INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
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*Governor*

*Thomas W. Easterly*
*Commissioner*

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
(800) 451-6027
www.IN.gov/idem

TO: Interested Parties / Applicant

DATE: December 22, 2005

RE: ThyssenKrupp Waupaca, Inc. / 123-21238-00019

FROM: Paul Dubenetzky
Chief, Permits Branch
Office of Air Quality

# Notice of Decision: Approval - Effective Immediately

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to IC 13-15-5-3, this permit is effective immediately, unless a petition for stay of effectiveness is filed and granted according to IC 13-15-6-3, and may be revoked or modified in accordance with the provisions of IC 13-15-7-1.

If you wish to challenge this decision, IC 4-21.5-3 and IC 13-15-6-1 require that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Room 1049, Indianapolis, IN 46204, **within eighteen (18) calendar days of the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

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

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

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

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

Enclosures
FNPER.dot 1/10/05

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
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**December 22, 2005**

Mr. Jeffrey Loeffler
ThyssenKrupp Waupaca, Inc.
P.O. Box 189
Tell City, IN 47586

Re: 123-21238-00019
Significant Source Modification to:
Part 70 permit No.: T123-9234-00019

Dear Mr. Loeffler:

ThyssenKrupp Waupaca, Inc. Plant 5 was issued Part 70 operating permit T123-9234-00019 on June 29, 2004 for a gray and ductile iron foundry. An application to modify the source was received on May 26, 2005. Pursuant to 326 IAC 2-7-10.5 the following emission units are approved for construction at the source:

Core Room Expansion

(a) One (1) phenolic-urethane core sand handling system, identified as P46, to be constructed in 2005, with a maximum production capacity of 45 tons of cores per hour. Particulate matter emissions are controlled by one (1) baghouse, identified as C18, exhausting to Stack S18;
(b) One (1) phenolic-urethane core making process, identified as P47, to be constructed in 2005, consisting of 3 mixers and 3 core machines, each with a maximum capacity of 15 tons per hour. DMIPA catalyst emissions are controlled by one (1) packed bed scrubber, identified as C17. The gases are then exhausted to Stack S17;
(c) Three (3) natural gas-fired core drying ovens and natural gas-fired air make-up units, identified as P48, constructed in 2005, with the core drying ovens having a combined maximum heat input capacity of 9.0 MMBtu per hour and the air make-up units having a combined maximum heat input capacity of 3.2 MMBtu per hour, exhausting inside the building.

The following construction conditions are applicable to the proposed project:

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.

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

4. Pursuant to 326 IAC 2-1.1-9 and 326 IAC 2-7-10.5(i), 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.

6. Pursuant to 326 IAC 2-7-10.5(l) the emission units constructed under this approval shall not be placed into operation prior to revision of the source's Part 70 Operating Permit to incorporate the required operation conditions.

This significant source modification authorizes construction of the new emission units. Operating conditions shall be incorporated into the Part 70 operating permit as a significant permit modification in accordance with 326 IAC 2-7-10.5(l)(2) and 326 IAC 2-7-12. Operation is not approved until the significant permit modification has been issued.

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 call Trish Earls at (973) 575-2555, ext. 3219 or dial (800) 451-6027, and ask for extension 3-6878.

Sincerely,

Origin signed by

Paul Dubenetzky, Assistant Commissioner
Office of Air Quality

Attachments
Technical Support Document
Revised Part 70 permit pages
TE/EVP
cc: File – Perry County
Perry County Health Department
IDEM Southwest Regional Office
Air Compliance Section Inspector Derrick Ohning
Compliance Data Section
Administrative and Development
Technical Support and Modeling

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# PART 70 OPERATING PERMIT
# OFFICE OF AIR QUALITY

## ThyssenKrupp Waupaca, Inc. Plant 5
## 9856 State Highway 66
## Tell City, Indiana 47586

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

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

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17. This permit also addresses certain new source review requirements for existing equipment and is intended to fulfill the new source review procedures pursuant to 326 IAC 2-2 and 326 IAC 2-7-10.5, applicable to those conditions.

| | |
|---|---|
| First Significant Source Modification No. 123-21238-00019 | Pages Affected: 6, 12, 13, 87a – 87e, 92a, 92b |
| Issued by Origin signed by<br>Paul Dubenetzky, Acting Assistant Commissioner<br>Office of Air Quality | Issuance Date: December 22, 2005<br><br>Expiration Date: June 29, 2009 |

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## SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 through A.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(15)]

The Permittee owns and operates a stationary ductile iron foundry.

| | |
|---|---|
| Responsible Official: | Gary L. Thoe, President and CEO |
| Source Address: | 9856 State Highway 66, Tell City, IN 47586 |
| Mailing Address: | P.O. Box 189, Tell City, IN 47586 |
| General Source Phone Number: | 812-547-0700 |
| SIC Code: | 3321 |
| County Location: | Perry |
| Source Location Status: | Attainment for all criteria pollutants |
| Source Status: | Part 70 Permit Program<br>Major Source, under PSD Rules;<br>Major Source, Section 112 of the Clean Air Act<br>1 of 28 listed source categories (secondary metal production) |

### A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

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

Phase I

(a) One (1) gray iron cupola, identified as P30, constructed in 1996, with a maximum melt rate of 80 tons per hour, using one (1) baghouse (C09A) for particulate control, one (1) incinerator (C11A) for carbon monoxide control and VOC emissions control, and one (1) dry alkaline injection system (C12A) for sulfur dioxide control, exhausting to stack S09;

(b) Four (4) production lines, each constructed in 1996, consisting of the following:

(1) Line 1

(A) One (1) pouring/mold cooling operation, identified as P01, with a maximum throughput of 25 tons per hour, using three (3) baghouses (C01, C02, C03) for particulate control, exhausting to stacks S01 and S04;

(B) One (1) shakeout operation, identified as P02, with a maximum throughput of 25 tons per hour, using three (3) baghouses (C01, C02, C03) for particulate control, exhausting to stack S01;

(C) One (1) cast cooling operation, identified as P03, with a maximum throughput of 25 tons per hour, using three (3) baghouses (C01, C02, C03) for particulate control, exhausting to stacks S01 and S04;

(D) One (1) pick & sort operation, identified as P04, with a maximum throughput of 25 tons per hour, using three (3) baghouses (C01, C02, C03) for particulate control, exhausting to stack S01;
(E) One (1) cleaning & grinding operation, identified as P05, with a maximum throughput of 25 tons per hour, using a mechanical blaster, using one (1) baghouse (C07) for particulate control, exhausting to stack S07;

(2) Line 2
(A) One (1) pouring/mold cooling operation, identified as P06, with a maximum throughput of 16 tons per hour, using three (3) baghouses (C01, C02, C03) for particulate control, exhausting to stack S01;
(B) One (1) shakeout operation, identified as P07, with a maximum throughput of 16 tons per hour, using three (3) baghouses (C01, C02, C03) for particulate control, exhausting to stack S01;
(C) One (1) cast cooling operation, identified as P08, with a maximum throughput of 16 tons per hour, using three (3) baghouses (C01, C02, C03) for particulate control, exhausting to stack S01;
(D) One (1) pick & sort operation, identified as P09, with a maximum throughput of 16 tons per hour, using one (1) baghouse (C07) for particulate control, exhausting to stack S07;
(E) One (1) cleaning & grinding operation, identified as P10, with a maximum throughput of 16 tons per hour, using a mechanical blaster, using one (1) baghouse (C07) for particulate control, exhausting to stack S07;

(3) Line 3
(A) One (1) pouring/mold cooling operation, identified as P11, with a maximum throughput of 16 tons per hour, using three (3) baghouses (C01, C02, C03) for particulate control, exhausting to stack S01;
(B) One (1) shakeout operation, identified as P12, with a maximum throughput of 16 tons per hour, using three (3) baghouses (C01, C02, C03) for particulate control, exhausting to stack S01;
(C) One (1) cast cooling operation, identified as P13, with a maximum throughput of 16 tons per hour, using three (3) baghouses (C01, C02, C03) for particulate control, exhausting to stack S01;
(D) One (1) pick & sort operation, identified as P14, with a maximum throughput of 16 tons per hour, using one (1) baghouse (C07) for particulate control, exhausting to stack S07;
(E) One (1) cleaning & grinding operation, identified as P15, with a maximum throughput of 16 tons per hour, using a mechanical blaster, using one (1) baghouse (C07) for particulate control, exhausting to stack S07;

(4) Line 4
(A) One (1) pouring/mold cooling operation, identified as P16, with a maximum throughput of 25 tons per hour, using three (3) baghouses (C01, C02, C03) for particulate control, exhausting to stack S01;
(B) One (1) shakeout operation, identified as P17, with a maximum throughput of 25 tons per hour, using three (3) baghouses (C01, C02, C03) for particulate control, exhausting to stack S01;
(C) One (1) cast cooling operation, identified as P18, with a maximum throughput of 25 tons per hour, using three (3) baghouses (C01, C02, C03) for particulate control, exhausting to stack S01;

(D) One (1) pick & sort operation, identified as P19, with a maximum throughput of 25 tons per hour, using three (3) baghouses (C01, C02, C03) for particulate control, exhausting to stack S01;

(E) One (1) cleaning & grinding operation, identified as P20, with a maximum throughput of 25 tons per hour, using a mechanical blaster, using one (1) baghouse (C07) for particulate control, exhausting to stack S07;

(c) Sand handling operations and ancillary operations, each constructed in 1996, consisting of the following:

(1) One (1) return sand handling & screen operation, identified as P21, with a maximum throughput of 480 tons per hour, using three (3) baghouses (C01, C02, C03) for particulate control, exhausting to stack S01;

(2) One (1) sand cooling & water addition operation, identified as P22, with a maximum throughput of 480 tons per hour, using three (3) baghouses (C01, C02, C03) for particulate control, exhausting to stack S01;

(3) One (1) sand mulling & handling operation, identified as P23, with a maximum throughput of 480 tons per hour, using three (3) baghouses (C01, C02, C03) for particulate control, exhausting to stack S01;

(4) One (1) spent sand handling & processing operation, identified as P24, with a maximum throughput of 50 tons per hour, using three (3) baghouses (C01, C02, C03) for particulate control, exhausting to stack S01;

(5) Air make-up units, identified as P52, with a maximum combined heat input capacity of 65.6 million British thermal units (MMBtu) per hour, combusting natural gas, using three (3) baghouses (C01, C02, C03) for particulate control, exhausting to stack S01;

(6) One (1) metallic returns handling operation, identified as P25, with a maximum throughput of 30 tons per hour, using one(1) baghouse (C07) for particulate control, exhausting to stack S07;

(7) One (1) core sand handling operation, identified as P40, with a maximum throughput of 16 tons per hour, using one (1) baghouse (C08) for particulate control, exhausting to stack S08;

(8) One (1) core manufacturing operation, identified as P41, with a maximum throughput of 16 tons per hour, exhausting to stack S11;

(9) One (1) core machine & oven operation, identified as P51, with a maximum heat input capacity of 16.8 MMBtu per hour, combusting natural gas, exhausting to stack S11;

(10) One (1) ladle preheating operation, identified as P53, with a maximum heat input capacity of 11.5 MMBtu per hour, combusting natural gas, exhausting to stack S12;

(11) One (1) ladle filling & iron transport operation, identified as P85, with a maximum throughput of 80 tons per hour, using one (1) baghouse (C44) for particulate control, exhausting to stack S44;

(12) One (1) ladle filling & iron transport operation, identified as P85, with a maximum throughput of 80 tons per hour; and

(13) One (1) ladle cleaning with burn bars, identified as P86.

Phase II

(a) One (1) cupola iron melting system, identified as P33, constructed in 1998 with a maximum melt rate of 80 tons of iron per hour. VOC and CO emissions are controlled by one (1) recuperative incinerator, identified as C11B. Sulfur dioxide emissions are controlled by one (1) lime injection system (or equivalent), identified as C12B Particulate matter emissions are controlled by one (1) baghouse system, identified as C09B. The gases are then exhausted to stack S09;

(b) Four (4) production lines, each constructed in 1998, consisting of the following:

(1) Line 5

(A) One (1) pouring/mold cooling operation, identified as P60, with a maximum production capacity of 25 tons per hour. Particulate matter emissions are controlled by one (1) baghouse system, identified as C15. The gases are then exhausted to Stack S15;

(B) One (1) shakeout operation, identified as P61, with a maximum throughout capacity of 25 tons per hour. Particulate matter emissions are controlled by one (1) baghouse system, identified as C15, that exhaust to Stack S15 or by one (1) baghouse system, identified as C16, that exhaust to Stack S16;

(C) One (1) cast cooling operation, identified as P62, with a maximum capacity of 25 tons per hour. Particulate matter emissions are controlled by one (1) baghouse system, identified as C15. The gases are then exhausted to Stack S15.

(D) One (1) pick and sort operation, identified as P63, with a maximum throughput capacity of 25 tons per hour. Particulate matter emissions are controlled by one (1) baghouse system, identified as C16. The gases are then exhausted to Stack S16;

(E) One (1) cleaning and grinding operation, identified as P64, with a maximum throughput capacity of 25 tons per hour. Particulate matter emissions are controlled by one (1) baghouse system, identified as C16. The gases are then exhausted to Stack S16;

(2) Line 6

(A) One (1) pouring/mold cooling operation, identified as P65, with a maximum production capacity of 18 tons per hour. Particulate matter emissions are controlled by one (1) baghouse system, identified as C15. The gases are then exhausted to Stack S15;

(B) One (1) shakeout operation, identified as P66, with a maximum throughput capacity of 18 tons per hour. Particulate matter emissions are controlled by one (1) baghouse system, identified as C15, that exhaust to Stack S15 or by one (1) baghouse system, identified as C16, that exhaust to Stack S16;

(C) One (1) cast cooling operation, identified as P67, with a maximum capacity of 18 tons per hour. Particulate matter emissions are controlled by one (1) baghouse system, identified as C15, that exhaust to Stack S15 or by one (1) baghouse system, identified as C16, that exhaust to Stack S16;

(D) One (1) pick and sort operation, identified as P68, with a maximum throughput capacity of 18 tons per hour. Particulate matter emissions are controlled by one (1) baghouse system, identified as C16. The gases are then exhausted to Stack S16;

(E) One (1) cleaning and grinding operation, identified as P69, with a maximum throughput capacity of 18 tons per hour. Particulate matter emissions are controlled by one (1) baghouse system, identified as C16. The gases are then exhausted to Stack S16;

(3) Line 7

(A) One (1) pouring/mold cooling operation, identified as P70, with a maximum production capacity of 30 tons per hour. Particulate matter emissions are controlled by one (1) baghouse system, identified as C15. The gases are then exhausted to Stack S15;

(B) One (1) shakeout operation, identified as P71, with a maximum production capacity of 30 tons per hour. Particulate matter emissions are controlled by one (1) baghouse system, identified as C15, that exhaust to Stack S15 or by one (1) baghouse system, identified as C16, that exhaust to Stack S16;

(C) One (1)cast cooling operation, identified as P72, with a maximum production capacity of 30 tons per hour. Particulate matter emissions are controlled by one (1) baghouse system, identified as C15, that exhaust to Stack S15 or by one (1) baghouse system, identified as C16, that exhaust to Stack S16;

(D) One (1) pick and sort operation, identified as P73, with a maximum throughput capacity of 30 tons per hour. Particulate matter emissions are controlled by one (1) baghouse system, identified as C16. The gases are then exhausted to Stack S16;

(E) One (1) cleaning and grinding operation, identified as P74, with a maximum throughput capacity of 30 tons per hour. Particulate matter emissions are controlled by one (1) baghouse system, identified as C16. The gases are then exhausted to Stack S16;

(4) Line 8

(A) One (1) pouring/mold cooling operation, identified as P75, with a maximum production capacity of 18 tons per hour. Particulate matter emissions are controlled by one (1) baghouse system, identified as C15. The gases are then exhausted to Stack S15;

(B) One (1) shakeout operation, identified as P76, with a maximum throughput capacity of 18 tons per hour. Particulate matter emissions are controlled by one (1) baghouse system, identified as C16. The gases are then exhausted to Stack S16;

(C) One (1) cast cooling operation, identified as P77, with a maximum capacity of 18 tons per hour. Particulate matter emissions are controlled by one (1) baghouse system, identified as C16. The gases are then exhausted to Stack S16;

(D) One (1) pick and sort operation, identified as P78, with a maximum throughput capacity of 18 tons per hour. Particulate matter emissions are controlled by one (1) baghouse system, identified as C16. The gases are then exhausted to Stack S16; and

(E) One (1) cleaning and grinding operation, identified as P79, with a maximum throughput capacity of 18 tons per hour. Particulate matter emissions are controlled by one (1) baghouse system, identified as C16. The gases are then exhausted to Stack S16.

(c) Sand handling operations and ancillary operations, each constructed in 1998, consisting of the following:

(1) One (1) return sand handling and screening operation, identified as P80, with a maximum throughput capacity of 600 tons of sand per hour. Particulate matter emissions are controlled by one (1) baghouse system, identified as C15, that exhaust to Stack S15 or by one (1) baghouse system, identified as C16, that exhaust to Stack S16;

(2) One (1) sand mulling and handling operation, identified as P81, with a maximum capacity of 600 tons of sand per hour. Particulate matter emissions are controlled by one (1) baghouse system, identified as C15. The gases are then exhausted to Stack S15;

(3) One (1) sand blending and cooling operation, identified as P82, with a maximum capacity of 600 tons of sand per hour. Particulate matter emissions are controlled by one (1) baghouse system, identified as C15. The gases are then exhausted to Stack S15;

(4) One (1) spent sand and dust handling operation, identified as P83, with a maximum throughput capacity of 50 tons of sand per hour. Particulate matter emissions are controlled by one (1) baghouse system, identified as C15. The gases are then exhausted to Stack S15;

(5) One (1) metal returns handling operation, identified as P84, with a maximum capacity of 40 tons per hour. Particulate matter emissions are controlled by one (1) baghouse system, identified as C15, that exhaust to Stack S15 or by one (1) baghouse system, identified as C16, that exhaust to Stack S16;

(6) One (1) enclosed cupola charge make-up and handling unit with a maximum charge of 91.2 tons per hour;

(7) One (1) ladle filling and iron transport operation with a maximum capacity of 150 tons of iron per hour, and a ladle cleaning operation with an average usage of 13.2 pounds of burn bars per hour, using one (1) baghouse (C44) for particulate control, exhausting to stack S44;

(8) Two (2) ductile iron treatment stations, both identified as P35, each with a maximum production capacity of 40 tons per hour. Particulate matter emissions are controlled by two (2) baghouse systems identified as C15 and C35. The gases from both baghouses are then exhausted to Stack S15;

(9) One (1) phenolic-urethane core sand handling system, identified as P42, with a maximum production capacity of 20 tons of cores per hour. Particulate matter emissions are controlled by one (1) baghouse system, identified as C08, that exhausts to Stack S08B;

(10) One (1) phenolic-urethane core making process, identified as P43, with a maximum production capacity of 20 tons of cores per hour. Volatile organic compound emissions are controlled by one (1) packed bed scrubber (or equivalent), identified as C14. The gases are then exhausted to Stack S14;

(11) One (1) phenolic-urethane core making process, identified as P44, consisting of 2 mixers and 2 core machines, each with a maximum capacity of 3 tons per hour. DMIPA emissions are controlled by one (1) packed bed scrubber, identified as C14. The gases are then exhausted to Stack S14;

(12) Raw material handling including iron handling at a maximum rate of 150 tons per hour, alloys handling at a maximum rate of 1.5 tons per hour, coke handling at a maximum rate of 15 tons per hour, and limestone handling at a maximum rate of 4.5 tons per hour;

(13) Natural gas fired air make-up units equipped with low-NOx burners, identified as P54, with a maximum heat input rate of 80 MMBtu per hour exhausting to Stack S15.

(14) One (1) pattern shop, identified as P50, controlled by a baghouse, exhausting to stack S08.

Core Room Expansion

(a) One (1) phenolic-urethane core sand handling system, identified as P46, to begin construction in 2005, with a maximum production capacity of 45 tons of cores per hour. Particulate matter emissions are controlled by one (1) baghouse, identified as C18, exhausting to Stack S18;

(b) One (1) phenolic-urethane core making process, identified as P47, to begin construction in 2005, consisting of 3 mixers and 3 core machines, each with a maximum capacity of 15 tons per hour. DMIPA catalyst emissions are controlled by one (1) packed bed scrubber, identified as C17. The gases are then exhausted to Stack S17;

(c) Three (3) natural gas-fired core drying ovens and natural gas-fired air make-up units, identified as P48, to begin construction in 2005, with the core drying ovens having a combined maximum heat input capacity of 9.0 MMBtu per hour and the air make-up units having a combined maximum heat input capacity of 3.2 MMBtu per hour, exhausting inside the building.

A.3 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

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

(a) Degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6; [326 IAC 8-3-2] [326 IAC 8-3-5]

(2) This stationary source also includes the following insignificant activities which are not specifically regulated:

(a) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) Btu per hour;

(b) A gasoline fuel transfer and dispensing operation handling less than or equal to 1,300 gallons per day, such as filling of tanks, locomotives, automobiles, having a storage capacity less than or equal to 10,500 gallons;

(c) A petroleum fuel, other than gasoline, dispensing facility, having a storage capacity of less than or equal to 10,500 gallons, and dispensing less than or equal to 230,000 gallons per month;

(d) Activities associated with the treatment of wastewater streams with an oil and grease content less than or equal to 1% by volume;

(e) Any operations using aqueous solutions containing less than 1% by weight of VOCs excluding HAPs;

(f) Forced and induced draft cooling tower system not regulated under a NESHAP;

(g) Heat exchanger cleaning and repair;

(h) Underground conveyors;

(i) Blowdown for any of the following: sight glass; boilers; compressors; pumps; and cooling tower;

(j) Mold release agents using low volatile products (vapor pressure less than or equal to 2 kilopascals measured at 38 degrees C);

(k) A laboratory as defined in 326 IAC 2-7-1(21)(D).

## 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); and

(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, T123-9234-00019, 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 Enforceability [326 IAC 2-7-7]

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.4 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.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. The submittal by the Permittee does require the certification by the “responsible official” as defined by 326 IAC 2-7-1(34). 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) Where specifically designated by this permit or required by an applicable requirement, any application form, report, or compliance certification submitted shall contain certification by a responsible official of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

(b) One (1) certification shall be included, using the attached Certification Form, 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(34).

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. The initial certification shall cover the time period from the date of final permit issuance through December 31 of the same year. All subsequent certifications shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted in letter form no later than July 1 of each year to:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue
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 the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

B.10 Preventive Maintenance Plan [326 IAC 2-7-5(1),(3) and (13)] [326 IAC 2-7-6(1) and (6)] [326 IAC 1-6-3]

(a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) within ninety (90) days after issuance of this permit, 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 Branch, Office of Air Quality
100 North Senate Avenue
Indianapolis, Indiana 46204-2251

The PMP extension notification does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(b) A copy of the PMPs shall be submitted to IDEM, OAQ, upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ, may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions or potential to emit. The PMPs do not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

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

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

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

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

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

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

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

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

Telephone Number: 1-800-451-6027 (ask for Office of Air Quality, Compliance Section), or
Telephone Number: 317-233-5674 (ask for Compliance Section)
Facsimile Number: 317-233-5967

And

Telephone Number: 1-888-672-8323 (IDEM Southwest Regional Office), or
Telephone Number: 812-380-2305
Facsimile Number: 812-380-2304

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

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue
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 the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).

(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)(9) 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.

(h) The Permittee shall include all emergencies in the Quarterly Deviation and Compliance Monitoring Report.

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 in 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 T123-9234-00019 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 Deviations from Permit Requirements and Conditions [326 IAC 2-7-5(3)(C)(ii)]

(a) Deviations from any permit requirements (for emergencies see Section B - Emergency Provisions), the probable cause of such deviations, and any response steps or preventive measures taken shall be reported to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue
Indianapolis, Indiana 46204-2251

using the attached Quarterly Deviation and Compliance Monitoring Report, or its equivalent. 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.

The Quarterly Deviation and Compliance Monitoring Report does require the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).

(b) A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.

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 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 the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).

(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 the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).

Request for renewal shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue
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 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
Permits Branch, Office of Air Quality
100 North Senate Avenue
Indianapolis, Indiana 46204-2251

Any such application shall be certified by the "responsible official" as defined by 326 IAC 2-7-1(34).

(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)]

(d) No permit amendment or modification is required for the addition, operation or removal of a nonroad engine, as defined in 40 CFR 89.2.

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 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), (c), or (e), 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
Permits Branch, Office of Air Quality
100 North Senate Avenue
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), (c), or (e). 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), (c)(1), and (e)(2).

(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 the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).

(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.

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

(a) A modification, construction, or reconstruction is governed by the requirements of 326 IAC 2 and 326 IAC 2-7-10.5.

(b) Any modification at an existing major source is governed by the requirements of 326 IAC 2-2-2.

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
Permits Branch, Office of Air Quality
100 North Senate Avenue
Indianapolis, Indiana 46204-2251

The application which shall be submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(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.

## B.25 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.

**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 5-1-3 (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 or incinerate any waste or refuse except as provided in 326 IAC 4-2 and 326 IAC 9-1-2. 326 IAC 9-1-2 is not federally enforceable.

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).

C.6 Fugitive Particulate Matter Emission Limitations [326 IAC 6-5]

Pursuant to 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations), fugitive particulate matter emissions shall be controlled according to the plan submitted on February 12, 2003. The plan is included as Part 70 Permit Attachment A.

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

The Permittee shall comply with the applicable provisions of 326 IAC 1-7 (Stack Height Provisions), for all exhaust stacks through which a potential (before controls) of twenty-five (25) tons per year or more of particulate matter or sulfur dioxide is emitted. 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.8 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]

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

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

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

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

(A) Asbestos removal or 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
Asbestos Section, Office of Air Quality
100 North Senate Avenue
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 by the "responsible official" as defined by 326 IAC 2-7-1(34).

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

C.9 National Emissions Standards for Hazardous Air Pollutants for Iron and Steel Foundries [40 CFR Part 63, Subpart EEEEE]

(a) The provisions of 40 CFR 63 Subpart A - General Provisions, which are incorporated as 326 IAC 20-1-1, apply to the iron and steel foundry except when otherwise specified in 40 CFR 63 Subpart EEEEE. The Permittee must comply with these requirements on and after the effective date of 40 CFR 63 Subpart EEEEE.

(b) The affected source, the iron and steel foundry, is subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Iron and Steel Foundries, (40 CFR 63, Subpart EEEEE, and 326 IAC 20-1-1), effective the date the rule is published in the Federal Register. Pursuant to this rule, the Permittee must comply with 40 CFR 63, Subpart EEEEE on and after the date that is three years after the effective date of the rule, except as provided in paragraph (e), or accept and meet an enforceable HAP emissions limit below the major source threshold prior to three years after the effective date of the rule.

(c) The following emissions units comprise the affected source that is subject to 40 CFR 63, Subpart EEEEE:

(1) Phase I and Phase II cupola melt furnaces;
(2) lines 1 through 8 pouring/casting operations; and
(3) fugitive emissions from each building or structure housing any emissions source at the foundry.

(d) The definitions of 40 CFR 63, Subpart EEEEE at 40 CFR 63.7765 are incorporated by reference.

(e) Pursuant to 40 CFR 63.7700(a) and 40 CFR 63.7683(b), the Permittee shall comply with the certification requirements in 40 CFR 63.7700(b) or prepare and implement a plan for the selection and inspection of scrap according to the requirements in 40 CFR 63.7700(c) no later than one year after the effective date of 40 CFR 63, Subpart EEEEE.

C.10 Ambient Monitoring [326 IAC 2-2-4]

IDEM has determined that the SO2 ambient monitoring site can be removed from operation because the data has established that the SO2 levels comply with the NAAQS with an adequate margin of safety.

Pursuant to CP123-8451-00019 issued on February 4, 1998 and 326 IAC 2-2-4, the Permittee shall continue to operate the upwind and downwind ambient monitoring sites for $PM_{10}$ and collect meteorological data described in (a) through (d).

(a) The ambient data for $PM_{10}$ and meteorological data shall be collected following the initial compliance demonstration. IDEM, OAQ reserves the authority to require the Permittee to monitor for compliance with the National Ambient Air Quality Standards (NAAQS) for $PM_{2.5}$ in the event that such information is necessary to demonstrate compliance with the standard.

(b) The monitoring site(s) shall measure the following meteorological parameters:

(1) wind direction,

(2) wind speed, and
(3) temperature.

(c) A quarterly summary of the monitoring data shall be submitted to:

Indiana Department of Environmental Management
Ambient Monitoring Section, Office of Air Quality
2525 North Shadeland Avenue
Indianapolis, Indiana 46219

within ninety (90) calendar days after the end of the quarter being reported.

(d) The Permittee may petition IDEM, OAQ for the removal of the monitoring sites if it has been established that the PM10 levels will continue to comply with the NAAQS with an adequate margin of safety. The monitoring requirements may be continued if there exists a threat to the NAAQS or if determined to be warranted by IDEM, OAQ.

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

C.11 Performance Testing [326 IAC 3-6]

(a) All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

A test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue
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 certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(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 certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(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.12 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.13 Compliance Monitoring [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

Unless otherwise specified in this permit, all monitoring and record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance. If required by Section D, the Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. If due to circumstances beyond its control, that equipment cannot be installed and operated within ninety (90) days, 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 Branch, Office of Air Quality
100 North Senate Avenue
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 the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

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.

C.14 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 time and reason 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 the 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 2-2-3.

C.15 Maintenance of Continuous Emission Monitoring Equipment [326 IAC 2-7-5(3)(A)(iii)]

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

(b) All continuous emission monitoring systems shall meet all applicable performance specifications of 40 CFR 60 or any other performance specification, and are subject to monitor system certification requirements pursuant to 326 IAC 3-5-3.

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

(d) Whenever a continuous emission monitor other than an opacity monitor is malfunctioning or is down for maintenance or repairs, the following shall be used as an alternative to continuous data collection:

(1) If the CEMS is required for monitoring $NO_X$ or $SO_2$ emissions pursuant to 40 CFR 75 (Title IV Acid Rain program) or 326 IAC 10-4 ($NO_X$ Budget Trading Program), the Permittee shall comply with the relevant requirements of 40 CFR 75 Subpart D - Missing Data Substitution Procedures.

(2) If the CEMS is not used to monitor $NO_X$ or $SO_2$ emissions pursuant to 40 CFR 75 or 326 IAC 10-4, then supplemental or intermittent monitoring of the parameter shall be implemented as specified in Section D of this permit until such time as the emission monitor system is back in operation.

(e) Nothing in this permit shall excuse the Permittee from complying with the requirements to operate a continuous emission monitoring system pursuant to 326 IAC 2-2-3.

C.16 Monitoring Methods [326 IAC 3] [40 CFR 60] [40 CFR 63]

Any monitoring or testing required by Section D of this permit shall be performed according to the provisions of 326 IAC 3, 40 CFR 60, Appendix A, 40 CFR 60 Appendix B, 40 CFR 63, or other approved methods as specified in this permit.

C.17 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.

(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.18 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 prepare written emergency reduction plans (ERPs) consistent with safe operating procedures.

(b) These ERPs shall be submitted for approval to:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue
Indianapolis, Indiana 46204-2251

within ninety (90) days after the date of issuance of this permit.

The ERP does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(c) If the ERP is disapproved by IDEM, OAQ, the Permittee shall have an additional thirty (30) days to resolve the differences and submit an approvable ERP.

(d) These ERPs shall state those actions that will be taken, when each episode level is declared, to reduce or eliminate emissions of the appropriate air pollutants.

(e) Said ERPs shall also identify the sources of air pollutants, the approximate amount of reduction of the pollutants, and a brief description of the manner in which the reduction will be achieved.

(f) 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.19 Risk Management Plan [326 IAC 2-7-5(12)] [40 CFR 68]

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

C.20 Response to Excursions or Exceedances [326 IAC 2-7-5] [326 IAC 2-7-6]

(a) Upon detecting an excursion or exceedance, the Permittee shall 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 emissions.

(b) 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). Corrective actions may include, but are not limited to, the following:

(1) initial inspection and evaluation;

(2) recording that operations returned 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 within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.

(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;

(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 maintain the following records:

(1) monitoring data;

(2) monitor performance data, if applicable; and

(3) corrective actions taken.

C.21 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 take appropriate response actions. The Permittee shall submit a description of these response actions to IDEM, OAQ, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize excess emissions from the affected facility while the response actions are being implemented.

(b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAQ that retesting in one-hundred and twenty (120) 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 the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).

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

C.22 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]

(a) 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 purposes of Part 70 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
Indianapolis, Indiana 46204-2251

The emission statement does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(b) The emission statement 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.23 General Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-6] [326 IAC 2-2]

(a) Records of all required monitoring data, reports and support information required by this permit shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

(b) Unless otherwise specified in this permit, all record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance.

(c) If there is a reasonable possibility that a "project" (as defined in 326 IAC 2-2-1 (qq)) at an existing emissions unit, other than projects at a Clean Unit, which is not part of a "major modification" (as defined in 326 IAC 2-2-1 (ee)) may result in significant emissions increase and the Permittee elects to utilize the "projected actual emissions" (as defined in 326 IAC 2-2-1 (rr)), the Permittee shall comply with following:

(1) Before beginning actual construction of the "project" (as defined in 326 IAC 2-2-1 (qq)) 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(rr)(2)(A)(iii); and
  - (iv) An explanation for why the amount was excluded, and any netting calculations, if applicable.

(2) 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

(3) 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.24 General Reporting Requirements [326 IAC 2-7-5(3)(C)] [326 IAC 2-1.1-11] [326 IAC 2-2]

(a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported. This report shall be submitted within thirty (30) days of the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(b) The report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue
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) Unless otherwise specified in this permit, all reports required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. All reports do require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(e) The first report shall cover the period commencing on the date of issuance of this permit and ending on the last day of the reporting period. Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit "calendar year" means the twelve (12) month period from January 1 to December 31 inclusive.

(f) If the Permittee is required to comply with the recordkeeping provisions of (c) in Section C- General Record Keeping Requirements for any "project" (as defined in 326 IAC 2-2-1 (qq)) 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 (xx), 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).

(g) The report for projects at an existing emissions unit shall be submitted within 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 (c)(2) and (3) 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).

(4) Any other information that the Permittee deems fit to include in this report,

Reports required in this part shall be submitted to:

Indiana Department of Environmental Management
Air Compliance Section, Office of Air Quality
100 North Senate Avenue
Indianapolis, Indiana 46204-2251

(h) 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.

C.25 National Emissions Standards for Hazardous Air Pollutants for Iron and Steel Foundries - Reporting Requirements [40 CFR 63, Subpart EEEEE]

(a) To comply with Condition C.9, the Permittee shall submit:

(1) An Initial Notification containing the information specified in 40 CFR 63.9(b)(2) no later than 120 days after the effective date of 40 CFR 63, Subpart EEEEE.

(2) A Notification of Compliance Status containing the information required by 40 CFR 63.9(h) in accordance with 40 CFR 63.7750(e). The Notification of Compliance Status must be submitted:

(A) Before the close of business on the 30th calendar day following completion of the initial compliance demonstration for each initial compliance demonstration that does not include a performance test; and

(B) Before the close of business on the 60th calendar day following the completion of the performance test according to the requirement specified in 40 CFR 63.10(d)(2) for each initial compliance demonstration that does include a performance test.

(3) If required to conduct a performance test, 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 40 CFR 63.7(b)(1) and 40 CFR 63.7750(d).

(4) If required to use a continuous monitoring system (CMS), notifications, if required, as specified in 40 CFR 63.9(g), by the date of submission of the notification of intent to conduct a performance test.

(5) If required to conduct opacity or visible emissions observations, the anticipated date for conducting the opacity or visible emission observations specified in 40 CFR 63.6(h)(5) in accordance with the appropriate schedule specified in 40 CFR 63.9(f) as required by 40 CFR 63.7750(a).

(b) The notifications required by paragraph (a) shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue
Indianapolis, Indiana 46204-2251

and

United States Environmental Protection Agency, Region V
Director, Air and Radiation Division
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

The notifications require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(c) The Permittee shall submit an application for a significant permit modification to IDEM, OAQ to include information from the notification of compliance status in the Part 70 operating permit.

(1) The significant permit modification application shall be consistent with 326 IAC 2-7-12, including information sufficient for IDEM, OAQ to incorporate into the Part 70 operating permit the applicable requirements of 40 CFR 63, Subpart EEEEE, a description of the affected source and activities subject to the standard, and a description of how the Permittee will meet the applicable requirements of the standard.

(2) The significant permit modification application shall be submitted no later than the date that the notification of compliance status, specified in 40 CFR 63.7750(e) and 40 CFR 63.9(h), is due.

(3) The significant permit modification application shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue
Indianapolis, Indiana 46204-2251

**Stratospheric Ozone Protection**

C.26 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 the standards for recycling and emissions reduction:

(a) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to 40 CFR 82.156.

(b) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 CFR 82.158.

(b) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR 82.161.

## SECTION D.1 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]
**MELTING OPERATION**
Phase I
One (1) gray iron cupola, identified as P30, constructed in 1996, with a maximum melt rate of 80 tons per hour, using one (1) baghouse (C09A) for particulate control, one (1) incinerator (C11A) for carbon monoxide control and volatile organic compound emissions control, and one (1) lime injection system (C12A) using dry injection system for sulfur dioxide control, exhausting to stack S09;

Phase II
One (1) cupola iron melting system, identified as P33, constructed in 1998, with a maximum melt rate of 80 tons of iron per hour. VOC and CO emissions are controlled by one (1) recuperative incinerator, identified as C11B. Sulfur dioxide emissions are controlled by one (1) lime injection system (or equivalent), identified as C12B Particulate matter emissions are controlled by one (1) baghouse system, identified as C09B. The gases are then exhausted to stack S09.

(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.1.1 Particulate Matter Emissions Limitations [326 IAC 2-2-3(a)(3)]

(a) Pursuant to CP-123-8451-00019, issued on February 4, 1998 and 326 IAC 2-2-3(a)(3) (Prevention of Significant Deterioration (PSD) Rules), the particulate matter emissions from the cupolas shall be limited to 0.078 pounds per ton of iron and 12.48 pounds per hour.

(b) Pursuant to CP-123-4593-00019, issued on January 19, 1996, visible emissions from the cupola stack S09 shall not exceed 10 % opacity.

(c) Pursuant to CP-123-4593-00019, issued on January 19, 1996, visible emissions from any building opening shall not exceed 3% opacity.

D.1.2 Lead Emission Limitations [326 IAC 2-2-3(a)(3)] [326 IAC 2-4.1-1]

Pursuant to CP-123-8451-00019, issued on February 4, 1998 and 326 IAC 2-2-3(a)(3), the lead (Pb) emissions from both cupolas combined shall be limited to 0.54 pounds per hour.

D.1.3 Beryllium Emission Limitations [326 IAC 2-2-3(a)(3)] [326 IAC 2-4.1-1]

Pursuant to CP-123-8451-00019, issued on February 4, 1998 and 326 IAC 2-2-3(a)(3), the beryllium (Be) emissions from both cupolas combined shall be limited to 0.0016 pounds per hour.

D.1.4 Sulfur Dioxide Emissions Limitations [326 IAC 2-2-3(a)(3)]

(a) Pursuant to 326 IAC 2-2-3(a)(3), the sulfur dioxide ($SO_2$) emissions from the cupolas shall be limited to 0.22 pounds per ton of metal melted based on a 30-day rolling average and 35.2 pounds per hour based on a 3-hour rolling average.

(b) Pursuant to CP-123-8451-00019, issued on February 4, 1998, Amendment 123-9740-00019, issued May 22, 1998, and 326 IAC 2-2-3(a)(3), coke usage shall not exceed 192 tons per day for each cupola.

D.1.5 Volatile Organic Compound Emission Limitations [326 IAC 2-2-3(a)(3)] [326 IAC 8-1-6]

Pursuant to CP-123-8451-00019, issued on February 4 1998, Amendment 123-9740-00019, issued May 22, 1998, 326 IAC 2-2-3(a)(3) and 326 IAC 8-1-6 (General Reduction Requirements for New Facilities), the volatile organic compound (VOC) emissions from the cupolas shall be limited to 0.02 pounds per ton of iron and 3.20 pounds per hour.

D.1.6 Carbon Monoxide Emission Limitations [326 IAC 2-2-3(a)(3)] [326 IAC 9-1-2]

(a) Pursuant to CP-123-8451-00019, issued on February 4 1998, Amendment 123-9740-00019, issued May 22, 1998, and 326 IAC 2-2-3(a)(3), the carbon monoxide (CO) emissions from the cupolas shall be limited to 0.4 pounds per ton of iron and 64.00 pounds per hour.

(b) Pursuant to 326 IAC 9-1-2 (Carbon Monoxide Emission Limits), the carbon monoxide emissions from the cupolas shall be controlled by the recuperative incinerator/heat recovery systems, which shall maintain a minimum temperature of one thousand three hundred (1,300) degrees Fahrenheit for a minimum retention time of three-tenths (0.3) second.

D.1.7 Nitrogen Oxide Emission Limitations [326 IAC 2-2-3(a)(3)]

Pursuant to CP-123-8451-00019, issued on February 4 1998, Amendment 123-9740-00019, issued May 22, 1998, and 326 IAC 2-2-3(a)(3), the nitrogen oxide ($NO_X$) emissions from the cupolas shall be limited to 0.44 pounds per ton of iron and 70.40 pounds per hour.

D.1.8 Operating Requirements [326 IAC 2-2-3(a)(3)]

Pursuant to CP123-8451-00019 issued on February 4, 1998 and 326 IAC 2-2-3(a)(3), each cupola shall be limited to a maximum melt rate of 80 tons per hour, based on a 24 hour average.

D.1.9 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

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

**Compliance Determination Requirements**

D.1.10 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

Within 180 days after issuance of this Part 70 permit, the Permittee shall perform PM, opacity, VOC, NOx, CO, lead and beryllium testing on both cupolas (P30 and P33) using methods as approved by the Commissioner. The tests for CO shall be performed during periods of high and low load and at loads representative of normal operations. These tests shall be repeated at least once every two and one-half (2.5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C- Performance Testing.

D.1.11 Particulate Matter (PM/PM-10) Controls [326 IAC 2-7-6(6)]

(a) Pursuant to CP123-8451-00019 issued February 4, 1998, the PM emissions from the cupola for Phase I shall be controlled by baghouse C09A (Stack S09).

(b) Pursuant to CP123-8451-00019 issued February 4, 1998, the PM emissions from the cupola for Phase II shall be controlled by baghouse C09B (Stack S09).

(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.1.12 Sulfur Dioxide Control

Pursuant to CP123-8451-00019 issued February 4, 1998, the $SO_2$ emissions from the Phase I and II cupolas (P30 and P33) shall be controlled by dry scrubbing systems using a dry lime or other equivalent alkaline reagent located prior to the baghouse.

D.1.13 VOC, CO, and NOx Control

(a) Pursuant to CP123-8451-00019 issued February 4, 1998, the waste gas stream of the Phase I and Phase II cupolas (P30 and P33) shall be equipped with recuperative incinerator/heat recovery systems with low NOx burners prior to the dry scrubber/baghouse system.

(b) Pursuant to CP123-8451-00019 issued February 4, 1998, the recuperative incinerator shall only use natural gas fuel as the auxiliary fuel. Propane may be used as a backup fuel.

D.1.14 Continuous Emissions Monitoring and Continuous Opacity Monitoring

(a) Pursuant to CP123-8451 issued February 4, 1998, a continuous monitoring system shall be installed, calibrated, maintained, and operated for measuring opacity from stack S09 of the Phase I and Phase II cupolas, to demonstrate compliance with the limitations and operation standards required by Operation Condition D.1.1(b). The continuous monitoring systems shall meet the performance specifications of 326 IAC 3-5-2.

(b) Pursuant to CP123-8451 issued February 4, 1998, compliance with the $SO_2$ limits for the Phase I and Phase II cupolas in Condition D.1.4 shall be demonstrated by installing and operating a $SO_2$ continuous emissions monitoring system (CEMS) for the Phase 1 and Phase 2 cupolas exhausting to stack S09. The $SO_2$ CEMS shall be certified according to procedures contained in 326 IAC 3 and 40 CFR 75 as applicable. The continuous monitoring system shall be equipped with a flow monitor to provide data in pounds of $SO_2$ per hour. The $SO_2$ emissions on a per ton of iron basis shall be calculated by using the emissions rate information divided by the cupola production data, and shall be based on a 30 day rolling average.

D.1.15 Recuperative Incinerator Temperature

A continuous monitoring system shall be calibrated, maintained, and operated on each of the cupolas for measuring temperature of the cupola gas stream. For the purposes of this condition, continuous shall mean no less often than once per minute. The output of this system shall be recorded as an hourly average. From the date of issuance of this permit until the approved stack test results (as required by Condition D.1.10 of this Part 70 Permit) are available, the Permittee shall maintain the hourly average temperature of the cupola gas stream at or above 1400 $^0$F. On and after the date the approved stack test results are available, the Permittee maintain the hourly average temperature of the cupola gas stream at or above the average temperature measured during the most recent compliant stack test. These minimum temperature requirements apply at all times during operation of either of the cupolas, except for the following:

(a) periods when the cupola blast air is turned off;
(b) periods when the blast air has been turned on for less than 30 consecutive minutes; and
(c) during the last 30 minutes of operation of the cupola.

The Permittee shall monitor the times that the cupola blast air is turned on and off for each cupola.

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

D.1.16 Baghouse Parametric Monitoring

The Permittee shall record the pressure drop across each of the baghouses used in conjunction with the cupolas, at least once per day when the associated cupola is in operation. When for any one reading, the pressure drop across a baghouse is outside the normal range of 3.0 and 10.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

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

D.1.17 Dry Alkaline Injection Parametric Monitoring

Whenever the $SO_2$ continuous emissions monitoring system (CEMS) is malfunctioning or down for repairs or adjustments, the following shall be used to provide information related to SO2 emissions:

(a) If the CEMS is down for less than twenty-four (24) hours, the Permittee shall substitute an average of the quality-assured data from the hour immediately before and the hour immediately after the missing data period for each hour of missing data.

(b) If the CEMS is down for twenty-four (24) hours or more, the Permittee shall record the alkaline dust injection rate of each dry alkaline injection system at least once per hour until the $SO_2$ CEMS is back online. When for any one reading the alkaline dust injection rate is below the minimum alkaline dust injection rate determined from the most recent compliant stack test, the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions or Exceedances. An alkaline dust injection rate reading that is below the above mentioned minimum is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

D.1.18 Recuperative Incinerator Failure Detection

(a) Charging of the cupola shall cease immediately until the failed units have been repaired or replaced.

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

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

D.1.19 Record Keeping Requirement

(a) To document compliance with Conditions D.1.1 and D.1.14, the Permittee shall maintain records of opacity from the continuous opacity monitor on stack S09, including raw data and supporting information, for a minimum of five (5) years.

(b) To document compliance with Conditions D.1.4, the Permittee shall maintain records of the coke input to each cupola for each day. Records shall be taken daily and shall be complete and sufficient to establish compliance with the coke input limit established in Condition D.1.4(b).

(c) To document compliance with Conditions D.1.15, D.1.16, and D.1.17, the Permittee shall maintain records of the following:

(1) the pressure drop across each baghouse once per day;

(2) records of the injection rate of each alkali injection system once per hour as required by Condition D.1.17;

(3) records of the temperature readings for each recuperative incinerator (reduced to hourly averages) and all times when the blast air is turned on and off, in order to demonstrate compliance with Condition D.1.15; and

(d) In order to document compliance with D.1.8, records shall be kept of the total iron throughput to each cupola each day of operation, and of the total hours of operation of each cupola each day of operation.

(e) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.1.20 Reporting Requirements

(a) A quarterly summary of excess opacity emissions, as defined in 326 IAC 3-5-7, from the continuous monitoring system, shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, within thirty (30) days after the end of the quarter being reported.

(b) The Permittee shall submit a quarterly excess emissions report, if applicable, based on the continuous emissions monitor system (CEMS) data for $SO_2$, pursuant to 326 IAC 3-5-7. These reports shall be submitted within thirty (30) calendar days following the end of each calendar quarter and in accordance with Section C - General Reporting Requirements of this permit.

## SECTION D.2 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]
**Facilities exhausting to stacks S01, S04, or S07**
Phase I
(A) Four (4) production lines, each constructed in 1996, consisting of the following:

(1) Line 1
- (a) One (1) pouring/mold cooling operation, identified as P01, with a maximum throughput of 25 tons per hour, using three (3) baghouses (C01, C02, C03) for particulate control, exhausting to stacks S01 and S04;
- (b) One (1) shakeout operation, identified as P02, with a maximum throughput of 25 tons per hour, using three (3) baghouses (C01, C02, C03) for particulate control, exhausting to stack S01;
- (c) One (1) cast cooling operation, identified as P03, with a maximum throughput of 25 tons per hour, using three (3) baghouses (C01, C02, C03) for particulate control, exhausting to stacks S01 and S04;
- (d) One (1) pick & sort operation, identified as P04, with a maximum throughput of 25 tons per hour, using three (3) baghouses (C01, C02, C03) for particulate control, exhausting to stack S01; and
- (e) One (1) cleaning & grinding operation, identified as P05, with a maximum throughput of 25 tons per hour, using a mechanical blaster, using one (1) baghouse (C07) for particulate control, exhausting to stack S07.

(2) Line 2
- (a) One (1) pouring/mold cooling operation, identified as P06, with a maximum throughput of 16 tons per hour, using three (3) baghouses (C01, C02, C03) for particulate control, exhausting to stack S01;
- (b) One (1) shakeout operation, identified as P07, with a maximum throughput of 16 tons per hour, using three (3) baghouses (C01, C02, C03) for particulate control, exhausting to stack S01;
- (c) One (1) cast cooling operation, identified as P08, with a maximum throughput of 16 tons per hour, using three (3) baghouses (C01, C02, C03) for particulate control, exhausting to stack S01;
- (d) One (1) pick & sort operation, identified as P09, with a maximum throughput of 16 tons per hour, using one (1) baghouse (C07) for particulate control, exhausting to stack S07; and
- (e) One (1) cleaning & grinding operation, identified as P10, with a maximum throughput of 16 tons per hour, using a mechanical blaster, using one (1) baghouse (C07) for particulate control, exhausting to stack S07.

(3) Line 3
- (a) One (1) pouring/mold cooling operation, identified as P11, with a maximum throughput of 16 tons per hour, using three (3) baghouses (C01, C02, C03) for particulate control, exhausting to stack S01;
- (b) One (1) shakeout operation, identified as P12, with a maximum throughput of 16 tons per hour, using three (3) baghouses (C01, C02, C03) for particulate control, exhausting to stack S01;
- (c) One (1) cast cooling operation, identified as P13, with a maximum throughput of 16 tons per hour, using three (3) baghouses (C01, C02, C03) for particulate control, exhausting to stack S01;
- (d) One (1) pick & sort operation, identified as P14, with a maximum throughput of 16 tons per hour, using one (1) baghouse (C07) for particulate control, exhausting to stack S07; and
- (e) One (1) cleaning & grinding operation, identified as P15, with a maximum throughput of 16 tons per hour, using a mechanical blaster, using one (1) baghouse (C07) for particulate control, exhausting to stack S07.

(4) Line 4

(a) One (1) pouring/mold cooling operation, identified as P16, with a maximum throughput of 25 tons per hour, using three (3) baghouses (C01, C02, C03) for particulate control, exhausting to stack S01;

(b) One (1) shakeout operation, identified as P17, with a maximum throughput of 25 tons per hour, using three (3) baghouses (C01, C02, C03) for particulate control, exhausting to stack S01;

(c) One (1) cast cooling operation, identified as P18, with a maximum throughput of 25 tons per hour, using three (3) baghouses (C01, C02, C03) for particulate control, exhausting to stack S01;

(d) One (1) pick & sort operation, identified as P19, with a maximum throughput of 25 tons per hour, using three (3) baghouses (C01, C02, C03) for particulate control, exhausting to stack S01; and

(e) One (1) cleaning & grinding operation, identified as P20, with a maximum throughput of 25 tons per hour, using a mechanical blaster, using one (1) baghouse (C07) for particulate control, exhausting to stack S07.

(5) Sand handling operations and ancillary operations

(a) One (1) return sand handling & screen operation, identified as P21, with a maximum throughput of 480 tons per hour, using three (3) baghouses (C01, C02, C03) for particulate control, exhausting to stack S01;

(b) One (1) sand cooling & water addition operation, identified as P22, with a maximum throughput of 480 tons per hour, using three (3) baghouses (C01, C02, C03) for particulate control, exhausting to stack S01;

(c) One (1) sand mulling & handling operation, identified as P23, with a maximum throughput of 480 tons per hour, using three (3) baghouses (C01, C02, C03) for particulate control, exhausting to stack S01;

(d) One (1) spent sand handling & processing operation, identified as P24, with a maximum throughput of 50 tons per hour, using three (3) baghouses (C01, C02, C03) for particulate control, exhausting to stack S01;

(e) Air make-up units, identified as P52, with a maximum combined heat input capacity of 65.6 million British thermal units (MMBtu) per hour, combusting natural gas, using three (3) baghouses (C01, C02, C03) for particulate control, exhausting to stack S01;

(f) One (1) metallic returns handling operation, identified as P25, with a maximum throughput of 30 tons per hour, using one(1) baghouse (C07) for particulate control, exhausting to stack S07;

(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 Particulate Matter Emissions Limitations [326 IAC 2-2-3(a)(3)]

(a) Pursuant to CP-123-4593-00019, issued on January 19, 1996, CP-123-8451-00019, issued on February 4, 1998, Amendment 123-9740-00019, issued May 22, 1998, and 326 IAC 2-2-3(a)(3) (Prevention of Significant Deterioration (PSD) Rules), the particulate matter emissions from the following processes shall be limited as shown in the table below:

| Stack ID | Process | Process ID | Emission Limitation for Individual Processes (lb/hr) | Particulate Emission Limitation for stack (gr/dscf) | Particulate Emission Limitation for stack (lb/hr) |
|---|---|---|---|---|---|
| S01 | Line 1 Pouring/Mold Cooling | P01 | | 0.005 | 32.01 |
| | Line 1 Shakeout | P02 | | | |
| | Line 1 Cast Cooling | P03 | | | |
| | Line 1 Pick and Sort | P04 | | | |
| | Line 2 Pouring/Mold Cooling | P06 | 1.50 | | |
| | Line 2 Shakeout | P07 | 1.71 | | |
| | Line 2 Cast Cooling | P08 | 1.93 | | |
| | Line 3 Pouring/Mold Cooling | P11 | 1.50 | | |
| | Line 3 Shakeout | P12 | 1.71 | | |
| | Line 3 Cast Cooling | P13 | 0.43 | | |
| | Line 4 Pouring/Mold Cooling | P16 | 2.44 | | |
| | Line 4 Shakeout | P17 | 1.71 | | |
| | Line 4 Cast Cooling | P18 | 0.43 | | |
| | Line 4 Pick and Sort | P19 | 1.71 | | |
| | Return Sand Handling/ Screening | P21 | | | |
| | Sand Cooling/Water Addition | P22 | | | |
| | Sand Mulling/Handling | P23 | | | |
| | Spent Sand Handling/Processing | P24 | 2.74 | | |
| | Air makeup units | P52 | | 0.90 lb/hr and 3.94 tons/yr | |
| S04 | Line 1 Pouring/Mold Cooling | P01 | | 0.005 | 1.72 |
| | Line 1 Cast Cooling | P03 | | | |

| Stack ID | Process | Process ID | Emission Limitation for Individual Processes (lb/hr) | Particulate Emission Limitation for stack (gr/dscf) | Particulate Emission Limitation for stack (lb/hr) |
|---|---|---|---|---|---|
| S07 | Line 1 Cleaning/Grinding | P05 | | 0.005 | 7.8 |
| | Line 2 Pick and Sort | P09 | 1.71 | | |
| | Line 2 Cleaning/Grinding | P10 | 0.69 | | |
| | Line 3 Pick and Sort | P14 | 2.10 | | |
| | Line 3 Cleaning/Grinding | P15 | 0.69 | | |
| | Metallic Returns Handling | P25 | 1.29 | | |
| | Line 4 Cleaning/Grinding | P20 | 0.69 | | |

(b) Pursuant to CP123-4593-00019 issued on January 19, 1996, visible emissions from any baghouse stack shall not exceed ten percent (10%) opacity.

D.2.2 Lead Emissions Limitations [326 IAC 2-2-3(a)(3)]

Pursuant to CP-123-4593-00019, issued on January 19, 1996, CP-123-8451-00019, issued on February 4, 1998, Amendment 123-9740-00019, issued May 22, 1998, and 326 IAC 2-2-3(a)(3) (Prevention of Significant Deterioration (PSD) Rules), the lead (Pb) emissions from the following processes shall be limited as shown in the table below:

| Stack ID | Process | Process ID | Lead Emission Limit (lb/hr) |
|---|---|---|---|
| S01 | Line 1 Pouring/Mold Cooling | P01 | 0.024 |
| | Line 1 Shakeout | P02 | |
| | Line 1 Cast Cooling | P03 | |
| | Line 1 Pick and Sort | P04 | |
| | Line 2 Pouring/Mold Cooling | P06 | |
| | Line 2 Shakeout | P07 | |
| | Line 2 Cast Cooling | P08 | |
| | Line 3 Pouring/Mold Cooling | P11 | |
| | Line 3 Shakeout | P12 | |
| | Line 3 Cast Cooling | P13 | |
| | Line 4 Pouring/Mold Cooling | P16 | |
| | Line 4 Shakeout | P17 | |
| | Line 4 Cast Cooling | P18 | |
| | Line 4 Pick and Sort | P19 | |
| | Return Sand Handling/ Screening | P21 | |
| | Sand Cooling/Water Addition | P22 | |
| | Sand Mulling/Handling | P23 | |
| | Spent Sand Handling/Processing | P24 | |
| | Air makeup units | P52 | |
| S04 | Line 1 Pouring/Mold Cooling | P01 | 0.0006 |
| | Line 1 Cast Cooling | P03 | |
| S07 | Line 1 Cleaning/Grinding | P05 | 0.0019 |
| | Line 2 Pick and Sort | P09 | |
| | Line 2 Cleaning/Grinding | P10 | |
| | Line 3 Pick and Sort | P14 | |
| | Line 3 Cleaning/Grinding | P15 | |
| | Metallic Returns Handling | P25 | |
| | Line 4 Cleaning/Grinding | P20 | |

### D.2.3 Beryllium Emissions Limitations [326 IAC 2-2-3(a)(3)]

Pursuant to CP-123-4593-00019, issued on January 19, 1996, CP-123-8451-00019, issued on February 4, 1998, Amendment 123-9740-00019, issued May 22, 1998, and 326 IAC 2-2-3(a)(3) (Prevention of Significant Deterioration (PSD) Rules), the beryllium (Be) emissions from the following processes shall be limited as shown in the table below:

| Stack ID | Process | Process ID | Beryllium Emission Limit (lb/hr) |
|---|---|---|---|
| S01 | Line 1 Pouring/Mold Cooling | P01 | 0.001 |
| | Line 1 Shakeout | P02 | |
| | Line 1 Cast Cooling | P03 | |
| | Line 1 Pick and Sort | P04 | |
| | Line 2 Pouring/Mold Cooling | P06 | |
| | Line 2 Shakeout | P07 | |
| | Line 2 Cast Cooling | P08 | |
| | Line 3 Pouring/Mold Cooling | P11 | |
| | Line 3 Shakeout | P12 | |
| | Line 3 Cast Cooling | P13 | |
| | Line 4 Pouring/Mold Cooling | P16 | |
| | Line 4 Shakeout | P17 | |
| | Line 4 Cast Cooling | P18 | |
| | Line 4 Pick and Sort | P19 | |
| | Return Sand Handling/ Screening | P21 | |
| | Sand Cooling/Water Addition | P22 | |
| | Sand Mulling/Handling | P23 | |
| | Spent Sand Handling/Processing | P24 | |
| S04 | Line 1 Pouring/Mold Cooling | P01 | 0.000012 |
| | Line 1 Cast Cooling | P03 | |
| S07 | Line 1 Cleaning/Grinding | P05 | 0.000017 |
| | Line 2 Pick and Sort | P09 | |
| | Line 2 Cleaning/Grinding | P10 | |
| | Line 3 Pick and Sort | P14 | |
| | Line 3 Cleaning/Grinding | P15 | |
| | Metallic Returns Handling | P25 | |
| | Line 4 Cleaning/Grinding | P20 | |

D.2.4 Volatile Organic Compound Emissions Limitations [326 IAC 2-2-3(a)(3)] [326 IAC 8-1-6]

(a) Pursuant to CP-123-4593-00019, issued on January 19, 1996, CP-123-8451-00019, issued on February 4, 1998, Amendment 123-9740-00019, issued May 22, 1998, 326 IAC 8-1-6 (BACT), and 326 IAC 2-2-3(a)(3) (Prevention of Significant Deterioration (PSD) Rules), the volatile organic compound (VOC) emissions from the following processes shall be limited as shown in the table below:

| Stack ID | Process | Process ID | VOC Emission Limits for Individual Processes (lb/hr) | VOC Emission Limit (lb/hr) |
|---|---|---|---|---|
| S01 | Line 1 Pouring/Mold Cooling | P01 | | 47.0 |
| | Line 1 Shakeout | P02 | 0.90 | |
| | Line 1 Cast Cooling | P03 | | |
| | Line 1 Pick and Sort | P04 | | |
| | Line 2 Pouring/Mold Cooling | P06 | | |
| | Line 2 Shakeout | P07 | 1.6 | |
| | Line 2 Cast Cooling | P08 | | |
| | Line 3 Pouring/Mold Cooling | P11 | | |
| | Line 3 Shakeout | P12 | | |
| | Line 3 Cast Cooling | P13 | 1.6 | |
| | Line 4 Pouring/Mold Cooling | P16 | | |
| | Line 4 Shakeout | P17 | 0.50 | |
| | Line 4 Cast Cooling | P18 | 2.5 | |
| | Line 4 Pick and Sort | P19 | | |
| | Return Sand Handling/ Screening | P21 | | |
| | Sand Cooling/Water Addition | P22 | 1.64 | |
| | Sand Mulling/Handling | P23 | | |
| | Spent Sand Handling/Processing | P24 | | |
| | Air makeup units | P52 | 0.38 | |
| S04 | Line 1 Pouring/Mold Cooling | P01 | 4.55 | 4.55 |
| | Line 1 Cast Cooling | P03 | | |

(b) In order for the units exhausting to stack S01 to come into compliance with the VOC BACT limit, the Permittee shall comply with the following schedule.

(1) By December 31, 2004, the Permittee shall complete a program of internal sand and core optimization to comply with the VOC limit for stack S01 in paragraph (a) of Condition D.2.4.

(2) By January 31, 2005, the Permittee shall perform VOC stack testing on stack S01, as described in Condition D.2.10(b).

(3) If the testing required by (b)(2) of Condition D.2.4 does not demonstrate that stack S01 is in compliance with the VOC BACT limit in paragraph (a) of Condition D.2.4, the Permittee shall install and operate an advanced oxidation system according to the following schedule.

(i) After completion of the VOC stack test required by (b)(2) of Condition D.2.4, the Permittee shall submit a copy of the test results to IDEM OAQ no later than March 17, 2005.

(ii) After the submittal of the VOC test results required by (b)(3)(i) from the stack test required by (b)(2) which do not demonstrate compliance with the VOC BACT limit in paragraph (a) of Condition D.2.4, the Permittee shall issue a purchase order for the advanced oxidation system no later than April 7, 2005. As used in this permit, the term advanced oxidation system means a system where captured baghouse dust from the sand system is mixed with water treated with a combination of ozone and hydrogen peroxide (advanced oxidants).

(iii) After issuance of the purchase order for the advanced oxidation system required by (b)(3)(ii) of Condition D.2.4, the Permittee shall complete installation of the system and commence initial operation of the system no later than September 7, 2005.

(iv) After commencing operation of the advanced oxidation system required by (b)(3)(iii) of Condition D.2.4, the Permittee shall complete troubleshooting and optimization of the system no later than January 7, 2006.

(v) After completion of the troubleshooting and optimization of the advanced oxidation system required by (b)(3)(iv) of Condition D.2.4, the Permittee shall perform VOC stack testing on stack S01 no later than March 7, 2006, as described in Condition D.2.10(b), and demonstrate compliance with the VOC BACT limit established in paragraph (a) of Condition D.2.4.

D.2.5 Carbon Monoxide Emission Limitations [326 IAC 2-2-3(a)(3)]

Pursuant to CP-123-4593-00019, issued on January 19, 1996, CP-123-8451-00019, issued on February 4, 1998, Amendment 123-9740-00019, issued May 22, 1998, and 326 IAC 2-2-3(a)(3), the carbon monoxide (CO) emissions from the following processes shall be limited as shown in the table below:

| Stack ID | Process | Process ID | CO Emission Limits for Individual Processes (lb/hr) unless otherwise specified | CO Emission Limits for Stacks (lb/hr) |
|---|---|---|---|---|
| S01 | Line 1 Pouring/Mold Cooling | P01 | 79.5 | 442.0 |
| | Line 1 Shakeout | P02 | 1.0 lb/ton iron | |
| | Line 1 Cast Cooling | P03 | | |
| | Line 1 Pick and Sort | P04 | | |
| | Line 2 Pouring/Mold Cooling | P06 | 80.0 | |
| | Line 2 Shakeout | P07 | 16.0 | |
| | Line 2 Cast Cooling | P08 | | |
| | Line 3 Pouring/Mold Cooling | P11 | 80.0 | |
| | Line 3 Shakeout | P12 | | |
| | Line 3 Cast Cooling | P13 | | |
| | Line 4 Pouring/Mold Cooling | P16 | 125.0 | |
| | Line 4 Shakeout | P17 | 25.0 | |
| | Line 4 Cast Cooling | P18 | | |
| | Line 4 Pick and Sort | P19 | | |
| | Return Sand Handling/ Screening | P21 | | |
| | Sand Cooling/Water Addition | P22 | | |
| | Sand Mulling/Handling | P23 | | |
| | Spent Sand Handling/Processing | P24 | | |
| | Air makeup units | P52 | 18.2 | |
| S04 | Line 1 Pouring/Mold Cooling | P01 | 45.5 | 45.5 |
| | Line 1 Cast Cooling | P03 | | |

D.2.6 Sulfur Dioxide Emissions Limitations [326 IAC 2-2-3(a)(3)]

Pursuant to CP-123-4593-00019, issued on January 19, 1996, Amendment 123-9740-00019, issued May 22, 1998, and 326 IAC 2-2-3(a)(3), the sulfur dioxide ($SO_2$) emissions from the following processes shall be limited as shown in the table below:

| Stack ID | Process | Process ID | $SO_2$ Emission Limits for Individual Processes (lb/hr) | $SO_2$ Emission Limits for Stacks (lb/hr) |
|---|---|---|---|---|
| S01 | Line 1 Pouring/Mold Cooling | P01 | 0.64 | 3.0 |
| | Line 1 Shakeout | P02 | | |
| | Line 1 Cast Cooling | P03 | | |
| | Line 1 Pick and Sort | P04 | | |
| | Line 2 Pouring/Mold Cooling | P06 | 0.64 | |
| | Line 2 Shakeout | P07 | | |
| | Line 2 Cast Cooling | P08 | | |
| | Line 3 Pouring/Mold Cooling | P11 | 0.64 | |
| | Line 3 Shakeout | P12 | | |
| | Line 3 Cast Cooling | P13 | | |
| | Line 4 Pouring/Mold Cooling | P16 | 1.0 | |
| | Line 4 Shakeout | P17 | | |
| | Line 4 Cast Cooling | P18 | | |
| | Line 4 Pick and Sort | P19 | | |
| | Return Sand Handling/ Screening | P21 | | |
| | Sand Cooling/Water Addition | P22 | | |
| | Sand Mulling/Handling | P23 | | |
| | Spent Sand Handling/Processing | P24 | | |
| | Air Makeup Units | P52 | 0.039 | |
| S04 | Line 1 Pouring/Mold Cooling | P01 | 0.36 | 0.36 |
| | Line 1 Cast Cooling | P03 | | |

D.2.7 Nitrogen Oxide Emission Limitations [326 IAC 2-2-3(a)(3)]

Pursuant to CP-123-4593-00019, issued on January 19, 1996, CP123-8451 issued on February 4, 1998, Amendment 123-9740-00019, issued May 22, 1998, and 326 IAC 2-2-3(a)(3), the ($NO_X$) emissions from the following processes shall be limited as shown in the table below:

| Stack ID | Process | Process ID | NOx Emission Limits for Individual Processes (lb/hr) | NOx Emission Limits for Stacks (lb/hr) |
|---|---|---|---|---|
| S01 | Line 1 Pouring/Mold Cooling | P01 | 0.16 | 4.03 |
| | Line 1 Shakeout | P02 | | |
| | Line 1 Cast Cooling | P03 | | |
| | Line 1 Pick and Sort | P04 | | |
| | Line 2 Pouring/Mold Cooling | P06 | 0.32 | |
| | Line 2 Shakeout | P07 | | |
| | Line 2 Cast Cooling | P08 | | |
| | Line 3 Pouring/Mold Cooling | P11 | 0.32 | |
| | Line 3 Shakeout | P12 | | |
| | Line 3 Cast Cooling | P13 | | |
| | Line 4 Pouring/Mold Cooling | P16 | 0.50 | |
| | Line 4 Shakeout | P17 | | |
| | Line 4 Cast Cooling | P18 | | |
| | Line 4 Pick and Sort | P19 | | |
| | Return Sand Handling/ Screening | P21 | | |
| | Sand Cooling/Water Addition | P22 | | |
| | Sand Mulling/Handling | P23 | | |
| | Spent Sand Handling/Processing | P24 | | |
| | Air Makeup Units | P52 | 2.98 | |
| S04 | Line 1 Pouring/Mold Cooling | P01 | 0.09 | 0.09 |
| | Line 1 Cast Cooling | P03 | | |

D.2.8 Operating Conditions [326 IAC 2-2-3)]

Pursuant to CP-123-8451-00019, issued on February 4 1998 and 326 IAC 2-2-3(a)(3), the following limitations shall apply:

(a) the return sand handling/screening process, identified as P21, shall be limited to a maximum throughput capacity of 480 tons of sand per hour;

(b) the sand cooling/water addition process, identified as P22, shall be limited to a maximum throughput capacity of 480 tons of sand per hour;

(c) the sand mulling/handling process, identified as P23, shall be limited to a maximum throughput capacity of 480 tons of sand per hour; and

(d) the Line 1 pouring/mold cooling process, identified as P01, shall not exceed a maximum throughput of 25 tons of iron per hour.

D.2.9 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

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

**Compliance Determination Requirements**

D.2.10 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

(a) Within 180 days after issuance of this Part 70 permit, the Permittee shall perform PM, opacity, lead and beryllium testing on the facilities exhausting to stacks S01 and S07 using methods as approved by the Commissioner, in order to demonstrate compliance with the total stack limits listed in Conditions D.2.1, D.2.2, and D.2.3. During the stack test, the Permittee shall monitor and record those parameters required to be measured by Condition D.2.16. These tests shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C- Performance Testing. All facilities exhausting to the same stack shall be in operation during the stack test in order for the test to be considered a valid test.

(b) The Permittee shall perform VOC testing on the emission units exhausting to stack S01 using Method 25, 25A, or other methods approved by the Commissioner, in order to demonstrate compliance with the total stack limit listed in Condition D.2.4(a). During the stack test, the Permittee shall monitor and record those parameters required to be measured by Condition D.2.16. These tests shall be repeated at least once every five (5) years from the date of the last valid compliance demonstration. Testing shall be conducted in accordance with Section C- Performance Testing. All facilities exhausting to the same stack shall be in operation during the stack test in order for the test to be considered a valid test.

D.2.11 Particulate Matter (PM/PM-10) Control [326 IAC 2-7-6(6)]

(a) Pursuant to CP123-8451-00019 issued on February 4, 1998, the PM emissions for Lines 1-4 shall be controlled by four (4) baghouses C01, C02, C03 (Stack S01) and C07 (Stack S07) at all times when these processes are in operation.

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

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

D.2.12 Visible Emission Notations

(a) Visible emission notations of each baghouse stack exhaust 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 in accordance with Section C- Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

D.2.13 Baghouse Parametric Monitoring

The Permittee shall record the pressure drop across each of the baghouses used in conjunction with the processes listed in this section, at least once per day when the associated process is in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 3.0 and 10.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

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

D.2.14 Broken or Failed Bag Detection

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

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

Bag failure can be indicated by a significant drop in the 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.

D.2.15 Parametric Monitoring of Advanced Oxidation System

(a) Upon commencing operation of the advanced oxidation system, the Permittee shall monitor and record the ultra-sonic power of the system used in conjunction with the mold lines, at least once per day when the mold lines are in operation. When for any one reading, the ultra-sonic power is less than the minimum level recommended by the manufacturer or a minimum level established during the latest stack test, whichever is higher, the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions or Exceedances. An ultra-sonic power reading that is below the above mentioned minimum is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

(b) Upon commencing operation of the advanced oxidation system, the Permittee shall monitor and record the ozone generator plasma voltage of the system used in conjunction with the mold lines, at least once per day when the mold lines are in operation. When for any one reading, the ozone generator plasma voltage is less than the minimum recommended by the manufacturer or a minimum established during the latest stack test, whichever is higher, the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions or Exceedances. An ozone generator plasma voltage reading that is below the above mentioned minimum is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

(c) Upon commencing operation of the advanced oxidation system, the Permittee shall monitor and record the hydrogen peroxide usage of the system used in conjunction with the mold lines, at least once per day when the mold lines are in operation. When for any one reading, the hydrogen peroxide is less than the minimum recommended by the manufacturer, or a minimum established during the latest stack test, whichever is higher, the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions or Exceedances. A peroxide usage reading that is below the above mentioned minimum is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

The instruments used for determining the ultra-sonic power, the ozone generator plasma voltage and the hydrogen peroxide 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.

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

D.2.16 Record Keeping Requirements

(a) To document compliance with Condition D.2.12 the Permittee shall maintain records of visible emission notations of each baghouse stack exhaust once per day.

(b) To document compliance with Condition D.2.13, the Permittee shall maintain records of the pressure drop across each baghouse once per day.

(c) To document compliance with the schedule outlined in Condition D.2.4(b), the Permittee shall submit records complete and sufficient to determine compliance with each step of the compliance schedule. Records shall be submitted within 30 days after the completion of each step of the compliance schedule.

(d) To document compliance with Condition D.2.15, the Permittee shall maintain records of the ultra-sonic power, the ozone generator plasma voltage, and the hydrogen peroxide usage of the advanced oxidation system.

(e) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

**SECTION D.3 FACILITY OPERATION CONDITIONS**

Facility Description [326 IAC 2-7-5(15)]
**Facilities Exhausting to Stacks S15 and S16**
Phase II

(1) Line 5

(A) One (1) pouring/mold cooling operation, identified as P60, with a maximum production capacity of 25 tons per hour. Particulate matter emissions are controlled by one (1) baghouse system, identified as C15. The gases are then exhausted to Stack S15;

(B) One (1) shakeout operation, identified as P61, with a maximum throughout capacity of 25 tons per hour. Particulate matter emissions are controlled by one (1) baghouse system, identified as C15, that exhaust to Stack S15 or by one (1) baghouse system, identified as C16,that exhaust to Stack S16;

(C) One (1) cast cooling operation, identified as P62, with a maximum capacity of 25 tons per hour. Particulate matter emissions are controlled by one (1) baghouse system, identified as C15. The gases are then exhausted to Stack S15.

(D) One (1) pick and sort operation, identified as P63, with a maximum throughput capacity of 25 tons per hour. Particulate matter emissions are controlled by one (1) baghouse system, identified as C16. The gases are then exhausted to Stack S16;

(E) One (1) cleaning and grinding operation, identified as P64, with a maximum throughput capacity of 25 tons per hour. Particulate matter emissions are controlled by one (1) baghouse system, identified as C16. The gases are then exhausted to Stack S16;

(2) Line 6

(A) One (1) pouring/mold cooling operation, identified as P65, with a maximum production capacity of 18 tons per hour. Particulate matter emissions are controlled by one (1) baghouse system, identified as C15. The gases are then exhausted to Stack S15;

(B) One (1) shakeout operation, identified as P66, with a maximum throughput capacity of 18 tons per hour. Particulate matter emissions are controlled by one (1) baghouse system, identified as C15, that exhaust to Stack S15 or by one (1) baghouse system, identified as C16, that exhaust to Stack S16;

(C) One (1) cast cooling operation, identified as P67, with a maximum capacity of 18 tons per hour. Particulate matter emissions are controlled by one (1) baghouse system, identified as C15, that exhaust to Stack S15 or by one (1) baghouse system, identified as C16, that exhaust to Stack S16;

(D) One (1) pick and sort operation, identified as P68, with a maximum throughput capacity of 18 tons per hour. Particulate matter emissions are controlled by one (1) baghouse system, identified as C16. The gases are then exhausted to Stack S16;

(E) One (1) cleaning and grinding operation, identified as P69, with a maximum throughput capacity of 18 tons per hour. Particulate matter emissions are controlled by one (1) baghouse system, identified as C16. The gases are then exhausted to Stack S16;

(3) Line 7

(A) One (1) pouring/mold cooling operation, identified as P70, with a maximum production capacity of 30 tons per hour. Particulate matter emissions are controlled by one (1) baghouse system, identified as C15. The gases are then exhausted to Stack S15;

(B) One (1) shakeout operation, identified as P71, with a maximum production capacity of 30 tons per hour. Particulate matter emissions are controlled by one (1) baghouse system, identified as C15, that exhaust to Stack S15 or by one (1) baghouse system, identified as C16, that exhaust to Stack S16;

(C) One (1) cast cooling operation, identified as P72, with a maximum production

capacity of 30 tons per hour. Particulate matter emissions are controlled by one (1) baghouse system, identified as C15, that exhaust to Stack S15 or by one (1) baghouse system, identified as C16, that exhaust to Stack S16;

(D) One (1) pick and sort operation, identified as P73, with a maximum throughput capacity of 30 tons per hour. Particulate matter emissions are controlled by one (1) baghouse system, identified as C16. The gases are then exhausted to Stack S16;

(E) One (1) cleaning and grinding operation, identified as P74, with a maximum throughput capacity of 30 tons per hour. Particulate matter emissions are controlled by one (1) baghouse system, identified as C16. The gases are then exhausted to Stack S16;

(4) Line 8

(A) One (1) pouring/mold cooling operation, identified as P75, with a maximum production capacity of 18 tons per hour. Particulate matter emissions are controlled by one (1) baghouse system, identified as C15. The gases are then exhausted to Stack S15;

(B) One (1) shakeout operation, identified as P76, with a maximum throughput capacity of 18 tons per hour. Particulate matter emissions are controlled by one (1) baghouse system, identified as C16. The gases are then exhausted to Stack S16;

(C) One (1) cast cooling operation, identified as P77, with a maximum capacity of 18 tons per hour. Particulate matter emissions are controlled by one (1) baghouse system, identified as C16. The gases are then exhausted to Stack S16;

(D) One (1) pick and sort operation, identified as P78, with a maximum throughput capacity of 18 tons per hour. Particulate matter emissions are controlled by one (1) baghouse system, identified as C16. The gases are then exhausted to Stack S16; and

(E) One (1) cleaning and grinding operation, identified as P79, with a maximum throughput capacity of 18 tons per hour. Particulate matter emissions are controlled by one (1) baghouse system, identified as C16. The gases are then exhausted to Stack S16.

Phase II

Sand Handling Operations and Ancillary Operations:

(1) One (1) return sand handling and screening operation, identified as P80, with a maximum throughput capacity of 600 tons of sand per hour. Particulate matter emissions are controlled by one (1) baghouse system, identified as C15, that exhaust to Stack S15 or by one (1) baghouse system, identified as C16, that exhaust to Stack S16;

(2) One (1) sand mulling and handling operation, identified as P81, with a maximum capacity of 600 tons of sand per hour. Particulate matter emissions are controlled by one (1) baghouse system, identified as C15. The gases are then exhausted to Stack S15;

(3) One (1) sand blending and cooling operation, identified as P82, with a maximum capacity of 600 tons of sand per hour. Particulate matter emissions are controlled by one (1) baghouse system, identified as C15. The gases are then exhausted to Stack S15;

(4) One (1) spent sand and dust handling operation, identified as P83, with a maximum throughput capacity of 50 tons of sand per hour. Particulate matter emissions are controlled by one (1) baghouse system, identified as C15. The gases are then exhausted to Stack S15;

(5) One (1) metal returns handling operation, identified as P84, with a maximum capacity of 40 tons per hour. Particulate matter emissions are controlled by one (1) baghouse system, identified as C15, that exhaust to Stack S15 or by one (1) baghouse system, identified as C16, that exhaust to Stack S16;

(6) One (1) Tumbleblast shotblast machine, identified as P55, with a maximum capacity of 18

tons of metal castings per hour, with emissions controlled by existing baghouse C15, and exhausting to stack S15.

Ductile Iron Treatment Operations

(1) Two (2) ductile iron treatment stations, both identified as P35, each with a maximum production capacity of 40 tons per hour. Particulate matter emissions are controlled by two (2) baghouse systems identified as C15 and C35. The gases from both baghouses are then exhausted to Stack S15;

Combustion Units

(1) Natural gas fired air make-up units equipped with low-NOx burners, identified as P54, with a maximum heat input rate of 80 MMBtu per hour exhausting to Stack S15.

(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 Particulate Matter Emissions Limitations [326 IAC 2-2-3(a)(3)]

(a) Pursuant to CP-123-4593-00019, issued on January 19, 1996, CP-123-8451-00019, issued on February 4, 1998, SSM123-12331-00019 issued on January 31, 2001, and 326 IAC 2-2-3(a)(3) (Prevention of Significant Deterioration (PSD) Rules), the particulate matter emissions from the following operations shall be limited as shown in the table below:

| Stack ID | Process | Process ID | PM Emission Limitation (gr/dscf) |
|---|---|---|---|
| S15 | Return Sand Handling/ Screening | P80 | 0.005 |
| | Sand Mulling and Handling | P81 | |
| | Sand Blending and Cooling | P82 | |
| | Spent Sand and Dust Handling | P83 | |
| | Metal Returns Handling System | P84 | |
| | Line 5 Pouring/Mold Cooling | P60 | |
| | Line 5 Shakeout | P61 | |
| | Line 5 Cast Cooling | P62 | |
| | Line 6 Pouring/Mold Cooling | P65 | |
| | Line 6 Shakeout | P66 | |
| | Line 6 Cast Cooling | P67 | |
| | Line 7 Pouring/Mold Cooling | P70 | |
| | Line 7 Shakeout | P71 | |
| | Line 7 Cast Cooling | P72 | |

| Stack ID | Process | Process ID | PM Emission Limitation (gr/dscf) |
|---|---|---|---|
| | Line 8 Pouring/Mold Cooling | P75 | |
| | shotblast machine | P55 | |
| | ductile iron treatment stations #1 and #2 | P35 | |
| S16 | Return Sand Handling/ Screening | P80 | 0.005 |
| | Line 5 Pick and Sort | P63 | |
| | Line 5 Cleaning/ Grinding | P64 | |
| | Line 6 Shakeout | P66 | |
| | Line 6 Cast Cooling | P67 | |
| | Line 6 Pick and Sort | P68 | |
| | Line 6 Cleaning/ Grinding | P69 | |
| | Line 7 Shakeout | P71 | |
| | Line 7 Cast Cooling | P72 | |
| | Line 7 Pick and Sort | P73 | |
| | Line 7 Cleaning/ Grinding | P74 | |
| | Line 8 Shakeout | P76 | |
| | Line 8 Cast Cooling | P77 | |
| | Line 8 Pick and Sort | P78 | |
| | Line 8 Cleaning/ Grinding | P79 | |

(b) Pursuant to CP123-4593-00019 issued on January 19, 1996, visible emissions from any baghouse stack shall not exceed ten percent (10%) opacity.

D.3.2 Lead Emission Limitations [326 IAC 2-2-3(a)(3)] [326 IAC 2-4.1-1]

Pursuant to CP-123-8451-00019, issued on February 4, 1998, Amendment 123-9740-00019, issued May 22, 1998, SSM123-12331-00019 issued on January 31, 2001, and 326 IAC 2-2-3(a)(3), the lead (Pb) emissions from the following operations shall be limited as shown in the table below:

| Stack ID | Process | Process ID | Lead Emission Limitation for individual processes (lb/hr) | Lead Emission Limitation for stack (lb/hr) |
|---|---|---|---|---|
| S15 | Line 5 Pouring/Mold Cooling | P60 | 0.0014 | 0.0070 |
| | Line 5 Shakeout | P61 | 0.00035 | |
| | Line 5 Cast Cooling | P62 | 0.0009 | |
| | Line 6 Pouring/Mold Cooling | P65 | 0.0005 | |
| | Line 6 Shakeout | P66 | 0.00031 | |
| | Line 6 Cast Cooling | P67 | 0.00026 | |
| | Line 7 Pouring/Mold Cooling | P70 | 0.0014 | |
| | Line 7 Shakeout | P71 | 0.00035 | |
| | Line 7 Cast Cooling | P72 | 0.00058 | |
| | Line 8 Pouring/Mold Cooling | P75 | 0.0005 | |
| | shotblast machine | P55 | 0.0003 | |
| | Metal Returns Handling System | P84 | 0.00003 | |
| | Return Sand Handling/Screening | P80 | 0.00009 | |
| | Sand Mulling and Handling | P81 | 0.0001 | |
| | Sand Blending and Cooling | P82 | 0.0001 | |
| | Spent Sand and Dust Handling | P83 | 0.00004 | |
| S16 | Line 5 Shakeout | P61 | 0.00035 | 0.005 |
| | Line 5 Pick and Sort | P63 | 0.0001 | |
| | Line 5 Cleaning/ Grinding | P64 | 0.0003 | |
| | Line 6 Shakeout | P66 | 0.00019 | |
| | Line 6 Cast Cooling | P67 | 0.00064 | |
| | Line 6 Pick and Sort | P68 | 0.0001 | |
| | Line 6 Cleaning/ Grinding | P69 | 0.0002 | |
| | Line 7 Shakeout | P71 | 0.00035 | |
| | Line 7 Cast Cooling | P72 | 0.00032 | |
| | Line 7 Pick and Sort | P73 | 0.0001 | |
| | Line 7 Cleaning/ Grinding | P74 | 0.0002 | |

| Stack ID | Process | Process ID | Lead Emission Limitation for individual processes (lb/hr) | Lead Emission Limitation for stack (lb/hr) |
|---|---|---|---|---|
| | Line 8 Shakeout | P76 | 0.0005 | |
| | Line 8 Cast Cooling | P77 | 0.0007 | |
| | Line 8 Pick and Sort | P78 | 0.0003 | |
| | Line 8 Cleaning/ Grinding | P79 | 0.0004 | |
| | Return Sand Handling/Screening | P80 | 0.00001 | |
| | Metal Returns Handling System | P84 | 0.00002 | |

D.3.3 Beryllium Emission Limitations [326 IAC 2-2-3(a)(3)] [326 IAC 2-4.1-1]

Pursuant to CP-123-8451-00019, issued on February 4, 1998, Amendment 123-9740-00019, issued May 22, 1998, SSM123-12331-00019 issued on January 31, 2001, and 326 IAC 2-2-3(a)(3), the beryllium (Be) emissions from the processes listed below shall be limited as shown in the table below:

| Stack ID | Process | Process ID | Beryllium Emission Limitations for individual processes (lb/hr) | Beryllium Emission Limitation for stack (lb/hr) |
|---|---|---|---|---|
| S15 | Line 5 Pouring/Mold Cooling | P60 | 0.000056 | 0.0003 |
| | Line 5 Shakeout | P61 | 0.000014 | |
| | Line 5 Cast Cooling | P62 | 0.000003 | |
| | Line 6 Pouring/Mold Cooling | P65 | 0.000022 | |
| | Line 6 Shakeout | P66 | 0.000014 | |
| | Line 6 Cast Cooling | P67 | 0.0000008 | |
| | Line 7 Pouring/Mold Cooling | P70 | 0.000056 | |
| | Line 7 Shakeout | P71 | 0.000014 | |
| | Line 7 Cast Cooling | P72 | 0.0000019 | |
| | Line 8 Pouring/Mold Cooling | P75 | 0.000022 | |
| | shotblast machine | P55 | 0.000001 | |
| | Metal Returns Handling System | P84 | 0.000002 | |
| | Return Sand Handling/Screening | P80 | 0.000035 | |
| | Sand Mulling and Handling | P81 | 0.000029 | |
| | Sand Blending and Cooling | P82 | 0.000017 | |

| Stack ID | Process | Process ID | Beryllium Emission Limitations for individual processes (lb/hr) | Beryllium Emission Limitation for stack (lb/hr) |
|---|---|---|---|---|
| | Spent Sand and Dust Handling | P83 | 0.000009 | |
| S16 | Line 5 Shakeout | P61 | 0.000014 | 0.00009 |
| | Line 5 Pick and Sort | P63 | 0.0000005 | |
| | Line 5 Cleaning/ Grinding | P64 | 0.000001 | |
| | Line 6 Shakeout | P66 | 0.000008 | |
| | Line 6 Cast Cooling | P67 | 0.0000022 | |
| | Line 6 Pick and Sort | P68 | 0.0000005 | |
| | Line 6 Cleaning/ Grinding | P69 | 0.000001 | |
| | Line 7 Shakeout | P71 | 0.000014 | |
| | Line 7 Cast Cooling | P72 | 0.0000011 | |
| | Line 7 Pick and Sort | P73 | 0.0000005 | |
| | Line 7 Cleaning/ Grinding | P74 | 0.000001 | |
| | Line 8 Shakeout | P76 | 0.000001 | |
| | Line 8 Cast Cooling | P77 | 0.000022 | |
| | Line 8 Pick and Sort | P78 | 0.000003 | |
| | Line 8 Cleaning/ Grinding | P79 | 0.000002 | |
| | Return Sand Handling/Screening | P80 | 0.000014 | |
| | Metal Returns Handling System | P84 | 0.000001 | |

D.3.4 Sulfur Dioxide Emissions Limitations [326 IAC 2-2-3(a)(3)]

Pursuant to CP-123-8451-00019, issued on February 4, 1998, Amendment 123-9740-00019, issued May 22, 1998 and 326 IAC 2-2-3(a)(3), the sulfur dioxide ($SO_2$) emissions from the following processes shall be limited as shown in the table below:

| Stack ID | Process | Process ID | $SO_2$ Emission Limitations for individual processes (lb/hr) | $SO_2$ Emission Limitation for stack (lb/hr) |
|---|---|---|---|---|
| S15 | Line 5 Pouring/Mold Cooling | P60 | 1.00 | 3.69 |
| | Line 6 Pouring/Mold Cooling | P65 | 0.72 | |
| | Line 7 Pouring/Mold Cooling | P70 | 1.2 | |
| | Line 8 Pouring/Mold Cooling | P75 | 0.72 | |

D.3.5 Volatile Organic Compound Emission Limitations [326 IAC 2-2-3(a)(3)] [326 IAC 8-1-6]

Pursuant to CP-123-8451-00019, issued on February 4, 1998, Amendment 123-9740-00019, issued May 22, 1998, 326 IAC 2-2-3(a)(3) and 326 IAC 8-1-6 (General Reduction Requirements for New Facilities), the volatile organic compound (VOC) emissions from the following processes shall be limited as shown in the table below:

| Stack ID | Process | Process ID | VOC Emission Limitations for individual processes (lb/hr) | VOC Emission Limitation for stack (lb/hr) |
|---|---|---|---|---|
| S15 | Line 5 Pouring/Mold Cooling | P60 | 12.5 | 52.3 |
| | Line 5 Shakeout | P61 | 1.25 | |
| | Line 6 Pouring/Mold Cooling | P65 | 9.00 | |
| | Line 6 Shakeout | P66 | 1.13 | |
| | Line 7 Pouring/Mold Cooling | P70 | 15.0 | |
| | Line 7 Shakeout | P71 | 1.5 | |
| | Line 8 Pouring/Mold Cooling | P75 | 9.00 | |
| S16 | Line 5 Shakeout | P61 | 1.25 | 5.23 |
| | Line 6 Shakeout | P66 | 0.675 | |
| | Line 7 Shakeout | P71 | 1.5 | |
| | Line 8 Shakeout | P76 | 1.8 | |

D.3.6 Carbon Monoxide Emission Limitations [326 IAC 2-2-3(a)(3)]

Pursuant to CP-123-8451-00019, issued on February 4, 1998, Amendment 123-9740-00019, issued May 22, 1998 and 326 IAC 2-2-3(a)(3), the carbon monoxide (CO) emissions from the following processes shall be limited as shown in the table below:

| Stack ID | Process | Process ID | CO Emission Limitations for individual processes (lb/ton iron) |
|---|---|---|---|
| S15 | Line 5 Pouring/Mold Cooling | P60 | 5.0 |
| | Line 5 Shakeout | P61 | 1.0 |
| | Line 6 Pouring/Mold Cooling | P65 | 5.0 |
| | Line 6 Shakeout | P66 | 1.0 |
| | Line 7 Pouring/Mold Cooling | P70 | 5.0 |
| | Line 7 Shakeout | P71 | 1.0 |
| | Line 8 Pouring/Mold Cooling | P75 | 5.0 |
| S16 | Line 5 Shakeout | P61 | 1.0 |
| | Line 6 Shakeout | P66 | 1.0 |
| | Line 7 Shakeout | P71 | 1.0 |
| | Line 8 Shakeout | P76 | 1.0 |

D.3.7 NOx Emission Limitations [326 IAC 2-2-3(a)(3)]

(a) Pursuant to CP-123-8451-00019, issued on February 4, 1998, Amendment 123-9740-00019, issued May 22, 1998 and 326 IAC 2-2-3(a)(3), the ($NO_X$) emissions from the following processes shall be limited as shown in the table below:

| Stack ID | Process | Process ID | NOx Emission Limitations for individual processes (lb/ton iron) |
|---|---|---|---|
| S15 | Line 5 Pouring/Mold Cooling | P60 | 0.01 |
| | Line 6 Pouring/Mold Cooling | P65 | 0.01 |
| | Line 7 Pouring/Mold Cooling | P70 | 0.01 |
| | Line 8 Pouring/Mold Cooling | P75 | 0.01 |

(b) Pursuant to CP-123-8451-00019, issued on February 4, 1998, and 326 IAC 2-2-3(a)(3), the natural gas fired air makeup units, identified as P54, shall be equipped with low-NOx burners and shall be limited to a maximum heat input rate of 80 MMBtu per hour.

D.3.8 Operating Requirements [326 IAC 2-2-3(a)(3)]

(a) Pursuant to SSM123-11479-00019 issued on June 7, 2001 and 326 IAC 2-2-3(a)(3), the maximum production rate of both ductile iron treatment stations identified as P35 shall not exceed a combined total of 80 tons of iron per hour, based on a 24 hour average.

(b) Pursuant to CP-123-8451-00019, issued on February 4 1998 and 326 IAC 2-2-3(a)(3), the sand handling operations shall comply with the following limitations:

(1) the return sand handling/screening process, identified as P80, shall be limited to a maximum throughput capacity of 600 tons of sand per hour;

(2) the sand mulling/handling process, identified as P81, shall be limited to a maximum throughput capacity of 600 tons of sand per hour.

(3) the sand blending and cooling process, identified as P82, shall be limited to a maximum throughput capacity of 600 tons of sand per hour; and

(4) the spent sand and dust handling system, identified as P83, shall be limited to a maximum throughput capacity of 50 tons of sand per hour.

(c) Pursuant to CP-123-8451-00019, issued on February 4 1998 and 326 IAC 2-2-3(a)(3), the metal returns handling system, identified as P84, shall be limited to a maximum capacity of 40 tons per hour.

(d) Pursuant to CP-123-8451-00019, issued on February 4 1998 and 326 IAC 2-2-3(a)(3), the pouring/cooling processes shall comply with the following limitations:

(1) the Line 5 pouring/mold cooling process, identified as P60, shall be limited to a maximum production capacity of 25 tons per hour;

(2) the Line 6 pouring/mold cooling process, identified as P65, shall be limited to a maximum production capacity of 18 tons per hour;

(3) the Line 7 pouring/mold cooling process, identified as P70, shall be limited to a maximum production capacity of 30 tons per hour; and

(4) the Line 8 pouring/mold cooling process, identified as P75, shall be limited to a maximum production capacity of 18 tons per hour.

(e) Pursuant to SSM123-12331-00019 issued on January 31, 2001, the shotblast machine, identified as P55, shall be limited to a maximum throughput capacity of 18 tons of metal castings per hour.

D.3.9 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

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

**Compliance Determination Requirements**

D.3.10 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

Within 180 days after issuance of this Part 70 permit, the Permittee shall perform PM, opacity, lead, and beryllium testing on the processes exhausting to stacks S15 and S16 using methods as approved by the Commissioner, in order to demonstrate compliance with the total stack limits specified in Conditions D.3.1, D.3.2, and D.3.3. These tests shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C- Performance Testing.

D.3.11 Particulate Matter (PM/PM-10) [326 IAC 2-7-6(6)]

(a) Pursuant to CP-123-8451-00019, issued on February 4, 1998, and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Rules), the PM, lead, and beryllium emissions shall be controlled by baghouses C15 (Stack S15), and C16 (Stack S16) at all times when the associated processes are in operation.

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

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

D.3.12 Visible Emission Notations

(a) Visible emission notations of each baghouse stack exhaust 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 in accordance with Section C- Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

D.3.13 Baghouse Parametric Monitoring

The Permittee shall record the pressure drop across each of the baghouses used in conjunction with the processes listed in this section, at least once per day when the associated process is in operation. When for any one reading, the pressure drop across a baghouse is outside the normal range of 3.0 and 10.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

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

D.3.14 Broken or Failed Bag Detection

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

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

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

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

D.3.15 Record Keeping Requirement

(a) To document compliance with Conditions D.3.12 the Permittee shall maintain records of visible emission notations of each baghouse stack exhaust once per day.

(b) To document compliance with Conditions D.3.13 the Permittee shall maintain records of the pressure drop across each baghouse once per day.

(c) Pursuant to CP123-8451-00019 issued on February 4, 1998, and to document compliance with Conditions D.3.7(b) the Permittee shall maintain records of the equipment installed and the type of fuel used in the air makeup units.

(d) In order to document compliance with D.3.8, records shall be kept of the total iron throughput to each ductile iron treatment station each day of operation, and of the total hours of operation of each ductile iron treatment station each day of operation.

(e) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

## SECTION D.4 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]
**Facilities Exhausting to Stacks S08, S11, and S14**
Phase I
(a) sand handling operations and ancillary operations, each constructed in 1996, consisting of the following:

(1) One (1) core sand handling operation, identified as P40, with a maximum throughput of 16 tons per hour, using one (1) baghouse (C08) for particulate control, exhausting to stack S08;

(2) One (1) core manufacturing operation, identified as P41, with a maximum throughput of 16 tons per hour, exhausting to stack S11;

(3) One (1) core machine & oven operation, identified as P51, with a maximum heat input capacity of 16.8 MMBtu per hour, combusting natural gas, exhausting to stack S11;

(4) One (1) pattern shop, identified as P50, controlled by a baghouse, exhausting inside the building.

Phase II
(b) sand handling operations and ancillary operations, each constructed in 1998, consisting of the following:

(1) One (1) phenolic-urethane core sand handling system, identified as P42, with a maximum production capacity of 26 tons of cores per hour. Particulate matter emissions are controlled by one (1) baghouse system, identified as C08, that exhausts to Stack S08;

(2) One (1) phenolic-urethane core making process, identified as P43, consisting of 6 mixers and 6 core machines, with a total maximum production capacity of 20 tons of cores per hour. DMIPA emissions are controlled by one (1) packed bed scrubber, identified as C14. The gases are then exhausted to Stack S14;

(3) One (1) phenolic-urethane core making process, identified as P44, consisting of 2 mixers and 2 core machines, each with a maximum capacity of 3 tons per hour. DMIPA emissions are controlled by one (1) packed bed scrubber, identified as C14. The gases are then exhausted to Stack S14;

(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 Particulate Matter Emissions Limitations [326 IAC 2-2-3(a)(3)]

(a) Pursuant to CP-123-4593-00019, issued on January 19, 1996, CP-123-8451-00019, issued on February 4, 1998, and 326 IAC 2-2-3(a)(3) (Prevention of Significant Deterioration (PSD) Rules), the particulate matter emissions from the following operations shall be limited to the following:

| Stack ID | Process | Process ID | PM Emission Limitations for individual processes (gr/dscf) unless otherwise specified | PM Emission Limitations for Stacks (lb/hr) and (tons/yr) |
|---|---|---|---|---|
| S08 | Core Sand Handling | P40 | 0.005 | 0.6 lb/hr |
| S08 | Phenolic-Urethane Core Sand Handling System | P42 | 0.005 | |
| S11 | Core Machines & Ovens | P51 | 0.23 lb/hr and 1.0 ton/yr | 0.23 lb/hr and 1.0 tons/yr |

(b) Pursuant to CP123-4593-00019 issued on January 19, 1996, visible emissions from any baghouse stack shall not exceed ten percent (10%) opacity.

D.4.2 VOC Emissions Limitations [326 IAC 2-2-3(a)(3)] [326 IAC 8-1-6]

Pursuant to CP-123-4593-00019, issued on January 19, 1996, CP-123-8451-00019, issued on February 4, 1998, SSM 123-12948-00019, issued on June 5, 2001, and SSM 123-16456, issued on May 13, 2003, 326 IAC 8-1-6 (BACT), and 326 IAC 2-2-3(a)(3) (Prevention of Significant Deterioration (PSD) Rules), the Permittee shall comply with the following requirements:

(a) The VOC emissions from the core machines and ovens identified as P51 shall not exceed 0.10 pounds per hour and 0.43 tons per year.

(b) The VOC emissions from the core manufacturing process identified as P41 shall not exceed 4.6 pounds per hour and 20.2 tons per year.

(c) The volatile organic compound (VOC) emissions, not including dimethylisopropylamine (DMIPA), from both of the phenolic-urethane core machines, identified as P44, shall not exceed 1.836 pounds per hour (total for both machines combined) and 0.010 pounds per pound of binder used.

(d) The volatile organic compound (VOC) emissions from both of the mixers, identified as P44, shall not exceed 0.324 pounds per hour (total for both mixers combined) and 0.002 pounds per pound of binder used.

(e) The amount of binder used in both mixers, identified as P44, combined shall not exceed 390 tons per 12 consecutive month period with compliance determined at the end of each month. For the first 12 months of operation, the limit shall be 32.5 tons per month.

(f) The amount of cores produced by both core machines, identified as P44, combined shall not exceed 26,000 tons per 12 consecutive month period with compliance determined at the end of each month. For the first 12 months of operation, the limit shall be 2,167 tons per month.

(g) The total VOC emissions (including DMIPA) from the mixers and core machines identified as P43 shall not exceed 0.36 pound per ton of cores.

(h) The scrubber controlling the DMIPA emissions from the core machines identified as P43 and P44 shall maintain a 100% capture of the DMIPA emissions, using a permanent total enclosure that complies with the requirements of 40 CFR Part 51, Appendix M, Method 24. The scrubber shall achieve at least 98% overall control efficiency of the DMIPA.

(i) The DMIPA emissions from the scrubber controlling the core machines identified as P43 and P44 shall not exceed 0.04 pound per ton of cores and 1.04 pounds per hour. Compliance with limit is also necessary to render the requirements of 326 IAC 2-4.1-1 (New Source Toxics Control) not applicable.

(j) The Permittee shall only use dimethylisopropylamine (DMIPA) as a catalyst for the core machines identified as P43 and P44.

D.4.3 $SO_2$ Emissions Limitations [326 IAC 2-2-3(a)(3)]

Pursuant to CP-123-4593-00019, issued on January 19, 1996, CP-123-8451-00019, issued on February 4, 1998, and 326 IAC 2-2-3(a)(3) (Prevention of Significant Deterioration (PSD) Rules), the $SO_2$ emissions from the core machines and ovens identified as P51 and exhausting to stack S11 shall not exceed 0.01 pound per hour and 0.044 tons per year.

D.4.4 NOx Emissions Limitations [326 IAC 2-2-3(a)(3)]

Pursuant to CP-123-4593-00019, issued on January 19, 1996, CP-123-8451-00019, issued on February 4, 1998, and 326 IAC 2-2-3(a)(3) (Prevention of Significant Deterioration (PSD) Rules), the NOx emissions from the core machines and ovens identified as P51 and exhausting to stack S11 shall not exceed 2.35 pounds per hour and 10.3 tons per year.

D.4.5 CO Emissions Limitations [326 IAC 2-2-3(a)(3)]

Pursuant to CP-123-4593-00019, issued on January 19, 1996, CP-123-8451-00019, issued on February 4, 1998, and 326 IAC 2-2-3(a)(3) (Prevention of Significant Deterioration (PSD) Rules), the CO emissions from the core machines and ovens identified as P51 and exhausting to stack S11 shall not exceed 0.59 pound per hour and 2.58 tons per year.

D.4.6 Operating Requirements [326 IAC 2-2-3(a)(3)]

(a) Pursuant to CP123-4593-00019 issued on January 19, 1996 and 326 IAC 2-2-3(a)(3), the core ovens shall use only natural gas as a fuel source.

(b) Pursuant to SSM 123-12948-00019, issued on June 5, 2001, and SSM 123-16456, issued on May 13, 2003, the combined maximum capacity of the core machines identified as P44 shall not exceed 6 tons of cores per hour, based on a 24 hour average.

(c) Pursuant to SSM 123-12948-00019, issued on June 5, 2001, and SSM 123-16456, issued on May 13, 2003, the combined maximum capacity of the core machines identified as P43 shall not exceed 20 tons of cores per hour, based on a 24 hour average.

D.4.7 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

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

**Compliance Determination Requirements**

D.4.8 Control of Hazardous Air Pollutants (HAPs) [326 IAC 2-2-3(a)(3)] [326 IAC 2-7-6(6)]

(a) Pursuant to SSM 123-12948-00019, issued on June 5, 2001, SSM 123-16456-00019, issued on May 13, 2003, CP123-4593-00019 issued on January 19, 1996 and 326 IAC 2-2-3(a)(3), the DMIPA emissions from the core machines identified as P43 and P44 shall be controlled by a scrubber C14 (Stack S14) at all times that any of the core machines is in operation.

(b) Pursuant to SSM 123-12948-00019, issued on June 5, 2001, SSM 123-16456-00019, issued on May 13, 2003, CP123-4593-00019 issued on January 19, 1996 and 326 IAC 2-2-3(a)(3), the PM emissions from the core sand handling operations identified as P40 and P42 shall be controlled by a baghouse (C08) at all times that the core sand handling operations are in operation.

(c) The PM emissions from the pattern shop identified as P50 shall be controlled by the baghouse at all times that the pattern shop 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.4.9 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

Pursuant to SSM 123-16456-00019 issued May 13, 2003, within 60 days after achieving maximum production rate but no later than 180 days after the startup of the core machines after the catalyst change, the Permittee shall perform DMIPA testing on the scrubber controlling the core machines identified as P43 and P44 in order to demonstrate compliance with Conditions D.4.2 (h) and (i) using methods as approved by the Commissioner. These tests shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C- Performance Testing.

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

D.4.10 Packed Bed Scrubber Parametric Monitoring

(a) The Permittee shall monitor and record the pH of the scrubber solution and the pressure drop across the scrubber unit at least once per day. When for any one reading, the pressure drop across the scrubber is outside the normal range of 2 to 5 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions or Exceedances. When for any one reading, the pH level of the scrubbing liquid exceeds the normal maximum of 4.5 or a maximum established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

(b) The Permittee shall continuously monitor the flow rate of the scrubbing liquid. When for any one reading, the flow rate is below the normal minimum of 235 gallons per minute or a minimum established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

(c) The instruments used for determining the pressure, flow rate, and pH level 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.4.11 Packed Bed Scrubber Failure Detection

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

D.4.12 Visible Emission Notations

(a) Visible emission notations of each baghouse stack exhaust 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 in accordance with Section C- Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

D.4.13 Baghouse Parametric Monitoring

The Permittee shall record the pressure drop across each of the baghouses used in conjunction with the processes listed in this section, at least once per day when the associated process is in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 1.0 and 4.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

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

D.4.14 Broken or Failed Bag Detection

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

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

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

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

D.4.15 Record keeping Requirement

(a) To document compliance with Condition D.4.2(e), the Permittee shall maintain records of the binder usage in the two core mixers associated with the core making process identified as P44 each month.

(b) To document compliance with Condition D.4.2(f), the Permittee shall maintain records of the core production from the two core machines associated with the core making process identified as P44 each month.

(c) To document compliance with Condition D.4.10(a), the Permittee shall maintain records of the pressure drop and pH readings of the scrubber once per day.

(d) To document compliance with Condition D.4.10(b), the Permittee shall maintain records of the flow rate of the scrubber.

(e) To document compliance with Conditions D.4.12 the Permittee shall maintain records of visible emission notations of each baghouse stack exhaust once per day.

(f) To document compliance with Conditions D.4.13 the Permittee shall maintain records of the pressure drop across each baghouse once per day.

(g) In order to document compliance with D.4.6(b) and (c), records shall be kept of the core production of P43 and P44 each day of operation, and of the total hours of operation of P43 and P44 each day of operation.

(h) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.4.16 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.4.2 (e) and (f) shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The reports submitted by the Permittee do require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

## SECTION D.5 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

Phase I

(1) One (1) ladle preheating operation, identified as P53, with a maximum heat input capacity of 11.5 MMBtu per hour, combusting natural gas, exhausting to stack S12;

(2) One (1) charge and make-up operation, identified as P32, with a maximum throughput of 80 tons per hour, using one (1) baghouse (C44) for particulate control, exhausting to stack S44;

(3) One (1) ladle filling & iron transport operation, identified as P85, with a maximum throughput of 80 tons per hour, using one (1) baghouse (C44) for particulate control, exhausting to stack S44; and

(4) One (1) ladle cleaning with burn bars, identified as P86, using one (1) baghouse (C44) for particulate control, exhausting to stack S44.

Phase II

(1) One (1) enclosed cupola charge make-up and handling unit with a maximum charge of 91.2 tons per hour using one (1) baghouse (C44) for particulate control, exhausting to stack S44;

(2) One (1) ladle filling and iron transport operation with a maximum capacity of 150 tons of iron per hour, and a ladle cleaning operation with an average usage of 13.2 pounds of burn bars per hour, using one (1) baghouse (C44) for particulate control, exhausting to stack S44;

(3) Raw material handling including iron handling at a maximum rate of 150 tons per hour, alloys handling at a maximum rate of 1.5 tons per hour, coke handling at a maximum rate of 15 tons per hour, and limestone handling at a maximum rate of 4.5 tons per hour; and

(4) One (1) ladle preheating operation, identified as P53B, with a maximum heat input capacity of 11.5 MMBtu per hour, combusting natural gas, exhausting to stack S13.

(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 Particulate Matter Emissions Limitations [326 IAC 2-2-3(a)(3)] [326 IAC 6-3-2]

Pursuant to CP-123-4593-00019, issued on January 19, 1996 and 326 IAC 2-2-3(a)(3) (Prevention of Significant Deterioration (PSD) Rules), the following conditions shall apply:

(a) the particulate matter emissions from the baghouse C44 controlling the charge makeup operations, the molten iron handling operations, and the ladle cleaning operations shall not exceed 0.005 gr/dscf and 6.86 pounds per hour;

(b) the particulate matter emissions from the ladle preheating operation identified as P53 shall not exceed 0.16 pound per hour;

(c) visible emissions from any baghouse stack shall not exceed ten percent (10%) opacity;

(d) visible emissions from any building opening shall not exceed three percent (3%) opacity.

D.5.2 Lead Emission Limitations [326 IAC 2-2-3(a)(3)] [326 IAC 2-4.1-1]

Pursuant to CP-123-8451-00019 issued on February 4, 1998, and 326 IAC 2-2-3(a)(3), the lead (Pb) emissions from the charge makeup operations, the molten iron handling operations, and the ladle cleaning operations shall not exceed 0.00004 pound per hour.

D.5.3 Beryllium Emissions [326 IAC 2-2-3(a)(3)] [326 IAC 2-4.1-1]

Pursuant to CP-123-4593-00019, issued on January 19, 1996, CP-123-8451-00019, issued on February 4, 1998, and 326 IAC 2-2-3(a)(3) (Prevention of Significant Deterioration (PSD) Rules), the beryllium emissions from the charge makeup operation P32 shall not exceed 0.0000026 pounds per hour.

D.5.4 VOC Emissions [326 IAC 2-2-3(a)(3)] [326 IAC 8-1-6]

Pursuant to CP-123-4593-00019, issued on January 19, 1996, CP-123-8451-00019, issued on February 4, 1998, 326 IAC 8-1-6 (BACT), and 326 IAC 2-2-3(a)(3) (Prevention of Significant Deterioration (PSD) Rules), the VOC emissions from the ladle preheating station P53 shall not exceed 0.06621 pound per hour.

D.5.5 CO Emissions [326 IAC 2-2-3(a)(3)]

Pursuant to CP-123-4593-00019, issued on January 19, 1996, CP-123-8451-00019, issued on February 4, 1998, and 326 IAC 2-2-3(a)(3) (Prevention of Significant Deterioration (PSD) Rules), the CO emissions from the ladle preheating station P53 shall not exceed 0.40 pounds per hour.

D.5.6 NOx Emissions [326 IAC 2-2-3(a)(3)]

Pursuant to CP-123-4593-00019, issued on January 19, 1996 and 326 IAC 2-2-3(a)(3) (Prevention of Significant Deterioration (PSD) Rules), the NOx emissions from the ladle preheating station P53 shall not exceed 1.61 pounds per hour.

D.5.7 $SO_2$ Emissions [326 IAC 2-2-3(a)(3)]

Pursuant to CP-123-4593-00019, issued on January 19, 1996 and 326 IAC 2-2-3(a)(3) (Prevention of Significant Deterioration (PSD) Rules), the SO2 emissions from the ladle preheating station P53 shall not exceed 0.00685 pounds per hour.

D.5.8 Operating Conditions [326 IAC 2-2-3(a)(3)]

Pursuant to CP-123-8451-00019, issued on February 4, 1998 and 326 IAC 2-2-3(a)(3) (Prevention of Significant Deterioration (PSD) Rules), the following limitations shall apply to the Phase II operations:

(a) the ladle filling and iron transport station shall be limited to a maximum capacity of 150 tons of iron per hour;

(b) the ladle cleaning station shall be limited to a maximum usage of 13.2 burn bars per hour;

(c) the raw material handling operations shall be limited to a maximum rate of 150 tons per hour for the iron handling, a maximum rate of 1.5 tons per hour for the alloys handling, a maximum rate of 15 tons per hour for the coke handling, and a maximum rate of 4.5 tons per hour for the limestone handling; and

(d) the enclosed cupola charge make-up and handling unit shall be limited to a maximum charge of 91.2 tons per hour.

D.5.9 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

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

**Compliance Determination Requirements**

D.5.10 Particulate Matter (PM/PM-10) [326 IAC 2-7-6(6)]

(a) Pursuant to CP-123-8451-00019, issued on February 4, 1998, and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Rules), the PM, lead, and beryllium emissions from the charge make-up operation, identified as P32 shall be controlled by baghouse C44 at all times when the process is in operation.

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

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

D.5.11 Visible Emission Notations

(a) Visible emission notations of the baghouse C44 stack exhaust 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 in accordance with Section C- Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

D.5.12 Baghouse Parametric Monitoring

The Permittee shall record the pressure drop across the baghouse C44 used in conjunction with the charge makeup operation, at least once per day when the process is in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 3.0 and 10.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

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

D.5.13 Broken or Failed Bag Detection

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

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

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

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

D.5.14 Record keeping Requirement

(a) To document compliance with Conditions D.5.11 the Permittee shall maintain records of visible emission notations of the baghouse stack exhaust once per day.

(b) To document compliance with Conditions D.5.12 the Permittee shall maintain records of the pressure drop across each baghouse once per day.

(c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

## SECTION D.6 FACILITY OPERATION CONDITIONS

### Insignificant Activities

| |
|---|
| Facility Description [326 IAC 2-7-5(15)]<br>Degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6.<br><br>(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 Volatile Organic Compounds (VOC)

Pursuant to 326 IAC 8-3-2 (Cold Cleaner Operations), for cold cleaning operations constructed after January 1, 1980, the Permittee shall:

(a) Equip the cleaner with a cover;

(b) Equip the cleaner with a facility for draining cleaned parts;

(c) Close the degreaser cover whenever parts are not being handled in the cleaner;

(d) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;

(e) Provide a permanent, conspicuous label summarizing the operation requirements;

(f) Store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere.

D.6.2 Volatile Organic Compounds (VOC)

(a) Pursuant to 326 IAC 8-3-5(a) (Cold Cleaner Degreaser Operation and Control), for cold cleaner degreaser operations without remote solvent reservoirs constructed after July 1, 1990, the Permittee shall ensure that the following control equipment requirements are met:

(1) Equip the degreaser with a cover. The cover must be designed so that it can be easily operated with one (1) hand if:

(A) The solvent volatility is greater than two (2) kiloPascals (fifteen (15) millimeters of mercury or three-tenths (0.3) pounds per square inch) measured at thirty-eight degrees Celsius (38$^{O}$C) (one hundred degrees Fahrenheit (100$^{O}$F));

(B) The solvent is agitated; or

(C) The solvent is heated.

(2) Equip the degreaser with a facility for draining cleaned articles. If the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38$^{O}$C) (one hundred degrees Fahrenheit (100$^{O}$F)), then the drainage facility must be internal such that articles are enclosed under the cover while draining. The drainage facility may be external for applications where an internal type cannot fit into the cleaning system.

(3) Provide a permanent, conspicuous label which lists the operating requirements outlined in subsection (b).

(4) The solvent spray, if used, must be a solid, fluid stream and shall be applied at a pressure which does not cause excessive splashing.

(5) Equip the degreaser with one (1) of the following control devices if the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38$^{O}$C) (one hundred degrees Fahrenheit (100$^{O}$F)), or if the solvent is heated to a temperature greater than forty-eight and nine-tenths degrees Celsius (48.9$^{O}$C) (one hundred twenty degrees Fahrenheit (120$^{O}$F)):

(A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.

(B) A water cover when solvent is used is insoluble in, and heavier than, water.

(C) Other systems of demonstrated equivalent control such as a refrigerated chiller of carbon adsorption. Such systems shall be submitted to the U.S. EPA as a SIP revision.

(b) Pursuant to 326 IAC 8-3-5(b) (Cold Cleaner Degreaser Operation and Control), for a cold cleaning facility construction of which commenced after July 1, 1990, the Permittee shall ensure that the following operating requirements are met:

(1) Close the cover whenever articles are not being handled in the degreaser.

(2) Drain cleaned articles for at least fifteen (15) seconds or until dripping ceases.

(3) Store waste solvent only in covered containers and prohibit the disposal or transfer of waste solvent in any manner in which greater than twenty percent (20%) of the waste solvent by weight could evaporate.

## SECTION D.7 FACILITY OPERATION CONDITIONS

**Facility Description [326 IAC 2-7-5(15)]**

Core Room Expansion

(a) One (1) phenolic-urethane core sand handling system, identified as P46, to begin construction in 2005, with a maximum production capacity of 45 tons of cores per hour. Particulate matter emissions are controlled by one (1) baghouse, identified as C18, exhausting to Stack S18;

(b) One (1) phenolic-urethane core making process, identified as P47, to begin construction in 2005, consisting of 3 mixers and 3 core machines, each with a maximum capacity of 15 tons per hour. DMIPA catalyst emissions are controlled by one (1) packed bed scrubber, identified as C17. The gases are then exhausted to Stack S17;

(c) Three (3) natural gas-fired core drying ovens and natural gas-fired air make-up units, identified as P48, to begin construction in 2005, with the core drying ovens having a combined maximum heat input capacity of 9.0 MMBtu per hour and the air make-up units having a combined maximum heat input capacity of 3.2 MMBtu per hour, exhausting inside the building.

(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 PSD Minor Limit [326 IAC 2-2]

The PM and PM10 emissions from the core sand handling process exhausting to stack S18 shall each not exceed 0.60 pounds per hour.

This emission limit will limit emissions of PM and PM10 to less than the PSD significant levels of 25 and 15 tons per year, respectively, so that the installation of units P46, P47, and P48 is not subject to 326 IAC 2-2 (PSD).

D.7.2 VOC Emission Limitations [326 IAC 8-1-6][326 IAC 2-2]

Pursuant to 326 IAC 8-1-6 (New Facilities, General Reduction Requirements) the Best Available Control Technology (BACT) for the phenolic-urethane core making process, identified as P47, is as follows:

(a) A packed bed scrubber system with a minimum DMIPA (a VOC) overall control efficiency of 98% shall be used to control DMIPA (a VOC) emissions from the three (3) core machines.

(b) The non-DMIPA volatile organic compound (VOC) emissions from the three (3) phenolic-urethane core machines, identified as P47, shall not exceed 0.01 pound per pound of binder used.

(c) The non-DMIPA volatile organic compound (VOC) emissions from the three (3) mixers, identified as P47, shall not exceed 0.002 pound per pound of binder used.

(d) The amount of binder used in all three (3) mixers, identified as P47, combined shall not exceed 5,910,000 pounds per 12 consecutive month period, with compliance determined at the end of each month.

(e) The amount of cores produced by all three (3) core machines, identified as P47, combined shall not exceed 197,000 tons per 12 consecutive month period, with compliance determined at the end of each month.

(f) The total DMIPA (a VOC) emissions from the mixers and core machines identified as P47 shall not exceed 0.04 pound per ton of cores.

(g) The scrubber controlling the DMIPA emissions from the core machines identified as P47 shall have a 100% capture of the DMIPA emissions, using a permanent total enclosure that complies with the requirements of 40 CFR Part 51, Appendix M, Method 24. The scrubber shall achieve at least 98% overall control efficiency of the DMIPA.

(h) The Permittee shall use only low VOC content resins in the core making process.

Compliance with the above limits will also limit emissions of VOC to less than the PSD significant level of 40 tons per year so that the installation of units P46, P47, and P48 is not subject to 326 IAC 2-2 (PSD).

D.7.3 Particulate [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 core sand handling system (P46) shall not exceed 43.6 pounds per hour when operating at a process weight rate of 45 tons per hour. The pounds per hour limitation was calculated using the following equation:

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

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

D.7.4 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for the core sand handling process and the phenolic-urethane core making process and their control devices.

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

D.7.5 Particulate Control [326 IAC 2-7-6(6)]

(a) In order to comply with conditions D.7.1 and D.7.3, the baghouse C18 for particulate control shall be in operation and control emissions from the core sand handling system (P46) at all times that the core sand handling system (P46) is in operation.

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

D.7.6 VOC Control

In order to comply with condition D.7.2, the packed bed scrubber C17 for DMIPA emissions control shall be in operation at control DMIPA emissions from the core machines identified as P47 at all times that any of the core machines is in operation.

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

Within 60 days after achieving maximum production rate but no later than 180 days after the startup of the core machines identified as P47, in order to demonstrate compliance with Conditions D.7.2(b), D.7.2(c), and D.7.2(g), the Permittee shall perform VOC and DMIPA testing on the scrubber controlling the core machines identified as P47 utilizing methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C- Performance Testing.

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

D.7.8 Packed Bed Scrubber Parametric Monitoring

(a) The Permittee shall monitor and record the pH of the scrubber solution and the pressure drop across the scrubber unit at least once per day. When for any one reading, the pressure drop across the scrubber is outside the normal range of 2 to 5 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions or Exceedances. When for any one reading, the pH level of the scrubbing liquid exceeds the normal maximum of 4.5 or a maximum established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

(b) The Permittee shall continuously monitor the flow rate of the scrubbing liquid. When for any one reading, the flow rate is below the normal minimum of 254 gallons per minute or a minimum established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

(c) The instruments used for determining the pressure, flow rate, and pH level 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.7.9 Packed Bed Scrubber Failure Detection

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

D.7.10 Visible Emissions Notations

(a) Visible emission notations of the baghouse C18 stack exhaust 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 in accordance with Section C- Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

D.7.11 Parametric Monitoring

The Permittee shall record the pressure drop across the baghouse used in conjunction with the core sand handling system (P46), at least once per day when the process is in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 2.0 and 10.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

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

D.7.12 Broken or Failed Bag Detection

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

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

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

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

D.7.13 Record Keeping Requirements

(a) To document compliance with Condition D.7.2(d), the Permittee shall maintain records of the binder usage in the three core mixers associated with the core making process identified as P47 each month.

(b) To document compliance with Condition D.7.2(e), the Permittee shall maintain records of the core production from the three core machines associated with the core making process identified as P47 each month.

(c) To document compliance with Condition D.7.8(a), the Permittee shall maintain records of the pressure drop and pH readings of the scrubber once per day.

(d) To document compliance with Condition D.7.8(b), the Permittee shall maintain records of the flow rate of the scrubber.

(e) To document compliance with Condition D.7.10 the Permittee shall maintain records of visible emission notations of the baghouse stack exhaust once per day.

(f) To document compliance with Condition D.7.11 the Permittee shall maintain records of the pressure drop across the baghouse once per day.

(g) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.7.14 Reporting Requirements

A quarterly summary of the information to document compliance with Conditions D.7.2(d) and D.7.2(e) shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).

# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
# OFFICE OF AIR QUALITY

## PART 70 OPERATING PERMIT
## CERTIFICATION

Source Name: ThyssenKrupp Waupaca, Inc. Plant 5
Source Address: 9856 State Highway 66, Tell City, IN 47586
Mailing Address: P.O. Box 189, Tell City, IN 47586
Part 70 Permit No.: T123-9234-00019

**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 BRANCH**
**100 North Senate Avenue**
**Indianapolis, Indiana 46204-2251**
**Phone: 317-233-5674**
**Fax: 317-233-5967**

## PART 70 OPERATING PERMIT
## EMERGENCY OCCURRENCE REPORT

Source Name: ThyssenKrupp Waupaca, Inc. Plant 5
Source Address: 9856 State Highway 66, Tell City, IN 47586
Mailing Address: P.O. Box 189, Tell City, IN 47586
Part 70 Permit No.: T123-9234-00019

**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 317-233-5674, ask for Compliance Section); and
- The Permittee must submit notice in writing or by facsimile within two (**2**) working days (Facsimile Number: 317-233-5967), 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

| |
|---|
| 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:

A certification is not required for this report.

# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
# OFFICE OF AIR QUALITY
# COMPLIANCE DATA SECTION

## Part 70 Quarterly Report

Source Name: ThyssenKrupp Waupaca, Inc. Plant 5
Source Address: 9856 State Highway 66, Tell City, IN 47586
Mailing Address: P.O. Box 189, Tell City, IN 47586
Part 70 Permit No.: T123-9234-00019
Facility: core mixers identified as P44
Parameter: binder usage
Limit: 390 tons of binder per 12 consecutive month period

YEAR:

| Month | Column 1 | Column 2 | Column 1 + Column 2 |
|---|---|---|---|
| | Binder Usage This Month (tons) | Binder Usage Previous 11 Months (tons) | Binder Usage 12 Month Total (tons) |
| Month 1 | | | |
| Month 2 | | | |
| Month 3 | | | |

No deviation occurred in this quarter.

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

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

Attach a signed certification to complete this report.

# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
# OFFICE OF AIR QUALITY
# COMPLIANCE DATA SECTION

## Part 70 Quarterly Report

Source Name: ThyssenKrupp Waupaca, Inc. Plant 5
Source Address: 9856 State Highway 66, Tell City, IN 47586
Mailing Address: P.O. Box 189, Tell City, IN 47586
Part 70 Permit No.: T123-9234-00019
Facility: two core machines, identified as P44
Parameter: core production
Limit: 26,000 tons of cores per 12 consecutive month period

YEAR:

| Month | Column 1 | Column 2 | Column 1 + Column 2 |
|---|---|---|---|
| | Cores Produced This Month (tons) | Cores Produced Previous 11 Months (tons) | 12 Month Total Cores Produced (tons) |
| Month 1 | | | |
| Month 2 | | | |
| Month 3 | | | |

No deviation occurred in this quarter.

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

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

Attach a signed certification to complete this report.

# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
# OFFICE OF AIR QUALITY
# COMPLIANCE DATA SECTION

## Part 70 Quarterly Report

Source Name: ThyssenKrupp Waupaca, Inc. Plant 5
Source Address: 9856 State Highway 66, Tell City, IN 47586
Mailing Address: P.O. Box 189, Tell City, IN 47586
Part 70 Permit No.: T123-9234-00019
Facility: Three (3) core sand mixers identified as P47
Parameter: binder usage
Limit: The amount of binder used in all three (3) mixers, identified as P47, combined shall not exceed 5,910,000 pounds per 12 consecutive month period, with compliance determined at the end of each month.

YEAR:

| Month | Column 1 | Column 2 | Column 1 + Column 2 |
|---|---|---|---|
| | Binder Usage This Month (pounds) | Binder Usage Previous 11 Months (pounds) | 12 Month Total Binder Usage (pounds) |
| Month 1 | | | |
| Month 2 | | | |
| Month 3 | | | |

☐ No deviation occurred in this quarter.

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

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

Attach a signed certification to complete this report.

# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
# OFFICE OF AIR QUALITY
# COMPLIANCE DATA SECTION

## Part 70 Quarterly Report

Source Name: ThyssenKrupp Waupaca, Inc. Plant 5
Source Address: 9856 State Highway 66, Tell City, IN 47586
Mailing Address: P.O. Box 189, Tell City, IN 47586
Part 70 Permit No.: T123-9234-00019
Facility: Three (3) core machines identified as P47
Parameter: core production
Limit: The amount of cores produced by all three (3) core machines, identified as P47, combined shall not exceed 197,000 tons per 12 consecutive month period, with compliance determined at the end of each month.

YEAR:

| Month | Column 1 | Column 2 | Column 1 + Column 2 |
|---|---|---|---|
| | Cores Produced This Month (tons) | Cores Produced Previous 11 Months (tons) | 12 Month Total Cores Produced (tons) |
| Month 1 | | | |
| Month 2 | | | |
| Month 3 | | | |

☐ No deviation occurred in this quarter.

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

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

Attach a signed certification to complete this report.

# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
# OFFICE OF AIR QUALITY
# COMPLIANCE DATA SECTION

## PART 70 OPERATING PERMIT
### QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT

Source Name: ThyssenKrupp Waupaca, Inc. Plant 5
Source Address: 9856 State Highway 66, Tell City, IN 47586
Mailing Address: P.O. Box 189, Tell City, IN 47586
Part 70 Permit No.: T123-9234-00019

**Months: _____ to _____ Year: _____**



This report shall be submitted quarterly based on a calendar year. Any deviation from the requirements, 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:

Attach a signed certification to complete this report.

# Indiana Department of Environmental Management
# Office of Air Quality

Addendum to the
Technical Support Document for a Significant Source Modification and Significant Permit Modification to a Part 70 Operating Permit

| | |
|---|---|
| Source Name: | ThyssenKrupp Waupaca, Inc. Plant 5 |
| Source Location: | 9856 State Highway 66, Tell City, Indiana 47586 |
| County: | Perry |
| SIC Code: | 3321 |
| Source Modification No.: | 123-21238-00019 |
| Permit Modification No.: | 123-21445-00019 |
| Permit Reviewer: | Trish Earls/EVP |

On September 22, 2005, the Office of Air Quality (OAQ) had a notice published in the Perry County News, Tell City, Indiana, stating that ThyssenKrupp Waupaca, Inc. Plant 5 had applied for a Significant Source Modification and Significant Permit Modification to add three new phenolic-urethane core machines and supporting equipment including sand handling and mixing operations, and natural gas-fired core ovens and make-up units to their existing gray and ductile iron foundry. The notice also stated that OAQ proposed to issue a permit for this installation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

On October 3, 2005, Steven Klafka of Wingra Engineering, S.C. submitted comments on behalf of ThyssenKrupp Waupaca, Inc. on the proposed permit. The summary of the comments and corresponding responses is as follows (additions in **bold**, deletions in ~~strikeout~~):

**Comment #1**

Page 12, A.2.(a), (b) & (c), Core Room Expansion - These conditions appear to require construction to be completed in 2005. Since construction may not be completed entirely in 2005, it would be more appropriate to state: "...to begin construction in 2005...".

TSD Page 11, Section 1.A.2 (a), (b) & (c) - Same comments as provided on the draft permit above.

TSD Page 11, Section D.7 (a), (b) & (c) - Same comments as provided on the draft permit above.

**Response #1**

The facility description for the Core Room Expansion under sections A.2 and D.7 of the permit is revised as follows:

Core Room Expansion

(a) One (1) phenolic-urethane core sand handling system, identified as P46, to ~~be constructed~~ **begin construction** in 2005, with a maximum production capacity of 45 tons of cores per hour. Particulate matter emissions are controlled by one (1) baghouse, identified as C18, exhausting to Stack S18;

(b) One (1) phenolic-urethane core making process, identified as P47, to ~~be constructed~~ **begin construction** in 2005, consisting of 3 mixers and 3 core machines, each with a maximum capacity of 15 tons per hour. DMIPA catalyst emissions are controlled by one (1) packed bed scrubber, identified as C17. The gases are then exhausted to Stack S17;

(c) Three (3) natural gas-fired core drying ovens and natural gas-fired air make-up units, identified as P48, ~~constructed~~ **to begin construction** in 2005, with the core drying ovens having a combined maximum heat input capacity of 9.0 MMBtu per hour and the air make-up units having a combined maximum heat input capacity of 3.2 MMBtu per hour, exhausting inside the building.

The OAQ prefers that the Technical Support Document reflect the permit that was on public notice. Changes to the permit or technical support material that occur after the public notice are documented in this Addendum to the Technical Support Document. This accomplishes the desired result of ensuring that these types of concerns are documented and part of the record regarding this permit decision. Therefore, the changes to the equipment descriptions are documented above only.

**Comments #2 and #3**

Page 36, Section C.24(c) Actual Emissions Record Keeping

The draft permit requires new record keeping for baseline and project actual emissions. These records are needed to show that the future actual emissions increase due to the project will cause project emissions to exceed the PSD threshold. This recordkeeping requirement is unnecessary and should be removed from the permit.

First, as stated in this condition, TKW did not elect to utilize the “projected actual emissions” method to avoid the PSD requirements. There is no clear reason or benefit to Plant 5 to avoid PSD requirements for this project.

Second, the application record explains how the proposed core machines will allow Plant 5 to produce castings for a growing market for the facility. Production for this market is estimated to be 83,000 tons per year of iron poured. Plant 5 is now operating at or near a full capacity schedule. Therefore, to accommodate this growing market, existing Plant 5 production will likely move to other ThyssenKrupp foundries or be discontinued through attrition. Minimal change in overall castings production at Plant 5 is expected. It is difficult to calculate the actual increase in production. Most importantly, any increase in production levels due to the addition of the core machines would be indiscernible from normal production increases due to increases in general market demand. Since production increases due to the new core machines will be indiscernible from current production trends due to market fluctuations, it will be virtually impossible to calculate a net increase due solely to the installation of the new core machines.

Last, the application explained how the proposed core machines will implement BACT as required by IDEM regulations. However, the control strategy is identical to that determined to be BACT under the PSD regulations for the last core machine project at TKW Plant 5 and other recent BACT determinations found in the clearinghouse. Whether the PSD regulations apply or not to the pending core room project, the control method would be the same.

TKW does not see the relevance in attempting to record baseline actual to future actual emissions since: 1) TKW did not elect to use the “projected actual emissions” method; 2) the change in Plant 5 production attributable to new core machines will be indiscernible from normal production increases; and, 3) the applicability of the PSD requirements would make no difference in the project control methods. TKW is requesting that this record keeping condition be removed from the permit.

Page 37, C.25(f) and (g), General Reporting Requirements

These new conditions are to be added to the facility operation permit as a result of the new "projected actual emissions" record keeping requirement of Section C - General Record Keeping Requirements. It has been requested that this record keeping requirement not apply to the pending permit for the core room project and should be removed along with these two new conditions.

TSD Page 22, Section C.24(c), Actual Emissions Record Keeping - Same comments as provided on the draft permit above.

TSD Page 23, C.25(f) and (g), General Reporting Requirements - Same comments as provided on the draft permit.

**Responses #2 and #3**

The record keeping requirement included in condition C.24(c) of the permit and the reporting requirements included in condition C.25(f) and (g) were included in the permit in accordance with Source obligation in 326 IAC 2-2-8 to reflect NSR reform provisions at major sources and to demonstrate that this modification will not be major for PSD. This requirement will be included in all Title V permits, no later than at the time of renewal, for all major NSR sources.

As stated above, Plant 5 is operating at or near a full capacity schedule. The phrase "or near" means less than full capacity. Even a small increase in melt rate across an entire foundry can result in a significant emissions increase of PM, PM10 or VOC. Since there is a possibility for increases in metal melt rate and castings production at Plant 5 as a result of this modification, IDEM is requiring ThyssenKrupp Waupaca to do an actual to projected actual test and keep records to show that the increase in emissions is not significant. No changes have been made to conditions C.24 or C.25 as a result of these comments.

The OAQ prefers that the Technical Support Document reflect the permit that was on public notice. Changes to the permit or technical support material that occur after the public notice are documented in this Addendum to the Technical Support Document. This accomplishes the desired result of ensuring that these types of concerns are documented and part of the record regarding this permit decision. No portions of the TSD have been revised in this addendum as a result of this comment.

**Comment #4**

Page 86, Section D.7 (a), (b) & (c), Facility Description - Same comment concerning construction in 2005 in the description of the new core room equipment on Page 12 of the permit.

**Response #4**

See Response #1 for facility description changes.

**Comments #5 and #6**

Page 86, Section D.7.2 (b) - The non-DMIPA VOC emissions from the core machines are 13.8 lbs/hr, not 3.42 lbs/hr. Supporting calculations for the 3.42 lbs/hr emissions are not provided in the TSD for the draft permit. The correct emissions of 13.8 lbs/hr are calculated in the revised Attachment A - Supporting Calculations for the application attached to the August 31st email from S. Klafka to T. Earls.

Page 86, Section D.7.2 (c) - The non-DMIPA VOC emissions from the mixers are 2.43 lbs/hr, not 0.68 lbs/hr. Supporting calculations for the 0.68 lbs/hr emissions are not provided in the TSD for the draft permit. The correct emissions of 2.43 lbs/hr are calculated in the revised Attachment A - Supporting Calculations for the application attached to the August 31st email from S. Klafka to T. Earls.

TSD Page 12, Section D.7.2 (b) - Same comments as provided on the draft permit above.

TSD Page 12, Section D.7.2 (c) - Same comments as provided on the draft permit.

**Responses #5 and #6**

In order to limit VOC emissions from the core machines and mixers before controls to 232.46 tons per year from both resin and catalyst usage so that total VOC emissions from the modification are limited to less than 40 tons per year after control to render 326 IAC 2-2 (PSD) not applicable, the source accepted a core production limit of 197,000 tons per year. Based on a maximum catalyst usage rate of 2 pounds per ton of cores this is equivalent to a catalyst usage limit of 394,000 pounds per year. Based on 100% VOC in the catalyst, this yields 197.0 tons per year of VOC emissions from catalyst usage. Therefore, VOC emissions from resin usage, or non-DMIPA VOC emissions, must be limited to 35.46 tons per year for the overall limit of 232.46 tons per year. In order for this limit to be enforceable such that compliance can be demonstrated through stack testing, it must be expressed as a short term limit.

This limit was distributed between the core machines and mixers based on the percentage of the overall non-DMIPA VOC emission factor of 0.012 pound per pound of binder used that is emitted from each. Based on a maximum core production limit of 197,000 tons per year, and a maximum resin content of 1.5%, the maximum resin or binder usage is limited to 2,955 tons per year. Based on a VOC emission limit of 0.01 pound per pound of binder for the core machines, and a binder usage limit of 5,910,000 pounds per year (2,955 tons x 2000 lbs/ton), this is equivalent to 29.55 tons per year from the core machines. Likewise, based on a VOC emission limit of 0.002 pound per pound of binder for the mixers, and a binder usage limit of 5,910,000 pounds per year, this is equivalent to 5.91 tons per year from the mixers for an overall non-DMIPA VOC emission limit of 35.46 tons per year. Because IDEM reconsidered the economic feasibility of the RTO and carbon adsorption control options at the originally proposed core production limit of 197,000 tons per year, and determined that the incremental costs associated with those control options at that production limit made those options economically infeasible, condition D.7.2 has been revised as shown in Response #7 below.

The OAQ prefers that the Technical Support Document reflect the permit that was on public notice. Changes to the permit or technical support material that occur after the public notice are documented in this Addendum to the Technical Support Document. This accomplishes the desired result of ensuring that these types of concerns are documented and part of the record regarding this permit decision. The discussion of the applicability of 326 IAC 8-1-6 under the State Rule Applicability section of the TSD is revised in this addendum as follows:

326 IAC 8-1-6 (New Facilities, General Reduction Requirements)

This rule applies to facilities located anywhere in the state that were constructed on or after January 1, 1980, which have potential volatile organic compounds (VOC) emissions of 25 tons per year or more, and which are not otherwise regulated by other provisions of 326 IAC 8, and requires the reduction of VOC emissions using Best Available Control Technology (BACT). The phenolic-urethane core making process, identified as P47, has potential VOC emissions of greater than 25 tons per year and is therefore subject to this rule.

The source submitted a BACT analysis to determine BACT for the core making process. IDEM, OAQ has determined that the BACT for the three (3) core machines is the use of a packed bed scrubber system with a minimum overall control efficiency of 98% to control DMIPA (a VOC) emissions from the core machines, no add on controls for the three (3) core mixers, and the following emission limitations:

(a) The **total** non-DMIPA volatile organic compound (VOC) emissions from the three (3) phenolic-urethane core machines and three (3) mixers **combined**, identified as P47, shall not exceed ~~4.11 pounds per hour (total for all three machines and three mixers combined) and~~ 0.012 pound per pound of binder used.

(b) The amount of binder used in all three (3) mixers, identified as P47, combined shall not exceed ~~1,500 tons~~ **5,910,000 pounds** per 12 consecutive month period, with compliance determined at the end of each month.

(c) The amount of cores produced by all three (3) core machines, identified as P47, combined shall not exceed ~~100,000~~ **197,000** tons per 12 consecutive month period, with compliance determined at the end of each month.

(d) The total DMIPA (a VOC) emissions from the mixers and core machines identified as P47 shall not exceed 0.04 pound per ton of cores.

(e) The scrubber controlling the DMIPA emissions from the core machines identified as P47 shall have a 100% capture of the DMIPA emissions, using a permanent total enclosure that complies with the requirements of 40 CFR Part 51, Appendix M, Method 24. The scrubber shall achieve at least 98% overall control efficiency of the DMIPA.

(f) The Permittee shall use only low VOC content resins in the core making process.

A detailed BACT analysis is presented in Appendix B of this document.

**Comment #7**

Page 87, Section D.7.2(e) - Production Limitation of 100,000 tons per year of Cores

It should be acknowledged that the 100,000 ton per year production limitation is nearly half the production level requested by TKW in its permit application. The lower production limit was necessary as a result of IDEM's BACT determination policy. This policy is unnecessarily inflexible and provided little, if any, improvement in emissions reduction.

The project was proposed with 197,000 tons per year of production and the use of a packed bed scrubber as the emission control system. This type of system is used to control VOC emissions from core making operations at virtually almost every foundry in the U.S. It has previously been determined to represent BACT at other foundries as well as at Plant 5. It is also the basis which USEPA used in its recently adopted MACT requirements for both new and existing iron and steel foundries.

The application demonstrates how a regenerative thermal oxidizer (RTO) would control slightly more VOC, but at exceedingly high cost. While the scrubber would control VOC emissions at a cost of $1,000 per ton, the RTO would require $5,000 per ton. The additional VOC controlled by the RTO would cost nearly $34,000 per ton. In addition, the RTO would consume 6 times the electricity and as much natural gas as an industrial boiler. While the scrubber was best control technology, IDEM refused to eliminate consideration of the RTO until production limitations made it economically infeasible under IDEM's BACT determination policy. As a result of this policy, there is no incentive to develop lower emission resins because the incremental cost effectiveness of the RTO is never considered.

**Response #7**

At the originally proposed production limit of 197,000 tons per year of cores, the cost effectiveness for the RTO was $5,418 per ton of VOC removed. This is considered a reasonable cost by IDEM, OAQ to determine that a control technology is economically feasible when considered alone. However, IDEM has reconsidered the economic feasibility of the RTO and carbon adsorption control options at the originally proposed core production limit of 197,000 tons per year, and determined that given the relatively small emission reduction, the incremental costs of $33,895 per ton of VOC removed associated with the RTO and $41,134 per ton of VOC removed associated with carbon adsorption at that production limit make those options economically infeasible. Therefore, the BACT analysis in Appendix B to the TSD has been revised based on the core production limit of 197,000 tons per year and the BACT determination in condition D.7.2 has been revised as follows:

D.7.2 VOC Emission Limitations [326 IAC 8-1-6][326 IAC 2-2]

Pursuant to 326 IAC 8-1-6 (New Facilities, General Reduction Requirements) the Best Available Control Technology (BACT) for the phenolic-urethane core making process, identified as P47, is as follows:

(a) A packed bed scrubber system with a minimum DMIPA (a VOC) overall control efficiency of 98% shall be used to control DMIPA (a VOC) emissions from the three (3) core machines.

(b) The non-DMIPA volatile organic compound (VOC) emissions from the three (3) phenolic-urethane core machines, identified as P47, shall not exceed ~~3.42 pounds per hour and~~ 0.01 pound per pound of binder used.

(c) The non-DMIPA volatile organic compound (VOC) emissions from the three (3) mixers, identified as P47, shall not exceed ~~0.68 pounds per hour and~~ 0.002 pound per pound of binder used.

(d) The amount of binder used in all three (3) mixers, identified as P47, combined shall not exceed ~~1,500 tons~~ **5,910,000 pounds** per 12 consecutive month period, with compliance determined at the end of each month.

(e) The amount of cores produced by all three (3) core machines, identified as P47, combined shall not exceed ~~100,000~~ **197,000** tons per 12 consecutive month period, with compliance determined at the end of each month.

(f) The total DMIPA (a VOC) emissions from the mixers and core machines identified as P47 shall not exceed 0.04 pound per ton of cores.

(g) The scrubber controlling the DMIPA emissions from the core machines identified as P47 shall have a 100% capture of the DMIPA emissions, using a permanent total enclosure that complies with the requirements of 40 CFR Part 51, Appendix M, Method 24. The scrubber shall achieve at least 98% overall control efficiency of the DMIPA.

(h) The Permittee shall use only low VOC content resins in the core making process.

**Compliance with** ~~T~~the above limits will also limit emissions of VOC to less than the PSD significant level of 40 tons per year so that the installation of units P46, P47, and P48 is not subject to 326 IAC 2-2 (PSD).

**Comment #8**

Page 87, Section D.7.7., Testing Requirements

To demonstrate compliance with Condition D.7.2(g), testing is required for VOC and DMIPA emissions from the scrubber controlling the core machines. Condition D.7.2(g) establishes a control efficiency for DMIPA of 98% for the scrubber. It is requested that the requirement to test VOC emissions be removed from this permit condition, since DMIPA is the pollutant at issue.

TSD Page 13, Section D.7.7, Testing Requirements - Same comments as provided on the draft permit above.

**Response #8**

Since there are VOC emission limits as part of the BACT which do not include DMIPA, testing must be performed for both VOC and DMIPA to demonstrate compliance. Condition D.7.7 is revised to include reference to the non-DMIPA VOC emission limits in condition D.7.2(b) and (c) as follows:

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

Within 60 days after achieving maximum production rate but no later than 180 days after the startup of the core machines identified as P47, in order to demonstrate compliance with Condition**s D.7.2(b), D.7.2(c), and** D.7.2(g), the Permittee shall perform VOC and DMIPA testing on the scrubber controlling the core machines identified as P47 utilizing methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C-Performance Testing.

The OAQ prefers that the Technical Support Document reflect the permit that was on public notice. Changes to the permit or technical support material that occur after the public notice are documented in this Addendum to the Technical Support Document. This accomplishes the desired result of ensuring that these types of concerns are documented and part of the record regarding this permit decision. Therefore, the changes to condition D.7.7 are documented above only.

**Comment #9**

Page 88, Section D.7.8(a) and (b), Packed Bed Scrubber Parametric Monitoring

(a) - Specific operating ranges are provided for the scrubber pressure drop and pH, unless alternative ranges are *"...established during the latest stack test."* This condition should more clearly state that the Permittee, and not IDEM, should determine if new operating ranges should be proposed based on stack tests. For example, this condition could be edited to state: *"...established during the latest stack test and proposed by the Permittee."*

(b) - Same comment as Condition D.7.8 (a).

Page 89, Section D.7.12, Baghouse Parametric Monitoring - Same comment as Condition D.7.8 (a).

TSD Page 8, Compliance Requirements
(1)(a) - Same comments as provided for Page 88, Section D.7.8(a) of the draft permit.
(1)(b) - Same comments as (1)(a) above.
(2)(a) - Same comments as (1)(a) above.

TSD Page 13, Section D.7.8, Packed Bed Scrubber Parametric Monitoring - Same comments as provided on the draft permit above.

TSD Page 14, Section D.7.12, Parametric Monitoring - Same comments as provided on the draft permit above.

**Response #9**

The stack test demonstrates the control device parameters needed to demonstrate compliance. Therefore, no additional language is necessary and the requested change to conditions D.7.8 and D.7.12 has not been made. See item 9 under the changes made by the OAQ below for further revisions to these conditions.

**Comment #10**

TSD Page 4, PTE of Modification After Issuance - For natural gas combustion, P48, PM emissions are less than PM10 which typically does not occur. It would be informative to add a note that PM emissions are filterable only, while PM10 is both filterable and condensible. A similar explanatory note was already provided in the supporting calculations.

**Response #10**

The OAQ prefers that the Technical Support Document reflect the permit that was on public notice. Changes to the permit or technical support material that occur after the public notice are documented in this Addendum to the Technical Support Document. This accomplishes the desired result of ensuring that these types of concerns are documented and part of the record regarding this permit decision. Since the emission calculations on page 4 of Appendix A of the TSD already include a note that the PM emissions are filterable PM only and PM10 emissions are filterable and condensable PM, no additional changes have been made.

**Comment # 11**

TSD Page 5, (b), Page 6, (b), and Page 7 (b) - The total non-DMIPA VOC emissions from the core machines and mixers are 16.2 lbs/hr, not 4.11 lbs/hr. Supporting calculations for the 4.11 lbs/hr emissions are not provided in the TSD for the draft permit. The correct emissions of 16.2 lbs/hr are calculated in the revised Attachment A - Supporting Calculations for the application attached to the August 31st email from S. Klafka to T. Earls.

**Response #11**

See responses #5 and #6 above.

**Comment #12**

TSD Page 5, Limitations Necessary to Avoid PSD

In the second paragraph, it states: “The following limitations will limit emissions of PM, PM10, and VOC to less than the PSD significant levels of 25, 15, and 40 tons per year, respectively, in order to render the requirements of 326 IAC 2-2 (PSD) not applicable:” There are six conditions listed which are assumed to be necessary to avoid the PSD requirements. These include the 100,000 ton per year core production limitation under (d). It should be more clearly stated that this limit was not established to avoid the PSD requirements, but to avoid the determination that a regenerative thermal oxidizer or RTO would be considered BACT for the project. The original May 25th permit application included a core production limitation of 197,000 tons per year. As a result of IDEM’s BACT policy, the lower 100,000 ton per year production limitation was only proposed to reduce potential VOC emissions and increase the cost effectiveness, so the RTO would no longer be considered economically feasible.

Page 6, State Rule Applicability - Entire Source

Same comment as on Page 5 stated above regarding the 100,000 ton per year core production limitation as a method to avoid the PSD requirements.

**Response #12**

The VOC limits included on pages 5 and 6 of the TSD, which are stated to limit emissions of VOC to less than the PSD significant modification threshold of 40 tons per year, have been revised as noted in Response # 7 above so that they now allow the source to emit up to 39.4 tons of VOC per year from the core making operation. Therefore, the statement that they are required to render 326 IAC 2-2 (PSD) not applicable will remain in the permit. The PM and PM10 limits were limits proposed by ThyssenKrupp Waupaca, Inc. in the permit application for the core sand handling process which also render the requirements of 326 IAC 2-2 (PSD) not applicable.

The table on page 4 and the paragraphs on page 5 and 6 of the TSD are revised as documented in this TSD addendum to show the revised limits as follows:

**Potential to Emit of Modification After Issuance Reflecting major PSD applicability**

The table below summarizes the potential to emit of emission units involved in this modification project, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of this Part 70 source modification and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

| | Potential to Emit (tons/year) | | | | | | |
|---|---|---|---|---|---|---|---|
| Process/emission unit | PM | PM-10 | $SO_2$ | VOC | CO | $NO_X$ | HAPs |
| Core sand handling, P46 | 2.63 | 2.63 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Core Making operation, P47 | 0.0 | 0.0 | 0.0 | ~~20.00~~ **39.40** | 0.0 | 0.0 | 0.0 |
| Natural Gas Combustion, P48 | 0.10 | 0.41 | 0.03 | 0.29 | 4.49 | 5.34 | 0.10 |
| Total PTE | 2.73 | 3.04 | 0.03 | ~~20.29~~ **39.69** | 4.49 | 5.34 | 0.10 |
| PSD Significant Level | 25.0 | 15.0 | 40.0 | 40.0 | 100.0 | 40.0 | N/A |

The Permittee has stated in the application for this approval that this modification at a major stationary source will not be major for Prevention of Significant Deterioration under 326 IAC 2-2-1. IDEM, OAQ has not reviewed any additional information and will not be making any determination in this regard as part of this approval. The Permittee will be required to keep records and may be required to report in accordance with Source obligation in 326 IAC 2-2-8 to demonstrate that this modification will not be major for PSD.

The following limitations will limit emissions of PM, PM10, and VOC to less than the PSD significant levels of 25, 15, and 40 tons per year, respectively~~,~~**.** ~~in order to~~ **Compliance with these limits will** render the requirements of 326 IAC 2-2 (PSD) not applicable:

(a) The PM/PM10 emissions from the core sand handling process exhausting to stack S18 shall not exceed 0.60 pounds per hour. Emissions shall be controlled by a baghouse.

(b) The **total** non-DMIPA volatile organic compound (VOC) emissions from the three (3) phenolic-urethane core machines and three (3) mixers **combined**, identified as P47, shall not exceed ~~4.11 pounds per hour (total for all three machines and three mixers combined) and~~ 0.012 pound per pound of binder used.

(c) The amount of binder used in all three (3) mixers, identified as P47, combined shall not exceed ~~1,500 tons~~ **5,910,000 pounds** per 12 consecutive month period, with compliance determined at the end of each month.

(d) The amount of cores produced by all three (3) core machines, identified as P47, combined shall not exceed ~~100,000~~ **197,000** tons per 12 consecutive month period, with compliance determined at the end of each month.

(e) The total DMIPA (a VOC) emissions from the mixers and core machines identified as P47 shall not exceed 0.04 pound per ton of cores.

(f) The scrubber controlling the DMIPA emissions from the core machines identified as P47 shall have a 100% capture of the DMIPA emissions, using a permanent total enclosure that complies with the requirements of 40 CFR Part 51, Appendix M, Method 24. The scrubber shall achieve at least 98% overall control efficiency of the DMIPA.

**State Rule Applicability - Entire Source**

326 IAC 2-2 (Prevention of Significant Deterioration (PSD))

This source is subject to 326 IAC 2-2 (Prevention of Significant Deterioration) because it is one of the 28 listed source categories and at least one of the regulated attainment pollutants is emitted at a rate of 100 tons per year or greater. Therefore, pursuant to 326 IAC 2-2 the source is an existing major source under 326 IAC 2-2 (PSD). **Compliance with** ~~T~~the following limitations will limit emissions of PM, PM10, and VOC to less than the PSD significant levels of 25, 15, and 40 tons per year, respectively, ~~in order to~~ **and will** render the requirements of 326 IAC 2-2 (PSD) not applicable:

(a) The PM and PM10 emissions from the core sand handling process exhausting to stack S18 shall each not exceed 0.60 pounds per hour. Emissions shall be controlled by a baghouse.

(b) The **total** non-DMIPA volatile organic compound (VOC) emissions from the three (3) phenolic-urethane core machines and three (3) mixers **combined**, identified as P47, shall not exceed ~~4.11 pounds per hour (total for all three machines and three mixers combined) and~~ 0.012 pound per pound of binder used.

(c) The amount of binder used in all three (3) mixers, identified as P47, combined shall not exceed ~~1,500 tons~~ **5,910,000 pounds** per 12 consecutive month period, with compliance determined at the end of each month.

(d) The amount of cores produced by all three (3) core machines, identified as P47, combined shall not exceed ~~100,000~~ **197,000** tons per 12 consecutive month period, with compliance determined at the end of each month.

(e) The total DMIPA (a VOC) emissions from the mixers and core machines identified as P47 shall not exceed 0.04 pound per ton of cores.

(f) The scrubber controlling the DMIPA emissions from the core machines identified as P47 shall have a 100% capture of the DMIPA emissions, using a permanent total enclosure that complies with the requirements of 40 CFR Part 51, Appendix M, Method 24. The scrubber shall achieve at least 98% overall control efficiency of the DMIPA.

Upon further review IDEM, OAQ has made the following changes to the Part 70 permit (additions in bold, deletions in ~~strikeout~~):

1. IDEM has determined that the Permittee is not required to keep records of all preventive maintenance. However, where the Permittee seeks to demonstrate that an emergency has occurred, the Permittee must provide, upon request, records of preventive maintenance in order to establish that the lack of proper maintenance did not cause or contribute to the deviation. Therefore, IDEM has deleted paragraph (b) of Section B – Preventive Maintenance, and has amended the Section B – Emergency Provisions condition as follows:

B.10 Preventive Maintenance Plan [326 IAC 2-7-5(1),(3) and (13)] [326 IAC 2-7-6(1) and (6)] [326 IAC 1-6-3]

(a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) within ninety (90) days after issuance of this permit, 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 Branch, Office of Air Quality
100 North Senate Avenue
Indianapolis, Indiana 46204**-2251**

The PMP extension notification does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

~~(b) The Permittee shall implement the PMPs, including any required record keeping as necessary to ensure that failure to implement a PMP does not cause or contribute to an exceedance of any limitation on emissions or potential to emit.~~

~~(c)~~**(b)** A copy of the PMPs shall be submitted to IDEM, OAQ, upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ, may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions or potential to emit. The PMP**s** do~~es~~ not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

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

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

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

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

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

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

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

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

Telephone Number: 1-800-451-6027 (ask for Office of Air Quality, Compliance Section), or
Telephone Number: 317-233-5674 (ask for Compliance Section)
Facsimile Number: 317-233-5967

And

Telephone Number: 1-888-672-8323 (IDEM Southwest Regional Office), or
Telephone Number: 812-380-2305
Facsimile Number: 812-380-2304

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

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue
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 the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).

(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)(9) 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.

(h) The Permittee shall include all emergencies in the Quarterly Deviation and Compliance Monitoring Report.

2. IDEM has clarified the Section B Operational Flexibility condition as follows:

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), (c), or (e), 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 ~~emissions allowable under~~ **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
Permits Branch, Office of Air Quality
100 North Senate Avenue
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~~, on a rolling five (5) year basis,~~ all such changes and emission~~s~~ ~~trading~~ **trades** that are subject to 326 IAC 2-7-20(b), (c), or (e)**.** ~~and makes~~ **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), (c)(1), and (e)(2).

(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 the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).

(c) Emission Trades [326 IAC 2-7-20(c)]
The Permittee may trade **emissions** increases and decreases ~~in emissions in~~ **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.

3. The 326 IAC 6-3 revisions that became effective on June 12, 2002 were approved into the State Implementation Plan on September 23, 2005. These rules replace the previous version of 326 IAC 6-3 (Process Operations) that had been part of the SIP; therefore, the requirements of the previous version of 326 IAC 6-3-2 are no longer applicable to this source. Condition C.1 has been revised to remove (a) which contained these requirements, and since the requirements of the 326 IAC 6-3-2(d) that were effective June 12, 2002 are now federally enforceable, the last statement from C.1 has been removed.

C.1 Particulate Emission Limitations For Processes with Process Weight Rates Less Than One Hundred (100) Pounds per Hour ~~[40 CFR 52 Subpart P]~~[326 IAC 6-3-2]

~~(a) Pursuant to 40 CFR 52 Subpart P, particulate matter emissions from any process not already regulated by 326 IAC 6-1 or any New Source Performance Standard, and which has a maximum process weight rate less than 100 pounds per hour shall not exceed 0.551 pounds per hour.~~

~~(b)~~ 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. ~~This condition is not federally enforceable.~~

4. Conditions D.1.11, D.1.12, D.1.13, D.2.11, D.3.11, D.4.7, D.5.10, D.7.5, and D.7.6 include the same requirement (to operate the control equipment at all times) that is in C.7 Operation of Equipment. IDEM has decided that it is best to have this requirement under compliance determination in the specific D conditions, and remove C.7. All subsequent conditions in section C have been re-numbered accordingly.

~~C.7 Operation of Equipment [326 IAC 2-7-6(6)]~~

~~Except as otherwise provided by statute or rule, or in this permit, all air pollution control equipment listed in this permit and used to comply with an applicable requirement shall be operated at all times that the emission units vented to the control equipment are in operation.~~

5. Upon further review, IDEM has determined that no additional monitoring will be required during COM downtime, until the COM has been down for twenty-four (24) hours. This allows the Permittee to focus on the task of repairing the COM during the first twenty-four (24) hour period. After twenty-four (24) hours of COM downtime, the Permittee will be required to conduct Method 9 readings for thirty (30) minutes. Once Method 9 readings are required to be performed, the readings should be performed twice per day at least 4 or 6 hours apart, rather than once every four (4) hours, until a COMS is back in service.

C.~~15~~**14** 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 ~~continuous opacity monitoring systems~~ **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 ~~continuous opacity monitoring system~~ **COMS** occurs, a record shall be made of the time and reason of the breakdown and efforts made to correct the problem.

(d) Whenever a ~~continuous opacity monitor (COM)~~ **COMS** is malfunctioning or ~~will be~~ **is** down for ~~calibration,~~ maintenance or repairs for a period of ~~one (1) hour~~ **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**, ~~compliance with the applicable opacity limits shall be demonstrated by the following:~~

~~(1) Visible emission (VE) notations shall be performed once per hour during daylight operations following the shutdown or malfunction of the primary COM. A trained employee shall record whether emissions are normal or abnormal for the state of operation of the emission unit at the time of the reading.~~

~~(A) 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.~~

~~(B) If abnormal emissions are noted during two consecutive emission notations, the Permittee shall begin Method 9 opacity observations within four hours of the second abnormal notation.~~

~~(C) VE notations may be discontinued once a COM is online or formal Method 9 readings have been implemented.~~

~~(2) If a COM is not online within twenty-four (24) hours of shutdown or malfunction of the primary COM,~~ the Permittee shall provide **a** certified opacity reader~~(s)~~, who may be **an** employee~~s~~ of the Permittee or **an** independent contractor~~s~~, to self-monitor the emissions from the emission unit stack.

~~(A)~~**(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.

~~(B)~~**(2)** Method 9 opacity readings shall be repeated for a minimum of five (5) consecutive six (6) minute averaging periods at least ~~once every four (4) hours~~ **twice per day** during daylight operations, **with at least four (4) hours between each set of readings,** until ~~such time that~~ a COM**S** is ~~in operation~~ **online**.

~~(C)~~**(3)** Method 9 readings may be discontinued once a COM**S** is online.

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

~~(3) If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports. Observation of abnormal emissions that do not violate an applicable opacity limit is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a violation of this permit.~~

(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 2-2-3.

6. IDEM realizes that these specifications can only be practically applied to analog units, and has therefore clarified the condition to state that the condition only applies to analog units. Upon further review, IDEM has also determined that the accuracy of the instruments is not nearly as important as whether the instrument has a range that is appropriate for the normal expected reading of the parameter. Therefore, the accuracy requirements have been removed from the condition.

C.~~18~~**17** ~~Pressure Gauge and Other~~ Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

(a) ~~Whenever a condition in this permit requires the measurement of pressure drop across any part of the unit or its control device, the gauge employed~~ **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 ~~normal~~ **maximum** reading **for the normal range** shall be no less than twenty percent (20%) of full scale ~~and be accurate within plus or minus two percent ( 2%) of full scale reading~~.

~~(b) Whenever a condition in this permit requires the measurement of a temperature or flow rate, the instrument employed shall have a scale such that the expected normal reading shall be no less than twenty percent (20%) of full scale and be accurate within plus or minus two percent (±2%) of full scale reading.~~

~~(c) The Preventive Maintenance Plan for the pH meter shall include calibration using known standards. The frequency of calibration shall be adjusted such that the typical error found at calibration is less than one pH point.~~

~~(d)~~**(b)** The Permittee may request **that** the IDEM, OAQ approve the use of ~~a pressure gauge or other~~ **an** instrument that does not meet the above specifications provided the Permittee can demonstrate **that** an alternative ~~pressure gauge or other~~ instrument specification will adequately ensure compliance with permit conditions requiring the measurement of ~~pressure drop or other~~ **the** parameters.

7. IDEM has reconsidered the requirement to develop and follow a Compliance Response Plan. The Permittee will still be required to take reasonable response steps when a compliance monitoring parameter is determined to be out of range or abnormal. Replacing the requirement to develop and follow a Compliance Response Plan with a requirement to take reasonable response steps will ensure that the control equipment is returned to proper operation as soon as practicable, while still allowing the Permittee the flexibility to respond to situations that were not anticipated. The Section D conditions that refer to this condition have been revised to reflect the new condition title, and the following changes have been made to the Section C condition:

C.2~~1~~**0** ~~Compliance Response Plan - Preparation, Implementation, Records, and Reports~~ **Response to Excursions or Exceedances** [326 IAC 2-7-5] [326 IAC 2-7-6]

~~(a) The Permittee is required to prepare a Compliance Response Plan (CRP) for each compliance monitoring condition of this permit. If a Permittee is required to have an Operation, Maintenance and Monitoring (OMM) Plan under 40 CFR 63, such plan shall be deemed to satisfy the requirements for a CRP for those compliance monitoring conditions. A CRP shall be submitted to IDEM, upon request. The CRP shall be prepared within ninety (90) days after issuance of this permit by the Permittee, supplemented from time to time by the Permittee, maintained on site, and comprised of:~~

~~(1) Reasonable response steps that may be implemented in the event that a response step is needed pursuant to the requirements of Section D of this permit; and an expected timeframe for taking reasonable response steps.~~

~~(2) If, at any time, the Permittee takes reasonable response steps that are not set forth in the Permittee's current Compliance Response Plan or Operation, Maintenance and Monitoring (OMM) Plan and the Permittee documents such response in accordance with subsection (e) below, the Permittee shall amend its Compliance Response Plan or Operation, Maintenance and Monitoring (OMM) Plan to include such response steps taken.~~

~~The OMM Plan shall be submitted within the time frames specified by the applicable 40 CFR 63 requirement.~~

~~(b) For each compliance monitoring condition of this permit, reasonable response steps shall be taken when indicated by the provisions of that compliance monitoring condition as follows:~~

~~(1) Reasonable response steps shall be taken as set forth in the Permittee's current Compliance Response Plan or Operation, Maintenance and Monitoring (OMM) Plan; or~~

~~(2) If none of the reasonable response steps listed in the Compliance Response Plan or Operation, Maintenance and Monitoring (OMM) Plan is applicable or responsive to the excursion, the Permittee shall devise and implement additional response steps as expeditiously as practical. Taking such additional response steps shall not be considered a deviation from this permit so long as the Permittee documents such response steps in accordance with this condition.~~

~~(3) If the Permittee determines that additional response steps would necessitate that the emissions unit or control device be shut down, and it will be ten (10) days or more until the unit or device will be shut down, then the Permittee shall promptly notify the IDEM, OAQ of the expected date of the shut down. The notification shall also include the status of the applicable compliance monitoring parameter with respect to normal, and the results of the response actions taken up to the time of notification.~~

~~(4) Failure to take reasonable response steps shall be considered a deviation from the permit.~~

~~(c) The Permittee is not required to take any further response steps for any of the following reasons:~~

~~(1) A false reading occurs due to the malfunction of the monitoring equipment and prompt action was taken to correct the monitoring equipment.~~

~~(2) The Permittee has determined that the compliance monitoring parameters established in the permit conditions are technically inappropriate, has previously submitted a request for a minor permit modification to the permit, and such request has not been denied.~~

~~(3) An automatic measurement was taken when the process was not operating.~~

~~(4) The process has already returned or is returning to operating within "normal" parameters and no response steps are required.~~

~~(d) When implementing reasonable steps in response to a compliance monitoring condition, if the Permittee determines that an exceedance of an emission limitation has occurred, the Permittee shall report such deviations pursuant to Section B-Deviations from Permit Requirements and Conditions.~~

~~(e) The Permittee shall record all instances when, in accordance with Section D, response steps are taken. In the event of an emergency, the provisions of 326 IAC 2-7-16 (Emergency Provisions) requiring prompt corrective action to mitigate emissions shall prevail.~~

~~(f) Except as otherwise provided by a rule or provided specifically in Section D, all monitoring as required in Section D shall be performed when the emission unit is operating, except for time necessary to perform quality assurance and maintenance activities.~~

**(a) Upon detecting an excursion or exceedance, the Permittee shall 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 emissions.**

**(b) 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). Corrective actions may include, but are not limited to, the following:**

**(1) initial inspection and evaluation;**

**(2) recording that operations returned 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 within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.**

**(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;**

**(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 maintain the following records:**

**(1) monitoring data;**

**(2) monitor performance data, if applicable; and**

**(3) corrective actions taken.**

8. Upon further review, IDEM has determined that it is the Permittee's responsibility to include routine control device inspection requirements in the applicable preventive maintenance plan. Since the Permittee is in the best position to determine the appropriate frequency of control device inspections and the details regarding which components of the control device should be inspected, the conditions requiring control device inspections have been removed from the permit. In addition, the requirement to keep records of the inspections has been removed.

~~D.1.17 Baghouse Inspections~~

~~An inspection shall be performed each calendar quarter of all bags controlling the cupolas. Inspections required by this condition shall not be performed in consecutive months. All defective bags shall be replaced.~~

~~D.1.20 Dry Alkaline Injection Inspection~~

~~An inspection shall be performed each calendar quarter for each dry alkaline injection system. Inspections required by this condition shall not be performed in consecutive months. A record shall be kept of the results of the inspections.~~

~~D.1.21 Recuperative Incinerator Inspections~~

~~An inspection shall be performed each calendar quarter for each recuperative incinerator system. Inspections required by this condition shall not be performed in consecutive months. All defective parts shall be replaced.~~

D.1.~~23~~**19** Record keeping Requirement

(a) To document compliance with Conditions D.1.1 and D.1.14, the Permittee shall maintain records of opacity from the continuous opacity monitor on stack S09, including raw data and supporting information, for a minimum of five (5) years.

(b) To document compliance with Conditions D.1.4, the Permittee shall maintain records of the coke input to each cupola for each day. Records shall be taken daily and shall be complete and sufficient to establish compliance with the coke input limit established in Condition D.1.4(b).

(c) To document compliance with Conditions D.1.15, D.1.16, and D.1.~~19~~**17**, the Permittee shall maintain records of the following:

(1) the static pressure drop across each baghouse once per shift;

(2) records of the injection rate of each alkali injection system once per hour as required by Condition D.1.~~19~~**17**;

(3) records of the temperature readings for each recuperative incinerator (reduced to hourly averages) and all times when the blast air is turned on and off, in order to demonstrate compliance with Condition D.1.15; and

~~(d) To document compliance with Conditions D.1.17, D.1.20, and D.1.21, the Permittee shall maintain records of the results of the inspections required under Conditions D.1.17, D.1.20, and D.1.21.~~

~~(e)~~**(d)** In order to document compliance with D.1.8, records shall be kept of the total iron throughput to each cupola each day of operation, and of the total hours of operation of each cupola each day of operation.

~~(f)~~**(e)** All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

~~D.2.14 Baghouse Inspections~~

~~An inspection shall be performed each calendar quarter of all bags controlling the processes listed in this section. Inspections required by this condition shall not be performed in consecutive months. All defective bags shall be replaced.~~

D.2.~~17~~**16** Record Keeping Requirements

(a) To document compliance with Condition D.2.12 the Permittee shall maintain records of visible emission notations of each baghouse stack exhaust once per shift.

(b) To document compliance with Condition D.2.13, the Permittee shall maintain records of the total static pressure drop across each baghouse once per shift.

~~(c) To document compliance with Condition D.2.14, the Permittee shall maintain records of the results of the inspections required under Condition D.2.14.~~

~~(d)~~**(c)** To document compliance with the schedule outlined in Condition D.2.4(b), the Permittee shall submit records complete and sufficient to determine compliance with each step of the compliance schedule. Records shall be submitted within 30 days after the completion of each step of the compliance schedule.

~~(e)~~**(d)** To document compliance with Condition D.2.~~16~~**15**, the Permittee shall maintain records of the ultra-sonic power, the ozone generator plasma voltage, and the hydrogen peroxide usage of the advanced oxidation system.

~~(f)~~**(e)** All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

~~D.3.14 Baghouse Inspections~~

~~An inspection shall be performed each calendar quarter of all bags controlling the processes listed in this section. Inspections required by this condition shall not be performed in consecutive months. All defective bags shall be replaced.~~

D.3.~~16~~**15** Record Keeping Requirement

(a) To document compliance with Conditions D.3.13 the Permittee shall maintain records of visible emission notations of each baghouse stack exhaust once per shift.

(b) To document compliance with Conditions D.3.14 the Permittee shall maintain records of the static pressure drop across each baghouse once per shift.

~~(c) To document compliance with Conditions D.3.15 the Permittee shall maintain records of the results of the inspections required under Conditions D.3.15.~~

~~(d)~~**(c)** Pursuant to CP123-8451-00019 issued on February 4, 1998, and to document compliance with Conditions D.3.8(b) the Permittee shall maintain records of the equipment installed and the type of fuel used in the air makeup units.

~~(e)~~**(d)** In order to document compliance with D.3.9, records shall be kept of the total iron throughput to each ductile iron treatment station each day of operation, and of the total hours of operation of each ductile iron treatment station each day of operation.

~~(f)~~**(e)** All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

~~D.4.11 Packed Bed Scrubber Inspections~~

~~An inspection shall be performed each calendar quarter of the scrubber used in conjunction with the core machines. Inspections required by this condition shall not be performed in consecutive months. Defective scrubber part(s) shall be replaced.~~

~~D.4.15 Baghouse Inspections~~

~~An inspection shall be performed each calendar quarter of all bags controlling the processes listed in this section. Inspections required by this condition shall not be performed in consecutive months. All defective bags shall be replaced.~~

D.4.~~17~~**15** Record keeping Requirement

(a) To document compliance with Condition D.4.2(e), the Permittee shall maintain records of the binder usage in the two core mixers associated with the core making process identified as P44 each month.

(b) To document compliance with Condition D.4.2(f), the Permittee shall maintain records of the core production from the two core machines associated with the core making process identified as P44 each month.

(c) To document compliance with Condition D.4.10(a), the Permittee shall maintain records of the pressure drop and pH readings of the scrubber once per shift.

(d) To document compliance with Condition D.4.10(b), the Permittee shall maintain records of the flow rate of the scrubber.

~~(e) To document compliance with Conditions D.4.11, the Permittee shall maintain records of the results of the inspections required under Conditions D.4.11 and the number and type of any parts replaced.~~

~~(f)~~**(e)** To document compliance with Conditions D.4.~~13~~**12** the Permittee shall maintain records of visible emission notations of each baghouse stack exhaust once per shift.

~~(g)~~**(f)** To document compliance with Conditions D.4.~~14~~**13** the Permittee shall maintain records of the static pressure drop across each baghouse once per shift.

~~(h) To document compliance with Conditions D.4.15 the Permittee shall maintain records of the results of the inspections required under Conditions D.4.15.~~

~~(i)~~**(g)** In order to document compliance with D.4.6(b) and (c), records shall be kept of the core production of P43 and P44 each day of operation, and of the total hours of operation of P43 and P44 each day of operation.

~~(j)~~**(h)** All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

~~D.5.13 Baghouse Inspections~~

~~An inspection shall be performed each calendar quarter of all bags controlling the charge makeup process. Inspections required by this condition shall not be performed in consecutive months. All defective bags shall be replaced.~~

D.5.~~15~~**14** Record keeping Requirement

(a) To document compliance with Conditions D.5.11 the Permittee shall maintain records of visible emission notations of the baghouse stack exhaust once per shift.

(b) To document compliance with Conditions D.5.12 the Permittee shall maintain records of the static pressure drop across each baghouse once per shift.

~~(c) To document compliance with Conditions D.5.13 the Permittee shall maintain records of the results of the inspections required under Conditions D.5.13.~~

~~(d)~~**(c)** All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

~~D.7.9 Packed Bed Scrubber Inspections~~

~~An inspection shall be performed each calendar quarter of the scrubber used in conjunction with the core machines. Inspections required by this condition shall not be performed in consecutive months. Defective scrubber part(s) shall be replaced.~~

~~D.7.13 Baghouse Inspections~~

~~An inspection shall be performed each calendar quarter of all bags controlling the core sand handling system (P46). Inspections required by this condition shall not be performed in consecutive months. All defective bags shall be replaced.~~

D.7.~~15~~**13** Record Keeping Requirements

(a) To document compliance with Condition D.7.2(d), the Permittee shall maintain records of the binder usage in the three core mixers associated with the core making process identified as P47 each month.

(b) To document compliance with Condition D.7.2(e), the Permittee shall maintain records of the core production from the three core machines associated with the core making process identified as P47 each month.

(c) To document compliance with Condition D.7.8(a), the Permittee shall maintain records of the pressure drop and pH readings of the scrubber once per shift.

(d) To document compliance with Condition D.7.8(b), the Permittee shall maintain records of the flow rate of the scrubber.

~~(e) To document compliance with Condition D.7.9, the Permittee shall maintain records of the results of the inspections required under Condition D.7.9 and the number and type of any parts replaced.~~

~~(f)~~**(e)** To document compliance with Condition D.7.~~11~~**10** the Permittee shall maintain records of visible emission notations of the baghouse stack exhaust once per shift.

~~(g)~~**(f)** To document compliance with Condition D.7.~~12~~**11** the Permittee shall maintain records of the static pressure drop across the baghouse once per shift.

~~(h) To document compliance with Condition D.7.13 the Permittee shall maintain records of the results of the inspections required under Condition D.7.13.~~

~~(i) To document compliance with Condition D.7.4, the Permittee shall maintain of records of any additional inspections prescribed by the Preventive Maintenance Plan.~~

~~(j)~~**(g)** All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

9. Upon further review, IDEM has determined that once per day monitoring of the control device (or of visible emission notations) is generally sufficient to ensure proper operation of the control device. IDEM has also determined that monitoring these parameters once per day is sufficient to satisfy the requirements of the Part 70 rules at 326 IAC 2-7-5 and 326 IAC 2-7-6.

D.1.16 Baghouse Parametric Monitoring

The Permittee shall record the ~~total static~~ pressure drop across each of the baghouses used in conjunction with the cupolas, at least once per ~~shift~~ **day** when the associated cupola is in operation. When for any one reading, the pressure drop across a baghouse is outside the normal range of 3.0 and 10.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- ~~Compliance Response Plan - Preparation, Implementation, Records, and Reports~~ **Response to Excursions or Exceedances**. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - ~~Compliance Response Plan - Preparation, Implementation, Records, and Reports~~ **Response to Excursions or Exceedances**, shall be considered a deviation from this permit.

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

D.1.19 Record Keeping Requirement

(a) To document compliance with Conditions D.1.1 and D.1.14, the Permittee shall maintain records of opacity from the continuous opacity monitor on stack S09, including raw data and supporting information, for a minimum of five (5) years.

(b) To document compliance with Conditions D.1.4, the Permittee shall maintain records of the coke input to each cupola for each day. Records shall be taken daily and shall be complete and sufficient to establish compliance with the coke input limit established in Condition D.1.4(b).

(c) To document compliance with Conditions D.1.15, D.1.16, and D.1.17, the Permittee shall maintain records of the following:

(1) the ~~static~~ pressure drop across each baghouse once per ~~shift~~ **day**;

(2) records of the injection rate of each alkali injection system once per hour as required by Condition D.1.17;

(3) records of the temperature readings for each recuperative incinerator (reduced to hourly averages) and all times when the blast air is turned on and off, in order to demonstrate compliance with Condition D.1.15; and

(d) In order to document compliance with D.1.8, records shall be kept of the total iron throughput to each cupola each day of operation, and of the total hours of operation of each cupola each day of operation.

(e) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.2.12 Visible Emission Notations

(a) Visible emission notations of each baghouse stack exhaust shall be performed once per ~~shift~~ **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) ~~The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an~~ **If** abnormal emission**s** ~~is~~ **are** observed**, the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions or Exceedances**. Failure to take response steps in accordance with Section C - ~~Compliance Response Plan – Preparation, Implementation, Records and Reports~~ **Response to Excursions or Exceedances** shall be considered a deviation from this permit.

D.2.13 Baghouse Parametric Monitoring

The Permittee shall record the ~~total static~~ pressure drop across each of the baghouses used in conjunction with the processes listed in this section, at least once per ~~shift~~ **day** when the associated process is in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 3.0 and 10.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- ~~Compliance Response Plan - Preparation, Implementation, Records, and Reports~~ **Response to Excursions or Exceedances**. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - ~~Compliance Response Plan - Preparation, Implementation, Records, and Reports~~ **Response to Excursions or Exceedances**, shall be considered a deviation from this permit.

The instrument used for determining the pressure shall comply with Section C - ~~Pressure Gauge and Other~~ 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.2.1~~6~~**5** Parametric Monitoring of Advanced Oxidation System

(a) Upon commencing operation of the advanced oxidation system, the Permittee shall monitor and record the ultra-sonic power of the system used in conjunction with the mold lines, at least once per ~~shift~~ **day** when the mold lines are in operation. When for any one reading, the ultra-sonic power is less than the minimum level recommended by the manufacturer or a minimum level established during the latest stack test, whichever is higher, the Permittee shall take reasonable response steps in accordance with Section C- ~~Compliance Response Plan - Preparation, Implementation, Records, and Reports~~ **Response to Excursions or Exceedances**. An ultra-sonic power reading that is below the above mentioned minimum is not a deviation from this permit. Failure to take response steps in accordance with Section C - ~~Compliance Response Plan - Preparation, Implementation, Records, and Reports~~ **Response to Excursions or Exceedances**, shall be considered a deviation from this permit.

(b) Upon commencing operation of the advanced oxidation system, the Permittee shall monitor and record the ozone generator plasma voltage of the system used in conjunction with the mold lines, at least once per ~~shift~~ **day** when the mold lines are in operation. When for any one reading, the ozone generator plasma voltage is less than the minimum recommended by the manufacturer or a minimum established during the latest stack test, whichever is higher, the Permittee shall take reasonable response steps in accordance with Section C- ~~Compliance Response Plan - Preparation, Implementation, Records, and Reports~~ **Response to Excursions or Exceedances**. An ozone generator plasma voltage reading that is below the above mentioned minimum is not a deviation from this permit. Failure to take response steps in accordance with Section C - ~~Compliance Response Plan - Preparation, Implementation, Records, and Reports~~ **Response to Excursions or Exceedances**, shall be considered a deviation from this permit.

(c) Upon commencing operation of the advanced oxidation system, the Permittee shall monitor and record the hydrogen peroxide usage of the system used in conjunction with the mold lines, at least once per ~~shift~~ **day** when the mold lines are in operation. When for any one reading, the hydrogen peroxide is less than the minimum recommended by the manufacturer, or a minimum established during the latest stack test, whichever is higher, the Permittee shall take reasonable response steps in accordance with Section C- ~~Compliance Response Plan - Preparation, Implementation, Records, and Reports~~ **Response to Excursions or Exceedances**. A peroxide usage reading that is below the above mentioned minimum is not a deviation from this permit. Failure to take response steps in accordance with Section C - ~~Compliance Response Plan - Preparation, Implementation, Records, and Reports~~ **Response to Excursions or Exceedances**, shall be considered a deviation from this permit.

The instruments used for determining the ultra-sonic power, the ozone generator plasma voltage and the hydrogen peroxide usage shall comply with Section C - ~~Pressure Gauge and Other~~ 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.2.16 Record Keeping Requirements

(a) To document compliance with Condition D.2.12 the Permittee shall maintain records of visible emission notations of each baghouse stack exhaust once per ~~shift~~ **day**.

(b) To document compliance with Condition D.2.13, the Permittee shall maintain records of the ~~total static~~ pressure drop across each baghouse once per ~~shift~~ **day**.

(c) To document compliance with the schedule outlined in Condition D.2.4(b), the Permittee shall submit records complete and sufficient to determine compliance with each step of the compliance schedule. Records shall be submitted within 30 days after the completion of each step of the compliance schedule.

(d) To document compliance with Condition D.2.15, the Permittee shall maintain records of the ultra-sonic power, the ozone generator plasma voltage, and the hydrogen peroxide usage of the advanced oxidation system.

(e) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.3.12 Visible Emission Notations

(a) Visible emission notations of each baghouse stack exhaust shall be performed once per ~~shift~~ **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) ~~The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an~~ **If** abnormal emission**s** ~~is~~ **are** observed**, the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions or Exceedances**. Failure to take response steps in accordance with Section C - ~~Compliance Response Plan – Preparation, Implementation, Records and Reports~~ **Response to Excursions or Exceedances** shall be considered a deviation from this permit.

D.3.13 Baghouse Parametric Monitoring

The Permittee shall record the ~~total static~~ pressure drop across each of the baghouses used in conjunction with the processes listed in this section, at least once per ~~shift~~ **day** when the associated process is in operation. When for any one reading, the pressure drop across a baghouse is outside the normal range of 3.0 and 10.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- ~~Compliance Response Plan - Preparation, Implementation, Records, and Reports~~ **Response to Excursions or Exceedances**. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - ~~Compliance Response Plan - Preparation, Implementation, Records, and Reports~~ **Response to Excursions or Exceedances**, shall be considered a deviation from this permit.

The instrument used for determining the pressure shall comply with Section C - ~~Pressure Gauge and Other~~ 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.3.15 Record Keeping Requirement

(a) To document compliance with Conditions D.3.1~~3~~**2** the Permittee shall maintain records of visible emission notations of each baghouse stack exhaust once per ~~shift~~ **day**.

(b) To document compliance with Conditions D.3.14**3** the Permittee shall maintain records of the ~~static~~ pressure drop across each baghouse once per ~~shift~~ **day**.

(c) Pursuant to CP123-8451-00019 issued on February 4, 1998, and to document compliance with Conditions D.3.~~8~~**7**(b) the Permittee shall maintain records of the equipment installed and the type of fuel used in the air makeup units.

(d) In order to document compliance with D.3.~~9~~**8**, records shall be kept of the total iron throughput to each ductile iron treatment station each day of operation, and of the total hours of operation of each ductile iron treatment station each day of operation.

(e) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.4.10 Packed Bed Scrubber Parametric Monitoring

(a) The Permittee shall monitor and record the pH of the scrubber solution and the pressure drop across the scrubber unit at least once per ~~shift~~ **day**. ~~Unless operated under conditions for which the Compliance Response Plan specifies otherwise~~ **When for any one reading**, the pressure drop across the scrubber ~~shall be maintained within the~~ **is outside the normal** range of 2 to 5 inches of water or a range established during the latest stack test**, the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions or Exceedances**. ~~Unless operated under conditions for which the Compliance Response Plan specifies otherwise~~ **When for any one reading**, the pH level of the scrubbing liquid ~~shall not~~ exceed**s the normal maximum of** 4.5 or a maximum established during the latest stack test**, the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions or Exceedances**. ~~The Compliance Response Plan for the scrubber shall contain troubleshooting contingency and response steps for when the pressure drop reading is outside of the normal range for any one reading or the pH level is above the normal maximum for any one reading.~~ Failure to take response steps in accordance with Section C -~~Compliance Response Plan - Preparation, Implementation, Records, and Reports~~ **Response to Excursions or Exceedances**, shall be considered a deviation from this permit.

(b) The Permittee shall continuously monitor the flow rate of the scrubbing liquid. ~~Unless operated under conditions for which the Compliance Response Plan specifies otherwise~~ **When for any one reading**, the flow rate ~~shall be maintained at a~~ **is below the normal** minimum of 235 gallons per minute or a minimum established during the latest stack test**, the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions or Exceedances**. ~~The Compliance Response Plan for the scrubber shall contain troubleshooting contingency and response steps for when the flow rate reading is below the normal minimum for any one reading.~~ Failure to take response steps in accordance with Section C -~~Compliance Response Plan - Preparation, Implementation, Records, and Reports~~ **Response to Excursions or Exceedances**, shall be considered a deviation from this permit.

(c) The instruments used for determining the pressure, flow rate, and pH level shall comply with Section C - ~~Pressure Gauge and Other~~ 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.4.1~~3~~**2** Visible Emission Notations

(a) Visible emission notations of each baghouse stack exhaust shall be performed once per ~~shift~~ **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) ~~The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an~~ **If** abnormal emission**s** ~~is~~ **are** observed**, the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions or Exceedances**. Failure to take response steps in accordance with Section C - ~~Compliance Response Plan - Preparation, Implementation, Records and Reports~~ **Response to Excursions or Exceedances** shall be considered a deviation from this permit.

D.4.14~~3~~ Baghouse Parametric Monitoring

The Permittee shall record the ~~total static~~ pressure drop across each of the baghouses used in conjunction with the processes listed in this section, at least once per ~~shift~~ **day** when the associated process is in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 1.0 and 4.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- ~~Compliance Response Plan - Preparation, Implementation, Records, and Reports~~ **Response to Excursions or Exceedances**. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - ~~Compliance Response Plan - Preparation, Implementation, Records, and Reports~~ **Response to Excursions or Exceedances**, shall be considered a deviation from this permit.

The instrument used for determining the pressure shall comply with Section C - ~~Pressure Gauge and Other~~ 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.4.15 Record keeping Requirement

(a) To document compliance with Condition D.4.2(e), the Permittee shall maintain records of the binder usage in the two core mixers associated with the core making process identified as P44 each month.

(b) To document compliance with Condition D.4.2(f), the Permittee shall maintain records of the core production from the two core machines associated with the core making process identified as P44 each month.

(c) To document compliance with Condition D.4.10(a), the Permittee shall maintain records of the pressure drop and pH readings of the scrubber once per ~~shift~~ **day**.

(d) To document compliance with Condition D.4.10(b), the Permittee shall maintain records of the flow rate of the scrubber.

(e) To document compliance with Conditions D.4.12 the Permittee shall maintain records of visible emission notations of each baghouse stack exhaust once per ~~shift~~ **day**.

(f) To document compliance with Conditions D.4.13 the Permittee shall maintain records of the ~~static~~ pressure drop across each baghouse once per ~~shift~~ **day**.

(g) In order to document compliance with D.4.6(b) and (c), records shall be kept of the core production of P43 and P44 each day of operation, and of the total hours of operation of P43 and P44 each day of operation.

(h) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.5.11 Visible Emission Notations

(a) Visible emission notations of the baghouse C44 stack exhaust shall be performed once per ~~shift~~ **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) ~~The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an~~ **If** abnormal emission**s** ~~is~~ **are** observed**, the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions or Exceedances**. Failure to take response steps in accordance with Section C - ~~Compliance Response Plan – Preparation, Implementation, Records and Reports~~ **Response to Excursions or Exceedances** shall be considered a deviation from this permit.

D.5.12 Baghouse Parametric Monitoring

The Permittee shall record the ~~total static~~ pressure drop across the baghouse C44 used in conjunction with the charge makeup operation, at least once per ~~shift~~ **day** when the process is in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 3.0 and 10.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- ~~Compliance Response Plan - Preparation, Implementation, Records, and Reports~~ **Response to Excursions or Exceedances**. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - ~~Compliance Response Plan - Preparation, Implementation, Records, and Reports~~ **Response to Excursions or Exceedances**, shall be considered a deviation from this permit.

The instrument used for determining the pressure shall comply with Section C - ~~Pressure Gauge and Other~~ 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.5.14 Record keeping Requirement

(a) To document compliance with Conditions D.5.11 the Permittee shall maintain records of visible emission notations of the baghouse stack exhaust once per ~~shift~~ **day**.

(b) To document compliance with Conditions D.5.12 the Permittee shall maintain records of the ~~static~~ pressure drop across each baghouse once per ~~shift~~ **day**.

(c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.7.8 Packed Bed Scrubber Parametric Monitoring

(a) The Permittee shall monitor and record the pH of the scrubber solution and the pressure drop across the scrubber unit at least once per ~~shift~~ **day**. ~~Unless operated under conditions for which the Compliance Response Plan specifies otherwise~~ **When for any one reading**, the pressure drop across the scrubber ~~shall be maintained within the~~ **is outside the normal** range of 2 to 5 inches of water or a range established during the latest stack test, **the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions or Exceedances**. ~~Unless operated under conditions for which the Compliance Response Plan specifies otherwise~~ **When for any one reading**, the pH level of the scrubbing liquid ~~shall not~~ exceed**s the normal maximum of** 4.5 or a maximum established during the latest stack test, **the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions or Exceedances**. ~~The Compliance Response Plan for the scrubber shall contain troubleshooting contingency and response steps for when the pressure drop reading is outside of the normal range for any one reading or the pH level is above the normal maximum for any one reading.~~ Failure to take response steps in accordance with Section C -~~Compliance Response Plan - Preparation, Implementation, Records, and Reports~~ **Response to Excursions or Exceedances**, shall be considered a deviation from this permit.

(b) The Permittee shall continuously monitor the flow rate of the scrubbing liquid. ~~Unless operated under conditions for which the Compliance Response Plan specifies otherwise~~ **When for any one reading**, the flow rate ~~shall be maintained at a~~ **is below the normal** minimum of 254 gallons per minute or a minimum established during the latest stack test, **the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions or Exceedances**. ~~The Compliance Response Plan for the scrubber shall contain troubleshooting contingency and response steps for when the flow rate reading is below the normal minimum for any one reading.~~ Failure to take response steps in accordance with Section C -~~Compliance Response Plan - Preparation, Implementation, Records, and Reports~~ **Response to Excursions or Exceedances**, shall be considered a deviation from this permit.

(c) The instruments used for determining the pressure, flow rate, and pH level shall comply with Section C - ~~Pressure Gauge and Other~~ 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.7.1~~1~~**0** Visible Emissions Notations

(a) Visible emission notations of the baghouse C18 stack exhaust shall be performed once per ~~shift~~ **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) ~~The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an~~ **If** abnormal emission**s** ~~is~~ **are** observed**, the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions or Exceedances**. Failure to take response steps in accordance with Section C - ~~Compliance Response Plan – Preparation, Implementation, Records and Reports~~ **Response to Excursions or Exceedances** shall be considered a deviation from this permit.

D.7.1~~2~~**1** Parametric Monitoring

The Permittee shall record the ~~total static~~ pressure drop across the baghouse used in conjunction with the core sand handling system (P46), at least once per ~~shift~~ **day** when the process is in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 2.0 and 10.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- ~~Compliance Response Plan - Preparation, Implementation, Records, and Reports~~ **Response to Excursions or Exceedances**. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - ~~Compliance Response Plan – Preparation, Implementation, Records and Reports~~ **Response to Excursions or Exceedances** shall be considered a deviation from this permit.

The instrument used for determining the pressure shall comply with Section C - ~~Pressure Gauge and Other~~ 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.7.13 Record Keeping Requirements

(a) To document compliance with Condition D.7.2(d), the Permittee shall maintain records of the binder usage in the three core mixers associated with the core making process identified as P47 each month.

(b) To document compliance with Condition D.7.2(e), the Permittee shall maintain records of the core production from the three core machines associated with the core making process identified as P47 each month.

(c) To document compliance with Condition D.7.8(a), the Permittee shall maintain records of the pressure drop and pH readings of the scrubber once per ~~shift~~ **day**.

(d) To document compliance with Condition D.7.8(b), the Permittee shall maintain records of the flow rate of the scrubber.

(e) To document compliance with Condition D.7.10 the Permittee shall maintain records of visible emission notations of the baghouse stack exhaust once per ~~shift~~ **day**.

(f) To document compliance with Condition D.7.11 the Permittee shall maintain records of the ~~static~~ pressure drop across the baghouse once per ~~shift~~ **day**.

(g) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

10. Paragraph (a) of the Broken or Failed Baghouse condition has been deleted. For multi-compartment baghouses, the permit will not specify what actions the Permittee needs to take in response to a broken bag. However, a requirement has been added to Conditions D.1.11, D.2.11, D.3.11, D.4.8, D.5.10 and D.7.5 requiring the Permittee to notify IDEM if a broken bag is detected and the control device will not be repaired for more than ten (10) days. This notification allows IDEM to take any appropriate actions if the emission unit will continue to operate for a long period of time while the control device is not operating in optimum condition.

Paragraph (b) of this condition has been revised for those processes that operate in batch mode. The condition required an emission unit to be shut down immediately in case of baghouse failure. However, IDEM is aware there can be safety issues with shutting down a process in the middle of a batch. IDEM also realizes that in some situations, shutting down an emissions unit mid-process can cause equipment damage. Therefore, since it is not always possible to shut down a process with material remaining in the equipment, IDEM has revised the condition to state that in the case of baghouse failure, the feed to the process must be shut off immediately, and the process shall be shut down as soon as practicable. Similar changes were made to condition D.4.12, now D.4.11, and D.7.10, now D.7.9, for Packed Bed Scrubber Failure Detection and condition D.1.22, now D.1.18, for Recuperative Incinerator Failure Detection.

Since condition D.1.14 of the Title V permit requires the use of a COMS, IDEM has determined that the Broken or Failed Bag Detection condition is not necessary. Therefore, condition D.1.18 has been deleted.

D.1.11 Particulate Matter (PM/PM-10) Controls **[326 IAC 2-7-6(6)]**

(a) Pursuant to CP123-8451-00019 issued February 4, 1998, the PM emissions from the cupola for Phase I shall be controlled by baghouse C09A (Stack S09).

(b) Pursuant to CP123-8451-00019 issued February 4, 1998, the PM emissions from the cupola for Phase II shall be controlled by baghouse C09B (Stack S09).

**(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.1.18 Broken or Failed Bag Detection~~

~~In the event that bag failure has been observed:~~

~~(a) For multi-compartment units, the affected compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) business hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) business hours of discovery of the failure and shall include a timetable for completion. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit. If operations continue after bag failure is observed and it will be 10 days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.~~

~~(b) For single compartment baghouses, if failure is indicated by a significant drop in the baghouse's pressure readings with abnormal visible emissions or the failure is indicated by an opacity violation, or if bag failure is determined by other means, such as gas temperatures, flow rates, air infiltration, leaks, dust traces or triboflows, then failed units and the associated process will be shut down immediately until the failed units have 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.1.~~22~~**18** Recuperative Incinerator Failure Detection

~~In the event that the recuperative incinerator failure has been observed:~~

**(a)** Charging of the cupola shall cease immediately until the failed units have been repaired or replaced. ~~Within eight (8) hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) hours of discovery of the failure and shall include a timetable for completion.~~

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

D.2.11 Particulate Matter (PM/PM-10) Control **[326 IAC 2-7-6(6)]**

**(a)** Pursuant to CP123-8451-00019 issued on February 4, 1998, the PM emissions for Lines 1-4 shall be controlled by four (4) baghouses C01, C02, C03 (Stack S01) and C07 (Stack S07) at all times when these processes are in operation.

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

D.2.1~~5~~**4** Broken or Failed Bag Detection

~~In the event that bag failure has been observed:~~

~~(a) For multi-compartment units, the affected compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) business hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) business hours of discovery of the failure and shall include a timetable for completion. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit. If operations continue after bag failure is observed and it will be 10 days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.~~

~~(b)~~ **(a)** For **a** single compartment baghouse~~s~~ **controlling emissions from a process operated continuously**, ~~if failure is indicated by a significant drop in the baghouse's pressure readings with abnormal visible emissions or the failure is indicated by an opacity violation, or if bag failure is determined by other means, such as gas temperatures, flow rates, air infiltration, leaks, dust traces or triboflows, then~~ **a** failed unit~~s~~ and the associated process **shall** be shut down immediately until the failed unit~~s~~ ~~have~~ **has** been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

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

**Bag failure can be indicated by a significant drop in the 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.**

D.3.11 Particulate Matter (PM/PM-10) **[326 IAC 2-7-6(6)]**

**(a)** Pursuant to CP-123-8451-00019, issued on February 4, 1998, and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Rules), the PM, lead, and beryllium emissions shall be controlled by baghouses C15 (Stack S15), and C16 (Stack S16) at all times when the associated processes are in operation.

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

D.3.1~~5~~**4** Broken or Failed Bag Detection

~~In the event that bag failure has been observed:~~

~~(a) For multi-compartment units, the affected compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) business hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) business hours of discovery of the failure and shall include a timetable for completion. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit. If operations continue after bag failure is observed and it will be 10 days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.~~

~~(b)~~ **(a)** For **a** single compartment baghouse~~s~~ **controlling emissions from a process operated continuously**, ~~if failure is indicated by a significant drop in the baghouse's pressure readings with abnormal visible emissions or the failure is indicated by an opacity violation, or if bag failure is determined by other means, such as gas temperatures, flow rates, air infiltration, leaks, dust traces or triboflows, then~~ **a** failed unit~~s~~ and the associated process **shall** be shut down immediately until the failed unit~~s~~ ~~have~~ **has** been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

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

**Bag failure can be indicated by a significant drop in the 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.**

D.4.8 Control of Hazardous Air Pollutants (HAPs) [326 IAC 2-2-3(a)(3)] **[326 IAC 2-7-6(6)]**

(a) Pursuant to SSM 123-12948-00019, issued on June 5, 2001, SSM 123-16456-00019, issued on May 13, 2003, CP123-4593-00019 issued on January 19, 1996 and 326 IAC 2-2-3(a)(3), the DMIPA emissions from the core machines identified as P43 and P44 shall be controlled by a scrubber C14 (Stack S14) at all times that any of the core machines is in operation.

(b) Pursuant to SSM 123-12948-00019, issued on June 5, 2001, SSM 123-16456-00019, issued on May 13, 2003, CP123-4593-00019 issued on January 19, 1996 and 326 IAC 2-2-3(a)(3), the PM emissions from the core sand handling operations identified as P40 and P42 shall be controlled by a baghouse (C08) at all times that the core sand handling operations are in operation.

(c) The PM emissions from the pattern shop identified as P50 shall be controlled by the baghouse at all times that the pattern shop 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.4.1~~2~~**1** Packed Bed Scrubber Failure Detection

~~In the event that scrubber failure has been observed:~~

~~(a) The affected process will be shut down immediately until the failed unit has been replaced. Failure to take response steps in accordance with Section C -Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.~~

~~(b) Within eight (8) hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) hours of discovery of the failure and shall include a timetable for completion.~~

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

D.4.1~~6~~**4** Broken or Failed Bag Detection

~~In the event that bag failure has been observed:~~

~~(a) For multi-compartment units, the affected compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) business hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) business hours of discovery of the failure and shall include a timetable for completion. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit. If operations continue after bag failure is observed and it will be 10 days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.~~

~~(b)~~ **(a)** For **a** single compartment baghouse~~s~~ **controlling emissions from a process operated continuously**, ~~if failure is indicated by a significant drop in the baghouse's pressure readings with abnormal visible emissions or the failure is indicated by an opacity violation, or if bag failure is determined by other means, such as gas temperatures, flow rates, air infiltration, leaks, dust traces or triboflows, then~~ **a** failed unit~~s~~ and the associated process **shall** be shut down immediately until the failed unit~~s~~ ~~have~~ **has** been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

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

**Bag failure can be indicated by a significant drop in the 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.**

D.5.10 Particulate Matter (PM/PM-10) **[326 IAC 2-7-6(6)]**

**(a)** Pursuant to CP-123-8451-00019, issued on February 4, 1998, and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD) Rules), the PM, lead, and beryllium emissions from the charge make-up operation, identified as P32 shall be controlled by baghouse C44 at all times when the process is in operation.

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

D.5.14**3** Broken or Failed Bag Detection

~~In the event that bag failure has been observed:~~

~~(a) For multi-compartment units, the affected compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) business hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) business hours of discovery of the failure and shall include a timetable for completion. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit. If operations continue after bag failure is observed and it will be 10 days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.~~

~~(b)~~ **(a)** For **a** single compartment baghouse~~s~~ **controlling emissions from a process operated continuously**, ~~if failure is indicated by a significant drop in the baghouse's pressure readings with abnormal visible emissions or the failure is indicated by an opacity violation, or if bag failure is determined by other means, such as gas temperatures, flow rates, air infiltration, leaks, dust traces or triboflows, then~~ **a** failed unit~~s~~ and the associated process **shall** be shut down immediately until the failed unit~~s~~ ~~have~~ **has** been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

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

**Bag failure can be indicated by a significant drop in the 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.**

D.7.5 Particulate Control **[326 IAC 2-7-6(6)]**

**(a)** In order to comply with conditions D.7.1 and D.7.3, the baghouse C18 for particulate control shall be in operation and control emissions from the core sand handling system (P46) at all times that the core sand handling system (P46) is in operation.

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

D.7.~~10~~**9** Packed Bed Scrubber Failure Detection

~~In the event that scrubber failure has been observed:~~

~~(a) The affected process will be shut down immediately until the failed unit has been replaced. Failure to take response steps in accordance with Section C -Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.~~

~~(b) Within eight (8) hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) hours of discovery of the failure and shall include a timetable for completion.~~

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

D.7.1~~4~~**2** Broken or Failed Bag Detection

~~In the event that bag failure has been observed:~~

~~(a) For multi-compartment units, the affected compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) business hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) business hours of discovery of the failure and shall include a timetable for completion. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit. If operations continue after bag failure is observed and it will be 10 days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.~~

~~(b)~~ **(a)** For **a** single compartment baghouse~~s~~ **controlling emissions from a process operated continuously**, ~~if failure is indicated by a significant drop in the baghouse's pressure readings with abnormal visible emissions or the failure is indicated by an opacity violation, or if bag failure is determined by other means, such as gas temperatures, flow rates, air infiltration, leaks, dust traces or triboflows, then~~ **a** failed unit~~s~~ and the associated process **shall** be shut down immediately until the failed unit~~s~~ ~~have~~ **has** been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

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

**Bag failure can be indicated by a significant drop in the 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.**

11. Upon further review, IDEM has determined that when the SO2 CEMS is down, the Permittee should begin recording the alkaline dust injection rate of each dry alkaline injection system after the CEMS has been down for twenty-four (24) hours. This allows the Permittee to focus on the task of repairing the CEMS during the first twenty-four (24) hour period. After twenty-four hours of CEMS downtime, the Permittee will be required to begin recording the alkaline dust injection rate of each dry alkaline injection system in order to demonstrate compliance with the applicable SO2 emission limits.

D.1.1~~9~~**7** Dry Alkaline Injection Parametric Monitoring

Whenever the $SO_2$ continuous emissions monitoring system (CEMS) is malfunctioning or down for repairs **or adjustments, the following shall be used to provide information related to SO2 emissions:**

**(a)** **If the CEMS is down** for ~~more than one (1) hour~~ **less than twenty-four (24) hours**, the Permittee shall **substitute an average of the quality-assured data from the hour immediately before and the hour immediately after the missing data period for each hour of missing data.**

**(b)** **If the CEMS is down for twenty-four (24) hours or more, the Permittee shall** record the alkaline dust injection rate of each dry alkaline injection system at least once per hour until the $SO_2$ CEMS is back online. When for any one reading the alkaline dust injection rate is below the minimum alkaline dust injection rate determined from the most recent compliant stack test, the Permittee shall take reasonable response steps in accordance with Section C- ~~Compliance Response Plan - Preparation, Implementation, Records, and Reports~~ **Response to Excursions or Exceedances**. An alkaline dust injection rate reading that is below the above mentioned minimum is not a deviation from this permit. Failure to take response steps in accordance with Section C - ~~Compliance Response Plan - Preparation, Implementation, Records, and Reports~~ **Response to Excursions or Exceedances**, shall be considered a deviation from this permit.

# Indiana Department of Environmental Management
# Office of Air Quality

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

### Source Background and Description

| | |
|---|---|
| **Source Name:** | **ThyssenKrupp Waupaca, Inc. Plant 5** |
| **Source Location:** | **9856 State Highway 66, Tell City, Indiana 47586** |
| **County:** | **Perry** |
| **SIC Code:** | **3321** |
| **Operation Permit No.:** | **T 123-9234-00019** |
| **Operation Permit Issuance Date:** | **June 29, 2004** |
| **Source Modification No.:** | **123-21238-00019** |
| **Permit Modification No.:** | **123-21445-00019** |
| **Permit Reviewer:** | **Trish Earls/EVP** |

The Office of Air Quality (OAQ) has reviewed a modification application from ThyssenKrupp Waupaca, Inc. Plant 5 relating to the operation of a gray and ductile iron foundry.

### History

On May 26, 2005, ThyssenKrupp Waupaca, Inc. Plant 5 submitted an application to the OAQ requesting to add three new phenolic-urethane core machines and supporting equipment including sand handling and mixing operations, and natural gas-fired core ovens and make-up units to their existing plant. ThyssenKrupp Waupaca, Inc. Plant 5 was issued a Part 70 permit on June 29, 2004.

The proposed core machines will allow Plant 5 to produce castings for a growing market for the facility. Production for this market is estimated to be 83,000 tons per year of iron poured. Plant 5 is now operating at or near a full melt capacity schedule. Therefore, to accommodate this growing market, existing Plant 5 production will likely move to other ThyssenKrupp foundries or be discontinued through attrition. ThyssenKrupp Waupaca, Inc. has stated that production increases due to the new core machines will be indiscernible from current production trends due to market fluctuations and believes that any emissions increase will not be significant under 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)). The source will be required to keep records to demonstrate that this modification will not be major for PSD.

### New Emission Units and Pollution Control Equipment

The application includes information relating to the construction and operation of the following equipment:

(a) One (1) phenolic-urethane core sand handling system, identified as P46, with a maximum production capacity of 45 tons of cores per hour. Particulate matter emissions are controlled by one (1) new baghouse, identified as C18, exhausting to new Stack S18;

(b) One (1) phenolic-urethane core making process, identified as P47, consisting of 3 mixers and 3 core machines, each with a maximum capacity of 15 tons per hour. DMIPA catalyst emissions are controlled by one (1) new packed bed scrubber, identified as C17. The gases are then exhausted to new Stack S17;

(c) Three (3) natural gas-fired core drying ovens and natural gas-fired air make-up units, identified as P48, with the core drying ovens having a combined maximum heat input capacity of 9.0 MMBtu per hour and the air make-up units having a combined maximum heat input capacity of 3.2 MMBtu per hour, exhausting inside the building.

**Existing Approvals**

The source was issued a Part 70 Operating Permit (T123-9234-00019) on June 29, 2004. The source has since received the following:

(a) First Significant Permit Modification No. 123-20882-00019, issued on June 29, 2005.

**Enforcement Issue**

There are no enforcement actions pending that are associated with this modification.

**Stack Summary**

| Stack ID | Operation | Height (feet) | Diameter (feet) | Flow Rate (acfm) | Temperature ($^0$F) |
|---|---|---|---|---|---|
| S18 | Baghouse C18 | 120 | 4.0 | 14,000 | ambient |
| S17 | Scrubber C17 | 45 | 3.0 | 36,000 | ambient |

**Recommendation**

The staff recommends to the Commissioner that the Significant Source Modification and Significant Permit Modification be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on May 26, 2005. Additional information was received on July 25, 2005.

**Emission Calculations**

See Appendix A of this document for detailed emissions calculations (pages 1 through 5).

**Potential To Emit Before Controls (Modification)**

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source 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.”

| Pollutant | Potential To Emit (tons/year) |
|---|---|
| PM | 709.66 |
| PM-10 | 106.84 |
| $SO_2$ | 0.03 |
| VOC | 465.45 |
| CO | 4.49 |
| $NO_x$ | 5.34 |

| HAPs | Potential To Emit (tons/year) |
|---|---|
| hexane | Less than 10 |
| TOTAL | Less than 25 |

**Justification for Modification**

The Title V permit is being modified through a Significant Source Modification and Significant Permit Modification. This modification is being performed pursuant to 326 IAC 2-7-10.5(f)(2) because it is subject to 326 IAC 8-1-6 (New Facilities, General Reduction Requirements) and pursuant to 326 IAC 2-7-10.5(f)(4)(A) and (D) because the potential to emit (before controls) of PM, PM10, and VOC are greater than 25 tons per year.

**County Attainment Status**

The source is located in Perry County.

| Pollutant | Status |
|---|---|
| PM-10 | Attainment |
| PM-2.5 | Attainment |
| $SO_2$ | Attainment |
| $NO_2$ | Attainment |
| 1-hour Ozone | Attainment |
| 8-hour Ozone | Attainment |
| CO | Attainment |
| Lead | Attainment |

(a) 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 emissions and NOx are considered when evaluating the rule applicability relating to ozone. Perry County has been designated as attainment or unclassifiable for ozone. Therefore, VOC emissions and NOx were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability for the source section.

(b) Perry County has been classified as unclassifiable or attainment for PM2.5. U.S. EPA has not yet established the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 for PM 2.5 emissions. Therefore, until the U.S.EPA adopts specific provisions for PSD review for PM2.5 emissions, it has directed states to regulate PM10 emissions as surrogate for PM2.5 emissions. See the State Rule Applicability for the source section.

(c) Perry 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. See the State Rule Applicability for the source section.

(d) Fugitive Emissions
Since this type of operation is one of the 28 listed source categories under 326 IAC 2-2, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

**Source Status**

Existing Source PSD Definition (emissions after controls, based upon 8760 hours of operation per year at rated capacity and/or as otherwise limited):

| Pollutant | Emissions (tons/year) |
|---|---|
| PM | Greater than 100 |
| PM-10 | Greater than 100 |
| $SO_2$ | Greater than 100 |
| VOC | Greater than 100 |
| CO | Greater than 100 |
| NOx | Greater than 100 |

(a) This existing source is a major stationary source because an attainment regulated pollutant is emitted at a rate of 100 tons per year or more, and it is one of the 28 listed source categories.

(b) These emissions are based upon Part 70 Operating Permit (T123-9234-00019) on June 29, 2004.

**Potential to Emit of Modification After Issuance Reflecting major PSD applicability**

The table below summarizes the potential to emit of emission units involved in this modification project, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of this Part 70 source modification and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

| | Potential to Emit (tons/year) | | | | | | |
|---|---|---|---|---|---|---|---|
| Process/emission unit | PM | PM-10 | $SO_2$ | VOC | CO | $NO_X$ | HAPs |
| Core sand handling, P46 | 2.63 | 2.63 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Core Making operation, P47 | 0.0 | 0.0 | 0.0 | 20.00 | 0.0 | 0.0 | 0.0 |
| Natural Gas Combustion, P48 | 0.10 | 0.41 | 0.03 | 0.29 | 4.49 | 5.34 | 0.10 |
| Total PTE | 2.73 | 3.04 | 0.03 | 20.29 | 4.49 | 5.34 | 0.10 |
| PSD Significant Level | 25.0 | 15.0 | 40.0 | 40.0 | 100.0 | 40.0 | N/A |

The Permittee has stated in the application for this approval that this modification at a major stationary source will not be major for Prevention of Significant Deterioration under 326 IAC 2-2-1. IDEM, OAQ has not reviewed any additional information and will not be making any determination in this regard as part of this approval. The Permittee will be required to keep records and may be required to report in accordance with Source obligation in 326 IAC 2-2-8 to demonstrate that this modification will not be major for PSD.

The following limitations will limit emissions of PM, PM10, and VOC to less than the PSD significant levels of 25, 15, and 40 tons per year, respectively, in order to render the requirements of 326 IAC 2-2 (PSD) not applicable:

(a) The PM/PM10 emissions from the core sand handling process exhausting to stack S18 shall not exceed 0.60 pounds per hour. Emissions shall be controlled by a baghouse.

(b) The non-DMIPA volatile organic compound (VOC) emissions from the three (3) phenolic-urethane core machines and three (3) mixers, identified as P47, shall not exceed 4.11 pounds per hour (total for all three machines and three mixers combined) and 0.012 pound per pound of binder used.

(c) The amount of binder used in all three (3) mixers, identified as P47, combined shall not exceed 1,500 tons per 12 consecutive month period, with compliance determined at the end of each month.

(d) The amount of cores produced by all three (3) core machines, identified as P47, combined shall not exceed 100,000 tons per 12 consecutive month period, with compliance determined at the end of each month.

(e) The total DMIPA (a VOC) emissions from the mixers and core machines identified as P47 shall not exceed 0.04 pound per ton of cores.

(f) The scrubber controlling the DMIPA emissions from the core machines identified as P47 shall have a 100% capture of the DMIPA emissions, using a permanent total enclosure that complies with the requirements of 40 CFR Part 51, Appendix M, Method 24. The scrubber shall achieve at least 98% overall control efficiency of the DMIPA.

**Federal Rule Applicability**

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

(b) The affected source, the iron foundry, is subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Iron and Steel Foundries, (40 CFR 63, Subpart EEEEE, and 326 IAC 20-1-1), effective the date the rule is published in the Federal Register. Pursuant to this rule, the Permittee must comply with 40 CFR 63, Subpart EEEEE on and after the date that is three years after the effective date of the rule, except as provided in paragraph (d), or accept and meet an enforceable HAP emissions limit below the major source threshold prior to three years after the effective date of the rule.

The requirements of 40 CFR 63, Subpart EEEEE only apply to triethylamine (TEA) cold box mold or core making lines at iron and steel foundries. Therefore, since the phenolic urethane core making operations being installed in this modification do not use a TEA catalyst, the requirements of this rule are not included in this modification for the core making operations.

**State Rule Applicability - Entire Source**

326 IAC 2-2 (Prevention of Significant Deterioration (PSD))

This source is subject to 326 IAC 2-2 (Prevention of Significant Deterioration) because it is one of the 28 listed source categories and at least one of the regulated attainment pollutants is emitted at a rate of 100 tons per year or greater. Therefore, pursuant to 326 IAC 2-2 the source is an existing major source under 326 IAC 2-2 (PSD). The following limitations will limit emissions of PM, PM10, and VOC to less than the PSD significant levels of 25, 15, and 40 tons per year, respectively, in order to render the requirements of 326 IAC 2-2 (PSD) not applicable:

(a) The PM and PM10 emissions from the core sand handling process exhausting to stack S18 shall each not exceed 0.60 pounds per hour. Emissions shall be controlled by a baghouse.

(b) The non-DMIPA volatile organic compound (VOC) emissions from the three (3) phenolic-urethane core machines and three (3) mixers, identified as P47, shall not exceed 4.11 pounds per hour (total for all three machines and three mixers combined) and 0.012 pound per pound of binder used.

(c) The amount of binder used in all three (3) mixers, identified as P47, combined shall not exceed 1,500 tons per 12 consecutive month period, with compliance determined at the end of each month.

(d) The amount of cores produced by all three (3) core machines, identified as P47, combined shall not exceed 100,000 tons per 12 consecutive month period, with compliance determined at the end of each month.

(e) The total DMIPA (a VOC) emissions from the mixers and core machines identified as P47 shall not exceed 0.04 pound per ton of cores.

(f) The scrubber controlling the DMIPA emissions from the core machines identified as P47 shall have a 100% capture of the DMIPA emissions, using a permanent total enclosure that complies with the requirements of 40 CFR Part 51, Appendix M, Method 24. The scrubber shall achieve at least 98% overall control efficiency of the DMIPA.

326 IAC 2-6 (Emission Reporting)

Since this source is required to have an operating permit under 326 IAC 2-7, Part 70 Permit Program, this source is subject to 326 IAC 2-6 (Emission Reporting). The source also has potential to emit greater than or equal to 2500 tons per year of carbon monoxide; therefore, an emission statement covering the previous calendar year must be submitted by July 1 annually. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4.

326 IAC 5-1 (Opacity Limitations)

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

(a) Opacity shall not exceed an average of forty percent (40%) 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.

326 IAC 6-4 (Fugitive Dust Emissions)

This source is subject to 326 IAC 6-4 for fugitive dust emissions. Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions), fugitive dust shall not be visible crossing the boundary or property line of a source. Observances of visible emissions crossing property lines may be refuted by factual data expressed in 326 IAC 6-4-2(1), (2) or (3).

**State Rule Applicability - Individual Facilities**

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

The operation of the new core sand handling operation, identified as P46, the new phenolic urethane core making process, identified as P47, and the core ovens and air make-up units, identified as P48, will emit less than 10 tons per year of a single HAP or 25 tons per year of a combination of HAPs. Therefore, 326 IAC 2-4.1 does not apply.

326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)

The particulate from the core sand handling system, identified as P46, shall be limited to 43.6 pounds per hour based on a process weight rate of 45 tons per hour and the following:

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

The baghouse C18 shall be in operation at all times the core sand handling system (P46) is in operation, in order to comply with this limit.

326 IAC 8-1-6 (New Facilities, General Reduction Requirements)

This rule applies to facilities located anywhere in the state that were constructed on or after January 1, 1980, which have potential volatile organic compounds (VOC) emissions of 25 tons per year or more, and which are not otherwise regulated by other provisions of 326 IAC 8, and requires the reduction of VOC emissions using Best Available Control Technology (BACT). The phenolic-urethane core making process, identified as P47, has potential VOC emissions of greater than 25 tons per year and is therefore subject to this rule.

The source submitted a BACT analysis to determine BACT for the core making process. IDEM, OAQ has determined that the BACT for the three (3) core machines is the use of a packed bed scrubber system with a minimum overall control efficiency of 98% to control DMIPA (a VOC) emissions from the core machines, no add on controls for the three (3) core mixers, and the following emission limitations:

(a) The non-DMIPA volatile organic compound (VOC) emissions from the three (3) phenolic-urethane core machines and three (3) mixers, identified as P47, shall not exceed 4.11 pounds per hour (total for all three machines and three mixers combined) and 0.012 pound per pound of binder used.

(b) The amount of binder used in all three (3) mixers, identified as P47, combined shall not exceed 1,500 tons per 12 consecutive month period, with compliance determined at the end of each month.

(c) The amount of cores produced by all three (3) core machines, identified as P47, combined shall not exceed 100,000 tons per 12 consecutive month period, with compliance determined at the end of each month.

(d) The total DMIPA (a VOC) emissions from the mixers and core machines identified as P47 shall not exceed 0.04 pound per ton of cores.

(e) The scrubber controlling the DMIPA emissions from the core machines identified as P47 shall have a 100% capture of the DMIPA emissions, using a permanent total enclosure that complies with the requirements of 40 CFR Part 51, Appendix M, Method 24. The scrubber shall achieve at least 98% overall control efficiency of the DMIPA.

(f) The Permittee shall use only low VOC content resins in the core making process.

A detailed BACT analysis is presented in Appendix B of this document.

**Compliance Requirements**

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

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

The compliance monitoring requirements applicable to this modification are as follows:

1. The packed bed scrubber controlling the three (3) phenolic-urethane core machines (P47) has applicable compliance monitoring conditions as specified below:

   (a) The Permittee shall monitor and record the pH of the scrubber solution and the pressure drop across the scrubber unit at least once per shift. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across the scrubber shall be maintained within the range of 2 to 5 inches of water or a range established during the latest stack test. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pH level of the scrubbing liquid shall not exceed 4.5 or a maximum established during the latest stack test. The Compliance Response Plan for the scrubber shall contain troubleshooting contingency and response steps for when the pressure drop reading is outside of the normal range for any one reading or the pH level is above the normal maximum for any one reading. Failure to take response steps in accordance with Section C -Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

(b) The Permittee shall continuously monitor the flow rate of the scrubbing liquid. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the flow rate shall be maintained at a minimum of 254 gallons per minute or a minimum established during the latest stack test. The Compliance Response Plan for the scrubber shall contain troubleshooting contingency and response steps for when the flow rate reading is below the normal minimum for any one reading. Failure to take response steps in accordance with Section C -Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

(c) The instruments used for determining the pressure, flow rate, and pH level shall comply with Section C - Pressure Gauge and Other 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) An inspection shall be performed each calendar quarter of the scrubber used in conjunction with the core machines. Inspections required by this condition shall not be performed in consecutive months. Defective scrubber part(s) shall be replaced.

(e) In the event that scrubber failure has been observed:

(1) The affected process will be shut down immediately until the failed unit has been replaced. Failure to take response steps in accordance with Section C -Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

(2) Within eight (8) hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) hours of discovery of the failure and shall include a timetable for completion.

These monitoring conditions are necessary because the packed bed scrubber for the phenolic-urethane core making process (P47) must operate properly to ensure compliance with 326 IAC 8-1-6 (BACT) and 326 IAC 2-7 (Part 70).

2. The baghouse controlling the core sand handling system (P46) has applicable compliance monitoring conditions as specified below:

(a) The Permittee shall record the total static pressure drop across the baghouse used in conjunction with the core sand handling system (P46), at least once per shift when the process is in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 2.0 and 10.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- Compliance Response Plan - Preparation, Implementation, Records, and Reports. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan – Preparation, Implementation, Records and Reports shall be considered a deviation from this permit.

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

(b) An inspection shall be performed each calendar quarter of all bags controlling the core sand handling system. Inspections required by this condition shall not be performed in consecutive months. All defective bags shall be replaced.

(c) In the event that bag failure has been observed:

(1) For multi-compartment units, the affected compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) business hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) business hours of discovery of the failure and shall include a timetable for completion. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit. If operations continue after bag failure is observed and it will be 10 days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

(2) For single compartment baghouses, if failure is indicated by a significant drop in the baghouse's pressure readings with abnormal visible emissions or the failure is indicated by an opacity violation, or if bag failure is determined by other means, such as gas temperatures, flow rates, air infiltration, leaks, dust traces or triboflows, then failed units and the associated process will be shut down immediately until the failed units have 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).

These monitoring conditions are necessary because the baghouse controlling the core sand handling system (P46) must operate properly to ensure compliance with the PM and PM10 emission limits to render 326 IAC 2-2 (PSD) not applicable and to comply with 326 IAC 2-7 (Part 70).

**Changes Proposed**

The changes listed below have been made to the Part 70 Operating Permit (T123-9234-00019).

1. Section A.2 is revised to add the following:

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

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

…

**Core Room Expansion**

**(a) One (1) phenolic-urethane core sand handling system, identified as P46, to be constructed in 2005, with a maximum production capacity of 45 tons of cores per hour. Particulate matter emissions are controlled by one (1) baghouse, identified as C18, exhausting to Stack S18;**

**(b) One (1) phenolic-urethane core making process, identified as P47, to be constructed in 2005, consisting of 3 mixers and 3 core machines, each with a maximum capacity of 15 tons per hour. DMIPA catalyst emissions are controlled by one (1) packed bed scrubber, identified as C17. The gases are then exhausted to Stack S17;**

**(c) Three (3) natural gas-fired core drying ovens and natural gas-fired air make-up units, identified as P48, constructed in 2005, with the core drying ovens having a combined maximum heat input capacity of 9.0 MMBtu per hour and the air make-up units having a combined maximum heat input capacity of 3.2 MMBtu per hour, exhausting inside the building.**

2. A new Section D.7 has been added to the Part 70 permit for the new units as follows:

**SECTION D.7 FACILITY OPERATION CONDITIONS**

**Facility Description [326 IAC 2-7-5(15)]**

**Core Room Expansion**

**(a) One (1) phenolic-urethane core sand handling system, identified as P46, to be constructed in 2005, with a maximum production capacity of 45 tons of cores per hour. Particulate matter emissions are controlled by one (1) baghouse, identified as C18, exhausting to Stack S18;**

**(b) One (1) phenolic-urethane core making process, identified as P47, to be constructed in 2005, consisting of 3 mixers and 3 core machines, each with a maximum capacity of 15 tons per hour. DMIPA catalyst emissions are controlled by one (1) packed bed scrubber, identified as C17. The gases are then exhausted to Stack S17;**

**(c) Three (3) natural gas-fired core drying ovens and natural gas-fired air make-up units, identified as P48, constructed in 2005, with the core drying ovens having a combined maximum heat input capacity of 9.0 MMBtu per hour and the air make-up units having a combined maximum heat input capacity of 3.2 MMBtu per hour, exhausting inside the building.**

**(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 PSD Minor Limit [326 IAC 2-2]**

**The PM and PM10 emissions from the core sand handling process exhausting to stack S18 shall each not exceed 0.60 pounds per hour.**

**This emission limit will limit emissions of PM and PM10 to less than the PSD significant levels of 25 and 15 tons per year, respectively, so that the installation of units P46, P47, and P48 is not subject to 326 IAC 2-2 (PSD).**

**D.7.2 VOC Emission Limitations [326 IAC 8-1-6][326 IAC 2-2]**

**Pursuant to 326 IAC 8-1-6 (New Facilities, General Reduction Requirements) the Best Available Control Technology (BACT) for the phenolic-urethane core making process, identified as P47, is as follows:**

**(a) A packed bed scrubber system with a minimum DMIPA (a VOC) overall control efficiency of 98% shall be used to control DMIPA (a VOC) emissions from the three (3) core machines.**

**(b) The non-DMIPA volatile organic compound (VOC) emissions from the three (3) phenolic-urethane core machines, identified as P47, shall not exceed 3.42 pounds per hour and 0.01 pound per pound of binder used.**

**(c) The non-DMIPA volatile organic compound (VOC) emissions from the three (3) mixers, identified as P47, shall not exceed 0.68 pounds per hour and 0.002 pound per pound of binder used.**

**(d) The amount of binder used in all three (3) mixers, identified as P47, combined shall not exceed 1,500 tons per 12 consecutive month period, with compliance determined at the end of each month.**

**(e) The amount of cores produced by all three (3) core machines, identified as P47, combined shall not exceed 100,000 tons per 12 consecutive month period, with compliance determined at the end of each month.**

**(f) The total DMIPA (a VOC) emissions from the mixers and core machines identified as P47 shall not exceed 0.04 pound per ton of cores.**

**(g) The scrubber controlling the DMIPA emissions from the core machines identified as P47 shall have a 100% capture of the DMIPA emissions, using a permanent total enclosure that complies with the requirements of 40 CFR Part 51, Appendix M, Method 24. The scrubber shall achieve at least 98% overall control efficiency of the DMIPA.**

**(h) The Permittee shall use only low VOC content resins in the core making process.**

**The above limits will also limit emissions of VOC to less than the PSD significant level of 40 tons per year so that the installation of units P46, P47, and P48 is not subject to 326 IAC 2-2 (PSD).**

**D.7.3 Particulate [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 core sand handling system (P46) shall not exceed 43.6 pounds per hour when operating at a process weight rate of 45 tons per hour. The pounds per hour limitation was calculated using the following equation:**

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

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

**D.7.4 Preventive Maintenance Plan [326 IAC 2-7-5(13)]**

**A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for the core sand handling process and the phenolic-urethane core making process and their control devices.**

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

**D.7.5 Particulate Control**

**In order to comply with conditions D.7.1 and D.7.3, the baghouse C18 for particulate control shall be in operation and control emissions from the core sand handling system (P46) at all times that the core sand handling system (P46) is in operation.**

**D.7.6 VOC Control**

**In order to comply with condition D.7.2, the packed bed scrubber C17 for DMIPA emissions control shall be in operation at control DMIPA emissions from the core machines identified as P47 at all times that any of the core machines is in operation.**

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

**Within 60 days after achieving maximum production rate but no later than 180 days after the startup of the core machines identified as P47, in order to demonstrate compliance with Condition D.7.2(g), the Permittee shall perform VOC and DMIPA testing on the scrubber controlling the core machines identified as P47 utilizing methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C- Performance Testing.**

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

**D.7.8 Packed Bed Scrubber Parametric Monitoring**

**(a) The Permittee shall monitor and record the pH of the scrubber solution and the pressure drop across the scrubber unit at least once per shift. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across the scrubber shall be maintained within the range of 2 to 5 inches of water or a range established during the latest stack test. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pH level of the scrubbing liquid shall not exceed 4.5 or a maximum established during the latest stack test. The Compliance Response Plan for the scrubber shall contain troubleshooting contingency and response steps for when the pressure drop reading is outside of the normal range for any one reading or the pH level is above the normal maximum for any one reading. Failure to take response steps in accordance with Section C -Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.**

**(b) The Permittee shall continuously monitor the flow rate of the scrubbing liquid. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the flow rate shall be maintained at a minimum of 254 gallons per minute or a minimum established during the latest stack test. The Compliance Response Plan for the scrubber shall contain troubleshooting contingency and response steps for when the flow rate reading is below the normal minimum for any one reading. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.**

**(c) The instruments used for determining the pressure, flow rate, and pH level shall comply with Section C - Pressure Gauge and Other 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.7.9 Packed Bed Scrubber Inspections**

**An inspection shall be performed each calendar quarter of the scrubber used in conjunction with the core machines. Inspections required by this condition shall not be performed in consecutive months. Defective scrubber part(s) shall be replaced.**

**D.7.10 Packed Bed Scrubber Failure Detection**

**In the event that scrubber failure has been observed:**

**(a) The affected process will be shut down immediately until the failed unit has been replaced. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.**

**(b) Within eight (8) hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) hours of discovery of the failure and shall include a timetable for completion.**

**D.7.11 Visible Emissions Notations**

**(a) Visible emission notations of the baghouse C18 stack exhaust shall be performed once per shift 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) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed. Failure to take response steps in accordance with Section C - Compliance Response Plan – Preparation, Implementation, Records and Reports shall be considered a deviation from this permit.**

**D.7.12 Parametric Monitoring**

**The Permittee shall record the total static pressure drop across the baghouse used in conjunction with the core sand handling system (P46), at least once per shift when the process is in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 2.0 and 10.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- Compliance Response Plan - Preparation, Implementation, Records, and Reports. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Compliance Response Plan – Preparation, Implementation, Records and Reports shall be considered a deviation from this permit.**

**The instrument used for determining the pressure shall comply with Section C - Pressure Gauge and Other 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.7.13 Baghouse Inspections**

**An inspection shall be performed each calendar quarter of all bags controlling the core sand handling system (P46). Inspections required by this condition shall not be performed in consecutive months. All defective bags shall be replaced.**

**D.7.14 Broken or Failed Bag Detection**

**In the event that bag failure has been observed:**

**(a) For multi-compartment units, the affected compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) business hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) business hours of discovery of the failure and shall include a timetable for completion. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit. If operations continue after bag failure is observed and it will be 10 days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.**

**(b) For single compartment baghouses, if failure is indicated by a significant drop in the baghouse's pressure readings with abnormal visible emissions or the failure is indicated by an opacity violation, or if bag failure is determined by other means, such as gas temperatures, flow rates, air infiltration, leaks, dust traces or triboflows, then failed units and the associated process will be shut down immediately until the failed units have 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).**

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

**D.7.15 Record Keeping Requirements**

**(a) To document compliance with Condition D.7.2(d), the Permittee shall maintain records of the binder usage in the three core mixers associated with the core making process identified as P47 each month.**

**(b) To document compliance with Condition D.7.2(e), the Permittee shall maintain records of the core production from the three core machines associated with the core making process identified as P47 each month.**

**(c) To document compliance with Condition D.7.8(a), the Permittee shall maintain records of the pressure drop and pH readings of the scrubber once per shift.**

**(d) To document compliance with Condition D.7.8(b), the Permittee shall maintain records of the flow rate of the scrubber.**

**(e) To document compliance with Condition D.7.9, the Permittee shall maintain records of the results of the inspections required under Condition D.7.9 and the number and type of any parts replaced.**

**(f) To document compliance with Condition D.7.11 the Permittee shall maintain records of visible emission notations of the baghouse stack exhaust once per shift.**

**(g) To document compliance with Condition D.7.12 the Permittee shall maintain records of the static pressure drop across the baghouse once per shift.**

**(h) To document compliance with Condition D.7.13 the Permittee shall maintain records of the results of the inspections required under Condition D.7.13.**

**(i) To document compliance with Condition D.7.4, the Permittee shall maintain of records of any additional inspections prescribed by the Preventive Maintenance Plan.**

**(j) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.**

**D.7.16 Reporting Requirements**

**A quarterly summary of the information to document compliance with Conditions D.7.2(d) and D.7.2(e) shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).**

3. Quarterly report forms for the reports required in condition D.7.16 have also been added to the Part 70 permit without replication herein.

The following changes were made to the permit to reflect updates that have been made to all Part 70 permits by IDEM, OAQ:

1. The letterhead for the Part 70 permit has been revised to reflect the name of the new Governor of Indiana and the new Commissioner of IDEM. Also, the address of IDEM, OAQ has been updated to reflect the current address throughout the permit.

2. Condition B.2 of the Part 70 permit has been revised as follows:

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**, T123-9234-00019,** 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.**

3. A statement was added to condition B.8, Certification, in order to clarify that the certification form may cover more than one document that is submitted.

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

(a) Where specifically designated by this permit or required by an applicable requirement, any application form, report, or compliance certification submitted shall contain certification by a responsible official of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

(b) One (1) certification shall be included, using the attached Certification Form, 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(34).

4. Condition B.11, Emergency Provisions, has been revised to include the IDEM Southwest Regional Office as follows:

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, **and IDEM Southwest Regional Office** within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

Telephone Number: 1-800-451-6027 (ask for Office of Air Quality, Compliance Section), or
Telephone Number: 317-233-5674 (ask for Compliance Section)
Facsimile Number: 317-233-5967

**And**

**Telephone Number: 1-888-672-8323 (IDEM Southwest Regional Office), or**
**Telephone Number: 812-380-2305**
**Facsimile Number: 812-380-2304**

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

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue~~, P. O. Box 6015~~
Indianapolis, Indiana 4620~~46-6015~~

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 the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(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) IDEM, OAQ, may require that the Preventive Maintenance Plans required under 326 IAC 2-7-4(c)(9) 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.

(h) The Permittee shall include all emergencies in the Quarterly Deviation and Compliance Monitoring Report.

5. Condition B.13, Prior Permits Superseded, has been revised as follows:

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

(a) All terms and conditions of ~~previous~~ permits **established prior to T123-9234-00019 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.**

~~by this permit.~~

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

6. Condition B.16, Permit Renewal, has been revised as follows:

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 the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

Request for renewal shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue~~, P.O. Box 6015~~
Indianapolis, Indiana 4620**4**~~6-6015~~

(b) ~~Timely Submittal of Permit Renewal [326 IAC 2-7-4(a)(1)(D)]~~

~~(1)~~ A timely renewal application is one that is:

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

~~(B)~~ **(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.

~~(2) If IDEM, OAQ, upon receiving a timely and complete 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.~~

(c) ~~Right to Operate After Application for Renewal [326 IAC 2-7-3]~~
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 in writing by IDEM, OAQ, any additional information identified as being needed to process the application.

~~(d) United States Environmental Protection Agency Authority [326 IAC 2-7-8(e)]~~
~~If IDEM, OAQ, fails to act in a timely way on a Part 70 permit renewal, the U.S. EPA may invoke its authority under Section 505(e) of the Clean Air Act to terminate or revoke and reissue a Part 70 permit.~~

7. Condition B.20, Source Modification Requirement, has been revised as follows to reflect that this is an existing major source under 326 IAC 2-2 (PSD) as follows:

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

**(a)** A modification, construction, or reconstruction is governed by the requirements of 326 IAC 2 and 326 IAC 2-7-10.5.

**(b) Any modification at an existing major source is governed by the requirements of 326 IAC 2-2-2.**

8. The section's name that collects operating fees has been updated in condition B.23, Annual Fee Payment. The most current name is the Billing, Licensing, and Training Section.

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, ~~I/M & Billing~~ **Billing, Licensing, and Training** Section), to determine the appropriate permit fee.

9. Indiana was required to incorporate credible evidence provisions into state rules consistent with the SIP call published by U.S. EPA in 1997 (62 FR 8314). Indiana has incorporated the credible evidence provision in 326 IAC 1-1-6. This rule is effective March 16, 2005; therefore, condition B.24, Credible Evidence, is revised as follows:

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

~~Notwithstanding the conditions of this permit that state specific methods that may be used to demonstrate compliance with, or a violation of, applicable requirements, any person (including the Permittee) may also use other credible evidence to demonstrate compliance with, or a violation of, any term or condition of this permit.~~ **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.**

10. The following condition has been added to section B of the Part 70 permit as follows:

**B.25 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.**

11. Condition C.8, Stack Height, has been changed to correct rule references as follows:

C.8 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~~(d), (e), and (f)~~, and 326 IAC 1-7-5**(a), (b), and** (d) are not federally enforceable.

12. Condition C.23, Emission Statement, was updated as follows:

C.23 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]

~~(a) The Permittee shall submit an emission statement certified pursuant to the requirements of 326 IAC 2-6. This statement must be received in accordance with the compliance schedule specified in 326 IAC 2-6-3, and must comply with the minimum requirements specified in 326 IAC 2-6-4. The submittal should cover the period identified in 326 IAC 2-6. The emission statement shall meet the following requirements:~~

**(a) 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 ~~criteria pollutants from the source, in compliance with 326 IAC 2-6 (Emission Reporting)~~ **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 purposes of **Part 70** fee assessment.

The ~~emission~~ statement must be submitted to:

Indiana Department of Environmental Management
Technical Support and Modeling Section, Office of Air Quality
100 North Senate Avenue~~, P. O. Box 6015~~
Indianapolis, Indiana 4620**4**~~6-6015~~

The emission statement does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(b) The emission statement 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.

13. Changes have been made to the record keeping and reporting requirements in conditions C.24 and C.25 to reflect NSR reform provisions at major sources under 326 IAC 2-2 (PSD). These records will be used to show that there are no significant emissions increases from this modification.

C.24 General Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-6] **[326 IAC 2-2]**

(a) Records of all required monitoring data, reports and support information required by this permit shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

(b) Unless otherwise specified in this permit, all record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance.

**(c) If there is a reasonable possibility that a "project" (as defined in 326 IAC 2-2-1 (qq)) at an existing emissions unit, other than projects at a Clean Unit, which is not part of a "major modification" (as defined in 326 IAC 2-2-1 (ee)) may result in significant emissions increase and the Permittee elects to utilize the "projected actual emissions" (as defined in 326 IAC 2-2-1 (rr)), the Permittee shall comply with following:**

**(1) Before beginning actual construction of the "project" (as defined in 326 IAC 2-2-1 (qq)) 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(rr)(2)(A)(iii); and**

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

**(2) 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**

**(3) 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.25 General Reporting Requirements [326 IAC 2-7-5(3)(C)] [326 IAC 2-1.1-11] **[326 IAC 2-2]**

(a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported. This report shall be submitted within thirty (30) days of the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(b) The report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue~~, P. O. Box 6015~~
Indianapolis, Indiana 4620**4**~~6-6015~~

(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) Unless otherwise specified in this permit, all reports required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. All reports do require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(e) The first report shall cover the period commencing on the date of issuance of this permit and ending on the last day of the reporting period. Reporting periods are based on calendar years**, unless otherwise specified in this permit. For the purpose of this permit "calendar year" means the twelve (12) month period from January 1 to December 31 inclusive**.

**(f) If the Permittee is required to comply with the recordkeeping provisions of (c) in Section C- General Record Keeping Requirements for any "project" (as defined in 326 IAC 2-2-1 (qq)) 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 (xx), 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).**

**(g) The report for projects at an existing emissions unit shall be submitted within 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 (c)(2) and (3) 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).**

**(4) Any other information that the Permittee deems fit to include in this report,**

**Reports required in this part shall be submitted to:**

**Indiana Department of Environmental Management**
**Air Compliance Section, Office of Air Quality**
**100 North Senate Avenue**
**Indianapolis, Indiana 46204**

**(h) 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.**

14. The third sentence on the Quarterly Deviation and Compliance Monitoring report form has been replaced with a sentence that is consistent with the condition in Section B, Deviations from Permit Requirements and Conditions as follows:

This report shall be submitted quarterly based on a calendar year. Any deviation from the requirements, the date(s) of each deviation, the probable cause of the deviation, and the response steps taken must be reported. ~~Deviations that are required to be reported by an applicable requirement shall be reported according to the schedule stated in the applicable requirement and do not need to be included in this report.~~ **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".

**Conclusion**

The operation of this gray and ductile iron foundry shall be subject to the conditions of the attached proposed Significant Source Modification No. 123-21238-00019 and Significant Permit Modification No. 123-21445-00019.

# APPENDIX B: BACT ANALYSIS

## Source Background and Description

| | |
|---|---|
| Source Name: | ThyssenKrupp Waupaca, Inc. Plant 5 |
| Source Location: | 9856 State Highway 66, Tell City, Indiana 47586 |
| County: | Perry |
| SIC Code: | 3321 |
| Operation Permit No.: | T123-9234-00019 |
| Operation Permit Issuance Date: | June 29, 2004 |
| Significant Source Modification No.: | 123-21238-00019 |
| Significant Permit Modification No.: | 123-21445-00019 |
| Permit Reviewer: | Trish Earls/EVP |

The requirements of 326 IAC 8-1-6 (New Facilities, General Reduction Requirements) applies to facilities located anywhere in the state that were constructed on or after January 1, 1980, which have potential volatile organic compounds (VOC) emissions of 25 tons per year or more, and which are not otherwise regulated by other provisions of 326 IAC 8, and requires the reduction of VOC emissions using Best Available Control Technology (BACT). The proposed phenolic-urethane core making process, identified as P47, consisting of 3 mixers and 3 core machines, has potential VOC emissions of greater than 25 tons per year and is therefore subject to this rule.

This source is one of the 28 listed source categories under 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) and at least one of the regulated attainment pollutants is emitted at a rate of 100 tons per year or greater. Therefore, pursuant to 326 IAC 2-2 the source is an existing major source under 326 IAC 2-2 (PSD). The source has proposed accepting a core sand throughput limit and resin and catalyst usage limits in addition to the use of a packed bed scrubber for DMIPA control to limit VOC emissions from this modification to less than the PSD significant modification threshold of 40 tons per year so that the requirements of 326 IAC 2-2 (PSD) do not apply. Therefore, the uncontrolled VOC emissions which were used in this analysis to determine the cost effectiveness of each control option in $/ton are based on the proposed VOC usage limitations before controls which will limit total VOC emissions from the modification to less than 40 tons per year after control.

## BACT Analysis

IDEM conducts BACT analyses in accordance with the *"Top-Down" Best Available Control Technology Guidance Document* outlined in the 1990 draft USEPA *New Source Review Workshop Manual*, which outlines the steps for conducting a top-down BACT analysis. Those steps are listed below.

(1) Identify alternative emission control techniques;
(2) Technical Feasibility Analysis of BACT Options;
(3) Rank remaining control technologies by control effectiveness;
(4) Evaluate the technically feasible control technologies; and
(5) Selecting BACT.

Also in accordance with the *"Top-Down" Best Available Control Technology Guidance Document* outlined in the 1990 draft USEPA *New Source Review Workshop Manual*, BACT analyses take into account the energy, environmental, and economic impacts on the source. Emission reductions may be determined through the application of available control techniques, process design, and/or operational limitations. Such reductions are necessary to demonstrate that the emissions remaining after application of BACT will not cause or contribute to air pollution thereby protecting public health and the environment.

**Step 1 – Identify Alternative Emission Control Techniques**

The first step in evaluating BACT is identifying all applicable control technology options for core machines and core mixers. Four (4) available technologies are initially considered potential control alternatives to reduce VOC emissions from the core making operations:

• Refrigeration
• Carbon adsorption
• Regenerative incineration
• Packed bed scrubber system
• Low VOC content resins

**Step 2 – Technical Feasibility Analysis of BACT Options**

**Elimination of Technically Infeasible Control Options**

**Refrigeration**

Refrigeration, condensation, and cryogenic systems remove organic vapor by making them condense on cold surfaces. There are no foundries known to be using refrigeration for the control of VOC emissions from core making operations. The OAQPS Cost Control Manual states that: *refrigerated condensers are used as air pollution control devices for treating emission streams with high VOC, concentrations (usually > 5,000 ppmv) in applications involving gasoline bulk terminals, storage, etc.* USEPA also suggests that refrigeration is applicable to high VOC concentrations (i.e. > 500 ppm) where there are three or less VOC constituents to be recovered.

The DMIPA catalyst represents approximately 85% of the uncontrolled VOC emissions. Its molecular weight is 87.2. The estimated uncontrolled VOC concentration in the 14,000 acfm of exhaust gas from the sand and resin mixing operations is 12 ppm. The estimated uncontrolled VOC concentration in the 36,000 acfm of exhaust gas from the core machines is 212 ppm. The uncontrolled VOC emissions are actually a mixture of the DMIPA catalyst and other VOC evaporated from the core making resins. As a result, the catalyst recovered through refrigeration could not be reused.

Due to the low VOC concentration, refrigeration is not considered a technically feasible control alternative and is eliminated from further consideration for either the core mixing or core machine operations.

**Carbon Adsorption**

With adsorption, the exhaust gases pass through a bed of activated carbon, zeolite, or organic polymer where the VOC adsorb weakly onto the surfaces of the adsorbent and are later desorbed. There are no foundries known to be using carbon adsorption for the control of VOC emissions from core making operations. This control alternative is considered unproven for this application.

During evaluation of carbon adsorption for the core room project at Plant 5 in 2001, a representative of Calgon Carbon concluded that the VOC emitted from core making operations could be captured by a carbon adsorption system. (April 16, 2001 email from Craig Nitchman - Calgon Carbon to S. Klafka - Wingra Engineering). Though this technology has not been proven for this application, to be conservative, it will be considered technically feasible for this BACT analysis.

**Packed Bed Scrubber**

A packed bed scrubber is composed of one or more beds of packing material, which is coated with scrubbing liquid flowing downward over the packing. Scrubbers are currently used at Plant 5 and many other foundries to control the catalyst emissions from core machines. Scrubbers have been shown to be a reliable and demonstrated control method in the foundry industry. An advantage of using a scrubber is the ability to recover and recycle the catalyst used in the core making process. The scrubber uses a sulfuric acid solution to capture the spent catalyst, which can be recovered offsite.

The disadvantage associated with the use of scrubbers is that only the catalyst emissions are controlled. Scrubbers are not designed to control the other VOC emissions emitted from the evaporation of VOC during the mixing, handling and storage of binder resins. For this reason, the scrubber system is not a technically viable option for controlling the VOC emissions generated by the core mixing operations or the resin evaporation emissions that occur at the core machines.

It is assumed that a packed bed scrubber would be capable of capturing 98% of the DMIPA catalyst. Overall VOC control efficiency based on no control of the evaporative VOC emissions from the resin is 85%.

On April 22, 2004, USEPA promulgated the Maximum Available Control Technology or MACT regulations for the control of hazardous air pollutants from iron and steel foundries under 40 CFR Part 63 Subpart EEEEE—National Emission Standards for Hazardous Air Pollutants for Iron and Steel Foundries. Under the new MACT regulations, a packed bed scrubber is the control technology when TEA is used as a catalyst for core making operations. The DMIPA catalyst proposed for this project is not regulated under MACT. However, it is proposed that the same control method required as MACT will be used to control catalyst emissions.

**Regenerative Incineration (RTO)**

In a thermal oxidizer or incinerator, the exhaust gases are heated to temperatures several hundred degrees Fahrenheit above the auto-ignition temperatures of the VOC that need to be oxidized. Incinerator types include recuperative, catalytic and regenerative. While use of incineration to control foundry VOC emissions is limited, one core making operation has been identified which has used incineration for the control of core machine VOC emissions. Wheland Foundry in Chattanooga, Tennessee received an air quality permit in November 1998 requiring a regenerative thermal oxidizer (RTO) system to control 98% of the VOC emissions from the core machines. Wheland has since closed. The core machines and RTO were operated and found in compliance with the overall VOC limit based on a stack test conducted on July 31, 2000. The VOC destruction efficiency was measured at 99.2%. Since this technology has been demonstrated to be effective for controlling VOC emissions from core machines at another iron foundry, it is considered to be technically feasible.

It is assumed that an RTO would be capable of controlling 98% of the VOC emissions, including those from the catalyst and resin. This is the efficiency requirement approved for Wheland. Use of an RTO is considered a feasible control alternative for both the core mixing and core machine operations.

The USEPA RACT/BACT/LAER Clearinghouse (RBLC) was also reviewed to identify prior control requirements and limitations for other core making operations since the BACT determination for ThyssenKrupp Waupaca, Inc. Plant 5 in 2001. The table below summarizes these BACT determinations for iron foundries in the United States, as provided by the RBLC and other IDEM permits. Recent BACT determinations support the conclusion that use of a packed bed scrubber is the BACT control option for phenolic-urethane core making operations at iron foundries.

| Source | Affected Facility | BACT Determination /Control Technology | Reference |
|---|---|---|---|
| ThyssenKrupp Waupaca, Inc. Plant 5, Tell City, IN | Core machines and core mixers | Acid scrubber for control of catalyst emissions with 98% overall control efficiency for catalyst emissions from core machines and no controls on core mixing. Non-catalyst VOC emissions limited to 1.836 lb/hr and 0.01 lb/lb resin. | RACT/BACT/LAER Clearinghouse (RBLC), IDEM, OAQ Significant Source Modification No. 123-12948-00019, issued on 6/5/01 |
| ThyssenKrupp Waupaca, Inc. Plant 6, Etowah, TN | Core machines | Acid scrubber for control of VOC emissions from core machines. VOC emissions limited to 15.06 lbs/hr and 5.5 tons/month. | RBLC, Tennessee Division of Air Pollution Control |
| Ardmore Foundry, Inc., Ardmore, OK | Two (2) core machines | Acid scrubber for control of TEA emissions from core machines with 98.5% control efficiency. | RBLC, Oklahoma Dept. of Environmental Quality |
| Grede Foundries, Inc., Iron Mountain, MI | 12 core machines | Acid scrubber for control of VOC emissions from core machines. VOC emissions limited to 4.80 lbs/hr and 21.02 tons per year. | RBLC, Tennessee Division of Air Pollution Control |

**Step 3 – Ranking of Technically Feasible BACT Options**

The former Wheland Foundry has demonstrated that the use of a RTO to control at least 98% of the core machine VOC emissions is technically feasible. Therefore, an RTO is considered the most effective add-on control. Carbon adsorption is also expected to control 98% of all of the VOC in the gas stream. While most of the VOC will be DMIPA, not all the resin VOC constituents are known, so the adsorption efficiency could potentially be less if some constituents are difficult to capture. A scrubber is expected to control 98% of the catalyst emissions, none of the resin VOC, and 85% of the total VOC exhausted through the core machine. For all three control alternatives, it is assumed that the VOC emissions will be captured by 100%.

The following table ranks the viable control options for the core mixing and core machine operations:

| Ranking of Control Options | | | | | |
|---|---|---|---|---|---|
| Rank | Control Device | Core Mixing Operations Control Efficiency (%) | | Core Machine Operations Control Efficiency (%) | |
| | | DMIPA | Total VOC | DMIPA | Total VOC |
| 1 | RTO | 98 | 98 | 98 | 98 |
| 2 | Carbon Adsorption | 98 | 98 | 98 | 98 |
| 3 | Packed Bed Scrubber | n/a | n/a | 98 | 85 |

## Step 4 – The BACT Selection Process

### Evaluation of the Most Cost Effective Controls

The economic, environmental, and energy impacts of the feasible control options were determined for the core mixing and core machine operations. Order of magnitude cost estimates for each of the control options were generated using the USEPA publication, *OAQPS Cost Control Manual*, vendor quotations, and associated trade journals. The equipment cost for the scrubber was based on a vendor quotation. The purchase cost for the RTO is based on the OAQPS manual. The equipment cost for a carbon adsorption system with on-site regeneration was based on a vendor quotation. Installation and operation costs were based on OAQPS manual.

Cost estimates for add-on controls are provided below:

### Cost/Economic Analysis for Regenerative Thermal Oxidizer

| **A. Direct Capital Cost** | | | |
|---|---|---|---|
| | **Mixers** | **Core Machines** | |
| **Item** | **Cost Estimate** | **Cost Estimate** | **Reference/Source of Cost Estimate** |
| **Purchase Equipment Costs** | | | |
| 1. Equipment Cost (2005 Dollars) Regenerative Thermal Oxidizer | $ 544,250 | $ 906,543 | USEPA, OAQPS Control Cost Manual, Chapter 3, updated December, 1995. |
| 2. Instrumentation | | | |
| 3. Sales Tax | $ 16,328 | $ 27,196 | 0.03 x Equipment Cost |
| 4. Freight | $ 27,213 | $ 45,327 | 0.05 x Equipment Cost |
| 5. Other | | | |
| **6. Purchased Equipment Subtotal** | **$ 587,790** | **$ 979,066** | |
| **Direct Installation Costs** | | | |
| 7. Foundations and Supports | | | 0.08 x Purchased Equipment Cost |
| 8. Auxiliaries (duct work, fittings – include only the equipment which would not be necessary if the facility was not controlled | $0 | $0 | |
| 9. Handling and Erection | | | 0.14 x Purchased Equipment Cost |
| 10. Piping | | | 0.02 x Purchased Equipment Cost |
| 11. Insulation and Painting | | | 0.01 x Purchased Equipment Cost |
| 12. Electrical | | | 0.04 x Purchased Equipment Cost |
| 13. Site Preparation | $0 | $0 | |
| 14. Other | $0 | $0 | |
| **15. Direct Installation Costs Subtotal** | **$ 170,459** | **$ 283,929** | 0.29 x Purchased Equipment Cost |
| **16. Direct Capital Cost Subtotal** | **$ 758,249** | **$1,262,995** | |
| **B. Indirect Installation Costs** | | | |
| 1. Engineering and Supervision | | | 0.10 x Purchased Equipment Cost |
| 2. Lost Production (for retrofit situation only) | | | |
| 3. Construction and Field Expenses | | | 0.05 x Purchased Equipment Cost |
| 4. Contractor Fees | | | 0.10 x Purchased Equipment Cost |
| 5. Start-up and Performance Tests | | | 0.03 x Purchased Equipment Cost |
| 6. Over-all Contingencies | | | 0.03 x Purchased Equipment Cost |

| | | | |
|---|---|---|---|
| 7. Working Capital (if applicable) | | | n/a |
| 8. Other | $0 | $0 | |
| **9. Indirect Installation Costs Subtotal** | **$ 182,215** | **$ 303,511** | 0.31 x Purchased Equipment Cost |
| **C. Capital Cost Summary** | | | |
| **1. Total Capital Investment Subtotal** | $ 940,464 | $1,566,506 | |
| **D. Direct Annual Cost** | | | |
| 1. Operating Labor<br>Operators (0.5 hrs/shift)(shifts/yr)($20/hr)<br>Supervisor (15% operating labor) | <br>$ 10,950<br>$ 1,643 | <br>$ 10,950<br>$ 1,643 | |
| 2. Maintenance Labor and Materials<br>Labor (0.5 hrs/shift)(shifts/yr)($20/hr)<br>Material (100% of labor) | <br>$ 10,950<br>$ 10,950 | <br>$ 10,950<br>$ 10,950 | |
| 3. Utilities<br>Gas & Electric<br>(Gas @ $0.77 / Therm)<br>(Electricity @ $0.06 /kw-hr) | <br><br>$ 355,816<br>$ 28,788 | <br><br>$ 782,587<br>$ 74,027 | |
| 5. Waste Treatment and Disposal | | | |
| 6. Replacement of Parts | | | |
| 7. Other | | | |
| **8. Direct Annual Cost Subtotal** | **$ 419,097** | **$ 891,107** | |
| **E. Indirect Annual Costs** | | | |
| 1. Overhead | $ 20,696 | $ 20,696 | |
| 2. Property Taxes, Insurance, and Administrative Charges | $ 37,619 | $ 62,660 | 4% of Total Capital Investment |
| 3. Other | | | |
| 4. Capital Recovery<br>a. Interest Rate<br>b. Economic Lifetime | <br>8%<br>10 years | <br>8%<br>10 years | |
| 5. CAPITAL RECOVERY COST | $ 140,129 | $ 233,409 | USEPA, Escalation Indexes for Air Pollution Control Costs, October, 1995 |
| **6. Indirect Annual Cost Subtotal** | **$ 198,444** | **$ 316,765** | |
| **F. Recovery Credits** | | | |
| 1. Materials Recovered | | | |
| 2. Energy Recovered | | | |
| 3. Other | | | |
| 4. Recovery Credits Subtotal | $0 | $0 | |
| **G. Total Annualized Cost (TAC) Summary** | | | |
| 1. Direct Annual Costs Subtotal | $ 419,097 | $ 891,107 | |
| 2. Indirect Annual Costs Subtotal | $ 198,444 | $ 316,765 | |
| 3. Recovery Credits Subtotal | $0 | $0 | |
| **4. Total Annualized Cost (TAC)** | **$ 617,541** | **$1,207,872** | |
| **H. Cost Effectiveness** | | | |
| 1. Baseline Emissions Rate (tons/year) | 4.93 | 227.54 | |
| 2. Post –BACT Emissions Rate (tons/year) | 0.10 | 4.55 | |
| 3. Total Pollution Removed (tons/year) | 4.83 | 222.99 | |
| **4. Average Cost Effectiveness of BACT Option ($/ton) (G4 ÷ H3)** | **$ 127,855** | **$ 5,417** | |

## Cost/Economic Analysis for Carbon Adsorber

| A. Direct Capital Cost | | | |
|---|---|---|---|
| | **Mixers** | **Core Machines** | |
| **Item** | **Cost Estimate** | **Cost Estimate** | **Reference/Source of Cost Estimate** |
| **Purchase Equipment Costs** | | | |
| 1. Equipment Cost<br>Adsorber vessels<br>Carbon<br>Condenser, decanter, etc.<br>Desorbing Boiler | <br>$ 73,401<br>$ 1,306<br>$ 47,431<br>$ 18,300 | <br>$1,232,814<br>$ 0<br>$ 0<br>$ 18,300 | Vendor quotes obtained by Wingra Engineering in 2001 |
| 2. Equipment Costs escalated to 2005 Dollars | $ 191,849 | $1,401,824 | |
| 3. Instrumentation | | | |
| 4. Sales Tax | $ 5,755 | $ 42,055 | 0.03 x Equipment Cost |
| 5. Freight | $ 9,592 | $ 70,091 | 0.05 x Equipment Cost |
| 6. Other | | | |
| 7. Purchased Equipment Subtotal | **$ 207,196** | **$1,513,970** | |
| **Direct Installation Costs** | | | |
| 8. Foundations and Supports | | | 0.08 x Purchased Equipment Cost |
| 9. Auxiliaries (duct work, fittings – include only the equipment which would not be necessary if the facility was not controlled | $0 | $0 | |
| 10. Handling and Erection | | | 0.14 x Purchased Equipment Cost |
| 11. Piping | | | 0.02 x Purchased Equipment Cost |
| 12. Insulation and Painting | | | 0.02 x Purchased Equipment Cost |
| 13. Electrical | | | 0.04 x Purchased Equipment Cost |
| 14. Site Preparation | $0 | $0 | |
| 15. Other | $0 | $0 | |
| **16. Direct Installation Costs Subtotal** | **$ 62,159** | **$ 454,191** | 0.30 x Purchased Equipment Cost |
| **17. Direct Capital Cost Subtotal** | **$ 269,355** | **$1,968,161** | |
| **B. Indirect Installation Costs** | | | |
| 1. Engineering and Supervision | | | 0.10 x Purchased Equipment Cost |
| 2. Lost Production (for retrofit situation only) | | | |
| 3. Construction and Field Expenses | | | 0.05 x Purchased Equipment Cost |
| 4. Contractor Fees | | | 0.10 x Purchased Equipment Cost |
| 5. Start-up and Performance Tests | | | 0.03 x Purchased Equipment Cost |
| 6. Over-all Contingencies | | | 0.03 x Purchased Equipment Cost |
| 7. Working Capital (if applicable) | | | n/a |
| 8. Other | | | |
| **9. Indirect Installation Costs Subtotal** | **$ 64,231** | **$ 469,331** | 0.31 x Purchased Equipment Cost |
| **C. Capital Cost Summary** | | | |
| **1. Total Capital Investment Subtotal** | **$ 333,586** | **$2,437,492** | |

| | | | |
|---|---|---|---|
| **D. Direct Annual Cost** | | | |
| 1. Operating Labor<br>Operators (@ $20.00 per hour per person)<br>Supervisor (15% operating labor) | <br>$ 10,950<br>$ 1,643 | <br>$ 10,950<br>$ 1,643 | |
| 2. Maintenance Labor and Materials<br>Labor (@ $22.00 per hour per person)<br>Material (100% of labor) | <br>$ 12,045<br>$ 12,045 | <br>$ 12,045<br>$ 12,045 | |
| 3. Utilities<br>(Electricity @ $0.062 /kwh) | <br>$ 369 | <br>$ 10,310 | |
| 4. Waste Treatment and Disposal | | | |
| 5. Replacement of Parts<br>Carbon Replacement Labor @ $0.05/lb | <br>$ 361 | <br>$ 9,575 | |
| 6. Other<br>(Steam @ $9.25/1000 lb)<br>(Cooling Water @ $0.20/1000 gal) | <br>$ 638<br>$ 47 | <br>$ 29,481<br>$ 2,186 | |
| **7. Direct Annual Cost Subtotal** | **$ 38,098** | **$ 88,235** | |
| **E. Indirect Annual Costs** | | | |
| 1. Overhead | $ 22,010 | $ 22,010 | |
| 2. Property Taxes, Insurance, and Administrative Charges | $ 13,344 | $ 97,500 | 4% of Total Capital Investment |
| 3. Other<br>Disposal cost | <br>$ 18,543 | <br>$ 856,694 | |
| 4. Capital Recovery<br>a. Interest Rate<br>b. Economic Lifetime | <br>8%<br>10 years | <br>8%<br>10 years | |
| 5. CAPITAL RECOVERY COST | $ 49,499 | $ 357,560 | |
| **6. Indirect Annual Cost Subtotal** | **$ 103,396** | **$1,333,764** | |
| **F. Recovery Credits** | | | |
| 1. Materials Recovered | | | |
| 2. Energy Recovered | | | |
| 3. Other | | | |
| 4. Recovery Credits Subtotal | $0 | $0 | |
| **G. Total Annualized Cost Summary** | | | |
| 1. Direct Annual Costs Subtotal | $ 38,098 | $ 88,235 | |
| 2. Indirect Annual Costs Subtotal | $ 103,396 | $1,333,764 | |
| 3. Recovery Credits Subtotal | $ 0 | $ 0 | |
| **4. Total Annualized Cost (TAC)** | **$ 141,494** | **$1,421,999** | |
| **H. Cost Effectiveness** | | | |
| 1. Baseline Emissions Rate (tons/year) | 4.93 | 227.54 | |
| 2. Post –BACT Emissions Rate (tons/year) | 0.10 | 4.55 | |
| 3. Total Pollution Removed (tons/year) | 4.83 | 222.99 | |
| **4. Average Cost Effectiveness of BACT Option ($/ton) (G4 ÷ H3)** | **$ 29,295** | **$ 6,377** | |

## Cost/Economic Analysis for Packed Bed Scrubber

| **A. Direct Capital Cost** | | | |
|---|---|---|---|
| | **Mixers** | **Core Machines** | |
| **Item** | **Cost Estimate** | **Cost Estimate** | **Reference/Source of Cost Estimate** |
| **Purchase Equipment Costs** | | | |
| 1. Equipment Cost Packed Bed Scrubber | N/A | $ 261,000 | IKI quotation for a packed bed scrubber, July 1, 2005 provided by Wingra Engineering |
| 2. Equipment Costs escalated to 2005 Dollars | N/A | $ 261,000 | |
| 3. Instrumentation | | $ 26,100 | 0.10 x Equipment Cost |
| 4. Sales Tax | | $ 13,050 | 0.05 x Equipment Cost |
| 5. Freight | | $ 13,050 | 0.05 x Equipment Cost |
| 6. Other | | | |
| 7. Purchased Equipment Subtotal | **N/A** | **$ 313,200** | |
| **Direct Installation Costs** | | | |
| 8. Foundations and Supports | | | 0.06 x Purchased Equipment Cost |
| 9. Auxiliaries (duct work, fittings – include only the equipment which would not be necessary if the facility was not controlled | | $0 | |
| 10. Handling and Erection | | | 0.40 x Purchased Equipment Cost |
| 11. Piping | | | 0.05 x Purchased Equipment Cost |
| 12. Insulation and Painting | | | 0.04 x Purchased Equipment Cost |
| 13. Electrical | | | 0.01 x Purchased Equipment Cost |
| 14. Site Preparation | | $0 | |
| 15. Other | | $0 | |
| **16. Direct Installation Costs Subtotal** | | **$ 175,392** | 0.56 x Purchased Equipment Cost |
| **17. Direct Capital Cost Subtotal** | **N/A** | **$ 488,592** | |
| **B. Indirect Installation Costs** | | | |
| 1. Engineering and Supervision | | | 0.10 x Purchased Equipment Cost |
| 2. Lost Production (for retrofit situation only) | | | |
| 3. Construction and Field Expenses | | | 0.10 x Purchased Equipment Cost |
| 4. Contractor Fees | | | 0.10 x Purchased Equipment Cost |
| 5. Start-up and Performance Tests | | | 0.02 x Purchased Equipment Cost |
| 6. Over-all Contingencies | | | 0.03 x Purchased Equipment Cost |
| 7. Working Capital (if applicable) | | | n/a |
| 8. Other | | | |
| **9. Indirect Installation Costs Subtotal** | **N/A** | **$ 109,620** | 0.35 x Purchased Equipment Cost |
| **C. Capital Cost Summary** | | | |
| **1. Total Capital Investment Subtotal** | **N/A** | **$ 598,212** | |

| | | | |
|---|---|---|---|
| **D. Direct Annual Cost** | | | |
| 1. Operating Labor<br>Operators (@ $20.00 per hour per person)<br>Supervisor (15% operating labor) | | <br>$ 10,950<br>$ 1,643 | |
| 2. Maintenance Labor and Materials<br>Labor (@ $20.00 per hour per person)<br>Material (100% of labor) | | <br>$ 10,950<br>$ 10,950 | |
| 3. Utilities<br>(Electricity for fan @ 0.062 /kwh)<br>(Electricity for pumps @ 0.062 / kwh) | | <br>$ 9,433<br>$ 2,892 | |
| 4. Waste Treatment and Disposal | | | |
| 5. Replacement of Parts<br>(Acid Cost @ $1.30 / gallon) | | <br>$ 10,819 | |
| 6. Other | | | |
| **7. Direct Annual Cost Subtotal** | **N/A** | **$ 57,637** | |
| **E. Indirect Annual Costs** | | | |
| 1. Overhead | | $ 34,582 | |
| 2. Property Taxes, Insurance, and Administrative Charges | | $ 23,928 | 4% of Total Capital Investment |
| 3. Other | | | |
| 4. Capital Recovery<br>a. Interest Rate<br>b. Economic Lifetime | | <br>8%<br>10 years | |
| 5. CAPITAL RECOVERY COST | | $ 89,134 | |
| **6. Indirect Annual Cost Subtotal** | **N/A** | **$ 147,644** | |
| **F. Recovery Credits** | | | |
| 1. Materials Recovered | | | |
| 2. Energy Recovered | | | |
| 3. Other | | | |
| 4. Recovery Credits Subtotal | $0 | $0 | |
| **G. Total Annualized Cost Summary** | | | |
| 1. Direct Annual Costs Subtotal | | $ 57,637 | |
| 2. Indirect Annual Costs Subtotal | | $ 147,644 | |
| 3. Recovery Credits Subtotal | | $ 0 | |
| **4. Total Annualized Cost (TAC)** | **N/A** | **$ 205,281** | |
| **H. Cost Effectiveness** | | | |
| 1. Baseline Emissions Rate (tons/year) | 4.93 | 227.54 | |
| 2. Post –BACT Emissions Rate (tons/year) | 4.93 | 34.13 | |
| 3. Total Pollution Removed (tons/year) | 0.0 | 193.41 | |
| **4. Average Cost Effectiveness of BACT Option ($/ton) (G4 ÷ H3)** | **N/A** | **$ 1,061** | |

The economic, environmental, and energy impacts of the feasible control options were determined for the core mixing and core machine operations. Order of magnitude cost estimates for each of the control options were generated using the USEPA publication, *OAQPS Cost Control Manual*, vendor quotations, and associated trade journals. The equipment cost for the scrubber was based on a vendor quotation. The purchase cost for the RTO is based on the OAQPS manual. The equipment cost for a carbon adsorption system with on-site regeneration was based on a vendor quotation. Installation and operation costs were based on OAQPS manual.

The following table summarizes the economic, environmental, and energy impacts of the three feasible control options for the core mixing operations. Each of these operations assumes the use of the low emission core resin and DMIPA catalyst.

**Economic, Environmental and Energy Impacts for Core Mixing Operations VOC Control Alternatives**

| Control Option | VOC Emissions After Control (tons/yr) | Emissions Reduction (tons/yr) | Overall Control Efficiency (%) | Economic Impacts | | | Collateral Environmental Impacts | Energy Impacts |
|---|---|---|---|---|---|---|---|---|
| | | | | Total Annualized Cost ($/yr) | Average Cost Effectiveness ($/ton) | Incremental Cost Effectiveness ($/ton) | | |
| RTO | 0.10 | 4.83 | 98 | $617,541 | $127,855 | N/A | Catalyst is destroyed instead of recovered | 46 MMcf natural gas usage 480 mw-hr |
| Carbon Adsorption | 0.10 | 4.83 | 98 | $141,494 | $29,295 | N/A | Catalyst/resin mixture must be disposed of as hazardous waste | 0.1 MMcf natural gas usage 6.2 mw-hr |
| No Control | 4.93 | 0.0 | 0.0 | $0 | $0 | $0 | None | None |

The average cost effectiveness of the carbon adsorption option is $29,295 per ton of VOC removed and the RTO control option is $127,855 per ton of VOC. Either of these estimates is considered economically infeasible. The high costs are due to the high flow rate required to capture the dust generated by the core mixing operations and the low level of VOC emissions.

The following table summarizes the economic, environmental, and energy impacts of the three add-on control options for the core machine operations. Each of these operations assumes the use of the low emission core resin and DMIPA catalyst.

**Economic, Environmental and Energy Impacts for Core Machine VOC Control Alternatives**

| Control Option | VOC Emissions After Control (tons/yr) | Emissions Reduction (tons/yr) | Overall Control Efficiency (%) | Economic Impacts | | | Collateral Environmental Impacts | Energy Impacts |
|---|---|---|---|---|---|---|---|---|
| | | | | Total Annualized Cost ($/yr) | Average Cost Effectiveness ($/ton) | Incremental Cost Effectiveness ($/ton)* | | |
| RTO | 4.55 | 222.99 | 98 | $1,207,872 | $5,417 | $33,895 | Catalyst is destroyed instead of recycled GHG = 6,918 tpy NOx = 7.1 tpy | 102 MMcf natural gas usage 1,234 mw-hr |
| Carbon Adsorption | 4.55 | 222.99 | 98 | $1,421,999 | $6,377 | $41,134 | Catalyst/resin mixture must be disposed of as hazardous waste GHG = 306 tpy NOx = 0.2 tpy | 3.0 MMcf natural gas usage 172 mw-hr |

| Economic, Environmental and Energy Impacts for Core Machine VOC Control Alternatives (continued) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Control Option | VOC Emissions After Control (tons/yr) | Emissions Reduction (tons/yr) | Overall Control Efficiency (%) | Economic Impacts | | | Collateral Environmental Impacts | Energy Impacts |
| | | | | Total Annualized Cost ($/yr) | Average Cost Effectiveness ($/ton) | Incremental Cost Effectiveness ($/ton)* | | |
| Packed Bed Scrubber | 34.13 | 193.41 | 85 | $205,281 | $1,061 | N/A | Catalyst in spent scrubber solution must be periodically recycled GHG = 140 tpy | 209 mw-hr |

* Compared to the use of a packed bed scrubber
GHG = Green House Gases from electrical and natural gas usage.

The average cost effectiveness for the packed bed scrubber system is $1,061 per ton of VOC removed. This estimate is considered economically feasible, so this option is an economically feasible control alternative. It will also have the environmental benefit of allowing the catalyst to be recycled. It will require 209 mw-hrs of electricity to operate.

The average cost effectiveness for the RTO is $5,417 per ton of VOC removed. The only advantage of using an RTO versus the packed bed scrubber is that the RTO will control 98% of all VOC emissions including those generated by both the catalyst and resin. The incremental cost to change from the scrubber to the RTO in order to control the resin VOC is estimated to be $33,895 per ton of VOC removed. While the $ per ton of VOC removed cost effectiveness for the RTO is within a range that could be considered economically feasible when considered alone, the incremental costs associated with this control option make this option economically infeasible.

The average cost effectiveness for the carbon adsorption system is $6,377 per ton of VOC removed. Similar to the RTO system, an advantage of using a carbon adsorption system versus the packed bed scrubber is that the carbon system may control 98% of all VOC emissions including those generated by both the catalyst and resin. The scrubber will control 98% of the DMIPA catalyst emissions, but not the resin VOC. However, the incremental cost to change from the scrubber to the carbon system in order to control the resin VOC is estimated to be $41,134 per ton of VOC removed. While the $ per ton of VOC removed cost effectiveness for the carbon adsorption system is within a range that could be considered economically feasible when considered alone, the incremental costs associated with this control option make this option economically infeasible.

The source also provided results of four OCMA tests from Ashland Chemical, the resin supplier for ThyssenKrupp Waupaca, Inc. Plant 5 to demonstrate that they are using a low VOC content resin in the core making operation. The OCMA test method has become a standard procedure for comparing VOC evaporative losses from core making resins. The current Plant 5 resin is referred to in the results as ISCURE FOCUS WTC. This has the lowest VOC emissions compared to the other three resins evaluated by Ashland. The 4-hour losses conservatively represent the time period in which the cores are mixed and processed by the core machines. The 4-hour losses for the WTC resin are 0.013 lbs/lbs resin. This is comparable to the low-VOC resin losses approved as BACT for the last core machine project at this source.

**Step 5 – Selecting BACT**

IDEM, OAQ has determined that the BACT for the three (3) core machines is the use of a packed bed scrubber system with a minimum DMIPA (a VOC) overall control efficiency of 98% to control DMIPA (a VOC) emissions from the core machines and no add on controls for the three (3) core mixers. In addition, the source shall comply with the following emission limitations:

(a) The non-DMIPA volatile organic compound (VOC) emissions from the three (3) phenolic-urethane core machines, identified as P47, shall not exceed 0.01 pound per pound of binder used.

(b) The non-DMIPA volatile organic compound (VOC) emissions from the three (3) mixers, identified as P47, shall not exceed 0.002 pound per pound of binder used.

(c) The amount of binder used in all three (3) mixers, identified as P47, combined shall not exceed 5,910,000 pounds per 12 consecutive month period, with compliance determined at the end of each month.

(d) The amount of cores produced by all three (3) core machines, identified as P47, combined shall not exceed 197,000 tons per 12 consecutive month period, with compliance determined at the end of each month.

(e) The total DMIPA (a VOC) emissions from the mixers and core machines identified as P47 shall not exceed 0.04 pound per ton of cores.

(f) The scrubber controlling the DMIPA emissions from the core machines identified as P47 shall have a 100% capture of the DMIPA emissions, using a permanent total enclosure that complies with the requirements of 40 CFR Part 51, Appendix M, Method 24. The scrubber shall achieve at least 98% overall control efficiency of the DMIPA.

(g) The Permittee shall use only low VOC content resins in the core making process.

Selection of the packed bed scrubber control system is consistent with the core making control requirements under the recently promulgated NESHAP, 40 CFR 63, Subpart EEEEE for iron and steel foundries. Also, the use of a packed bed scrubber is consistent with what has been determined to be BACT for other core making operations in the foundry industry.

# Appendix A: Emission Calculations

**Company Name:** ThyssenKrupp Waupaca, Inc. Plant 5
**Plant Location:** 9856 State Highway 66, Tell City, IN 47586
**Source Modification No.:** 123-21238
**Plt. ID #:** 123-00019
**Reviewer:** Trish Earls

**Uncontrolled Potential Emissions (tons/year)**

| Emissions Generating Activity | | | | |
|---|---|---|---|---|
| Pollutant | Core Machines | Core Sand Handling | Natural Gas Combustion | **TOTAL** |
| | | | | |
| PM | 0.00 | 709.56 | 0.10 | 709.66 |
| PM10 | 0.00 | 106.43 | 0.41 | 106.84 |
| SO2 | 0.00 | 0.00 | 0.03 | 0.03 |
| NOx | 0.00 | 0.00 | 5.34 | 5.34 |
| VOC | 465.16 | 0.00 | 0.29 | 465.45 |
| CO | 0.00 | 0.00 | 4.49 | 4.49 |
| total HAPs | 0.00 | 0.00 | 0.10 | 0.10 |
| worst case single HAP | 0.00 | 0.00 | (Hexane) 0.096 | (Hexane) 0.096 |
| | | | | |
| Total emissions based on rated capacity at 8,760 hours/year. | | | | |

**Controlled Potential Emissions (tons/year)**

| Emissions Generating Activity | | | | |
|---|---|---|---|---|
| Pollutant | Core Machines | Core Sand Handling | Natural Gas Combustion | **TOTAL** |
| | | | | |
| PM | 0.00 | 2.63 | 0.10 | 2.73 |
| PM10 | 0.00 | 0.39 | 0.41 | 0.80 |
| SO2 | 0.00 | 0.00 | 0.03 | 0.03 |
| NOx | 0.00 | 0.00 | 5.34 | 5.34 |
| VOC | 39.40 | 0.00 | 0.29 | 39.69 |
| CO | 0.00 | 0.00 | 4.49 | 4.49 |
| total HAPs | 0.00 | 0.00 | 0.10 | 0.10 |
| worst case single HAP | 0.00 | 0.00 | (Hexane) 0.096 | (Hexane) 0.096 |
| | | | | |
| Total emissions based on rated capacity at 8,760 hours/year, after control. | | | | |

**Appendix A: Emission Calculations**

**Company Name: ThyssenKrupp Waupaca, Inc. Plant 5**
**Plant Location: 9856 State Highway 66, Tell City, IN 47586**
**County: Perry**
**Permit Reviewer: Trish Earls**
**Source Modification No.: 123-21238**
**Plt. ID #: 123-00019**

**Core Making Process**

| Machine | Date of Construction | Capacity (tons cores/hr) | Maximum Resin Content (%) | VOC Emission Factor from Resin Evaporation (lb/ton cores) | Max. Catalyst Usage (lb/ton cores) | Potential VOC Emissions from resin evap (tons/yr) | Potential VOC Emissions from Catalyst Usage (tons/yr) | Total Potential VOC Emissions (tons/yr) |
|---|---|---|---|---|---|---|---|---|
| Phenolic Urethane Core Machines | 2005 | 45 | 1.5% | 0.36 | 2 | 70.96 | 394.20 | 465.16 |
| | | | | | | | | |
| **Total** | | | | | | **70.96** | **394.20** | **465.16** |

Note: The VOC emission factor from resin evaporation is based on resin VOC loss measurements conducted March 12, 2001 by Ashland Chemical on low-VOC resins 319W/619W.
The only HAPs present in the resin used are MDI and phenol. Neither of these HAPs are emitted from the core machines based on reduction factors obtained from the American Foundrymen's Society Publication entitled "Form R Reporting of Binder Chemicals used in Foundries".
The catalyst is 100% DMIPA by weight which is not a HAP.

**Limits Necessary to render 326 IAC 2-2 (PSD) not applicable:**

| Core Machines | VOC limit (tons/yr) | VOC EF for resin evaporation (lb/ton cores) | VOC EF for resin evaporation (lb VOC/lb resin) | Catalyst EF (lb VOC/ton cores) | core production (tons cores/yr) | Catalyst usage limit (lbs/yr) | resin usage limit (lbs/yr) |
|---|---|---|---|---|---|---|---|
| Phenolic Urethane Core Machines | 39.4 | 0.36 | 0.012 | 2 | 197,000 | 394,000 | 5,910,000 |
| | | | | | | | |
| **Total** | | | | | **197,000** | **394,000** | **5,910,000** |

| Core Machines | DMIPA Control Efficiency | Catalyst Controlled/Limited VOC Emissions (tons/yr) | Resin Controlled/Limited VOC Emissions (tons/yr) | Total Controlled/Limited VOC Emissions (tons/yr) |
|---|---|---|---|---|
| | | | | |
| Phenolic Urethane Core Machines | 98.00% | 3.94 | 35.46 | 39.40 |
| **TOTAL** | | **3.94** | **35.46** | **39.40** |

**Appendix A: Grey Iron Foundry Operations**

**Company Name:** ThyssenKrupp Waupaca, Inc. Plant 5
**Plant Location:** 9856 State Highway 66, Tell City, IN 47586
**Source Modification No.:** 123-21238
**Plt. ID #:** 123-00019
**Reviewer:** Trish Earls

SCC# 3-04-003-50
Core Sand Handling

| TYPE OF MATERIAL | Maximum Throughput LBS/HR | Maximum Throughput TON/HR |
|---|---|---|
| Sand | 90000 | 45 |

Control Device: Baghouse C16
Control Efficiency: 99.63%

| | PM lbs/ton sand handled | PM10 lbs/ton sand handled | SOx lbs/ton sand handled | NOx lbs/ton sand handled | VOC lbs/ton sand handled | CO lbs/ton sand handled | Lead lbs/ton sand handled |
|---|---|---|---|---|---|---|---|
| | 3.6 | 0.54 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Potential Uncontrolled Emissions lbs/hr | 162.00 | 24.30 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Potential Uncontrolled Emissions tons/year** | **709.56** | **106.43** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |
| Potential Controlled Emissions lbs/hr | 0.60 | 0.09 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Potential Controlled Emissions tons/year** | **2.63** | **0.39** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

Note: Emission factors from USEPA's Factor Information Retrieval (FIRE) Data System, version 6.24.

**Appendix A: Emissions Calculations**
**Natural Gas Combustion Only**
**MM BTU/HR <100**
**Small Industrial Boiler**

**Company Name:** ThyssenKrupp Waupaca, Inc. Plant 5
**Plant Location:** 9856 State Highway 66, Tell City, IN 47586
**Source Modification No.:** 123-21238
**Plt. ID #:** 123-00019
**Reviewer:** Trish Earls

| Heat Input Capacity MMBtu/hr | Potential Throughput MMCF/yr |
|---|---|
| 12.2 | 106.9 |

| | Pollutant | | | | | |
|---|---|---|---|---|---|---|
| | PM* | PM10* | SO2 | NOx | VOC | CO |
| Emission Factor in lb/MMCF | 1.9 | 7.6 | 0.6 | 100.0<br>**see below | 5.5 | 84.0 |
| Potential Emission in tons/yr | 0.10 | 0.41 | 0.03 | 5.34 | 0.29 | 4.49 |

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

**Methodology**

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas

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
See next page for HAPs emissions calculations.

**Appendix A: Emissions Calculations**
**Natural Gas Combustion Only**
**MM BTU/HR <100**
**Small Industrial Boiler**
**HAPs Emissions**

**Company Name:** ThyssenKrupp Waupaca, Inc. Plant 5
**Plant Location:** 9856 State Highway 66, Tell City, IN 47586
**Source Modification No.:** 123-21238
**Plt. ID #:** 123-00019
**Reviewer:** Trish Earls

| | HAPs - Organics | | | | |
|---|---|---|---|---|---|
| | Benzene | Dichlorobenzene | Formaldehyde | Hexane | Toluene |
| Emission Factor in lb/MMcf | 2.1E-03 | 1.2E-03 | 7.5E-02 | 1.8E+00 | 3.4E-03 |
| Potential Emission in tons/yr | 1.122E-04 | 6.412E-05 | 4.008E-03 | 9.618E-02 | 1.817E-04 |

| | HAPs - Metals | | | | |
|---|---|---|---|---|---|
| | Lead | Cadmium | Chromium | Manganese | Nickel |
| Emission Factor in lb/MMcf | 5.0E-04 | 1.1E-03 | 1.4E-03 | 3.8E-04 | 2.1E-03 |
| Potential Emission in tons/yr | 2.672E-05 | 5.878E-05 | 7.481E-05 | 2.031E-05 | 1.122E-04 |

Methodology is the same as 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.