsius.

Q = Stack gas volumetric flow rate, in standard cubic meters per hour, dry basis.

T = Time of test run, in hours.

HP-hr = Brake work of the engine, in HP-hr.

(g) If the owner/operator chooses to measure VOC emissions using either Method 18 of 40 CFR part 60, appendix A, or Method 320 of 40 CFR part 63, appendix A, then it has the option of correcting the measured VOC emissions to account for the potential differences in measured values between these methods and Method 25A. The results from Method 18 and Method 320 can be corrected for response

factor differences using Equations 4 and 5 of this section. The corrected VOC concentration can then be placed on a propane basis using Equation 6 of this section.

$$RF_i = \frac{C_{Mi}}{C_{Ai}} \qquad \text{(Eq. 4)}$$

Where:

RF_i = Response factor of compound i when measured with EPA Method 25A.

$C_{M\ i}$ = Measured concentration of compound i in ppmv as carbon.

$C_{A\ i}$ = True concentration of compound i in ppmv as carbon.

$$C_{i\,corr} = RF_i \times C_{i\,meas} \qquad \text{(Eq. 5)}$$

Where:

$C_{i\ corr}$ = Concentration of compound i corrected to the value that would have been measured by EPA Method 25A, ppmv as carbon.

$C_{i\ meas}$ = Concentration of compound i measured by EPA Method 320, ppmv as carbon.

$$C_{Peq} = 0.6098 \times C_{i\,corr} \qquad \text{(Eq. 6)}$$

Where:

C_{Peq} = Concentration of compound i in mg of propane equivalent per DSCM.

Notification, Reports, and Records for Owners and Operators

§ 60.4245 What are my notification, reporting, and recordkeeping requirements if I am an owner or operator of a stationary SI internal combustion engine?

Owners or operators of stationary SI ICE must meet the following notification, reporting and recordkeeping requirements.

(a) Owners and operators of all stationary SI ICE must keep records of the information in paragraphs (a)(1) through (4) of this section.

(1) All notifications submitted to comply with this subpart and all documentation supporting any notification.

(2) Maintenance conducted on the engine.

(3) If the stationary SI internal combustion engine is a certified engine, documentation from the manufacturer that the engine is certified to meet the emission standards and information as required in 40 CFR parts 90, 1048, 1054, and 1060, as applicable.

(4) If the stationary SI internal combustion engine is not a certified engine or is a certified engine operating in a non-certified manner and subject to § 60.4243(a)(2), documentation that the engine meets the emission standards.

(b) For all stationary SI emergency ICE greater than or equal to 500 HP manufactured on or after July 1, 2010, that do not meet the standards applicable to non-emergency engines, the owner or operator

of must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. For all stationary SI emergency ICE greater than or equal to 130 HP and less than 500 HP manufactured on or after July 1, 2011 that do not meet the standards applicable to non-emergency engines, the owner or operator of must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. For all stationary SI emergency ICE greater than 25 HP and less than 130 HP manufactured on or after July 1, 2008, that do not meet the standards applicable to non-emergency engines, the owner or operator of 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.

(c) Owners and operators of stationary SI ICE greater than or equal to 500 HP that have not been certified by an engine manufacturer to meet the emission standards in § 60.4231 must submit an initial notification as required in § 60.7(a)(1). The notification must include the information in paragraphs (c)(1) through (5) of this section.

(1) Name and address of the owner or operator;

(2) The address of the affected source;

(3) Engine information including make, model, engine family, serial number, model year, maximum engine power, and engine displacement;

(4) Emission control equipment; and

(5) Fuel used.

(d) Owners and operators of stationary SI ICE that are subject to performance testing must submit a copy of each performance test as conducted in § 60.4244 within 60 days after the test has been completed.

(e) If you own or operate an emergency stationary SI 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 § 60.4243(d)(2)(ii) and (iii) or that operates for the purposes specified in § 60.4243(d)(3)(i), you must submit an annual report according to the requirements in paragraphs (e)(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 § 60.4243(d)(2)(ii) and (iii), including the date, start time, and end time for engine operation for the purposes specified in § 60.4243(d)(2)(ii) and (iii).

(vi) Number of hours the engine is contractually obligated to be available for the purposes specified in § 60.4243(d)(2)(ii) and (iii).

(vii) Hours spent for operation for the purposes specified in § 60.4243(d)(3)(i), including the date, start time, and end time for engine operation for the purposes specified in § 60.4243(d)(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.

[73 FR 3591, Jan. 18, 2008, as amended at 73 FR 59177, Oct. 8, 2008; 78 FR 6697, Jan. 30, 2013]

General Provisions

§ 60.4246 What parts of the General Provisions apply to me?

Table 3 to this subpart shows which parts of the General Provisions in §§ 60.1 through 60.19 apply to you.

Mobile Source Provisions

§ 60.4247 What parts of the mobile source provisions apply to me if I am a manufacturer of stationary SI internal combustion engines or a manufacturer of equipment containing such engines?

(a) Manufacturers certifying to emission standards in 40 CFR part 90, including manufacturers certifying emergency engines below 130 HP, must meet the provisions of 40 CFR part 90. Manufacturers certifying to emission standards in 40 CFR part 1054 must meet the provisions of 40 CFR part 1054. Manufacturers of equipment containing stationary SI internal combustion engines meeting the provisions of 40 CFR part 1054 must meet the provisions of 40 CFR part 1060 to the extent they apply to equipment manufacturers.

(b) Manufacturers required to certify to emission standards in 40 CFR part 1048 must meet the provisions of 40 CFR part 1048. Manufacturers certifying to emission standards in 40 CFR part 1048 pursuant to the voluntary certification program must meet the requirements in Table 4 to this subpart as well as the standards in 40 CFR 1048.101.

(c) For manufacturers of stationary SI internal combustion engines participating in the voluntary certification program and certifying engines to Table 1 to this subpart, Table 4 to this subpart shows which parts of the mobile source provisions in 40 CFR parts 1048, 1065, and 1068 apply to you. Compliance with the deterioration factor provisions under 40 CFR 1048.205(n) and 1048.240 will be required for engines built new on and after January 1, 2010. Prior to January 1, 2010, manufacturers of stationary internal combustion engines participating in the voluntary certification program have the option to develop their own deterioration factors based on an engineering analysis.

[73 FR 3591, Jan. 18, 2008, as amended at 73 FR 59177, Oct. 8, 2008]

Definitions

§ 60.4248 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 SI ICE with a maximum engine power less than or equal to 19 KW (25 HP) are given in 40 CFR 90.105, 40 CFR 1054.107, and 40 CFR 1060.101, as appropriate. The values for certified emissions life for stationary SI ICE with a maximum engine power greater than 19 KW (25 HP) certified to 40 CFR part 1048 are given in 40 CFR 1048.101(g). The certified emissions life for stationary SI ICE with a maximum engine power greater than 75 KW (100 HP) certified under the voluntary manufacturer certification program of this subpart is 5,000 hours or 7 years, whichever comes first. You may request in your application for certification that we approve a shorter certified emissions life for an engine family. We may approve a shorter certified emissions life, in hours of engine operation but not in years, if we determine that these engines will rarely operate longer than the shorter certified emissions life. If engines identical to those in the engine family have already been produced and are in use, your demonstration must include documentation from such in-use engines. In other cases, your demonstration must include an engineering analysis of information equivalent to such in-use data, such as data from research engines or similar engine models that are already in production. Your demonstration must also include any overhaul interval that you recommend, any mechanical warranty that you offer for the engine or its components, and any relevant customer design specifications. Your demonstration may include any other relevant information. The certified emissions life value may not be shorter than any of the following:

(i) 1,000 hours of operation.

(ii) Your recommended overhaul interval.

(iii) Your mechanical warranty for the engine.

Certified stationary internal combustion engine means an engine that belongs to an engine family that has a certificate of conformity that complies with the emission standards and requirements in this part, or of 40 CFR part 90, 40 CFR part 1048, or 40 CFR part 1054, as appropriate.

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.

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 carbon dioxide (CO_2).

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 § 60.4243(d) in order to be considered emergency stationary ICE. If the engine does not comply with the requirements specified in § 60.4243(d), 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 § 60.4243(d).

(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 § 60.4243(d)(2)(ii) or (iii) and § 60.4243(d)(3)(i).

Engine manufacturer means the manufacturer of the engine. See the definition of “manufacturer” in this section.

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.

Freshly manufactured engine means an engine that has not been placed into service. An engine becomes freshly manufactured when it is originally produced.

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.

Installed means the engine is placed and secured at the location where it is intended to be operated.

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.

Liquefied petroleum gas means any liquefied hydrocarbon gas obtained as a by-product in petroleum refining or natural gas production.

Manufacturer has the meaning given in section 216(1) of the Clean Air 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 resale.

Maximum engine power means maximum engine power as defined in 40 CFR 1048.801.

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”).

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.

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.

Pipeline-quality natural gas means a naturally occurring fluid mixture of hydrocarbons (e.g., methane, ethane, or propane) produced in geological formations beneath the Earth's surface that maintains a gaseous state at standard atmospheric temperature and pressure under ordinary conditions, and which is provided by a supplier through a pipeline. Pipeline-quality natural gas must either be composed of at least 70 percent methane by volume or have a gross calorific value between 950 and 1,100 British thermal units per standard cubic foot.

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 June 12, 2006, 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.

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 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 compression ignition 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.

Stationary internal combustion engine test cell/stand means an engine test cell/stand, as defined in 40 CFR part 63, subpart PPPPP, that tests stationary ICE.

Stoichiometric means the theoretical air-to-fuel ratio required for complete combustion.

Subpart means 40 CFR part 60, subpart JJJJ.

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.

Volatile organic compounds means volatile organic compounds as defined in 40 CFR 51.100(s).

Voluntary certification program means an optional engine certification program that manufacturers of stationary SI internal combustion engines with a maximum engine power greater than 19 KW (25 HP) that do not use gasoline and are not rich burn engines that use LPG can choose to participate in to certify their engines to the emission standards in § 60.4231(d) or (e), as applicable.

[73 FR 3591, Jan. 18, 2008, as amended at 73 FR 59177, Oct. 8, 2008; 76 FR 37974, June 28, 2011; 78 FR 6698, Jan. 30, 2013]

Table 1 to Subpart JJJJ of Part 60—NO_x , CO, and VOC Emission Standards for Stationary Non-Emergency SI Engines ≥100 HP (Except Gasoline and Rich Burn LPG), Stationary SI Landfill/Digester Gas Engines, and Stationary Emergency Engines >25 HP

Engine type and fuel	Maximum engine power	Manufacture date	Emission standards [a]					
			g/HP-hr			ppmvd at 15% O_2		
			NO_X	CO	VOC [d]	NO_X	CO	VOC [d]
Non-Emergency SI Natural Gas [b] and Non-Emergency SI Lean Burn LPG [b]	100≤HP<500	7/1/2008	2.0	4.0	1.0	160	540	86
		1/1/2011	1.0	2.0	0.7	82	270	60
Non-Emergency SI Lean Burn Natural Gas and LPG	500≤HP<1,350	1/1/2008	2.0	4.0	1.0	160	540	86
		7/1/2010	1.0	2.0	0.7	82	270	60
Non-Emergency SI Natural Gas and Non-Emergency SI Lean Burn LPG (except lean burn 500≤HP<1,350)	HP≥500	7/1/2007	2.0	4.0	1.0	160	540	86
	HP≥500	7/1/2010	1.0	2.0	0.7	82	270	60
Landfill/Digester Gas (except lean burn 500≤HP<1,350)	HP<500	7/1/2008	3.0	5.0	1.0	220	610	80
		1/1/2011	2.0	5.0	1.0	150	610	80
	HP≥500	7/1/2007	3.0	5.0	1.0	220	610	80
		7/1/2010	2.0	5.0	1.0	150	610	80
Landfill/Digester Gas Lean Burn	500≤HP<1,350	1/1/2008	3.0	5.0	1.0	220	610	80
		7/1/2010	2.0	5.0	1.0	150	610	80
Emergency	25<HP<130	1/1/2009	[c] 10	387	N/A	N/A	N/A	N/A
	HP≥130		2.0	4.0	1.0	160	540	86

[a] Owners and operators of stationary non-certified SI engines may choose to comply with the emission standards in units of either g/HP-hr or ppmvd at 15 percent O_2.

[b] Owners and operators of new or reconstructed non-emergency lean burn SI stationary engines with a site rating of greater than or equal to 250 brake HP located at a major source that are meeting the requirements of 40 CFR part 63, subpart ZZZZ, Table 2a do not have to comply with the CO emission standards of Table 1 of this subpart.

[c] The emission standards applicable to emergency engines between 25 HP and 130 HP are in terms of NO_X+ HC.

[d] For purposes of this subpart, when calculating emissions of volatile organic compounds, emissions of formaldehyde should not be included.

[76 FR 37975, June 28, 2011]

Table 2 to Subpart JJJJ of Part 60—Requirements for Performance Tests

Table 2 to Subpart JJJJ of Part 60—Requirements for Performance Tests

For each	Complying with the requirement to	You must	Using	According to the following requirements
1. Stationary SI internal combustion engine demonstrating compliance according to § 60.4244.	a. limit the concentration of NO_Xin the stationary SI 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 or ASTM Method D6522-00 (Reapproved 2005).a e	(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 internal combustion engine exhaust at the sampling port location;	(2) Method 3, 3A, or 3B [b]of 40 CFR part 60, appendix A or ASTM Method D6522-00 (Reapproved 2005). a e	(b) Measurements to determine O_2concentration must be made at the same time as the measurements for NO_Xconcentration.
		iii. If necessary, determine the exhaust flowrate of the stationary internal combustion engine exhaust;	(3) Method 2 or 19 of 40 CFR part 60, appendix A.	
		iv. If necessary, measure moisture content of the stationary internal combustion engine exhaust at the sampling port location; and	(4) Method 4 of 40 CFR part 60, appendix A, Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03. [e]	(c) Measurements to determine moisture must be made at the same time as the measurementfor NO_Xconcentration.
		v. Measure NO_Xat the exhaust of the stationary internal combustion engine.	(5) Method 7E of 40 CFR part 60, appendix A, Method D6522-00 (Reapproved 2005) a e, Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03. [e]	(d) Results of this test consist of the average of the three 1-hour or longer runs.
	b. limit the concentration of CO in the stationary SI 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 or ASTM Method D6522-00 (Reapproved 2005). a e	(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 internal combustion engine exhaust at the sampling port location;	(2) Method 3, 3A, or 3B [b]of 40 CFR part 60, appendix A or ASTM Method D6522-00 (Reapproved 2005). a e	(b) Measurements to determine O_2concentration must be made at the same time as the measurements for CO concentration.
		iii. If necessary, determine the exhaust flowrate of the stationary internal combustion engine exhaust;	(3) Method 2 or 19 of 40 CFR part 60, appendix A.	
		iv. If necessary, measure moisture content of the stationary internal combustion engine exhaust at the sampling port location; and	(4) Method 4 of 40 CFR part 60, appendix A, Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03. [e]	(c) Measurements to determine moisture must be made at the same time as the measurement for CO concentration.
		v. Measure CO at the exhaust of the stationary internal combustion engine.	(5) Method 10 of 40 CFR part 60, appendix A, ASTM Method D6522-00 (Reapproved 2005) a e, Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03. [e]	(d) Results of this test consist of the average of the three 1-hour or longer runs.
	c. limit the concentration of VOC in the stationary SI 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_2concentration of the stationary internal combustion engine exhaust at the sampling port location;	(2) Method 3, 3A, or 3B [b]of 40 CFR part 60, appendix A or ASTM Method D6522-00 (Reapproved 2005). a e	(b) Measurements to determine O_2concentration must be made at the same time as the measurements for VOC concentration.
		iii. If necessary, determine the exhaust flowrate of the stationary internal combustion engine exhaust;	(3) Method 2 or 19 of 40 CFR part 60, appendix A.	
		iv. If necessary, measure moisture	(4) Method 4 of 40 CFR part 60, appendix A,	(c) Measurements to determine moisture

		content of the stationary internal combustion engine exhaust at the sampling port location; and	Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03. [e]	must be made at the same time as the measurementfor VOC concentration.
		v. Measure VOC at the exhaust of the stationary internal combustion engine.	(5) Methods 25A and 18 of 40 CFR part 60, appendix A, Method 25A with the use of a methane cutter as described in 40 CFR 1065.265, Method 18 of 40 CFR part 60, appendix A, c d Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03. [e]	(d) Results of this test consist of the average of the three 1-hour or longer runs.

[a] You may petition the Administrator for approval to use alternative methods for portable analyzer.

[b] You may use ASME PTC 19.10-1981, Flue and Exhaust Gas Analyses, for measuring the O_2content of the exhaust gas as an alternative to EPA Method 3B.

[c] You may use EPA Method 18 of 40 CFR part 60, appendix, provided that you conduct an adequate presurvey test prior to the emissions test, such as the one described in OTM 11 on EPA's Web site (*http://www.epa.gov/ttn/emc/prelim/otm11.pdf*).

[d] You may use ASTM D6420-99 (2004), Test Method for Determination of Gaseous Organic Compounds by Direct Interface Gas Chromatography/Mass Spectrometry as an alternative to EPA Method 18 for measuring total nonmethane organic.

[e] Incorporated by reference, see 40 CFR 60.17.

[76 FR 37975, June 28, 2011, as amended at 78 FR 6698, Jan. 30, 2013]

Table 3 to Subpart JJJJ of Part 60—Applicability of General Provisions to Subpart JJJJ

[As stated in § 60.4246, 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 § 60.4248.
§ 60.3	Units and abbreviations	Yes	
§ 60.4	Address	Yes	
§ 60.5	Determination of construction	Yes	

	or modification		
§ 60.6	Review of plans	Yes	
§ 60.7	Notification and Recordkeeping	Yes	Except that § 60.7 only applies as specified in § 60.4245.
§ 60.8	Performance tests	Yes	Except that § 60.8 only applies to owners and operators who are subject to performance testing in subpart JJJJ.
§ 60.9	Availability of information	Yes	
§ 60.10	State Authority	Yes	
§ 60.11	Compliance with standards and maintenance requirements	Yes	Requirements are specified in subpart JJJJ.
§ 60.12	Circumvention	Yes	
§ 60.13	Monitoring requirements	No	
§ 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	

Table 4 to Subpart JJJJ of Part 60—Applicability of Mobile Source Provisions for Manufacturers Participating in the Voluntary Certification Program and Certifying Stationary SI ICE to Emission Standards in Table 1 of Subpart JJJJ

[As stated in § 60.4247, you must comply with the following applicable mobile source provisions if you are a manufacturer participating in the voluntary certification program and certifying stationary SI ICE to emission standards in Table 1 of subpart JJJJ]

Mobile source provisions citation	Subject of citation	Applies to subpart	Explanation
1048 subpart A	Overview and Applicability	Yes	
1048 subpart B	Emission Standards and Related Requirements	Yes	Except for the specific sections below.
1048.101	Exhaust Emission Standards	No	
1048.105	Evaporative Emission Standards	No	
1048.110	Diagnosing Malfunctions	No	
1048.140	Certifying Blue Sky Series Engines	No	

1048.145	Interim Provisions	No	
1048 subpart C	Certifying Engine Families	Yes	Except for the specific sections below.
1048.205(b)	AECD reporting	Yes	
1048.205(c)	OBD Requirements	No	
1048.205(n)	Deterioration Factors	Yes	Except as indicated in 60.4247(c).
1048.205(p)(1)	Deterioration Factor Discussion	Yes	
1048.205(p)(2)	Liquid Fuels as they require	No	
1048.240(b)(c)(d)	Deterioration Factors	Yes	
1048 subpart D	Testing Production-Line Engines	Yes	
1048 subpart E	Testing In-Use Engines	No	
1048 subpart F	Test Procedures	Yes	
1065.5(a)(4)	Raw sampling (refers reader back to the specific emissions regulation for guidance)	Yes	
1048 subpart G	Compliance Provisions	Yes	
1048 subpart H	Reserved		
1048 subpart I	Definitions and Other Reference Information	Yes	
1048 appendix I and II	Yes		
1065 (all subparts)	Engine Testing Procedures	Yes	Except for the specific section below.
1065.715	Test Fuel Specifications for Natural Gas	No	
1068 (all subparts)	General Compliance Provisions for Nonroad Programs	Yes	Except for the specific sections below.
1068.245	Hardship Provisions for Unusual Circumstances	No	
1068.250	Hardship Provisions for Small-Volume Manufacturers	No	
1068.255	Hardship Provisions for Equipment Manufacturers and Secondary Engine Manufacturers	No	

Indiana Department of Environmental Management
Office of Air Quality

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

Source Description and Location

Source Name:	Dalton Corporation, Warsaw Manufacturing Facility
Source Location:	1900 E. Jefferson Street, Warsaw, Indiana 46580
County:	Kosciusko
SIC Code:	3321 (Gray and Ductile Iron Foundry)
Operation Permit No.:	T 085-30768-00003
Operation Permit Issuance Date:	August 20, 2012
Minor Source Modification No.:	085-33865-00003
Minor Permit Modification No.:	085-33882-00003
Permit Reviewer:	Brian Williams

Existing Approvals

The source was issued Part 70 Operating Permit Renewal No. 085-30768-00003 on August 20, 2012. The source has since received the following approvals:

(a) Significant Source Modification No. 085-33121-00003 issued on December 2, 2013; and

(b) Significant Permit Modification No. 085-33147-00003, issued on December 18, 2013.

County Attainment Status

The source is located in Kosciusko County.

Pollutant	Designation
SO_2	Better than national standards.
CO	Unclassifiable or attainment effective November 15, 1990.
O_3	Unclassifiable or attainment as of June 15, 2004, 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. Kosciusko 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) $PM_{2.5}$
Kosciusko 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 $PM_{2.5}$, SO_2, and NO_x

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

Fugitive Emissions

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

Source Status

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

Pollutant	**Emissions** (ton/yr)
PM	700.1
PM_{10}	572.1
$PM_{2.5}$	572.0
SO_2	129.1
VOC	1,440.7
CO	4,717.3
NO_X	74.2
GHGs as CO_2e	94,497
Pb	12.5
Total HAPs	468.7

(a) This existing source is a major stationary source, under PSD (326 IAC 2-2), because a regulated pollutant is emitted at a rate of 100 tons per year or more, emissions of GHGs are equal to or greater than one hundred thousand (100,000) tons of CO_2 equivalent emissions (CO_2e) per year and it is one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(ff)(1).

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

(c) These emissions are based upon Appendix A to TSD to Significant Permit Modification No. 085-33147-00003, currently on U.S. EPA Review.

Description of Proposed Modification

The Office of Air Quality (OAQ) has reviewed a modification application, submitted by Dalton Corporation, Warsaw Manufacturing Facility on November 8, 2013, relating to the construction and operation of one (1) new sand transport system for the existing Herman 3 Mold Line. Dalton Corporation has recently experienced difficulties in achieving adequate VOC reduction from its Herman 3 Mold Line. After discussions with the manufacturer of the Sonoperoxone® system, they recommended that Dalton increase the concentration of solids being processed within the dust mixing acoustic reactor (DMAR) loop. Therefore, Dalton has requested to increase the amount of dust provided to the DMAR storage tank by using the proposed sand transport system to recycle the waste dust that is collected in baghouses #1 and #11 back into the DMAR tank.

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

Herman 3 Mold Line
The volatile organic compound (VOC) emissions from the Herman 3 Mold line are reduced by one (1) Sonoperoxone® system (or an equivalent advanced oxidation system), sand system optimization, use of low VOC core resin binder materials, and automatic mold vent-off gas ignition.

(a) One (1) dust mixing acoustic reactor (DMAR) tank sand transport system, approved for construction in 2013, recycling dust collected in baghouses #1 and #11 to increase the concentration of solids being processed within the dust mixing acoustic reactor (DMAR) loop in order to increase the VOC reduction of the Sonoperoxone® system, with a maximum capacity of 1.45 tons of waste dust per hour, uncontrolled, and exhausting indoors.

Enforcement Issues

IDEM is aware that there is a pending enforcement action (2013-21790-A) for failure to demonstrate compliance with the Herman 3 Mold Line VOC limits. IDEM is reviewing this matter and will take the appropriate action.

Emission Calculations

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

Permit Level Determination – Part 70

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

The following table is used to determine the appropriate permit level under 326 IAC 2-7-10.5. This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Increase in PTE Before Controls of the Modification (New Emission Units - Sand Transport System)	
Pollutant	**Potential To Emit** (ton/yr)
PM	22.86
PM_{10}	3.43
$PM_{2.5}$	3.43
SO_2	0
VOC	0
CO	0
NO_X	0
GHGs as CO2e	0
Single HAPs	0
Total HAPs	0

(a) Minor Source Modification
This source modification is subject to 326 IAC 2-7-10.5(e)(1)(a) because the potential to emit PM is greater than five (5) tons per and less than twenty-five (25) tons per year before control.

(b) Minor Permit Modification
Additionally, the modification will be incorporated into the Part 70 Operating Permit through a minor permit modification issued pursuant to 326 IAC 2-7-12(b)(1)(B) and (C), because the modification does not involve significant changes to existing monitoring, reporting, or record keeping requirements in the Part 70 permit or require or change a case-by-case determination of an emission limitation or other standard.

Permit Level Determination – PSD

The table below summarizes the potential to emit, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of this Part 70 source and permit modification, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

Process/ Emission Unit	**Potential to Emit** (ton/yr)								
	PM	PM10	PM2.5*	SO_2	NOx	VOC	CO	GHGs as CO_2e	Pb
DMAR Tank Sand Transport System - Herman 3 Mold Line	22.86	3.43	3.43	0	0	0	0	0	0
Total for Modification	**22.86**	**3.43**	**3.43**	**0**	**0**	**0**	**0**	**0**	**0**
Significant Level	25	15	10	40	40	100	40	75,000 CO_2e	0.6

*$PM_{2.5}$ listed is direct $PM_{2.5}$.

This modification to an existing major stationary source is not major because the emissions increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

Note: this modification will also be identified as the 2014 modification.

Previous Projects:

In 2013, IDEM issued the following approval:

(1) Significant Source Modification No.:085-33121-00003, issued on December 2, 2013

This significant source modification included a request to modify the existing phenolic urethane core making line sand heater #1, which increased the maximum capacity from seven (7) tons per hour to fifteen (15) tons per hour. The source also requested to modify the existing shot blast machine (SB-9) by constructing additional shot wheels, which will increase the current rate of operation. This unit is currently listed as having a nominal throughput rate of 12.5 tons per hour. However, the source has never been able to achieve this rate. Finally, the source requested to construct and operate a new sand surge bin within the Herman 3 Mold Line return sand system.

IDEM has conducted the following analysis because these two modifications are within one year of being proposed:

(a) The 2014 modification is not related to the 2013 modification since the proposed DMAR sand transport system is being added in an attempt to increase the VOC removal efficiency of the Sonoperoxone® system on the Herman 3 Mold Line. The proposed DMAR sand transport system is not production related and will be part of the Sonoperoxone® system. The 2013 modification was production related.

Federal Rule Applicability Determination

NSPS:

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

NESHAP:

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

CAM:

(c) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is applicable to new or modified emission units that involve a pollutant-specific emission unit and meet 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.

The following table is used to identify the applicability of each of the criteria, under 40 CFR 64.1, to each new or modified emission unit involved:

CAM Applicability Analysis							
Emission Unit	**Control Device Used**	**Emission Limitation** (Y/N)	**Uncontrolled PTE** (ton/yr)	**Controlled PTE** (ton/yr)	**Part 70 Major Source Threshold** (ton/yr)	**CAM Applicable** (Y/N)	**Large Unit** (Y/N)
DMAR Tank Sand Transport System - Herman 3 Mold Line - PM/PM10/PM2.5	N	-	-	-	100	N	-

Based on this evaluation, the requirements of 40 CFR Part 64, CAM are not applicable to the new emission unit as part of this modification.

State Rule Applicability Determination

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

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

326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))
The operation of dust mixing acoustic reactor (DMAR) tank sand transport system will emit less than ten (10) tons per year for a single HAP and less than twenty-five (25) tons per year for a combination of HAPs. Therefore, 326 IAC 2-4.1 does not apply.

326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from the dust mixing acoustic reactor (DMAR) tank sand transport system shall not exceed 5.26 pounds per hour when operating at a process weight rate of 1.45 tons per hour. The pound per hour limitation was calculated with the following equation:

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

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

Based on calculations in Appendix A, a control device is not needed to comply with this limit.

Compliance Determination and Monitoring Requirements

The existing compliance requirements will not change as a result of this modification. The source shall continue to comply with the applicable requirements and permit conditions as contained in Part 70 Operating Permit Renewal No. 085-30768-00003, issued on August 20, 2012.

Proposed Changes

The changes listed below have been made to Part 70 Operating Permit No. 085-30768-00003. Deleted language appears as ~~strikethroughs~~ and new language appears in **bold**:

1. Sections A.2 and D.4 have been revised to include descriptive information for the new sand transport system.

2. Condition D.4.3 - Particulate Emission Limitations for Manufacturing Processes has been revised to include the allowable particulate emission limitation for the new sand transport system.

...
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:

...
SECTION D.4

(5) Herman 3 Mold Line
The volatile organic compound (VOC) emissions from the Herman 3 Mold line are reduced by one (1) Sonoperoxone® system (or an equivalent advanced oxidation system), sand system optimization, use of low VOC core resin binder materials, and automatic mold vent-off gas ignition.

...

(e) One (1) dust mixing acoustic reactor (DMAR) tank sand transport system, approved for construction in 2013, recycling dust collected in baghouses #1 and #11 to increase the concentration of solids being processed within the dust mixing acoustic reactor (DMAR) loop in order to increase the VOC reduction of the Sonoperoxone® system, with a maximum capacity of 1.45 tons of waste dust per hour, uncontrolled, and exhausting indoors.

...

SECTION D.4 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(14)]

(5) Herman 3 Mold Line

The volatile organic compound (VOC) emissions from the Herman 3 Mold line are reduced by one (1) Sonoperoxone® system (or an equivalent advanced oxidation system), sand system optimization, use of low VOC core resin binder materials, and automatic mold vent-off gas ignition.

...

(e) One (1) dust mixing acoustic reactor (DMAR) tank sand transport system, approved for construction in 2013, recycling dust collected in baghouses #1 and #11 to increase the concentration of solids being processed within the dust mixing acoustic reactor (DMAR) loop in order to increase the VOC reduction of the Sonoperoxone® system, with a maximum capacity of 1.45 tons of waste dust per hour, uncontrolled, and exhausting indoors.

...

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

...

D.4.3 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2, the particulate matter (PM) emissions from each process shall not exceed the pounds per hour limitations specified in the table below:

Process / Emission Unit	P (ton/hr)	E (lb/hr)	**Equation Used**
Herman 3 Pouring (V-10)	193	58.1	**(b)**
Herman 3 Castings Cooling (V-12)	193	58.1	**(b)**
Herman 3 Shakeout (Wet Collector #4, Stack E and Baghouse #11, Stack W)	193	58.1	**(b)**
Herman 3 Sand Handling (Wet Collector #1, Stack D, Wet Collector #2, Stack C, Wet Collector #4, Stack E, and Baghouse #11, Stack W)	165	56.4	**(b)**
Herman 3 DMAR Tank Sand Transport System (Indoors)	**1.45**	**5.26**	**(a)**

The pound per hour limitations was calculated with the following equation**s**:

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

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

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

...

D.4.5 Emission Controls Operation [326 IAC 2-7-6(6)]

...

(e) Sonoperoxone® System or Equivalent System – Herman 3 Mold Line
The Sonoperoxone® system or an equivalent system **in association with the DMAR Tank Sand Transport System** for volatile organic compounds emissions control shall be in operation and control emissions from the Herman 3 Mold Line at all times when the Herman 3 Mold Line is in operation.

...

Conclusion and Recommendation

The construction of this proposed modification shall be subject to the conditions of the attached proposed Part 70 Minor Source Modification No. 085-33865-00003 and Minor Permit Modification No. 085-33882-00003. The staff recommend to the Commissioner that this Part 70 Minor Source and Minor Permit Modification be approved.

IDEM Contact

(a) Questions regarding this proposed permit can be directed to Brian Williams at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) 234-5375 or toll free at 1-800-451-6027 extension 4-5375.

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

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

	Uncontrolled Potential To Emit (ton/yr)									
	PM	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**NO_X**	**VOC**	**CO**	**CO2e**	**Pb**	**Total HAPs**
Cupola Charge Handling	140.5	84.3	84.3	0	0	0	0	0	0.47	0
Cupola Melt Furnace	2,931.5	2,634.1	2,634.1	265.5	21.2	38.2	30,802.4	143,231	233.7	2,931.53
Herman 2 Mold Line	439.9	335.2	335.2	17.8	8.9	960.3	5,334.8	0	14.5	421.19
Herman 3 Mold Line	424.7	312.1	311.8	0	0	539.3	5,072.0	0	11.0	371.70
Inclined Shakeout and Sort System	155.2	108.6	65.0	0	0	0	0	0	0.0	0
Vibratory Shaker	679.8	475.8	475.8	0	0	0	0	0	0.0	0
Waste Sand Handling, Screening and Transport System	315.4	47.3	47.3	0	0	0	0	0	0.0	0
Shot Blast Machines	4,877.1	487.7	468.0	0	0	0	0	0	6.5	6.5
Grinders	8,339.5	834.0	834.0	0	0	0	0	0	0.0	0.0
Robotic Grinders ABB and FANUC	186.2	18.6	18.6	0	0	0	0	0	0.6	0.6
Paint Dip Tank	0	0	0	0	0	235.7	0	0	0	0
Phenolic Urethane Core Making										
Line # 1	236.5	35.5	35.5	0	0	133.9	0	0	0	7.7
Line # 2	11.3	11.3	11.3	0	0	51.6	0	0	0	11.3
Line # 3	11.3	11.3	11.3	0	0	120.3	0	0	0	11.3
Line # 4	11.3	11.3	11.3	0	0	120.3	0	0	0	11.3
Line # 5	11.3	11.3	11.3	0	0	86.0	0	0	0	11.3
Line # 8	11.3	11.3	11.3	0	0	86.0	0	0	0	11.3
Line # 9	283.8	42.6	42.6	0	0	226.0	0	0	0	26
Shell Core Making Process	11.3	11.3	11.3	0	0	13.1	0	0	0	11.26
Air Set Core Making Process	11.3	11.3	11.3	0	0	98.3	0	0	1.31E-05	11.26
Large Core Production Cell	473.0	71.0	71.0	0	0	427.8	0	0	0	43.36
Combustion	0.5	1.9	1.9	0.15	25.58	1.4	21.48	30,878	0.0	0.43
Diesel Emergency Generator	0.09	0.09	0.09	0.09	1.32	0.11	0.28	49	0	0.001
Gasoline Generators	0.15	0.15	0.15	0.12	2.22	4.35	1.40	218	0	0
Total	**19,562.7**	**5,567.7**	**5,504.1**	**283.7**	**59.2**	**3,142.6**	**41,232.4**	**174,375.8**	**266.8**	**3,888.3**

	Limited Potential To Emit (ton/yr)									
	PM	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**NO_X**	**VOC**	**CO**	**CO2e**	**Pb**	**Total HAPs**
Cupola Charge Handling	59.8	35.9	35.9	0	0	0	0	0	0.20	0.2
Cupola Melt Furnace	77.1	69.3	69.3	117.4	39.5	0.8	681.2	63,352	0.19	77.14
Herman 2 Mold Line	285.9	216.7	216.7	11.3	5.6	608.9	3,382.5	0	9.22	267.05
Herman 3 Mold Line	63.3	51.7	51.6	0	0	60.14	630.42	0	0.59	29.15
Inclined Shakeout and Sort System	15.3	15.3	15.3	0	0	0	0	0	0	0
Vibratory Shaker	13.3	10.9	10.9	0	0	0	0	0	0	0
Waste Sand Handling, Screening and Transport System	4.1	0.6	0.6	0	0	0	0	0	0	0
Shot Blast Machines (SB-1 through SB-9)	28.6	28.6	28.6	0	0	0	0	0	0.25	0.25
Shot Blast Machine (SB-10)	24.97	14.9	14.9	0	0	0	0	0	0	0
Hose Blast for SB-8	6.93	2.95	2.95	0	0	0	0	0	0.55	0.5
SB-10 Blow-Off Chamber	24.8	14.3	14.3	0	0	236	0	0	0.70	0.70
Grinders	28.6	28.6	28.6	0	0	0	0	0	0.25	0.25
Robotic Grinders ABB and FANUC	2.6	2.6	2.6	0	0	0	0	0	0.55	0.55
Paint Dip Tank	0	0	0	0	0	236	0	0	0	0
Phenolic Urethane Core Making										
Line # 1	4.2	1.4	1.4	0	0	35.67	0	0	0	0.4
Line # 2	11.3	11.3	11.3	0	0	9.1	0	0	0	11.3
Line # 3	11.3	11.3	11.3	0	0	45.5	0	0	0	11.3
Line # 4	11.3	11.3	11.3	0	0	25.3	0	0	0	11.3
Line # 5	11.3	11.3	11.3	0	0	4.7	0	0	0	11.3
Line # 8	11.3	11.3	11.3	0	0	12.5	0	0	0	11.3
Line # 9	2.0	0.4	0.4	0	0.0	24.7	0.0	0	0	1.98
Shell Core Making Process	11.3	11.3	11.3	0	0	13.1	0	0	0	11.26
Air Set Core Making Process	11.3	11.3	11.3	0	0	98.3	0	0	0	11.26
Large Core Production Cell	2.0	0.4	0.4	0	0	24.8	0	0	0	11.26
Combustion	0.49	1.94	1.94	0.15	25.58	1.41	21.48	30,877.61	0	0.43
Diesel Emergency Generator	0.09	0.09	0.09	0.09	1.32	0.11	0.28	49.04	0.00	0.00
Gasoline Generators	0.15	0.15	0.15	0.12	2.22	4.35	1.40	218.37	0.00	0.00
Total	**723.0**	**575.5**	**575.4**	**129.1**	**74.2**	**1,440.7**	**4,717.3**	**94,497.1**	**12.5**	**468.7**

2014 Modification Summary

Uncontrolled Potential to Emit of the Modification (tons per year)										
Emission Unit	**PM**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**NO_X**	**VOC**	**CO**	**CO2e**	**Pb**	**Total HAPs**
Herman 3 Sand Transport System - Dust Mixing Acoustic Reactor	22.86	3.43	3.43	0	0	0	0	0	0	0
Total Emissions	**22.86**	**3.43**	**3.43**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Cupola Charge Handling
Installation Date(s): Prior to 1977

Maximum Capacity: 468,222 tons per year of melted metal, coke & limestone
53.45 tons per hour of metal, coke & limestone
Limited Capacity: 199,194 tons per year of metal charged

Pollutant	Emission Factors (lb/ton)	Uncontrolled PTE (ton/yr)	PSD Minor Limit (ton/yr)	326 IAC 6-3-2 (ton/yr)
PM	0.6	140.5	59.8	198.0
$PM_{10}/PM_{2.5}$	0.36	84.3	35.9	
HAP - Lead (Pb)	0.002	0.5	0.2	

Process Weight, P (ton/hr) = 53.45

Calculation Methodology

The annual metal limit and emission factors for the Cupola Charge Handling were derived from SSM 085-14027-00003, issued on February 22, 2002.
PM/PM10 Emission factor from FIRE 3-04-003-15.
Uncontrolled PTE (ton/yr) = Controlled PTE (lb/hr) x 8760 hr/yr / 2000 lb/ton

Limited PTE (ton/yr) = Limited Capacity (ton metal/year) x Emission Factor (lb/ton metal) x 1 ton/2000 lb
Emissions from cupola charge handling are not controlled.

Cupola Melt Furnace
Installation Date(s): Prior to 1977

Limited Capacity:	187,919	tons per year of melted metal
Maximum Capacity:	424,860	tons per year of melted metal, coke & limestone
	48.5	tons per hour of metal

Pollutant	**Emission Factors** (lb/ton)	**Uncontrolled PTE** (ton/yr)	**Limited Emission Factors** (lb/ton)	**PSD Minor Limit** (ton/yr)
PM	13.8	2931.5	0.821	77.14
PM_{10}	12.4	2634.1	0.738	69.34
$PM_{2.5}$	12.4	2634.1	--	69.34
SO_2	1.25	265.5	1.25	117.45
NO_X	0.1	21.2	0.42	39.46
VOC	0.18	38.2	0.009	0.85
CO	145	30802.4	7.250	681.21
HAP - Lead (Pb)	1.1	233.7	0.002	0.19
HAP: Metals	13.8	2931.5	0.821	77.14

Calculation Methodology

The annual metal limit and emission factors for the Cupola Melt Furnace were derived from SSM 085-14027-00003, issued on February 22, 2002.

PM, PM10, SO2, Nox, VOC, CO, Pb uncontrolled emission factors from FIRE 3-04-003-01

Uncontrolled PTE (ton/yr) = Controlled PTE (lb/hr) x 8760 hr/yr / 2000 lb/ton

Limited PTE (ton/yr) = Limited Capacity (ton metal/year) x Emission Factor (lb/ton metal) x 1 ton/2000 lb

All PM emissions are also HAP-Metals emissions.

The emissions from the melt furnace are controlled by Wet Scrubber A and 3 afterburners.

The charge door emissions are controlled by Baghouse #14.

Cupola	Greenhouse Gas		
	CO2	CH4	N2O
Emission Factor in lb/ton	5,578.99	0.60	0.09
Potential Emission in tons/yr	142,217	15	2
Summed Potential Emissions in tons/yr	142,235		
CO2e Total in tons/yr	143,231		
	62,904	7	1
	62,912		
Limited CO2e Total in tons/yr	63,352		

Methodology

Pursuant to Table C-1 of 40 CFR Part 98 Subpart C, coke has a default high heat value of 24.8 MMBtu/ton

Emission Factors from Tables C-1 and 2 of 40 CFR Part 98 Subpart C and have been converted from kg/MMBtu to lb/ton.

GHG regulations have emission factors based upon coke usage and not emissions factors for metal. In order to relate between coke and metal, a ratio of coke usage to metal usage (0.12).

Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.

Emission (tons/yr) = Throughput (tons/yr) x Emission Factor (lb/ton)/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).

Herman 2 Mold Line
Installation Date(s): Prior to 1977

Limited Capacity:	1,127,516	tons per year of core and mold sand handled
Maximum Capacity:	324,120	tons per year of metal throughput
	1,454,160	tons per year of sand throughput
	37	tons per hour of metal
	166	tons per hour of sand

Pollutant	Emission Factors (lb/ton)	Uncontrolled PTE (ton/yr)	PSD Minor Limit (ton/yr)	326 IAC 6-3-2 (ton/yr)
Pouring				
PM	0.118	104.56	66.30	257.0
PM_{10}	0.052	46.59	29.54	
$PM_{2.5}$	0.052	46.59	29.54	
SO_2	0.020	17.78	11.28	
NO_X	0.010	8.89	5.64	
VOC	0.163	144.93	91.89	
CO	1.800	1600.45	1014.76	
HAP - Lead (Pb)	0.016	14.23	9.02	
HAP: Metals	0.118	104.56	66.30	
Casting/Cooling				
PM	0.288	256.16	162.42	257.0
PM_{10}	0.196	174.18	110.44	
$PM_{2.5}$	0.196	174.18	110.44	
VOC	0.687	610.84	387.30	
CO	2.880	2560.72	1623.62	
HAP: Metals	0.288	256.16	162.42	
Shakeout				
PM	0.034	30.23	19.17	257.0
PM_{10}	0.058	51.57	32.70	
$PM_{2.5}$	0.058	51.57	32.70	
VOC	0.115	102.25	64.83	
CO	1.320	1173.66	744.16	
HAP - Lead (Pb)	0.00018	0.16	0.10	
HAP: Metals	0.034	30.23	19.17	
Sand Handling				
PM	0.034	30.23	19.17	247.5
PM_{10}	0.058	51.57	32.70	
$PM_{2.5}$	0.058	51.57	32.70	
VOC	0.115	102.25	64.83	
HAP - Lead (Pb)	0.00018	0.16	0.10	
HAP: Metals	0.034	30.23	19.17	
Waste Sand Handling - Klein Transport		*106000*	*Limited Waste Sand (tpy)*	
PM	0.356	18.71	18.87	21.67
PM_{10}	0.214	11.25	11.34	
$PM_{2.5}$	0.214	11.25	11.34	
HAP - Lead (Pb)		0.00	0.00	
HAP: Metals		0.00	0.00	

Herman 2 Mold Line
Installation Date(s): Prior to 1977

Total Emissions:	**Uncontrolled PTE**	**Limited PTE** (ton/yr)
PM	439.90	285.92
PM_{10}	335.16	216.72
$PM_{2.5}$	335.16	216.72
SO_2	17.78	11.28
NO_X	8.89	5.64
VOC	960.27	608.86
CO	5334.84	3382.55
HAP - Lead (Pb)	14.55	9.22
HAP: Metals	421.19	267.05

Pouring	P (ton/hr) =	203
Casting/Cooling	P (ton/hr) =	203
Shakeout	P (ton/hr) =	203
Sand Handling	P (ton/hr) =	166
Waste Sand Handling	P (ton/hr) =	12

Calculation Methodology

The annual sand limit and emission factors for Herman 2 were derived from SSM 085-14027-00003, issued on February 22, 2002.

Pouring & Casting/Cooling & Shakeout:

EF for PM, PM10 and VOC from site specific stack tests. SO2 and Nox EF from FIRE 3-04-003-18
Uncontrolled PTE (ton/yr) = Max Capacity ((ton sand + metal)/hour) x Emission Factor (lb/(ton sand + metal)) x 8760 hr/yr / 2000 lb/ton

Limited PTE (ton/yr) = Limited Capacity ((ton sand + metal)/year) x Emission Factor (lb/(ton sand + metal)) x 1 ton/2000 lb
All PM emissions are also HAP-Metals emissions.
Particulate emissions from pouring and casting/cooling are not controlled.
Particulate emissions from shakeout are controlled by Wet Collector #3.
The Wet Collector #3 is common to Herman 2 Shakeout & Klein Transport PF504-5.

Sand Handling

Uncontrolled PTE (ton/yr) = Max Capacity ((ton sand)/hour) x Emission Factor (lb/(ton sand)) x 8760 hr/yr / 2000 lb/ton
Limited PTE (ton/yr) = Limited Capacity ((ton sand)/year) x Emission Factor (lb/ton sand) x 1 ton/2000 lb
Particulate emissions from sand handling are controlled by Baghouse #1 and Baghouse #13.

Herman 3 Mold Line
Installation Date(s): 1991

Limited Capacity:	90,578	tons per year of metal throughput
	543,470	tons per year of sand throughput
Maximum Capacity:	245,280	tons per year of metal throughput
	1,445,400	tons per year of sand throughput
	28	tons per hour of metal
	165	tons per hour of sand
	1.45	tons per hour of dust - sand transport system

Pollutant	Uncontrolled Emission Factors (lb/ton)	Uncontrolled PTE (ton/yr)	PSD Minor Limit (ton/yr)	326 IAC 6-3-2 E (ton/yr)
Pouring				
PM	0.1176	99.41	5.33	254.6
PM_{10}	0.0524	44.30	2.37	
$PM_{2.5}$	0.0524	44.30	2.37	
VOC	0.163	137.79	7.38	
CO	1.800	1521.61	81.52	
HAP - Lead (Pb)	0.013	10.99	0.59	
HAP: Metals	0.118	99.41	5.33	
Casting/Cooling				
PM	0.2881	243.54	13.05	254.6
PM_{10}	0.1959	165.60	8.87	
$PM_{2.5}$	0.1959	165.60	8.87	
VOC	0.36	304.32	16.30	
CO	2.880	2434.58	130.43	
HAP - Lead (Pb)	NA	Counted Above *	Counted Above *	
HAP: Metals	0.29	243.54	13.05	
Shakeout				
PM	0.034	28.74	10.78	254.6
PM_{10}	0.058	49.03	18.39	
$PM_{2.5}$	0.058	49.03	18.39	
VOC	0.115	97.21	36.46	
CO	1.320	1115.85	418.47	
HAP - Lead (Pb)	NA	Counted Above *	Counted Above *	
HAP: Metals	0.034	28.74	10.78	
Sand Handling				
PM	0.034	28.74	10.78	247.2
PM_{10}	0.058	49.03	18.39	
$PM_{2.5}$	0.058	49.03	18.39	
VOC	NA	Counted Above **	Counted Above **	
CO	NA	NA	NA	
HAP - Lead (Pb)	NA	Counted Above *	Counted Above *	
Return Sand Conveyor RSC1				
PM	0.000911	0.77	0.29	
PM_{10}	0.000431	0.36	0.14	
$PM_{2.5}$	0.000431	0.36	0.14	
VOC	NA	Counted Above **	Counted Above **	
CO	NA	NA	NA	
HAP - Lead (Pb)	NA	Counted Above *	Counted Above *	
Return Sand Surge Bin RSB				
PM	0.000911	0.66	0.25	
PM_{10}	0.000431	0.31	0.12	
$PM_{2.5}$	0.000065	0.05	0.02	
VOC	NA	Counted Above **	Counted Above **	
CO	NA	NA	NA	
HAP - Lead (Pb)	NA	Counted Above *	Counted Above *	

Herman 3 Mold Line
Installation Date(s): 1991

Sand Transport System - Dust Mixing Acoustic Reactor (2014)

PM	3.6	22.86	NA	23.03
PM_{10}	0.5	3.43	NA	
$PM_{2.5}$	0.5	3.43	NA	
VOC	NA	Counted Above **	Counted Above **	
CO	NA	NA	NA	
HAP - Lead (Pb)	NA	Counted Above *	Counted Above *	

Total Emissions:	**Uncontrolled PTE** (ton/yr)	**Limited PTE** (ton/yr)
PM	424.73	63.33
PM_{10}	312.06	51.70
$PM_{2.5}$	311.80	51.60
VOC	539.33	60.14
CO	5,072.04	630.42
HAP - Lead (Pb)	10.99	0.59
HAP: Metals	371.70	29.15

Pouring	P (ton/hr) =	193
Casting/Co	P (ton/hr) =	193
Shakeout	P (ton/hr) =	193
Sand	P (ton/hr) =	165

Calculation Methodology

The annual sand limit and emission factors for Herman 3 were derived from SSM 085-14027-00003, issued on February 22, 2002, and SSM 085-18009-00003, issued on December 9, 2003.

VOC emissions from Herman 3 Pouring Station, Castings Cooling, Shakeout, and Sand Handling are controlled by the Sonoperoxone® system.

The Sonoperoxone® system is common to Herman 3 Pouring, Castings Cooling, Shakeout, and Sand Handling.

* All lead emissions are accounted for in the emission factor for Pouring.

** The VOC emissions from sand handling are accounted for in the emission factor for shakeout.

Pouring & Casting/Cooling & Shakeout:

Uncontrolled PTE (ton/yr) = Max Capacity ((ton sand + metal)/hour) x Emission Factor (lb/(ton sand + metal)) x 8760 hr/yr / 2000 lb/ton

Limited PTE (ton/yr) = Limited Capacity ((ton sand + metal)/year) x Emission Factor (lb/(ton sand + metal)) x 1 ton/2000 lb

All PM emissions are also HAP-Metals emissions.

Particulate emissions from pouring and casting/cooling are not controlled.

Particulate emissions from shakeout are controlled by Wet Collector #1, #4 and Baghouse #11.

Sand Handling

Uncontrolled PTE (ton/yr) = Max Capacity ((ton sand)/hr) x Emission Factor (lb/(ton sand)) x 8760 / 2000

Limited PTE (ton/yr) = Limited Capacity ((ton sand)/year) x Emission Factor (lb/ton sand) x 1 ton/2000 lb

Particulate emissions from sand handling are controlled by Wet Collector #1, #2, #4 and Baghouse #11.

The Baghouse #11 is common to Herman 3 Shakeout, and Herman 3 Sand Handling.

Return Sand Bin and Conveyor

Emission factors for uncontrolled emissions are from AP-42, Chapter 13.2.4

Emission Factors for limited emissions were provided by Dalton Foundry

EF (lb/ton) = k (0.0032) [{(U/5)^1.3}/{(M/2)^1.4}]

k = particle size multiplier

k_{PM} =	k_{PM10} =	$k_{PM2.5}$ =
0.74	0.35	0.11

U = mean wind speed, mph — U_{MAX} = 2 mph

M = moisture content, % — M_{MIN} = 1.69 %

Capture Efficiency = 99%

Control Efficiency = 95%

Overall Control Efficiency = 94.1%

Uncontrolled Emission (tons/yr) = Max Capacity (ton/yr) x Emission Factor (lb/ton)/2,000 lb/ton

Limited PTE (ton/yr) = Limited Capacity ((ton sand)/year) x Emission Factor (lb/ton sand) x 1 ton/2000 lb

Sand Transport System

PM emission factor from AP-42, Chapter 12.10-7 (SCC 3-04-003-50).

PM10 emission factor from US EPA Webfire SCC 3-04-003-50. Assumes PM2.5 = PM10

Uncontrolled Emission (tons/yr) = Max Capacity (ton/yr) x Emission Factor (lb/ton)/2,000 lb/ton

Inclined Shakeout and Sort System
Installation Date(s): Prior to 1977

Maximum Capacity: 424,860 tons per year of metal throughput
48.5 tons per hour of metal

Pollutant	Uncontrolled Emission Factors (lb/ton)	Uncontrolled PTE (ton/yr)	Limited Emission Factors (lb/ton)	PSD Minor Limit Limited PTE (ton/yr)	326 IAC 6-3-2 Limited PTE E (ton/yr)
PM	3.2	155.20	0.072	15.29	194.0
PM_{10}	2.24	108.64	0.072	15.29	
$PM_{2.5}$	1.34	64.99	0.072	15.29	

Process Weight, P (ton/hr) = 48.5

Calculation Methodology
The emission factors for the Inclined Shakeout and Sort System from AP-42 12.10-9.
The emission factors for the Inclined Shakeout and Sort System were derived from SSM 085-14027-00003, issued on February 22, 2002.
Uncontrolled PTE (ton/yr) = Controlled PTE (lb/hr) x 8760 hr/yr / 2000 lb/ton
Limited PTE (ton/yr) = Emission Factor (lb/ton) x Capacity (ton/hr) x 8760 hr/yr / 2000 lb/ton
Particulate emissions from the inclined shakeout and sort system are controlled by Baghouse #2.

Vibratory shaker

The vibratory shaker station will assist in the removal of sand from casting cavities prior to casting finishing.

Nominal Throughput: 48.5 ton/hr
Annual Throughput: 424,860 ton/yr
Limited Capacity: 142,000 ton/yr

Pollutant	Uncontrolled Emission Factors (lb/ton)	Uncontrolled PTE (ton/yr)	Fugitives (ton/yr)	Limited Emission Factors (lb/ton)	PSD Minor Limit (ton/yr)	326 IAC 6-3-2 (ton/yr)
PM	3.2	679.78	4.54	0.188	13.35	194.0
PM_{10}	2.24	475.84	3.18	0.154	10.93	

Methodology
Emission factors for uncontrolled emissions are from WebFIRE, SCC 3-04-003-31 (Casting Shakeout)
Uncontrolled Emission (tons/yr) = Maximum Throughput (ton/yr) x Emission Factor (lb/ton)/2,000 lb/ton
Fugitive Emissions (tons/yr) = (Uncontrolled Emissions x (Limited Throughput / Maximum Throughput)) x (1 - Capture Efficiency)
Process Weight, P (ton/hr) = 48.5

Waste Sand Handling, Screening and Transport System
Installation Date(s): Prior to 1977

Limited Capacity:	112,752	tons per year of waste sand throughput
Maximum Capacity:	175,200	tons per year of waste sand throughput
	20	tons per hour of waste sand

Pollutant	**Uncontrolled Emission Factors** (lb/ton)	**Uncontrolled PTE** (ton/yr)	**Limited Emission Factors** (lb/ton)	**PSD Minor Limit** (ton/yr)	**326 IAC 6-3-2 E** (ton/yr)
PM	3.6	315.36	0.072	4.06	159.7
PM_{10}	0.54	47.30	0.011	0.62	
$PM_{2.5}$	0.54	47.30	0.011	0.62	

Process Weight, P (ton/hr) = 20

Calculation Methodology

The annual metal limit and emission factors for the Inclined Shakeout and Sort System were derived from SSM 085-14027-00003, issued on February 22, 2002.

Shot Blast Machines

1. Process Description

Emission Unit ID	Maximum Capacity (tons/hr finished metal)
SB-1	5.00
SB-2	5.00
SB-3	3.00
SB-4	5.00
SB-5	5.00
SB-6	3.00
SB-7	6.00
SB-8	3.00
SB-9*	12.50
SB-10	5.00
Hose Blast for SB-8	8.00
SB-10 Blow-off chamber	5.00
Total	**65.50**

*This blast machine will be modified with additional shot wheels to increase the throughput of the machine.

2. Uncontrolled Emissions

	Emission Factor (lb/ton)			
Process	**PM**	**PM10**	**PM2.5**	**Pb**
Cleaning, finishing (SCC 3-04-003-40) (SB-1 - SB-8, SB-10, Hose Blast for SB-8, SB-10 Blow-off Chamber)[1]	17	1.7	1.7	0.058
Cleaning, finishing (SCC 3-04-003-40) (SB-9)[1,2]	17	1.7	1.34	0.058

[1] PM and PM10 Emission Factors from FIRE 3-04-003-40. Assumes PM2.5 = PM10
[2] PM and PM10 Emission Factors from FIRE 3-04-003-40. PM2.5 Emission Factor provided by source.

		Unlimited Potential To Emit (tons/yr)			
Emission Unit ID	**Potential Throughput (tons/yr finished metal)**	**PM**	**PM10**	**PM2.5**	**Pb**
SB-1	43,800	372.30	37.23	37.23	
SB-2	43,800	372.30	37.23	37.23	
SB-3	26,280	223.38	22.34	22.34	
SB-4	43,800	372.30	37.23	37.23	
SB-5	43,800	372.30	37.23	37.23	
SB-6	26,280	223.38	22.34	22.34	
SB-7	52,560	446.76	44.68	44.68	
SB-8	26,280	223.38	22.34	22.34	
SB-9	109,500	930.75	93.08	73.37	3.18
SB-10	43,800	372.30	37.23	37.23	
Hose Blast for SB-8	70,080	595.68	59.57	59.57	2.03
SB-10 Blow-off chamber	43,800	372.30	37.23	37.23	1.27
Total	**573,780**	**4,877.13**	**487.71**	**468.00**	**6.48**

3. Uncaptured Emissions - Unlimited

	Capture Efficiency (%)			
Process	**PM***	**PM10***	**PM2.5**	**Pb**
SB-9	98%	89%	89%	89%
Hose Blast for SB-8	99%	99%	NA	99%
SB-10 Blow-off chamber	89%	80%	NA	80%

	Unlimited Potential To Emit - Uncaptured (tons/yr)			
Emission Unit ID	**PM**	**PM10**	**PM2.5**	**Pb**
SB-9	18.62	10.24	8.07	0.35
Hose Blast for SB-8	5.96	0.60	0.60	0.02
SB-10 Blow-off chamber	40.95	7.45	7.45	0.25

Shot Blast Machines

4. Limited Emissions - Stack

	Emission Limit (lb/ton)			
Process	**PM***	**PM10***	**PM2.5**	**Pb**
SB-1 through SB-9	0.5066	0.5066	NA	0.0045
SB-9	0.1666	0.1513	0.1193	0.0045
Hose Blast for SB-8	0.67	0.34	NA	0.066
SB-10 Blow-off chamber	0.605	1.088	NA	0.058
	Emission Limit (lb/hr)			
Process	**PM***	**PM10***	**PM2.5**	**Pb**
SB-10 Blow-off chamber	5.7	3.4	NA	NA

		Limited Potential To Emit - Captured (tons/yr)					
Emission Unit ID	**Limited Throughput (tons/yr finished metal)**	**PM**	**PM10**	**PM2.5**	**Pb**	**326 IAC 6-3-2 Allowable PM Emissions (lb/hr)**	**326 IAC 6-3-2 Allowable PM Emissions (ton/yr)**
SB-1	112,752	28.56	28.56	28.56	0.25	12.05	52.79
SB-2						12.05	52.79
SB-3						8.56	37.49
SB-4						12.05	52.79
SB-5						12.05	52.79
SB-6						8.56	37.49
SB-7						13.62	59.65
SB-8						8.56	37.49
SB-9						22.27	97.54
SB-10	NA	24.97	14.89	14.89	NA	12.05	52.79
Hose Blast for SB-8	16,500	5.53	2.81	2.81	0.54	16.51	72.33
SB-10 Blow-off chamber	20,000	6.05	10.88	10.88	0.58	12.05	52.79
Total	**149,252**	**65.10**	**57.14**	**57.14**	**1.38**	**150.40**	**658.75**
SB-9 (SSM #33121)	60,500	5.04	4.58	3.61	0.14		

5. Uncaptured Emissions - Limited

	Capture Efficiency (%)			
Process	**PM***	**PM10***	**PM2.5**	**Pb**
SB-9	98%	89%	89%	89%
Hose Blast for SB-8	99%	99%	NA	99%
SB-10 Blow-off chamber	89%	80%	NA	80%

	Limited Potential To Emit - Uncaptured (tons/yr)			
Emission Unit ID	**PM**	**PM10**	**PM2.5**	**Pb**
SB-9	10.29	5.66	4.46	0.19
Hose Blast for SB-8	1.40	0.14	0.14	0.00
SB-10 Blow-off chamber	18.70	3.40	3.40	0.12

Methodology

Emission factors for uncontrolled emissions are from WebFIRE, SCC 3-04-003-40 (Grinding/Cleaning)
Controlled Emission Factors were provided by Dalton Foundry

	PM	PM10	Pb	PM2.5
Capture Efficiency =	98%	89%	89%	89%
Control Efficiency =	99%	90%	90%	90%
Overall Control Efficiency =	97%	80%	80%	80%

Uncontrolled Emission (tons/yr) = Maximum Throughput (ton/yr) x Emission Factor (lb/ton)/2,000 lb/ton
Fugitive Emissions (tons/yr) = (Uncontrolled Emissions x (Limited Throughput / Maximum Throughput)) x (1 - Capture Efficiency)
Controlled Emissions (tons/yr) = (Uncontrolled Emissions x (Limited Throughput / Maximum Throughput)) x Capture Efficiency x (1 - Control Efficiency)
The annual metal limit and emission factors for the Shot Blasting Machines were derived from SSM 085-14027-00003, issued on February 22, 2002.
The emission factors for Shot Blasting Machines SB-10 and SB-11 were derived from SSM 085-22046-00003, issued on March 23, 2006.
Baghouse #3 is common to SB-1, SB-2, SB-3, & SB-4 & SB-10.
Baghouse #6 is common to SB-7, GR-19, GR-20, GR-23, GR-25, GR-26, GR-34, GR-35, & GR-36.
Baghouse #12 is common to SB-9, GR-31, GR-32, GR-33, & GR-37.
Baghouse #15 is common to GR-1 through GR-10, GR-29, GR-30, Grinders ABB & FANUC.
Baghouse #16 is common to SB-5, SB-6, & SB-8, Hose Blast System #8, GR-11, GR-12, GR-13, GR-14, GR-16, & GR-17.

Grinders
Installation Date(s): Prior to 1977

Total Maximum Capacity:	981,120	tons per year of finished metal throughput
Total Hourly Capacity:	112.0	tons per hour of finished metal
Total Number of Grinders:	28	
Limited Capacity:	15,500	tons per year ABB and FANUC
Limited Capacity:	112,752	tons per year of finished castings

Pollutant	**Uncontrolled Emission Factors** (lb/ton)	**Uncontrolled PTE** (ton/yr)	**Limited Emission Factor** (lb/ton)	**Limited PTE** (ton/yr)	**326 IAC 6-3-2 Limited PTE** (ton/yr)
PM	17	8339.5	0.5066	28.56	96.8
PM_{10}	1.7	834.0	0.5066	28.56	
$PM_{2.5}$	1.7	834.0	0.5066	28.56	
Lead (Pb)			0.0045	0.25	

	Nominal Throughput		Annual Throughput	
ABB Robot Grinder	1.0	ton/hr	8,760	ton/yr
FANUC Robot Grinder	1.5	ton/hr	13,140	ton/yr
Total			21,900	ton/yr

ABB and FANUC	**Emissions**		
	PM	**$PM_{10}/PM_{2.5}$**	**Lead**
WebFIRE Emission Factor (lb/ton)	*17*	*1.70*	*0.058*
Uncontrolled PTE (ton/yr)	186.15	18.62	0.64
Capture Efficiency (%)	99%	99%	99%
Control Efficiency (%)	98%	80%	98%
Controlled PTE (ton/yr)	2.61	2.61	0.01
Limited PTE (ton/yr)	**2.61**	**2.61**	**0.55**
PSD Minor Limits (lb/ton)	**0.34**	**0.34**	**0.071**

Calculation Methodology

The annual metal limit and emission factors for the Grinders were derived from SSM 085-14027-00003, issued on February 22, 2002. ABB & FANUC from WebFIRE.

Emission Factors for limited emissions were provided by Dalton Foundry

Uncontrolled PTE (ton/yr) = No. of like units x Max Capacity (ton finished metal/hour) x Emission Factor (lb/ton finished metal) x 8760 hr/yr / 2000 lb/ton

Limited PTE (ton/yr) = No. of like units x Limited Capacity (ton finished metal/yr) x [Emission Factor (lb/ton finished metal) / Total No. of units] x 8760 x 1 ton/2000 lb

Controlled Emissions (tons/yr) = (Uncontrolled Emissions x (Limited Throughput / Maximum Throughput)) x Capture Efficiency x (1 - Control Efficiency)

All Grinders are controlled by Baghouses.

Baghouse #6 is common to SB-7, GR-19, GR-20, GR-23, GR-25, GR-26, GR-34, GR-35, & GR-36.

Baghouse #12 is common to SB-9, GR-31, GR-32, GR-33, & GR-37.

Baghouse #15 is common to GR-1 through GR-4, GR-9, GR-10, GR-29, GR-30, Grinders ABB & FANUC

Baghouse #16 is common to SB-5, SB-6, & SB-8, Hose Blast System #8, GR-11, GR-12, GR-13, GR-14, GR-16, & GR-17.

Paint Dip Tank
Installation Date(s): Prior to 1977

Material	Density (lb/gal)	Weight % Volatile (H_20 & Organics)	Weight % Water (%)	Weight % Organics (%)	Volume % Water (%)	Volume % Solids (%)	Material Usage (gal/unit)	Max. Production (unit/hr)	VOC Content less H_2O (lb/gal)	VOC Content (lb/gal)	PTE VOC (ton/yr)	PTE PM (ton/yr)	lb VOC / gal solids (lb/gal)	Transfer Efficiency (%)
Black Water-Reducible Primer (N-5570N)	11.68	43%	37%	7%	52%	37%	0.052	125	1.60	0.77	21.97	0.00	2.07	100%
Butyl Cellusolve (T-76)	7.51	100%	0%	100%	0%	0%	0.052	125	7.51	7.51	213.70	0.00	0.00	0%
											235.67	**0.00**		

Calculation 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)
Potential PM (ton/yr) = (units/hr) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) *(8760 hr/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

Material	Density (lb/gal)	Material Usage (gal/unit)	Max. Production (unit/hr)	Weight % Xylene (%)	Weight % Toluene (%)	Weight % Formaldeh (%)	Weight % Benzene (%)	Weight % Hexane (%)	Weight % Glycol (%)	Weight % Methanol (%)
Black Water-Reducible Primer (N-5570N)	11.68	0.052	125	0%	0%	0%	0%	0%	0%	0%
Butyl Cellusolve (T-76)	7.51	0.052	125	0%	0%	0%	0%	0%	0%	0%

Xylene Emissions (ton/yr)	Toluene Emissions (ton/yr)	Formaldehyde Emissions (ton/yr)	Benzene Emissions (ton/yr)	Hexane Emissions (ton/yr)	Glycol Ethers Emissions (ton/yr)	Methanol Emissions (ton/yr)
0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Calculation Methodology
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

Phenolic Urethane Core Making Lines (#1, #2, #3, #4, #5, & #8)
Installation Date(s): pre 1977 - 1998

Material	Pollutant	Emission Factors (lb/ton)	Uncontrolled PTE (ton/yr)	Limited PTE (ton/yr)	*Controlled PTE (ton/yr)	Percent Volatile (%)	Resin addition (lb resin / lb sand)	Resin addition (lb / lb sand)	Specific Gravity	Density (lb/gal)	VOC Content (lb/gal)	Material Usage (gal/yr)
Phenolic Urethane Core Making Line #2		*Installation Date(s): pre 1977 - 1992*										
Limited Capacity:		4,656	tons per year of sand									
Maximum Capacity:		26,280	tons per year of sand			3.0			tons per hour of sand			
Mixers Resin	VOC	0.185	2.43	0.43	0.43	See note	0.0125	25	1.10	9.4		12,383
Core Machine Resin	VOC	0.541	7.11	1.26	1.26	below			1.16	9.4		
Core Wash	VOC	0.200	2.63	0.47	0.47	1%			1.38		0.12	8,091
Amine Catalyst	VOC	2.750	36.14	6.40	0.74	100%			0.72		5.97	2,146
Core Box Cleaner	VOC	0.144	1.89	0.34	0.34	100%			0.98		8.17	82
Release Agent	VOC	0.105	1.38	0.24	0.24	90%			0.82		6.15	79
			51.57	**9.14**	**3.48**							
Phenolic Urethane Core Making Line #3		*Installation Date(s): pre 1977 - 1982*										
Limited Capacity:		23,200	tons per year of sand									
Maximum Capacity:		61,320	tons per year of sand			7.0			tons per hour of sand			
Mixers Resin	VOC	0.185	5.67	2.15	2.15	See note	0.0125	25	1.10	9.4		61,702
Core Machine Resin	VOC	0.541	16.59	6.28	6.28	below			1.16	9.4		
Core Wash	VOC	0.200	6.13	2.32	2.32	1%			1.38		0.12	40,316
Amine Catalyst	VOC	2.750	84.32	31.90	3.70	100%			0.72		5.97	10,692
Core Box Cleaner	VOC	0.144	4.42	1.67	1.67	100%			0.98		8.17	409
Release Agent	VOC	0.105	3.22	1.22	1.22	90%			0.82		6.15	396
			120.34	**45.53**	**17.33**							
Phenolic Urethane Core Making Line #4		*Installation Date(s): pre 1977 - 1993*										
Limited Capacity:		12,910	tons per year of sand									
Maximum Capacity:		61,320	tons per year of sand			7.0			tons per hour of sand			
Mixers Resin	VOC	0.185	5.67	1.19	1.19	See note	0.0125	25	1.10	9.4		34,335
Core Machine Resin	VOC	0.541	16.59	3.49	3.49	below			1.16	9.4		
Core Wash	VOC	0.200	6.13	1.29	1.29	1%			1.38		0.12	22,434
Amine Catalyst	VOC	2.750	84.32	17.75	2.06	100%			0.72		5.97	5,950
Core Box Cleaner	VOC	0.144	4.42	0.93	0.93	100%			0.98		8.17	227
Release Agent	VOC	0.105	3.22	0.68	0.68	90%			0.82		6.15	220
			120.34	**25.34**	**9.64**							

Phenolic Urethane Core Making Lines (#1, #2, #3, #4, #5, & #8)
Installation Date(s): pre 1977 - 1998

Phenolic Urethane Core Making Line #5 (21, 22 & 28)

Limited Capacity: 2,383 tons per year of sand
Maximum Capacity: 43,800 tons per year of sand 5.0 tons per hour of sand

Mixers Resin	VOC	0.185	4.05	0.22	0.22	See note	0.0125	25	1.10	9.4		6,338
Core Machine Resin	VOC	0.541	11.85	0.64	0.64	below			1.16	9.4		
Core Wash	VOC	0.200	4.38	0.24	0.24	1%			1.38		0.12	4,141
Amine Catalyst	VOC	2.750	60.23	3.28	0.38	100%			0.72		5.97	1,098
Core Box Cleaner	VOC	0.144	3.15	0.17	0.17	100%			0.98		8.17	42
Release Agent	VOC	0.105	2.30	0.13	0.13	90%			0.82		6.15	41
			85.96	**4.68**	**1.78**							

Phenolic Urethane Core Making Line #8 *Installation Date(s): 1997 - 1998*

Limited Capacity: 6,350 tons per year of sand
Maximum Capacity: 43,800 tons per year of sand 5.0 tons per hour of sand

Mixers Resin	VOC	0.185	4.05	0.59	0.59	See note	0.0125	25	1.10	9.4		16,888
Core Machine Resin	VOC	0.541	11.85	1.72	1.72	below			1.16	9.4		
Core Wash	VOC	0.200	4.38	0.64	0.64	1%			1.38		0.12	11,035
Amine Catalyst	VOC	2.750	60.23	8.73	1.01	100%			0.72		5.97	2,926
Core Box Cleaner	VOC	0.144	3.15	0.46	0.46	100%			0.98		8.17	112
Release Agent	VOC	0.105	2.30	0.33	0.33	90%			0.82		6.15	108
		3.925	**85.96**	**12.46**	**4.74**							

Limited Capacity: 67,421 tons per year of sand
Maximum Capacity: 297,840 tons per year of sand
Maximum Resin Usage: 0.726 lb VOC per ton of sand
*Post Control Catalyst VOC Emission Factor: 0.319 lb VOC per ton of sand

	Uncontrolled PTE (ton/yr)	**Limited PTE** (ton/yr)	**Material Usage** (gal/yr)
Mixers Resin	21.88	4.58	131,646
Core Wash	23.65	4.95	86,016
Core Machine Resin	63.98	13.39	0
Core Machine Catalyst	325.22	68.06	22,811
Core Box Cleaner	17.03	3.56	802
Release Agent	12.42	2.60	844
Total VOC Emissions:	**464.17**	**97.14**	

Phenolic Urethane Core Making Lines (#1, #2, #3, #4, #5, & #8)
Installation Date(s): pre 1977 - 1998

Particulate Emissions: ($PM/PM_{10}/PM_{2.5}$) Lines 1-5 & 8	**Air Flowrate** (acfm)	**Grain Loading** (gr/ascf)	**PM Uncontrolled PTE** (lb/hr)	**PM Uncontrolled PTE** (ton/yr)	**PM Controlled PTE** (ton/yr)	**PM_{10} Controlled PTE** (ton/yr)	**HAP (Metals) PTE** (ton/yr)
	15,000	0.02	2.57	11.26	**0.22**	**0.22**	**0.22**

Calculation Methodology

VOC Controlled PTE (ton/yr) = Max Capacity (ton sand/hr) x Emission Factor (lb/ton sand) x 8760 hr/yr / 2000 lb/ton
VOC Limited PTE (ton/yr) = Limited Capacity (ton sand/yr) x Emission Factor (lb/ton sand) x 1 ton/2000 lb
VOC Catalyst Limited PTE (tons/year) = [Limited PTE (ton/yr) x (1 - Capture Efficiency)] + [{Limited PTE (ton/yr) x Capture Efficiency} x (1 - Control Efficiency)]
Percent Volatile for Resin Note: The amount of VOCs from the resin is an emitted amount after the chemical reation of the two parts. Since the majority of the VOC content of the resins is reacted a different method of using the amount of VOC emitted from the resin per amount of resin used must be employed for calculating the resin usage (gal/yr).

Material Usage for resin (gal/yr) = Sum of Mixer and core machine limited & controlled PTE (ton/yr) x 2,000 lb/ton x Resin addition lb/ton sand x 1 / sum of mixer and core machine emission factor (lb VOC / ton sand) / Density (lb/gal)
VOC Content (lb/gal) = Specific Gravity x Density H20 (lb/gal) x Percent Volatile
Material Usage (gal/yr) = Max Capacity (ton sand/yr) x Emission Factor (lb/ton sand) / VOC Content (lb/gal)
Particulate emissions are captured and controlled by a Cyclone prior to entering Acid Scrubber
All PM emissions are also HAP-Metals emissions.

Acid Scrubber AF is common to:

Phenolic Urethane Core Machines #1 and #2,
Phenolic Urethane Core Machines #4 and #5,
Phenolic Urethane Core Machines #7 through #19,
Phenolic Urethane Core Machines #21 and #22,
Phenolic Urethane Core Machine #25,
Phenolic Urethane Core Machines #27 through #29, and
Cold Box Phenolic Urethane Core Machines #31 through #33.

Baghouse Q is common to Phenolic Urethane Core Sand Hopper #1, and Phenolic Urethane electric Sand Heater #1.
Baghouse U is common to Phenolic Urethane Core Sand Hoppers #3 and #4, Phenolic Urethane electric Sand Heaters #3 and #4, and Air Set Core Sand Hopper #3.

Baghouse Z is common to:

Sand Hopper #9,
Sand Heater #9.
Phenolic Urethane Core Sand Hopper #8
Phenolic Urethane Sand Heater #5, and
Phenolic Urethane Sand Heater #8.

Core Sand Heater Modification - Phenolic Core Making Line #1

A larger sand heater will be installed for the mixer allowing a larger amount of sand to be processed through the mixer on an hourly basis.

Emission Unit	Installation Date	Nominal Throughput (ton/hr of sand)	Annual Throughput (ton/yr of sand)	Nominal Throughput (lb of resin/ton of sand)	Annual Throughput (ton/yr of resin)
Core Sand Mixer	TBD	15	131,400	20	1314
Core Machines and Wash Dip Tanks (#15-#19)	1986-1986	7	61,320	NA	NA

Process Bottleneck Capacity	*permit limit per IAC 8-1-6*	*17,922*	*ton/yr*

	PTE - Regulated Pollutants									
	Heater			Mixer		Core Machine Resin	Core Wash	Amine Catalyst	Core Box Cleaner	Release Agent
	PM	PM_{10}	$PM_{2.5}$	VOC	HAPs (Metal)	VOC	VOC	VOC	VOC	VOC
Emission Factor (lb/ton)	3.6	0.54	0.54	0.185	0.107	0.541	0.2	2.75	0.144	0.105
Uncontrolled PTE (lbs/hr)	54.00	8.10	8.10	2.78	1.61	3.79	1.40	19.25	1.01	0.74
Uncontrolled PTE (ton/yr)	236.52	35.48	35.48	12.15	7.03	16.59	6.13	84.32	4.42	3.22
Capture Efficiency (%)	96%	89%	89%	0%	89%	0%	0%	89.3%	0%	0%
Control Efficiency (%)	90.45%	80.00%	80.00%	0%	80%	0%	0%	99.00%	0%	0%
Controlled PTE (ton/yr)	**21.68**	**6.32**	**6.32**	**NA**	**1.25**	**NA**	**NA**	**0.75**	**NA**	**NA**
Limited Uncaptured Emissions (ton/yr)	**1.29**	**0.53**	**0.53**	**1.66**	**0.11**	**4.85**	**1.79**	**22.01**	**1.29**	**0.94**
PSD Minor Limits (lb/ton)	**0.144**	**0.059**	**0.06**	**0.185**	**0.012**	**0.541**	**0.20**	**2.75**	**0.144**	**0.105**
Limited PTE (ton/yr) - from stack	**2.96**	**0.86**	**0.86**	**0**	**0.17**	**0**	**0**	**2.86**	**0**	**0**
PSD Minor Limits (lb/ton)	**0.330**	**0.096**	**0.096**	**0**	**0.019**	**0**	**0**	**0.319**	**0**	**0**

Methodology
Particulate Matter emission factors for uncontrolled emissions are from WebFIRE, SCC 3-04-003-50 (Sand Grinding/Handling)
Controlled Emission Factors were provided by Dalton Foundry
VOC Emission Factors are based on the PSD and 326 IAC 8-1-6 BACT limits in Condition D.8.1 of the Part 70 Operating Permit for Dalton Foundry, No. T085-6708-00003, issued May 9, 2007.
HAPs (metal) Emission Factor provided by source and based upon analysis of core sand for TRI purposes.
Uncontrolled Emission (tons/yr) = Maximum Throughput (ton/yr) x Emission Factor (lb/ton)/2,000 lb/ton
Sand Heater Limited Uncaptured Emissions (tons/yr) = (Uncontrolled Emissions x (Limited Throughput / Maximum Throughput)) x (1 - Capture Efficiency)
Sand Heater Controlled Emissions (tons/yr) = (Uncontrolled Emissions x (Limited Throughput / Maximum Throughput)) x Capture Efficiency x (1 - Control Efficiency)
Sand Heater Limited PTE (ton/yr) from stack = Limited Capacity (ton sand/yr) x Emission Factor (lb/ton sand) x Captue Efficiency (%) x (1 - Control Efficiency (%)) / 2000 lb/ton
Uncontrolled VOC Emission (tons/yr) = Throughput (ton/hr) x Emission Factor (lb/ton)/2,000 lb/ton x 8,760 hr/yr
VOC Controlled PTE (ton/yr) = Annual Capacity (ton sand/yr) x Emission Factor (lb/ton sand) x Captue Efficiency (%) x (1 - Control Efficiency (%)) / 2000 lb/ton
Limited Uncaptured Emissions (ton/yr) = Limited Capacity (ton sand/yr) x Emission Factor (lb/ton sand) x 1 ton/2000 lb
VOC Catalyst Limited PTE (lb/ton) = [(1 - Capture Efficiency) x Emission Factor (lb/ton sand)] + [(Capture Efficiency x Emission Factor (lb/ton sand) x (1 - Control Efficiency)]
Particulate emissions are captured and controlled by a Cyclone prior to entering Acid Scrubber
Limited PTE from Stack (tons/yr) = Emission Factor (lb/ton) x Process Bottleneck Capacity (ton/yr) x Capture Efficiency (%) x (1 - Control Efficiency (%)) x 1/2,000 (ton/lb)

Hazardous Air Pollutant Emissions (Organic)

HAP Name	HAP Content %	lb HAP/lb material	Uncontrolled PTE HAPs lbs/hr	Uncontrolled PTE HAPs ton/yr	Limited PTE HAPs ton/yr
resin - Part 1 phenol (48%)	5%	0.024	0.14	0.63	0.086
resin - Part 2 4,4-diphenylmethane diisocyanate [MDI] (52%)	40%	0.21	0.01	0.03	0.004
		Total:	0.15	0.66	0.090

Methodology
Per AFS Form R Guidance:
98% of the phenol in Part 1 is reacted and only 2% remains in the core.
99.99% of the MDI is reacted and only 0.01% remains in the core.
Core Box Cleaner is 100% VOC
Emission Factor (lb HAP/lb material) = Phenol/MDI Content (%) x HAP Content (%)
Uncontrolled PTE HAPs (lbs/hr) = Emission Factor (lb HAP/lb material) x Resin Throughput (lb resin/ton sand) x (1 - Reaction Rate (%)) x Sand Throughput (ton/hr)
Uncontrolled PTE HAPs (ton/yr) = Uncontrolled PTE HAPs (lbs/hr) x 8,760 (hr/yr) / 2,000 (lb/ton)
Limited PTE HAPs (ton/yr) = Emission Factor (lb HAP/lb material) x Resin Throughput (lb resin/ton sand) x (1 - Reaction Rate (%)) x Limited Sand Throughput (ton/hr)

Core Sand Heater Modification - Phenolic Core Making Line #1

326 IAC 6-3-2 Particulate Emission Rate Limitations

			Process Weight, P		P<60,000 lb/hr	
			each unit	each unit	E = 4.1 P^0.67	
PM Control Device	**Stack/Vent**	**Process**	P (lb/hr)	P (ton/hr)	E (lb/hr)	E (tpy)
Baghouse Q	Stack Q	Sand Heater	30,000	15.0	25.2	110.21

Material	**Percent Volatile** (%)	**Resin addition** (lb resin / lb sand)	**Resin addition** (lb / ton sand)	**Specific Gravity**	**Density** (lb/gal)	**VOC Content** (lb/gal)	**Material Usage** (gal/yr)
Mixers Resin	See note below	0.0100	20	1.10	9.4		168,464
Core Machine Resin				1.16	9.4		
Core Wash	1%			1.38		0.12	31,144
Amine Catalyst	100%			0.72		5.97	8,259
Core Box Cleaner	100%			0.98		8.17	316
Release Agent	90%			0.82		6.15	306

Methodology

Percent Volatile for Resin Note: The amount of VOCs from the resin is an emitted amount after the chemical reation of the two parts. Since the majority of the VOC content of the resins is reacted a different method of using the amount of VOC emitted from the resin per amount of resin used must be employed for calculating the resin usage (gal/yr).

Material Usage for resin (gal/yr) = Sum of Mixer and core machine limited & controlled PTE (ton/yr) x 2,000 lb/ton x Resin addition lb/ton sand x 1 / sum of mixer and core machine emission factor (lb VOC / ton sand) / Density (lb/gal)
VOC Content (lb/gal) = Specific Gravity x Density H20 (lb/gal) x Percent Volatile
Material Usage (gal/yr) = Max Capacity (ton sand/yr) x Emission Factor (lb/ton sand) / VOC Content (lb/gal)

Acid Scrubber AF is common to:

Phenolic Urethane Core Machines #1 and #2,
Phenolic Urethane Core Machines #4 and #5,
Phenolic Urethane Core Machines #7 through #19,
Phenolic Urethane Core Machines #21 and #22,
Phenolic Urethane Core Machine #25,
Phenolic Urethane Core Machines #27 through #29, and
Cold Box Phenolic Urethane Core Machines #31 through #33.

Baghouse Q is common to Phenolic Urethane Core Sand Hopper #1, and Phenolic Urethane electric Sand Heater #1.

Phenolic Urethane Core Making Line #9

Maximum Capacity:

18	tons per hour of sand	157,680	tons per year of sand
41.04	pounds per hour of resin	180	tons per year of resin
2.75	pound of catalyst per ton of core sand	217	tons per year of catalyst
20.408	pound of core wash per ton of core sand	1,609	tons per year of core wash
18	tons per hour of cores	157,680	tons per year of cores

Usage Limits:

315,360,000	pounds per year of sand	12,000	tons per year of sand
359,510	pounds per year of resin	295,000.0	pounds per year of resin
433,620	pounds per year of catalyst	32,935.0	pounds per year of catalyst
245,505	pounds per year of core wash	245,505.0	pounds per year of core wash
1,397	pounds per year of release agent	1,397	pounds per year of release agent
1,725	pounds per year of core box cleane	1,725	pounds per year of core box cleaner
315,360,000	pounds per year of cores		

Material	**Pollutant**	**Uncontrolled Emission Factors (lb/ton)**	**Controlled Emission Factors** PM=lb/ton sand, **Uncontrolled Emission Factors** VOC=lb/lb material	**Uncontrolled PTE** (ton/yr)	**Limited PTE** (ton/yr)
Mixers	PM	3.6	0.33	283.82	1.98
Mixers	PM_{10}	0.54	0.065	42.57	0.39
Resin	Noncatalyst VOC		0.02904	5.22	4.28
Catalyst	VOC		1.0	216.81	16.47
Core Wash	VOC		0.02	2.46	2.46
Release Agent	VOC		0.9	0.63	0.63
Core Box Cleaner	VOC		1.0	0.86	0.86
Mixers	HAP: Metals		0.3	26.02	**1.98**
			Total VOC Emissions:	**226.0**	**24.7**

326 IAC 6-3-2 Particulate Emission Rate Limitation E = 55 P^0.11 - 40

Sand Handling: P (ton/hr) = 18 **E** (lb/hr) **= 35.6** 155.9

Calculation Methodology

The annual limits and emission factors for the Large Core Production Cell were derived from SSM 085-21851-00003, issued on October 6, 2006.

Uncontrolled PTE (ton/yr) = Max Capacity (ton sand/yr) x Emission Factor (lb/ton sand) * 8760 / 2000

PM Limited PTE (ton/yr) = Limited Capacity (ton sand/yr) x Emission Factor (lb/ton sand) x 1 ton/2000 lb

All PM emissions are also HAP-Metals emissions.

Particulate emissions from the enclosed pneumatic sand transporter are controlled by Baghouse V.

The Baghouse V is common to Large Core Sand Holding Hopper, and Large Core Sand Weigh Hopper.

VOC Limited PTE (ton/yr) = Limited Capacity (lb material/yr) x Emission Factor (lb VOC/lb material) x 1 ton/2000 lb

Phenolic Resin VOC Limited PTE (ton/yr) = Limited Capacity (lb resin/yr) x Emission Factor (lb noncatalyst VOC/lb resin) x 1 ton/2000 lb

Shell Core Making Process
Installation Date(s): Prior to 1977

Material	Pollutant	Uncontrolled Emission Factors (lb/ton)	Uncontrolled PTE (ton/yr)	Percent Volatile (%)	Specific Gravity	VOC Content (lb/gal)	Material Usage (gal/yr)
Maximum Capacity:	7,008 tons / year of sand			0.8 tons per hour of sand			
Core Wash	VOC	0.200	0.70	1%	1.38	0.12	12,178
Core Machine Resin	VOC	0.541	1.90	100%	1.16	9.67	392
Catalysts	VOC	2.750	9.64	100%	0.72	5.97	3,230
Core Box Cleaner	VOC	0.144	0.50	100%	0.98	8.17	123
Release Agent	VOC	0.105	0.37	90%	0.82	6.15	120
		Total VOC Emissions:	**13.10**				

Particulate Emissions: ($PM/PM_{10}/PM_{2.5}$)

Air Flowrate (acfm)	**Grain Loading** (gr/ascf)	**$PM/PM_{10}/PM_{2.5}$ Uncontrolled PTE** (ton/yr)	**HAP (Metals) Uncontrolled PTE** (ton/yr)
15,000	0.02	**11.26**	**11.26**

326 IAC 6-3-2 Particulate Emission Rate Limitation

E = 4.10 P^0.67

				ton/yr
Sand Making Process:	P (ton/hr) =	0.8	**E** (lb/hr) = 3.5	15.5
Shell Core Machine #6:	P (ton/hr) =	0.2	**E** (lb/hr) = 1.4	6.1
Shell Core Machine #7:	P (ton/hr) =	0.3	**E** (lb/hr) = 1.8	8.0
Shell Core Machine #8:	P (ton/hr) =	0.3	**E** (lb/hr) = 1.8	8.0

Calculation Methodology

Uncontrolled PTE (ton/yr) = Max Capacity (ton sand/yr) x Emission Factor (lb/ton sand) * 8760 / 2000
Limited PTE (ton/yr) = Limited Capacity (ton sand/yr) x Emission Factor (lb/ton sand) x 1 ton/2000 lb
Particulate emissions from the shell core making process are uncontrolled.

Air Set Core Making Process
Installation Date(s): Prior to 1977

Material	Pollutant	Emission Factors (lb/ton)	Uncontrolled PTE (ton/yr)	Percent Volatile (%)	Specific Gravity	VOC Content (lb/gal)	Material Usage (gal/yr)
Maximum Capacity:	52,560 tons per year of			6.0 tons per hour of sand			
	0 gallons per year of core wash			gallons per hour of core wash			
Core Wash	VOC	0.200	5.26	1%	1.38	0.12	91,336
Core Machine Resin	VOC	0.541	14.22	100%	1.16	9.67	2,939
Catalysts	VOC	2.750	72.27	100%	0.72	5.97	24,222
Core Box Cleaner	VOC	0.144	3.78	100%	0.98	8.17	926
Release Agent	VOC	0.105	2.76	90%	0.82	6.15	897
		Total VOC Emissions:	**98.29**				

Particulate Emissions: ($PM/PM_{10}/PM_{2.5}$)

Air Flowrate (acfm)	**Grain Loading** (gr/ascf)	**PM Uncontrolled PTE** (ton/yr)	**HAP (Metals) Uncontrolled PTE** (ton/yr)
15,000	0.02	11.26	11.26

326 IAC 6-3-2 Particulate Emission Rate Limitation

E = 4.10 P^0.67

			ton/yr
Sand Handling:	P (ton/hr) = 6.0	**E** (lb/hr) = 13.6	59.7
Sand Mixer:	P (ton/hr) = 6.0	**E** (lb/hr) = 13.6	59.7
Air Set Core Machine #2:	P (ton/hr) = 6.0	**E** (lb/hr) = 13.6	59.7
			179.0

Calculation Methodology

Uncontrolled PTE (ton/yr) = Max Capacity (ton sand/yr) x Emission Factor (lb/ton sand) * 8760 / 2000

All VOC emissions are also HAP emissions of triethylamine (TEA).

Particulate emissions from the air set core making process are controlled by Baghouse U.

All PM emissions are also HAP-Metals emissions.

Baghouse U is common to Phenolic Urethane Core Sand Hoppers #3 and #4, Phenolic Urethane electric Sand Heaters #3 and #4, and Air Set Core Sand Hopper #3.

Large Core Production Cell

Maximum Capacity:

30	tons per hour of sand	262,800	tons per year of sand
68.52	pounds per hour of resin	300	tons per year of resin
2.75	pound of catalyst per ton of core sand	361	tons per year of catalyst
20.408	pound of core wash per ton of core sand	2,682	tons per year of core wash
30	tons per hour of cores	262,800	tons per year of cores

Usage Limits:

525,600,000	pounds per year of sand	**12,005**	**tons per year of sand**
600,235	pounds per year of resin	**299,399.3**	**pounds per year of resin**
722,700	pounds per year of catalyst	**32,934.6**	**pounds per year of catalyst**
5,363,222	pounds per year of core wash	**245,504.7**	**pounds per year of core wash**
525,600,000	pounds per year of cores	**1,397**	**pounds per year of release agent**
		1,725	**pounds per year of core box cleaner**

Material	**Pollutant**	**Uncontrolled Emission Factors (lb/ton)**	**Controlled Emission Factors** PM=lb/ton sand, VOC=lb/lb material	**Uncontrolled PTE** (ton/yr)	**Limited PTE** (ton/yr)
Mixers	PM	3.6	0.33	473.04	**1.98**
Mixers	PM_{10}	0.54	0.065	70.96	**0.39**
Resin	VOC		0.02904	8.72	4.35
Catalyst	VOC		1.0	361.35	16.47
Core Wash	VOC		0.02	53.63	2.46
Release Agent	VOC		0.9	3.25	0.63
Core Box Cleaner	VOC		1.0	0.86	0.86
Mixers	HAP: Metals		0.33	43.36	**1.98**
			Total VOC Emissions:	**427.81**	**24.76**

326 IAC 6-3-2 Particulate Emission Rate Limitation

E = 55 P^0.11 - 40

Sand Handling: P (ton/hr) = 30 | **E** (lb/hr) **= 40.0** | 175.0

Calculation Methodology

The annual limits and emission factors for the Large Core Production Cell were derived from SSM 085-21851-00003, issued on October 6, 2006.

Uncontrolled PTE (ton/yr) = Max Capacity (ton sand/yr) x Emission Factor (lb/ton sand) * 8760 / 2000

PM Limited PTE (ton/yr) = Limited Capacity (ton sand/yr) x Emission Factor (lb/ton sand) x 1 ton/2000 lb

All PM emissions are also HAP-Metals emissions.

Particulate emissions from the enclosed pneumatic sand transporter are controlled by Baghouse V.

The Baghouse V is common to Large Core Sand Holding Hopper, and Large Core Sand Weigh Hopper.

VOC Limited PTE (ton/yr) = Limited Capacity (lb material/yr) x Emission Factor (lb VOC/lb material) x 1 ton/2000 lb

The VOC emissions from the catalyst captured at the core box of the Phenolic Urethane Core Machines are controlled by an acid scrubber, identified as Acid Scrubber AF, exhaust to a stack, identified as Stack AF.

Particulate emissions are captured and controlled by a Cyclone prior to entering the Acid Scrubber

Acid Scrubber AF is common to: Phenolic Urethane Core Machines #1 and #2,
Phenolic Urethane Core Machines #4 and #5,
Phenolic Urethane Core Machines #7 through #19,
Phenolic Urethane Core Machines #21 and #22,
Phenolic Urethane Core Machine #25,
Phenolic Urethane Core Machines #27 and #28, and
Cold Box Phenolic Urethane Core Machines #29 and #30.

Natural Gas Combustion

	Heat Input Capacity (MMBtu/hr)	Potential Throughput (MMCF/yr)		
Phenolic Urethane Core Making Line #9				
Core Oven #10	6.0	52.6		
Core Oven #11	3.0	26.3		
Phenolic Urethane Core Making Lines				
Core Oven #1	2.0			
Core Oven #2	2.0			
Core Oven #3	2.0			
Core Oven #4	2.0			
Core Oven #8	2.4			
Core Oven #9	2.4			
Core Oven #17	2.0			
Core Oven #21	2.4			
Core Oven #25	0.8			
Core Oven #27	1.6			
Core Oven #28	1.6			
Phenolic Urethane Sand Heater #5	0.192		511.5	
Phenolic Urethane Sand Heater #8	0.192			
	21.4	187.4		
Large Core Production Cell			**Hot Blast Preheater**	
natural gas-fired Core Oven #29	6.0	52.6	**Particulate Matter (PM) Emission Rate**	
			Pt = 1.09 / Q^0.26	
Hot Blast Preheater	22.0	192.7	Q = 22.0	Pt = 0.49
cupola				

	Pollutant						
	PM	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**NO_X**	**VOC**	**CO**
Emission Factor in lb/MMCF	*1.9*	*7.6*	*7.6*	*0.6*	*100*	*5.5*	*84.0*
Potential Emission in tons/yr							
Phenolic Urethane Core Making Line #9	0.1	0.3	0.3	0.0	3.9	0.2	3.3
Phenolic Urethane Core Making Lines	0.2	0.7	0.7	0.1	9.4	0.5	7.9
Large Core Production Cell	0.0	0.2	0.2	0.0	2.6	0.1	2.2
Hot Blast Preheater	0.2	0.7	0.7	0.1	9.6	0.5	8.1
	0.5	**1.9**	**1.9**	**0.2**	**25.6**	**1.4**	**21.5**

Calculation Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF) / 2,000 lb/ton

Natural Gas Combustion

	HAPs - Organics				
	Benzene	Dichloro-benzene	Formalde-hyde	Hexane	Toluene
Emission Factor in lb/MMCF	*2.1E-03*	*1.2E-03*	*7.5E-02*	*1.8E+00*	*3.4E-03*
Potential Emission in tons/yr					
Phenolic Urethane Core Making Line #9	2.8E-05	1.6E-05	9.9E-04	2.4E-02	4.5E-05
Phenolic Urethane Core Making Lines	2.0E-04	1.1E-04	7.0E-03	1.7E-01	3.2E-04
Large Core Production Cell	5.5E-05	3.2E-05	2.0E-03	4.7E-02	8.9E-05
Hot Blast Preheater	2.0E-04	1.2E-04	7.2E-03	1.7E-01	3.3E-04
	4.82E-04	**2.75E-04**	**1.72E-02**	**4.13E-01**	**7.80E-04**

	HAPs - Metals					
	Lead (Pb)	Cadmium	Chromium	Manganese	Nickel	
Emission Factor in lb/MMCF	*5.0E-04*	*1.1E-03*	*1.4E-03*	*3.8E-04*	*2.1E-03*	
Potential Emission in tons/yr						
Phenolic Urethane Core Making Line #9	6.6E-06	1.4E-05	1.8E-05	5.0E-06	2.8E-05	
Phenolic Urethane Core Making Lines	4.7E-05	1.0E-04	1.3E-04	3.6E-05	2.0E-04	
Large Core Production Cell	1.3E-05	2.9E-05	3.7E-05	1.0E-05	5.5E-05	
Hot Blast Preheater	4.8E-05	1.1E-04	1.3E-04	3.7E-05	2.0E-04	**Total HAPs**
	1.15E-04	**2.52E-04**	**3.21E-04**	**8.72E-05**	**4.82E-04**	**0.43**

Calculation Methodology

Methodology is the same as the previous page.
The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Core Oven #1 is common to Phenolic Urethane Core Machines #1, #2, #15, & #18.
Core Oven #2 is common to Phenolic Urethane Core Machines #16 & #19
Core Oven #4 is common to Phenolic Urethane Core Machines #4 and #5.
Core Oven #21 is common to Phenolic Urethane Core Machines #21, #22, & #27.
Core Oven #29 is common to Large Core Production Cell Lines #10 and #11.

Greenhouse Gas Emissions

	Greenhouse Gas		
	CO2	CH4	N2O
Emission Factor in lb/MMcf	120,000	2.3	2.2
Potential Emission in tons/yr	30,691	1	1
Summed Potential Emissions in tons/yr	30,692		
CO2e Total in tons/yr	30,878		

Methodology

The N2O Emission Factor for uncontrolled is 2.2. The N2O Emission Factor for low Nox burner is 0.64.
Emission Factors are from AP 42, Table 1.4-2 SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03.
Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

Reciprocating Internal Combustion Engines - Diesel Fuel
Output Rating (<=600 HP)

Output Horsepower Rating (hp)	170.0
Maximum Hours Operated per Year	500
Potential Throughput (hp-hr/yr)	85,000

	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	0.09	0.09	0.09	0.09	1.32	0.11	0.28

*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	2.78E-04	1.22E-04	8.48E-05	1.16E-05	3.51E-04	2.28E-04	2.75E-05	5.00E-05

***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)	**1.15E-03**

Green House Gas Emissions (GHG)

	Pollutant		
	CO2	CH4	N2O
Emission Factor in lb/hp-hr	1.15	4.63E-05	9.26E-06
Potential Emission in tons/yr	48.88	1.97E-03	3.94E-04

Summed Potential Emissions in tons/yr	**48.88**
CO2e Total in tons/yr	**49.04**

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).

Spark Ignition Internal Combustion Engines - Gasoline Fuel
Output Rating (<=600 HP)

Output Horsepower Rating (hp)	46.0
Maximum Hours Operated per Year	8760
Potential Throughput (hp-hr/yr)	402,960

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	7.21E-04	7.21E-04	7.21E-04	5.91E-04	0.011	0.0216	0.007
Potential Emission in tons/yr	0.15	0.15	0.15	0.12	2.22	4.35	1.40

*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.

Green House Gas Emissions (GHG)

	Pollutant		
	CO2	CH4	N2O
Emission Factor in lb/hp-hr	1.08	4.63E-05	9.26E-06
Potential Emission in tons/yr	217.60	9.33E-03	1.87E-03

Summed Potential Emissions in tons/yr	**217.61**
CO2e Total in tons/yr	**218.37**

Methodology

Emission Factors are from AP42 (Supplement B 10/96), Table 3.3-1
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).

Section*	Emission Unit / Process	Installation Date(s):	Included Emission Units	Controls
D.1	Cupola Charge Handling	Prior to 1977		NONE
D.2	Cupola Melt Furnace	Prior to 1977	furnace & charge door	Wet Scrubber A; Baghouse #14
D.3	Herman 2 Mold Line	Prior to 1977	Pouring, casting/cooling, shakeout & sand handling	Wet Collectors #3 (so)
D.3	Herman 2 Sand Handling - Klein Transport	2009		Baghouse #13
D.4	Herman 3 Mold Line	1991	Pouring, casting/cooling, shakeout & sand handling	Sonoperoxone® system, Wet Collector #4 (so), Wet Collector #1 (sh), Wet Collector #2 (sh) Baghouse #11 (so & sh)
D.5	Inclined Shakeout and Sort System	Prior to 1977		Baghouse #2
D.5	Waste Sand Handling, Screening and Transport System	Prior to 1977		Baghouse #9
D.5	Vibratory Shaker	2011		Baghouse #2
D.6	Shot Blast Machines	pre 1977 - 2006	SB-1 through SB-11	Baghouses #3, #6, #12, & #16
D.6	Grinders	Prior to 1977	GR-1 through GR-38	Baghouses #6, #12, #15, & #16
D.6	Hose Blast System for Shot Blast Machine SB-8	2011		Baghouse #16
D.6	Robotic Grinders ABB and FANUC	2009		Baghouse #15
D.6	SB10 Blow-off Chamber	TBD		Fabric Filter Control Device exhausted within building
D.7	Paint Dip Tank	Prior to 1977		
D.8	Hot Box Core Making Line #6 (aka "Mercury Marine")	1991	SH#6, NGH#6, SM#6, CM#1	Baghouse Z
D.8	Hot Box Core Making Line #7	1996	SH#7, NGH#7, SM#79, CM#26	Baghouse Z
D.8	Phenolic Urethane Core Making Line #9	2002	Mixer #9 (2002), SH#9, SM#9, CM#s8-10, CWDT#s8-10, CO#s8-10, ECO#5	Acid Scrubber AF, Baghouse Z
	Hot Box Sand Mixer #9 Core Wash Dip Tank #8 Core Wash Dip Tank #9 Core Wash Dip Tank #10			
D.9	Phenolic Urethane Core Making Lines	pre 1977 - 1998		
	Phenolic Urethane Core Making Line #1	1986 - 1989	Mixer #1 & CM #s 18&19 (1989), CM #17 (1988), CM #s 15&16	Acid Scrubber AF, Baghouse Q
	Phenolic Urethane Core Making Line #2	pre 1977 - 1992	Mixer #2 (1987), CM #s 10&11 (pre 1977), CM #s 12&13 (1978), CM #14 (1992)	Acid Scrubber AF
	Phenolic Urethane Core Making Line #3	pre 1977 - 1982	Mixer #3 (1980), CM #s 1&2 (1982), CM #4 (1981), CM #5 (pre 1977)	Acid Scrubber AF, Baghouse U, Baghouse Z
	Phenolic Urethane Core Making Line #4	pre 1977 - 1993	Mixer #4 & CM #7 (1986), CM #s 8&9 (pre 1977), CM #s 25&26	Acid Scrubber AF, Baghouse U
	Phenolic Urethane Core Making Line #5	1992 - 1996	Mixer #5 & CM #s 21&22 (1992), CM #17 (1996)	Acid Scrubber AF, Baghouse Z
	Phenolic Urethane Core Making Line #8	1997 - 1998	Mixer #8 (1997), CM #28 (1998)	Acid Scrubber AF, Baghouse Z
D.10	Shell Core Making Process	Prior to 1977	SCM#s6-8, SCWDT#s6-8	NONE
D.11	Air Set Core Making Process	Prior to 1977	SH#3, ASCM#2	Baghouse U
D.12	Large Core Production Cell	2007 (to be installed)	Mixer #s10-11, CM#s29-30, CWDT#s29-30, CO#29	Acid Scrubber AF, Baghouse V
D.13	Hot Blast Preheater	1981		

Notes:
* Section corresponds to the Section Ds of the Part 70 Permit.

so = shakeout
sh = sand handling
SH = sand hopper
SM = sand mixer
CO = core oven
ECO = electric core oven
NGH = natural gas heater
CWDT = core wash dip tank
ASCM = air set core machine
SCWDT = shell core wash dip tank
SCM = shell core machine
CM = core machine

Annual Enforceable Limits

Emission Unit / Process	Annual Limitation	
Cupola Charge Handling	199,194	tons per year of metal charged
Cupola Melt Furnace	187,919	tons per year of melted metal
Herman 2 and Herman 3 Sand Handling	1,127,516	tons per year of core and mold sand handled
Herman 2 Sand Handling - Klein Transport	106,000	tons per year of core and mold sand handled
Herman 3 Mold Line	90,578	tons per year of metal throughput
	543,470	tons per year of sand throughput
Waste Sand Handling, Screening and Transport System	112,752	tons per year of waste sand throughput
Shot Blast Machines	112,752	tons per year of finished metal (total for SB-1 through SB-9)
Hose Blast System for Shot Blast Machine SB-8	16,500	tons per year of finished castings
SB-9	60,500	tons per year of finished castings
Robotic Grinders ABB and FANUC	15,500	tons per year of finished castings
SB10 Blow-off Chamber	20,000	tons per year of finished castings
Vibratory Shaker	142,000	tons per year of metal throughput
Phenolic Urethane Core Making Line #9	295,000	pounds per year of resin usage
	32,935	gallons per year of catalyst usage
	12,000	tons per year of sand
Phenolic Urethane Core Making Line #1	17,922	tons per year of sand
Phenolic Urethane Core Making Line #2	4,656	tons per year of sand
Phenolic Urethane Core Making Line #3	23,200	tons per year of sand
Phenolic Urethane Core Making Line #4	12,910	tons per year of sand
Phenolic Urethane Core Making Line #5	2,383	tons per year of sand
Phenolic Urethane Core Making Line #8	6,350	tons per year of sand
Phenolic Urethane Core Making Lines	177,260	gallons per year of core wash
	1,150	gallons per year of release agent
	1,188	gallons per year of core box cleaner
Large Core Production Cell	12,005	tons per year of sand
	299,399	pounds per year of resin
	32,935	pounds per year of catalyst
	245,505	pounds per year of core wash
	1,397	pounds per year of release agent
	1,725	pounds per year of core box cleaner

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
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Michael R. Pence
Governor

Thomas W. Easterly
Commissioner

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

TO: Michael Schall
Dalton Corporation, Warsaw Manufacturing Facility
PO Box 1388
Warsaw, IN 46581

DATE: December 19, 2013

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

SUBJECT: Final Decision
Minor Source Modification to a Part 70 Operating Permit
085-33865-00003

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:
Ronald L Schmucker, VP/GM
James Rickun, James S Rickun Environmental Consulting
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

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Michael R. Pence
Governor

Thomas W. Easterly
Commissioner

TO: Interested Parties / Applicant

DATE: December 19, 2013

RE: Dalton Corporation, Warsaw Manufacturing Facility / 085-33865-00003

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

In order to conserve paper and reduce postage costs, IDEM's Office of Air Quality is now sending many permit decisions on CDs in Adobe PDF format. The enclosed CD contains information regarding the company named above.

This permit is also available on the IDEM website at:
http://www.in.gov/ai/appfiles/idem-caats/

If you would like to request a paper copy of the permit document, please contact IDEM's central file room at:

Indiana Government Center North, Room 1201
100 North Senate Avenue, MC 50-07
Indianapolis, IN 46204
Phone: 1-800-451-6027 (ext. 4-0965)
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Please Note: *If you feel you have received this information in error, or would like to be removed from the Air Permits mailing list, please contact Patricia Pear with the Air Permits Administration Section at 1-800-451-6027, ext. 3-6875 or via e-mail at PPEAR@IDEM.IN.GOV.*

Enclosures
CD Memo.dot 6/13/2013

Mail Code 61-53

IDEM Staff	VHAUN 12/19/2013 Dalton Corporation, Warsaw Manufacturing Facility 085-33865-00003 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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2		Ronald L Schmucker VP/GM Dalton Corporation, Warsaw Manufacturing Facility PO Box 1388 Warsaw IN 46581-1388 *(RO CAATS)*									
3		Warsaw City Counil and Mayors Office 102 S Buffalo Street Warsaw IN 46580 *(Local Official)*									
4		Paul Rhodes 1901 E. Main St Warsaw IN 46580 *(Affected Party)*									
5		Kosciusko County Board of Commissioners 100 W. Center St, Room 220 Warsaw IN 46580 *(Local Official)*									
6		James Rickun James S. Rickun Environmental Consulting 4933 Black Oak Drive Madison WI 53711-4373 *(Consultant)*									
7		Etna Green Town Council P.O. Box 183, 132 West Broadway Etna Green IN 46524 *(Local Official)*									
8		Kosciusko County Health Department 100 W. Center Street, 3rd Floor Warsaw IN 46580-2877 *(Health Department)*									
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