



Mitchell E. Daniels, Jr.  
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: September 2, 2005  
RE: Casting Service / 091-21258-00018  
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



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## PART 70 SIGNIFICANT SOURCE MODIFICATION OFFICE OF AIR QUALITY

**Casting Service  
300 Philadelphia Street  
LaPorte, Indiana 46350**

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

This approval 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.

Source Modification No.: 091-21258-00018	
Issued by: Original signed by Paul Dubenetzky, Branch Chief Office of Air Quality	Issuance Date: September 2, 2005

## TABLE OF CONTENTS

<b>A</b>	<b>SOURCE SUMMARY .....</b>	<b>4</b>
A.1	General Information [326 IAC 2-7-4(c)][326 IAC 2-7-5(15)][326 IAC 2-7-1(22)]	
A.2	Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]	
A.3	Part 70 Permit Applicability [326 IAC 2-7-2]	
<b>B</b>	<b>GENERAL CONSTRUCTION CONDITIONS.....</b>	<b>5</b>
B.1	Definitions [326 IAC 2-7-1]	
B.2	Effective Date of the Permit [IC13-15-5-3]	
B.3	Revocation of Permits [326 IAC 2-1.1-9(5)][326 IAC 2-7-10.5(i)]	
B.4	Significant Source Modification [326 IAC 2-7-10.5(h)]	
<b>C</b>	<b>GENERAL OPERATION CONDITIONS.....</b>	<b>6</b>
C.1	Certification [326 IAC 2-7-4(f)] [326 IAC 2-7-6(1)] [326 IAC 2-7-5(3)(C)]	
C.2	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]	
C.3	Permit Amendment or Modification [326 IAC 2-7-11][326 IAC 2-7-12]	
C.4	Opacity [326 IAC 5-1]	
C.5	Fugitive Dust Emissions [326 IAC 6-4]	
C.6	Operation of Equipment [326 IAC 2-7-6(6)]	
	<b>Compliance Requirements [326 IAC 2-1.1-11]</b>	
C.7	Compliance Requirements [326 IAC 2-1.1-11]	
	<b>Compliance Monitoring Requirements [326 IAC 2-7-5(1)] [326 IAC 2-7-6(1)]</b>	
C.8	Compliance Monitoring [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]	
C.9	Monitoring Methods [326 IAC 3][40 CFR 60][40 CFR 63]	
C.10	Pressure Gauge and Other Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-7-5(3)][326 IAC 2-7-6(1)]	
	<b>Corrective Actions and Response Steps [326 IAC 2-7-5] [326 IAC 2-7-6]</b>	
C.11	Compliance Response Plan - Preparation, Implementation, Records, and Reports [326 IAC 2-7-5] [326 IAC 2-7-6]	
C.12	Emergency Provisions [326 IAC 2-7-16]	
C.13	Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5] [326 IAC 2-7-6]	
	<b>Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]</b>	
C.14	General Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-6]	
C.15	General Reporting Requirements [326 IAC 2-7-5(3)(C)] [326 IAC 2-1.1-11]	
<b>D.1</b>	<b>FACILITY OPERATION CONDITIONS - Sand Handling.....</b>	<b>13</b>
	<b>Emission Limitations and Standards [326 IAC 2-7-5(1)]</b>	
D.1.1	PSD Minor Limits [326 IAC 2-2]	
D.1.2	Particulate [326 IAC 6-3-2]	
D.1.3	Burning Regulations – Incinerators [326 IAC 4-2]	
D.1.4	Preventive Maintenance Plan [326 IAC 2-7-5(13)]	
	<b>Compliance Determination Requirements</b>	
D.1.5	Particulate Control	

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

- D.1.6 Visible Emissions Notations
- D.1.7 Parametric Monitoring
- D.1.8 Dust Collector Inspections
- D.1.9 Broken or Failed Bag Detection

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

- D.1.10 Record Keeping Requirements
- D.1.11 Reporting Requirements

<b>Certification</b> .....	<b>18</b>
<b>Emergency Occurrence Report</b> .....	<b>19</b>
<b>Quarterly Reports</b> .....	<b>21-22</b>
<b>Affidavit</b> .....	<b>23</b>

## SECTION A SOURCE SUMMARY

This approval is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the emission units contained in conditions A.1 through A.2 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 approval 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)] [326 IAC 2-7-1(22)]

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

Responsible Official:	President
Source Address:	300 Philadelphia Street, LaPorte, Indiana 46350
Mailing Address:	300 Philadelphia Street, LaPorte, Indiana 46350
General Source Phone Number:	(219) 362-1000
SIC Code:	3321
County Location:	LaPorte
Source Location Status:	Nonattainment for 8-hour ozone standard Attainment for all other criteria pollutants
Source Status:	Part 70 Permit Program Major Source, under PSD and Emission Offset Rules; Major Source, Section 112 of the Clean Air Act 1 of 28 Source Categories

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

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This stationary source is approved to construct and operate the following emission units and pollution control devices:

- (a) one (1) thermal sand reclamation system including a natural gas-fired calcining unit, with a maximum heat input capacity of 6.4 million British thermal units (MMBtu) per hour, referred to as process P11, constructed in 2005, with a maximum capacity of 3.125 tons of sand per hour, with emissions controlled by the thermal dust collector, referred to as C05, and exhausting to stack S05;
- (b) one (1) pneumatic sand transport system for the mold making operations, constructed in 2005, with a maximum capacity of 68.8 tons of sand per hour, with emissions uncontrolled and exhausting into the building;
- (c) core making operations, referred to as process P17, constructed prior to 1972 and modified in 1985 and in 2005 with the addition of a High Bay Core Mixer, using phenolic no-bake, furan no-bake, and SO<sub>2</sub> binder systems with a maximum capacity of 68.8 tons of sand per hour, with SO<sub>2</sub> emissions controlled by a packed tower scrubber, referred to as C10, which exhausts to stack S10, and with particulate emissions controlled by the core room dust collector, referred to as C08, exhausting to stack S08.

### A.3 Part 70 Permit Applicability [326 IAC 2-7-2]

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

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

## SECTION B

## GENERAL CONSTRUCTION CONDITIONS

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

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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 Effective Date of the Permit [IC13-15-5-3]

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

### B.3 Revocation of Permits [326 IAC 2-1.1-9(5)][326 IAC 2-7-10.5(i)]

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Pursuant to 326 IAC 2-1.1-9(5)(Revocation of Permits), 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.

### B.4 Significant Source Modification [326 IAC 2-7-10.5(h)]

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This document shall also become the approval to operate pursuant to 326 IAC 2-7-10.5(h) when, prior to start of operation, the following requirements are met:

- (a) The attached affidavit of construction shall be submitted to the Office of Air Quality (OAQ), Permit Administration & Development Section, verifying that the emission units were constructed as proposed in the application. The emissions units covered in the Significant Source Modification approval may begin operating on the date the affidavit of construction is postmarked or hand delivered to IDEM if constructed as proposed.
- (b) If actual construction of the emissions units differs from the construction proposed in the application, the source may not begin operation until the source modification has been revised pursuant to 326 IAC 2-7-11 or 326 IAC 2-7-12 and an Operation Permit Validation Letter is issued.
- (c) If construction is completed in phases; i.e., the entire construction is not done continuously, a separate affidavit must be submitted for each phase of construction. Any permit conditions associated with operation start up dates such as stack testing for New Source Performance Standards (NSPS) shall be applicable to each individual phase.
- (d) The Permittee shall receive an Operation Permit Validation Letter from the Chief of the Permit Administration & Development Section and attach it to this document.
- (e) In the event that the Part 70 application is being processed at the same time as this application, the following additional procedures shall be followed for obtaining the right to operate:
  - (1) If the Part 70 draft permit has not gone on public notice, then the change/addition covered by the Significant Source Modification will be included in the Part 70 draft.
  - (2) If the Part 70 permit has gone through final EPA proposal and would be issued ahead of the Significant Source Modification, the Significant Source Modification will go through a concurrent 45 day EPA review. Then the Significant Source Modification will be incorporated into the final Part 70 permit at the time of issuance.
  - (3) If the Part 70 permit has gone through public notice, but has not gone through final EPA review and would be issued after the Significant Source Modification is issued, then the Modification would be added to the proposed Part 70 permit, and the Title V permit will issued after EPA review.

**SECTION C GENERAL OPERATION CONDITIONS**

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

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- (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).

**C.2 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]**

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- (a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) when operation begins, 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

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) 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 does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).
- (d) To the extent the Permittee is required by 40 CFR Part 60/63 to have an Operation Maintenance, and Monitoring (OMM) Plan for a unit, such Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

**C.3 Permit Amendment or Modification [326 IAC 2-7-11] [326 IAC 2-7-12]**

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(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

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.

**C.4 Opacity [326 IAC 5-1]**

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

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

**C.6 Operation of Equipment [326 IAC 2-7-6(6)]**

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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.

**Compliance Requirements [326 IAC 2-1.1-11]**

**C.7 Compliance Requirements [326 IAC 2-1.1-11]**

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

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Unless otherwise specified in this permit, all monitoring and record keeping requirements not already legally required shall be implemented when operation begins. If required by Section D, the Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment.

#### **C.9 Monitoring Methods [326 IAC 3] [40 CFR 60] [40 CFR 63]**

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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.10 Pressure Gauge and Other Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]**

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- (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 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 ( $\pm 2\%$ ) 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 ( $\pm 2\%$ ) of full scale reading.
- (c) The Permittee may request the IDEM, OAQ approve the use of a pressure gauge or other instrument that does not meet the above specifications provided the Permittee can demonstrate an alternative pressure gauge or other instrument specification will adequately ensure compliance with permit conditions requiring the measurement of pressure drop or other parameters.

### **Corrective Actions and Response Steps [326 IAC 2-7-5] [326 IAC 2-7-6]**

#### **C.11 Compliance Response Plan - Preparation, Implementation, Records, and Reports [326 IAC 2-7-5] [326 IAC 2-7-6]**

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- (a) The Permittee is required to prepare a Compliance Response Plan (CRP) for each compliance monitoring condition of this permit. A CRP shall be submitted to IDEM, OAQ 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 and the Permittee documents such response in accordance with subsection (e) below, the Permittee shall amend its Compliance Response Plan to include such response steps taken.
- (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
  - (2) If none of the reasonable response steps listed in the Compliance Response 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.

**C.12 Emergency Provisions [326 IAC 2-7-16]**

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- (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 Northwest 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

IDEM Northwest Regional Office  
Telephone Number: 1-888-209-8892 or  
Telephone Number: 219-757-0265  
Facsimile Number: 219-757-0267

- (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

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.

**C.13 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.14 General Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-6]**

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

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- (a) The 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

- (b) 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.
- (c) 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).
- (d) 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.

## SECTION D.1

## FACILITY OPERATION CONDITIONS

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

- (a) one (1) thermal sand reclamation system including a natural gas-fired calcining unit, with a maximum heat input capacity of 6.4 million British thermal units (MMBtu) per hour, referred to as process P11, constructed in 2005, with a maximum capacity of 3.125 tons of sand per hour, with emissions controlled by the thermal dust collector, referred to as C05, and exhausting to stack S05;
- (b) one (1) pneumatic sand transport system for the mold making operations, constructed in 2005, with a maximum capacity of 68.8 tons of sand per hour, with emissions uncontrolled and exhausting into the building;
- (c) core making operations, referred to as process P17, constructed prior to 1972 and modified in 1985 and in 2005 with the addition of a High Bay Core Mixer, using phenolic no-bake, furan no-bake, and SO<sub>2</sub> binder systems with a maximum capacity of 68.8 tons of sand per hour, with SO<sub>2</sub> emissions controlled by a packed tower scrubber, referred to as C10, which exhausts to stack S10, and with particulate emissions controlled by the core room dust collector, referred to as C08, exhausting to stack S08.

(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 PSD Minor Limits [326 IAC 2-2]

The following limitations will limit emissions of PM and PM10 from this modification to less than the PSD significant levels of 25 and 15 tons per year, respectively, so that this is not a major modification under 326 IAC 2-2 (PSD):

- (a) Total PM emissions from dust collector C08 controlling the core making operations shall not exceed 0.16 pound per ton of sand throughput;
- (b) Total PM10 emissions from dust collector C08 controlling the core making operations shall not exceed 0.024 pound per ton of sand throughput.
- (c) The throughput of sand to the core making operations, P17, shall not exceed 70,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (d) The total throughput of sand to the thermal sand reclamation system, P11, shall not exceed 27,375 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (e) Total PM emissions from dust collector C05 controlling the thermal sand reclamation system shall not exceed 0.206 pound per ton of sand throughput;
- (f) Total PM10 emissions from dust collector C05 controlling the thermal sand reclamation system shall not exceed 0.03 pound per ton of sand throughput.

D.1.2 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 facilities listed in the table below shall be as follows:

Facility	Control Device	Process Weight Rate (tons/hr)	Emission Limit (lbs PM/hr)
Thermal sand reclamation system P11	Dust collector C05	3.125	8.8
Core Sand Handling	Core room dust collector C08	68.8	47.6

The pounds per hour limitations were calculated with the following equations:

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

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

or

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

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

D.1.3 Burning Regulations – Incinerators [326 IAC 4-2]

That pursuant to 326 IAC 4-2-2 (Incinerators) the calcining unit, which is part of the thermal sand reclamation system, shall:

- (a) Consist of primary and secondary chambers or the equivalent.
- (b) Be equipped with a primary burner unless burning wood products.
- (c) Comply with 326 IAC 5-1 (Opacity Limitations) and 326 IAC 2 (Permit Review Rules).
- (d) Be maintained properly as specified by the manufacturer and approved by IDEM.
- (e) Be operated according to the manufacturer's recommendation and only burn waste approved by the IDEM.
- (f) Comply with other state and/or local rules or ordinances regarding installation and operation of incinerators.
- (g) Be operated so that emissions of hazardous material including, but not limited to, viable pathogenic bacteria, dangerous chemical or gases, or noxious odors are prevented.
- (h) Not create a nuisance or a fire hazard.
- (i) Not emit particulate matter (PM) in excess of 0.3 pound per 1000 pounds of dry exhaust gas corrected to 50% excess air.

The operation of this calcining unit shall be terminated immediately upon noncompliance with any of the above mentioned requirements.

**D.1.4 Preventive Maintenance Plan [326 IAC 2-7-5(13)]**

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

**Compliance Determination Requirements**

**D.1.5 Particulate Control**

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In order to comply with conditions D.1.1 and D.1.2:

- (a) dust collector C05 for particulate control shall be in operation and control emissions from the thermal sand reclamation system at all times that the thermal sand reclamation system is in operation;
- (b) dust collector C08 for particulate control shall be in operation and control emissions from the core sand handling at all times that the core sand handling is in operation.

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

**D.1.6 Visible Emissions Notations**

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- (a) Visible emission notations of each of the dust collectors C05 and C08 stack exhausts 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 these units 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.1.7 Parametric Monitoring**

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The Permittee shall record the total static pressure drop across each of the dust collectors C05 and C08 used in conjunction with the thermal sand reclamation system and core sand handling at least once per shift when their associated facilities are in operation when venting to the atmosphere. When for any one reading, the pressure drop across dust collector C05 is outside the normal range of 2.0 and 6.0 inches of water or a range established during the latest stack test, or the pressure drop across dust collector C08 is outside the normal range of 4.0 and 9.0 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 ranges 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.1.8 Dust Collector Inspections

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An inspection shall be performed each calendar quarter of all bags in the dust collectors controlling the thermal sand reclamation system and core sand handling when venting to the atmosphere. A dust collector inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting to the indoors. All defective bags shall be replaced.

#### D.1.9 Broken or Failed Bag Detection

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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 dust collectors, if failure is indicated by a significant drop in the dust collector'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.1.10 Record Keeping Requirements

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- (a) To document compliance with Condition D.1.1(c) and (d), the Permittee shall maintain records of the throughput of sand to each of the core sand handling operations and the thermal sand reclamation system for each month. Records necessary to demonstrate compliance shall be available within 30 days of the end of each compliance period.
- (b) To document compliance with Condition D.1.6, the Permittee shall maintain records of visible emission notations of each of the dust collectors stack exhausts once per shift.
- (c) To document compliance with Condition D.1.7, the Permittee shall maintain records once per shift of the total static pressure drop across each of the dust collectors during normal operation when venting to the atmosphere.

- (d) To document compliance with Condition D.1.8, the Permittee shall maintain records of the results of the inspections required under Condition D.1.8 and the dates the vents are redirected.
- (e) To document compliance with Condition D.1.4, the Permittee shall maintain records of any additional inspections prescribed by the Preventive Maintenance Plan.
- (f) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

#### D.1.11 Reporting Requirements

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A quarterly summary of the information to document compliance with Condition D.1.1(c) and (d) 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 SOURCE MODIFICATION CERTIFICATION

Source Name: Casting Service  
Source Address: 300 Philadelphia Street, LaPorte, Indiana 46350  
Mailing Address: 300 Philadelphia Street, LaPorte, Indiana 46350  
Source Modification No.: 091-21258-00018

**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  
Phone: 317-233-5674  
Fax: 317-233-5967**

**PART 70 SOURCE MODIFICATION  
EMERGENCY OCCURRENCE REPORT**

Source Name: Casting Service  
Source Address: 300 Philadelphia Street, LaPorte, Indiana 46350  
Mailing Address: 300 Philadelphia Street, LaPorte, Indiana 46350  
Source Modification No.: 091-21258-00018

**This form consists of 2 pages**

**Page 1 of 2**

- |  |
|--|
| <input type="checkbox"/> This is an emergency as defined in 326 IAC 2-7-1(12) <ul style="list-style-type: none"><li>C 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</li><li>C 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.</li></ul> |
|--|

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

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

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

**Page 2 of 2**

Date/Time Emergency started:
Date/Time Emergency was corrected:
Was the facility being properly operated at the time of the emergency?    Y    N
Type of Pollutants Emitted: TSP, PM-10, SO <sub>2</sub> , VOC, NO <sub>x</sub> , 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 Source Modification Quarterly Report**

Source Name: Casting Service  
Source Address: 300 Philadelphia Street, LaPorte, Indiana 46350  
Mailing Address: 300 Philadelphia Street, LaPorte, Indiana 46350  
Source Modification No.: 091-21258-00018  
Facility: thermal sand reclamation system, P11  
Parameter: PM and PM10 emissions  
Limit: The total throughput of sand to the thermal sand reclamation system, P11, shall not exceed 27,375 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

YEAR:

Month	Column 1	Column 2	Column 1 + Column 2
	Sand Throughput This Month (tons)	Sand Throughput Previous 11 Months (tons)	12 Month Total Sand Throughput (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 Source Modification Quarterly Report**

Source Name: Casting Service  
Source Address: 300 Philadelphia Street, LaPorte, Indiana 46350  
Mailing Address: 300 Philadelphia Street, LaPorte, Indiana 46350  
Source Modification No.: 091-21258-00018  
Facility: core making operations, P17  
Parameter: PM and PM10 emissions  
Limit: The throughput of sand to the core making operations, P17, shall not exceed 70,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

YEAR:

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

Mail to: Permit Administration & Development Section  
Office Of Air Quality  
100 North Senate Avenue  
Indianapolis, Indiana 46204

Casting Service  
300 Philadelphia Street  
LaPorte, Indiana 46350

**Affidavit of Construction**

I, \_\_\_\_\_, being duly sworn upon my oath, depose and say:  
(Name of the Authorized Representative)

1. I live in \_\_\_\_\_ County, Indiana and being of sound mind and over twenty-one (21) years of age, I am competent to give this affidavit.
2. I hold the position of \_\_\_\_\_ for \_\_\_\_\_.  
(Title) (Company Name)
3. By virtue of my position with \_\_\_\_\_, I have personal  
(Company Name)  
knowledge of the representations contained in this affidavit and am authorized to make these representations on behalf of \_\_\_\_\_.  
(Company Name)
4. I hereby certify that Casting Service, 300 Philadelphia Street, LaPorte, Indiana, 46350, has constructed the thermal sand reclamation system and the High Bay Core Mixer in conformity with the requirements and intent of the construction permit application received by the Office of Air Quality on May 31, 2005 and as permitted pursuant to **Source Modification No. 091-21258-00018** issued on \_\_\_\_\_.

Further Affiant said not.  
I affirm under penalties of perjury that the representations contained in this affidavit are true, to the best of my information and belief.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

STATE OF INDIANA)  
)SS

COUNTY OF \_\_\_\_\_ )

Subscribed and sworn to me, a notary public in and for \_\_\_\_\_ County and State of  
Indiana on this \_\_\_\_\_ day of \_\_\_\_\_, 20 \_\_\_\_\_.

My Commission expires:

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Name (typed or printed)

## Indiana Department of Environmental Management Office of Air Quality

### Addendum to the Technical Support Document for a Significant Source Modification to a Part 70 Source

Source Name:	Casting Service
Source Location:	300 Philadelphia Street, LaPorte, Indiana 46350
County:	LaPorte
SIC Code:	3321
Source Modification No.:	091-21258-00018
Permit Reviewer:	Trish Earls/EVP

On July 23, 2005, the Office of Air Quality (OAQ) had a notice published in the LaPorte Herald Argus, LaPorte, Indiana, stating that Casting Service had applied for a Significant Source Modification to replace the existing thermal sand reclamation unit with a new thermal sand reclamation unit, to replace an existing sand core mixer with a new sand core mixer to be identified as High Bay Core Mixer, to add a new sand storage bin for the new mixer, and to install a pneumatic sand transport system for the mold making operations to pneumatically transport mold sand from the mold sand silos directly to the mobile sand mixers. 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 August 4, 2005, Kathryn Basham of August Mack Environmental, Inc. submitted a comment on the proposed permit on behalf of Casting Service. The comment and corresponding response is as follows:

#### **Comment #1**

The TSD for Casting Service, page 5 of 12, still states in (e) & (f) the old PM/PM10 emission factors. Is this a mistake, or is there a reason for not adjusting the numbers in this particular section?

#### **Response #1**

The OAQ prefers that the Technical Support Document (TSD) 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 the 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 limits included on page 5 of the TSD were based on the PM and PM10 emission limits that are included in the draft Title V permit (T091-6141-00018) for Casting Service which is still pending with the OAQ. These limits were originally established pursuant to 326 IAC 2-2 (Prevention of Significant Deterioration(PSD)) as a result of the air dispersion modeling analysis that was conducted in support of the PSD BACT determination included in the Title V permit. Because the new thermal sand reclamation unit, with a maximum sand throughput of 3.125 tons of sand per hour, replaced the existing thermal sand reclamation unit which had a maximum sand throughput of 6 tons per hour, the allowable PM and PM10 emissions in lb/ton of sand were increased accordingly so that based on the lower sand throughput, the resulting PM and PM10 emission limits would be the same as those used in the air dispersion modeling analysis. This change was erroneously not made on page 5 of the TSD. The emission limits included in condition D.1.1 of the Significant Source Modification are correct.

Upon further review IDEM, OAQ has made the following changes to the Significant Source Modification (additions in **bold**, deletions in ~~strikeout~~):

1. The Table of Contents has been revised to correctly reflect the contents of the permit as follows:

### TABLE OF CONTENTS

<b>A</b>	<b>SOURCE SUMMARY .....</b>	<b>4</b>
A.1	General Information [326 IAC 2-7-4(c)][326 IAC 2-7-5(15)][326 IAC 2-7-1(22)]	
A.2	Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]	
A.3	<del>Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)][326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]</del>	
A.43	Part 70 Permit Applicability [326 IAC 2-7-2]	
<b>B</b>	<b>GENERAL CONSTRUCTION CONDITIONS.....</b>	<b>5</b>
B.1	Definitions [326 IAC 2-7-1]	
B.2	Effective Date of the Permit [IC13-15-5-3]	
B.3	Revocation of Permits [326 IAC 2-1.1-9(5)][326 IAC 2-7-10.5(i)]	
B.4	Significant Source Modification [326 IAC 2-7-10.5(h)]	
<b>C</b>	<b>SOURCE GENERAL OPERATION CONDITIONS.....</b>	<b>6</b>
	<b>Emission Limitations and Standards [326 IAC 2-7-5(1)]</b>	
C.1	Certification [326 IAC 2-7-4(f)] [326 IAC 2-7-6(1)] [326 IAC 2-7-5(3)(C)]	
C.2	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]	
C.3	Permit Amendment or Modification [326 IAC 2-7-11][326 IAC 2-7-12]	
C.4	Opacity [326 IAC 5-1]	
C.5	Fugitive Dust Emissions [326 IAC 6-4]	
C.6	Operation of Equipment [326 IAC 2-7-6(6)]	
	<b>Compliance Requirements [326 IAC 2-1.1-11]</b>	
C.7	Compliance Requirements [326 IAC 2-1.1-11]	
	<b>Compliance Monitoring Requirements [326 IAC 2-7-5(1)] [326 IAC 2-7-6(1)]</b>	
C.8	Compliance Monitoring [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]	
C.9	Monitoring Methods [326 IAC 3][40 CFR 60][40 CFR 63]	
C.10	Pressure Gauge and Other Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-7-5(3)][326 IAC 2-7-6(1)]	
	<b>Corrective Actions and Response Steps [326 IAC 2-7-5] [326 IAC 2-7-6]</b>	
C.11	Compliance Response Plan - Preparation, Implementation, Records, and Reports [326 IAC 2-7-5] [326 IAC 2-7-6]	
C.12	Emergency Provisions [326 IAC 2-7-16]	
C.13	Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5] [326 IAC 2-7-6]	
	<b>Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]</b>	
C.14	General Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-6]	
C.15	General Reporting Requirements [326 IAC 2-7-5(3)(C)] [326 IAC 2-1.1-11]	
<b>D.1</b>	<b>FACILITY OPERATION CONDITIONS - Sand Handling .....</b>	<b>13</b>
	<b>Emission Limitations and Standards [326 IAC 2-7-5(1)]</b>	
D.1.1	PSD Minor Limits [326 IAC 2-2]	

- D.1.2 Particulate [326 IAC 6-3-2]
- D.1.3 Burning Regulations – Incinerators [326 IAC 4-2]
- D.1.4 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

**Compliance Determination Requirements**

- D.1.5 Particulate Control

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

- D.1.6 Visible Emissions Notations
- D.1.7 Parametric Monitoring
- D.1.8 Dust Collector Inspections
- D.1.9 Broken or Failed Bag Detection

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

- D.1.10 Record Keeping Requirements
- D.1.11 Reporting Requirements

<b>Certification</b> .....	<b>1718</b>
<b>Emergency Occurrence Report</b> .....	<b>19</b>
<b>Quarterly Reports</b> .....	<del>18-19</del> <b>21-22</b>
<b>Affidavit</b> .....	<b>2023</b>

- 2. The condition numbered as A.4 was incorrectly numbered and has now been re-numbered as condition A.3 as follows:

**A.43 Part 70 Permit Applicability [326 IAC 2-7-2]**

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

- (a) It is a major source, as defined in 326 IAC 2-7-1(22);
  - (b) It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).
- 3. An Emergency Occurrence Report Form, which is referenced in condition C.12(b)(5), has been added to the source modification as shown on the following pages:

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE BRANCH  
100 North Senate Avenue  
Indianapolis, Indiana 46204  
Phone: 317-233-5674  
Fax: 317-233-5967**

**PART 70 SOURCE MODIFICATION  
EMERGENCY OCCURRENCE REPORT**

Source Name: Casting Service  
Source Address: 300 Philadelphia Street, LaPorte, Indiana 46350  
Mailing Address: 300 Philadelphia Street, LaPorte, Indiana 46350  
Source Modification No.: 091-21258-00018

**This form consists of 2 pages**

**Page 1 of 2**

- |  |
|--|
| <input type="checkbox"/> This is an emergency as defined in 326 IAC 2-7-1(12) <ul style="list-style-type: none"><li>C 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</li><li>C 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.</li></ul> |
|--|

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

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

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

**Page 2 of 2**

Date/Time Emergency started:
Date/Time Emergency was corrected:
Was the facility being properly operated at the time of the emergency?    Y    N
Type of Pollutants Emitted: TSP, PM-10, SO <sub>2</sub> , VOC, NO <sub>x</sub> , 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**

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

**Source Background and Description**

<b>Source Name:</b>	<b>Casting Service</b>
<b>Source Location:</b>	<b>300 Philadelphia Street, LaPorte, Indiana 46350</b>
<b>County:</b>	<b>LaPorte</b>
<b>SIC Code:</b>	<b>3321</b>
<b>Operation Permit No.:</b>	<b>T091-6141-00018</b>
<b>Operation Permit Issuance Date:</b>	<b>Pending</b>
<b>Source Modification No.:</b>	<b>091-21258-00018</b>
<b>Permit Reviewer:</b>	<b>Trish Earls/EVP</b>

The Office of Air Quality (OAQ) has reviewed a modification application from Casting Service relating to the operation of a gray and ductile iron foundry.

**History**

On May 31, 2005, Casting Service submitted an application to the OAQ requesting to replace the existing thermal sand reclamation unit with a new thermal sand reclamation unit, to replace an existing sand core mixer with a new sand core mixer to be identified as High Bay Core Mixer, to add a new sand storage bin for the new mixer, and to install a pneumatic sand transport system for the mold making operations to pneumatically transport mold sand from the mold sand silos directly to the mobile sand mixers. Casting Service has applied for a PSD/Title V permit which came off public notice on December 9, 2004. Issuance of the PSD/Title V permit is pending with OAQ.

**New Emission Units and Pollution Control Equipment Receiving Prior Approval**

The application includes information relating to the prior approval for the construction and operation and/or modification of the following equipment:

- (a) one (1) thermal sand reclamation system including a natural gas-fired calcining unit, with a maximum heat input capacity of 6.4 million British thermal units (MMBtu) per hour, referred to as process P11, constructed in 2005, with a maximum capacity of 3.125 tons of sand per hour, with emissions controlled by the thermal dust collector, referred to as C05, and exhausting to stack S05;
- (b) one (1) pneumatic sand transport system for the mold making operations, constructed in 2005, with a maximum capacity of 68.8 tons of sand per hour, with emissions uncontrolled and exhausting into the building;

- (c) core making operations, referred to as process P17, constructed prior to 1972 and modified in 1985 and in 2005 with the addition of a High Bay Core Mixer, using phenolic no-bake, furan no-bake, and SO<sub>2</sub> binder systems with a maximum capacity of 68.8 tons of sand per hour, with SO<sub>2</sub> emissions controlled by a packed tower scrubber, referred to as C10, which exhausts to stack S10, and with particulate emissions controlled by the core room dust collector, referred to as C08, exhausting to stack S08.

### Existing Approvals

The source initially applied for a Part 70 Operating Permit on June 17, 1996. The source has been operating under previous approvals including, but not limited to, the following:

- (a) PC (46) 794, issued on December 19, 1974;
- (b) 46-06-87-0172, issued on April 19, 1984;
- (c) Registration issued on March 22, 1985;
- (d) Registration issued on October 17, 1985;
- (e) Registration issued on June 15, 1988;
- (f) PC (46) 1770, issued on August 7, 1989;
- (g) 46-08-93-0211, issued on February 22, 1990;
- (h) CP 091-1737-00018, issued on December 6, 1990;
- (i) CP 091-2238-00018, issued on January 21, 1994;
- (j) CP 091-10023-00018, issued on December 15, 1998;
- (k) CP 091-10136-00018, issued on April 21, 1999;
- (l) First Significant Source Modification No. 091-10594-00018, issued on July 22, 1999;
- (m) First Administrative Amendment No. 091-11608-00018, issued on December 15, 1999; and
- (n) Second Significant Source Modification No. 091-14518-00018, issued on October 25, 2001.

### Enforcement Issue

There are no enforcement actions pending for the emission units included in this modification.

### Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (°F)
S05	Thermal Dust Collector	50	3.67	35,000	112

### Recommendation

The staff recommends to the Commissioner that the Significant Source 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 31, 2005.

### Emission Calculations

See Appendix A of this document for detailed emissions calculations (pages 1 through 4).

**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	995.41
PM-10	149.51
SO <sub>2</sub>	0.02
VOC	2.49
CO	2.35
NO <sub>x</sub>	2.80

Note these emissions include potential emissions at maximum throughput for the new thermal sand reclamation unit and the new core sand mixer. The installation of the pneumatic sand transport system for the mold sand will not result in any increase in emissions from mold sand handling.

HAPs	Potential To Emit (tons/year)
Hexane	Less than 10
TOTAL	Less than 25

**Justification for Modification**

The Title V source is being modified through a Significant Source Modification. This modification is being performed pursuant to 326 IAC 2-7-10.5(f)(4)(A) because the potential to emit of PM and PM10 from the modification are greater than 25 tons per year.

**County Attainment Status**

The source is located in LaPorte County.

Pollutant	Status
PM-10	Attainment
PM-2.5	Attainment
SO <sub>2</sub>	Maintenance
NO <sub>2</sub>	Attainment
1-hour Ozone	Attainment
8-hour Ozone	Nonattainment
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 and NOx emissions are considered when evaluating the rule applicability relating to the ozone standards. LaPorte County has been designated as nonattainment for the 8-hour ozone standard. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Emission Offset, 326 IAC 2-3.

- (b) LaPorte 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) LaPorte 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 counted toward determination of PSD and Emission Offset applicability.

**Source Status**

Existing Source PSD and Emission Offset 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	Less than 100
SO <sub>2</sub>	Less than 100
VOC	Greater than 100
CO	Less than 100
NOx	Less than 100

- (a) This existing source is a major stationary source under 326 IAC 2-2 (PSD) 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) This existing source is a major stationary source under 326 IAC 2-3 (Emission Offset) because a nonattainment regulated pollutant is emitted at a rate of 100 tons per year or more.
- (c) These emissions are based upon the Title V permit No. T091-6141-00018, pending with OAQ.

**Potential to Emit of Modification After Issuance Reflecting major PSD or NA NSR 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.

Process/facility	Potential to Emit (tons/year)						
	PM	PM-10	SO <sub>2</sub>	VOC	CO	NO <sub>x</sub>	HAPs
Sand handling/ thermal sand reclamation & calcining unit (P11) <sup>(1)</sup>	1.52	0.43	0.02	2.49	2.35	2.80	0.05
Core Sand Handling (P17)	5.64	0.85	0.00	0.00	0.00	0.00	0.00
Total Emissions	7.16	1.28	0.02	2.49	2.35	2.80	0.05

(1) Emissions from thermal sand reclamation include emissions from natural gas combustion in the calcining unit.

This modification to an existing major stationary source is not major because the emission increase is less than the PSD and Emission Offset significant levels. Therefore, pursuant to 326 IAC 2-2 and 326 IAC 2-3, the PSD and Emission Offset requirements do not apply.

- (a) Total PM emissions from dust collector C08 controlling the core making operations shall not exceed 0.16 pound per ton of sand throughput;
- (b) Total PM10 emissions from dust collector C08 controlling the core making operations shall not exceed 0.024 pound per ton of sand throughput.
- (c) The throughput of sand to the core making operations, P17, shall not exceed 70,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (d) The total throughput of sand to the thermal sand reclamation system, P11, shall not exceed 27,375 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (e) Total PM emissions from dust collector C05 controlling the thermal sand reclamation system shall not exceed 0.107 pound per ton of sand throughput;
- (f) Total PM10 emissions from dust collector C05 controlling the thermal sand reclamation system shall not exceed 0.016 pound per ton of sand throughput.

**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) On April 22, 2004, U.S. EPA promulgated a NESHAP for iron and steel foundries. The NESHAP, 40 CFR 63.7680 - 63.7762, Subpart EEEEE, applies to each new or existing iron and steel foundry that is a major source of HAPs. A major source of HAPs is a source that emits or has the potential to emit any single HAP at a rate of 10 tons or more per year or any combination of HAPs at a rate of 25 tons or more per year. The affected source covered by this rule is each new or existing iron and steel foundry and the rule covers emissions from metal melting furnaces, scrap preheaters, pouring areas, pouring stations, automated conveyor and pallet cooling lines, automated shakeout lines, and mold and core making lines. This rule also covers fugitive emissions from foundry operations. Therefore, since this iron foundry is a major source of HAPs and was constructed prior to December 23, 2002, it is an existing affected source and is subject to this rule.

None of the emission units associated with this modification is specifically regulated by the NESHAP. Therefore, the requirements of this rule have not been included in this Significant Source Modification. However, the proposed Title V permit (T091-6141-00018) pending with OAQ does include the requirements of this rule.

#### **40 CFR 64 Compliance Assurance Monitoring**

- (a) This significant source modification does involve a pollutant-specific emission unit as defined in 40 CFR 64.1:
  - (1) with the potential to emit before controls equal to or greater than the major source threshold for PM-10;
  - (2) that is subject to an emission limitation or standard for PM-10; and
  - (3) uses a control device as defined in 40 CFR 64.1 to comply with that emission limitation or standard.

Therefore, the requirements of 40 CFR Part 64, Compliance Assurance Monitoring, are applicable to this modification.

- (b) The pollutant-specific emission unit is not a "large unit" as described in 40 CFR 64.5 because the potential to emit after control of PM10 is less than 100 tons per year. Therefore, the owner or operator shall submit a CAM plan pursuant to 40 CFR 64 as part of the Part 70 renewal application.

#### **State Rule Applicability - Entire Source**

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

This existing source is a major stationary source under this rule because it is one of the 28 listed source categories and at least one attainment regulated pollutant is emitted at a rate of 100 tons per year. The following limitations will limit emissions of PM and PM10 from this modification to less than the PSD significant levels of 25 and 15 tons per year, respectively, so that this is not a major modification under PSD:

- (a) Total PM emissions from dust collector C08 controlling the core making operations shall not exceed 0.16 pound per ton of sand throughput;
- (b) Total PM10 emissions from dust collector C08 controlling the core making operations shall not exceed 0.024 pound per ton of sand throughput.
- (c) The throughput of sand to the core making operations, P17, shall not exceed 70,000 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (d) The total throughput of sand to the thermal sand reclamation system, P11, shall not exceed 27,375 tons per twelve (12) consecutive month period, with compliance determined at the end of each month;
- (e) Total PM emissions from dust collector C05 controlling the thermal sand reclamation system shall not exceed 0.206 pound per ton of sand throughput;
- (f) Total PM10 emissions from dust collector C05 controlling the thermal sand reclamation system shall not exceed 0.03 pound per ton of sand throughput.

### 326 IAC 2-3 Emission Offset

This existing source is a major stationary source under 326 IAC 2-3 since VOC emissions are greater than 100 tons per year. However, this modification is not a major modification because the emissions increase of VOC and NOx is less than the significant modification thresholds.

### 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 250 tons per year of VOC; 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 thermal sand reclamation system (P11) and core sand handling including the High Bay Core Mixer 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 4-2 (Burning Regulations - Incinerators)

Pursuant to 326 IAC 4-2-2 (Incinerators) the calciner, which is part of the thermal sand reclamation system, shall:

- (a) Consist of primary and secondary chambers or the equivalent.
- (b) Be equipped with a primary burner unless burning wood products.
- (c) Comply with 326 IAC 5-1 (Opacity Limitations) and 326 IAC 2 (Permit Review Rules).
- (d) Be maintained properly as specified by the manufacturer and approved by IDEM.
- (e) Be operated according to the manufacturer's recommendation and only burn waste approved by the IDEM.
- (f) Comply with other state and/or local rules or ordinances regarding installation and operation of incinerators.

- (g) Be operated so that emissions of hazardous material including, but not limited to, viable pathogenic bacteria, dangerous chemical or gases, or noxious odors are prevented.
- (h) Not create a nuisance or a fire hazard.
- (i) Not emit particulate matter (PM) in excess of 0.3 pound per 1000 pounds of dry exhaust gas corrected to 50% excess air.

The operation of this calciner shall be terminated immediately upon noncompliance with any of the above mentioned requirements.

### 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the thermal sand reclamation system (P11) shall not exceed 8.80 pounds per hour based on a process weight rate of 3.125 tons per hour. The allowable particulate emission rate from core sand handling in the core making operation (P17) shall not exceed 47.6 pounds per hour based on a process weight rate of 68.8 tons per hour.

These limits are based on the following:

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

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

and

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:

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

The dust collector C05 shall be in operation at all times the thermal sand reclamation system (P11) is in operation, in order to comply with this limit.

The dust collector C08 shall be in operation at all times the core sand handling system (P17) is in operation, in order to comply with this limit.

### 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 dust collector (C05) controlling particulate emissions from the thermal sand reclamation unit (P11) has applicable compliance monitoring conditions as specified below:
  - (a) Visible emission notations of the dust collector C05 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 these units 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.
  - (f) The Permittee shall record the total static pressure drop across the dust collector C05 used in conjunction with the thermal sand reclamation system at least once per shift when the thermal sand reclamation system is in operation when venting to the atmosphere. When for any one reading, the pressure drop across dust collector C05 is outside the normal range of 2.0 and 6.0 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 ranges 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.

- (g) An inspection shall be performed each calendar quarter of all bags in the dust collector controlling the thermal sand reclamation system when venting to the atmosphere. A dust collector inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting to the indoors. All defective bags shall be replaced.
- (h) 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 dust collectors, if failure is indicated by a significant drop in the dust collector'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 dust collector for the thermal sand reclamation system must operate properly to ensure compliance with 326 IAC 2-2 (PSD), 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes) and 326 IAC 2-7 (Part 70).

- 2. The dust collector (C08) controlling particulate emissions from the core sand handling operation has applicable compliance monitoring conditions as specified below:
  - (a) Visible emission notations of the dust collector C08 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.
- (f) The Permittee shall record the total static pressure drop across the dust collector C08 used in conjunction with the core making operations, at least once per shift when the process is in operation when venting to the atmosphere. When for any one reading, the pressure drop across the dust collector is outside the normal range of 4.0 and 9.0 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.
- (g) An inspection shall be performed each calendar quarter of all bags controlling the core making operations when venting to the atmosphere. A dust collector inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting to the indoors. Inspections required by this condition shall not be performed in consecutive months. All defective bags shall be replaced.

- (h) 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 dust collectors, if failure is indicated by a significant drop in the dust collector'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 dust collector for the core sand handling operation must operate properly to ensure compliance with 326 IAC 2-2 (PSD), 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes) and 326 IAC 2-7 (Part 70).

## Conclusion

The operation of this gray and ductile iron foundry shall be subject to the conditions of the attached proposed Significant Source Modification No. 091-21258-00018.

## Appendix A: Emission Calculations Summary

**Company Name:** Casting Service  
**Address City IN Zip:** 300 Philadelphia Street, LaPorte, Indiana 46350  
**Source Modification No.:** 091-21258  
**Plt ID:** 091-00018  
**Reviewer:** Trish Earls

<b>Total Potential To Emit (tons/year)</b>			
Emissions Generating Activity			
Pollutant	Thermal Sand Reclamation	High Bay Core Mixer	<b>TOTAL</b>
PM	49.33	946.08	995.41
PM10	7.60	141.91	149.51
SO2	0.02	0.00	0.02
NOx	2.80	0.00	2.80
VOC	2.49	0.00	2.49
CO	2.35	0.00	2.35
total HAPs	0.05	0.00	0.05
worst case single HAP	(Hexane) 0.05	0.00	(Nickel) 27.92
Total emissions based on rated capacities at 8,760 hours/year.			
**For the purposes of determining Title V applicability, PM10 (not PM) is the regulated pollutant in consideration			
<b>Total Limited Potential To Emit (tons/year)</b>			
Emissions Generating Activity			
Pollutant	Thermal Sand Reclamation	Core Sand Handling Including High Bay Core Mixer	<b>TOTAL</b>
PM	1.52	5.64	7.16
PM10	0.43	0.85	1.28
SO2	0.02	0.00	0.02
NOx	2.80	0.00	2.80
VOC	2.49	0.00	2.49
CO	2.35	0.00	2.35
total HAPs	0.05	0.00	0.05
worst case single HAP	(Hexane) 0.05	0.00	(Hexane) 0.05
Total emissions based on rated capacities at 8,760 hours/year.			
**For the purposes of determining Title V applicability, PM10 (not PM) is the regulated pollutant in consideration			

## Appendix A: Grey Iron Foundry Operations

Company Name: Casting Service  
Address City IN Zip: 300 Philadelphia Street, LaPorte, Indiana 46350  
Source Modification No.: 091-21258  
Pit ID: 091-00018  
Reviewer: Trish Earls

SCC# 3-04-003-50 Sand Handling/Thermal Sand Reclamation & Calcining Unit (P11)							
TYPE OF MATERIAL	Maximum Throughput		Control Device: Dust Collector C05				
	LBS/HR	TON/HR	Control Efficiency: 97.02%				
Sand	6250	3.125					
	<b>PM</b> lbs/ton sand handled 3.6	<b>PM10</b> lbs/ton sand handled 0.54	<b>SOx</b> lbs/ton sand handled 0.0	<b>NOx</b> lbs/ton sand handled 0.0	<b>VOC</b> lbs/ton sand handled 0.17	<b>CO</b> lbs/ton sand handled 0.0	<b>Lead</b> lbs/ton sand handled 0.0
Potential Uncontrolled Emissions lbs/hr	11.25	1.69	0.00	0.00	0.53	0.00	0.00
<b>Potential Uncontrolled Emissions tons/year</b>	<b>49.28</b>	<b>7.39</b>	<b>0.00</b>	<b>0.00</b>	<b>2.34</b>	<b>0.00</b>	<b>0.00</b>
Potential Controlled Emissions lbs/hr	0.34	0.05	0.00	0.00	0.53	0.00	0.00
<b>Potential Controlled Emissions tons/year</b>	<b>1.47</b>	<b>0.22</b>	<b>0.00</b>	<b>0.00</b>	<b>2.34</b>	<b>0.00</b>	<b>0.00</b>

Note: PM and PM10 emission factors from USEPA's Factor Information Retrieval (FIRE) Data System, version 6.24.  
VOC emission factor from manufacturer's data.

SCC# 3-04-003-50 High Bay Core Mixer							
TYPE OF MATERIAL	Maximum Throughput		Control Device: Dust Collector C08				
	LBS/HR	TON/HR	Control Efficiency: 95.52%				
Sand	120000	60					
	Limited Throughput						
	TON/YR	TON/HR					
	70000	7.99					
	<b>PM</b> lbs/ton sand handled 3.6	<b>PM10</b> lbs/ton sand handled 0.54	<b>SOx</b> lbs/ton sand handled 0.0	<b>NOx</b> lbs/ton sand handled 0.0	<b>VOC</b> lbs/ton sand handled 0.0	<b>CO</b> lbs/ton sand handled 0.0	<b>Lead</b> lbs/ton sand handled 0.0
Potential Uncontrolled Emissions lbs/hr	216.00	32.40	0.00	0.00	0.00	0.00	0.00
<b>Potential Uncontrolled Emissions tons/year</b>	<b>946.08</b>	<b>141.91</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
Potential Controlled Emissions lbs/hr	9.68	1.45	0.00	0.00	0.00	0.00	0.00
<b>Potential Controlled Emissions tons/year</b>	<b>42.38</b>	<b>6.36</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
Limited Controlled Emissions lbs/hr*	1.29	0.19	0.00	0.00	0.00	0.00	0.00
<b>Limited Controlled Emissions tons/year*</b>	<b>5.64</b>	<b>0.85</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

Note: Emission factors from USEPA's Factor Information Retrieval (FIRE) Data System, version 6.24.

\* Limited throughput represents total sand throughput limit for core making operations. Limited emissions represent total limited emissions from core making operations.

**Appendix A: Emissions Calculations  
 Natural Gas Combustion Only  
 MM BTU/HR <100  
 Thermal Sand Reclamation Calcining Unit (P11)**

**Company Name:** Casting Service  
**Address City IN Zip:** 300 Philadelphia Street, LaPorte, Indiana 46350  
**Source Modification No.:** 091-21258  
**Pit ID:** 091-00018  
**Reviewer:** Trish Earls

Heat Input Capacity  
MMBtu/hr

Potential Throughput  
MMCF/yr

6.4

56.1

Emission Factor in lb/MMCF	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
	1.9	7.6	0.6	100.0	5.5	84.0
				**see below		
Potential Emission in tons/yr	0.05	0.21	0.02	2.80	0.15	2.35

\*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**  
**Calcining Unit**  
**HAPs Emissions**

**Company Name:** Casting Service  
**Address City IN Zip:** 300 Philadelphia Street, LaPorte, Indiana 46350  
**Source Modification No.:** 091-21258  
**Pit ID:** 091-00018  
**Reviewer:** Trish Earls

HAPs - Organics					
Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	5.887E-05	3.364E-05	2.102E-03	5.046E-02	9.531E-05

HAPs - Metals					
Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	1.402E-05	3.084E-05	3.924E-05	1.065E-05	5.887E-05

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.