



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: October 6, 2006  
RE: Dalton Corporation- Warsaw / 085-21851-00003  
FROM: Nisha Sizemore  
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 03/23/06



# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

*We make Indiana a cleaner, healthier place to live.*

---

*Mitchell E. Daniels, Jr.*  
Governor

*Thomas W. Easterly*  
Commissioner

100 North Senate Avenue  
Indianapolis, Indiana 46204-2251  
(317) 232-8603  
(800) 451-6027  
[www.IN.gov/idem](http://www.IN.gov/idem)

Mr. Michael Schall  
Dalton Corporation Warsaw Manufacturing Facility  
P.O. Box 1388  
Warsaw, IN 46581-1388

October 6, 2006

Re: 085-21851-00003  
Significant Source Modification

Dear Mr. Schall:

An application to modify the source was received on September 30, 2005. Pursuant to 326 IAC 2-7-10.5 the following emission units are approved for construction at the source:

One (1) Large Core Production Cell (ID LCC), which will initially be utilized as a phenolic urethane cold box core making operation, consisting of the following:

- (1) Two (2) sand/resin mixers, identified as Mixer #10 and Mixer #11, each with a maximum throughput capacity of 15 tons of sand per hour and 34.18 pounds of resin per hour, with no emission controls;
- (2) One (1) enclosed pneumatic sand transporter for transferring sand from the storage silo to a sand holding hopper and sand weigh hopper above the two (2) sand/resin mixers (Mixer #10 and Mixer #11). The sand hoppers use a dust collector, identified as Dust Collector V, for particulate matter control which exhausts through one (1) stack (ID V);
- (3) Two (2) CB-50 cold box core machines, identified as Core Machine #29 and Core Machine #30, each producing a maximum of 7 tons of cores per hour, using a maximum of 2.75 pounds of DMIPA catalyst per ton of core sand, both exhausting through an existing acid scrubber which controls VOC emissions, identified as Acid Scrubber AF, exhausting through one (1) stack (ID AF).

Even though the acid scrubber is not required by the LCC for compliance with emission limits, the VOC emissions from Core Machines #29 and #30 may be vented through the acid scrubber when these core machines use phenolic urethane resin and DMIPA as catalyst.

The VOC emissions from Core Machines #29 and #30 would not be vented through the acid scrubber when an alternate resin/catalyst system is used. Acceptable alternate resin and catalyst systems shall not include amine catalysts.

- (4) Two (2) core wash dip tanks, identified as DP-29 and DP-30, each with a maximum capacity of 15 tons of cores per hour and 20.408 pounds of core wash per ton of core sand with no emission controls; and
- (5) One (1) natural gas-fired core oven, identified as Core Oven #29, with a maximum rated heat input capacity of 6.0 million British thermal units (MMBtu) per hour, with no emission controls, exhausting through one (1) stack, identified as V-45.

The following construction conditions are applicable to the proposed project:

General Construction Conditions

1. The data and information supplied with the application shall be considered part of this source modification approval. Prior to any proposed change in construction which may affect the potential to emit (PTE) of the proposed project, the change must be approved by the Office of Air Quality (OAQ).
2. This approval to construct does not relieve the Permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.
3. Effective Date of the Permit:  
Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.
4. Pursuant to 326 IAC 2-1.1-9 and 326 IAC 2-7-10.5(i), the Commissioner may revoke this approval if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.
5. All requirements and conditions of this construction approval shall remain in effect unless modified in a manner consistent with procedures established pursuant to 326 IAC 2.

The proposed Significant Source Modification approval will be incorporated into the pending Part 70 Operating Permit application pursuant to 326 IAC 2-7-10.5(l)(3). If there are no changes to the proposed construction of the emission units, the source may begin operating on the date that IDEM receives an affidavit of construction pursuant to 326 IAC 2-7-1.5(h). If there are any changes to the proposed construction, the source cannot operate until an Operating Permit Validation Letter is issued.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter, please call Trish Earls at (973) 575-2555, ext. 3219 or dial (800) 451-6027 and ask for extension 3-6878.

Sincerely,

Original signed by

Nisha Sizemore, Chief  
Permits Branch  
Office of Air Quality

TE/EVP

cc: File – Kosciusko County  
Kosciusko County Health Department  
IDEM Northern Regional Office  
Air Compliance Section Inspector – Doyle Houser  
Compliance Data Section  
Administrative and Development  
Kim Cottrell – Title V Permit Writer



Mitchell E. Daniels, Jr.  
Governor

Thomas W. Easterly  
Commissioner

100 North Senate Avenue  
Indianapolis, Indiana 46204-2251  
(317) 232-8603  
(800) 451-6027  
www.IN.gov/idem

## PART 70 SIGNIFICANT SOURCE MODIFICATION OFFICE OF AIR QUALITY

**Dalton Corporation Warsaw Manufacturing Facility  
1900 East Jefferson Street  
Warsaw, Indiana 46581**

(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.

Significant Source Modification No.: 085-21851-00003	
Original signed by: Nisha Sizemore, Chief Permits Branch Office of Air Quality	Issuance Date: October 6, 2006 Expiration Date: October 6, 200611

## 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>6</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>7</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	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	Response to Excursions or Exceedances [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][326 IAC 2- 2][326 IAC 2-3]	
C.15	General Reporting Requirements [326 IAC 2-7-5(3)(C)] [326 IAC 2-1.1-11] [326 IAC 2- 2][326 IAC 2-3]	
<b>D.1</b>	<b>FACILITY OPERATION CONDITIONS – Large Core Production Cell .....</b>	<b>15</b>
	<b>Emission Limitations and Standards [326 IAC 2-7-5(1)]</b>	
D.1.1	VOC Emission Limitations [326 IAC 8-1-6][326 IAC 2-2]	
D.1.2	Particulate Matter (PM) and Particulate Matter Less than 10 Microns (PM-10) [326 IAC 2- 2]	
D.1.3	Particulate [326 IAC 6-3-2]	
D.1.4	Preventive Maintenance Plan [326 IAC 2-7-5(13)]	
	<b>Compliance Determination Requirements</b>	
D.1.5	Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]	
D.1.6	VOC Emissions	
D.1.7	Particulate Control	

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

- D.1.8 Visible Emissions Notations
- D.1.9 Parametric Monitoring
- D.1.10 Broken or Failed Cartridge Dust Collector Detection

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

- D.1.11 Record Keeping Requirements
- D.1.12 Reporting Requirements

<b>Certification</b> .....	<b>20</b>
<b>Emergency Occurrence Report</b> .....	<b>21</b>
<b>Quarterly Reports</b> .....	<b>23-24</b>
<b>Affidavit</b> .....	<b>25</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)]

---

The Permittee owns and operates a stationary gray iron foundry.

Responsible Official:	Director of Operations
Source Address:	1900 East Jefferson Street, Warsaw, Indiana 46581
Mailing Address:	P.O. Box 1388, Warsaw, Indiana 46581-1388
General Source Phone Number:	(574) 372-1804
SIC Code:	3321
County Location:	Kosciusko
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Permit Program Major Source, under PSD Rules; Major Source, Section 112 of the Clean Air Act 1 of 28 Source Categories

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

---

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

One (1) Large Core Production Cell (ID LCC), which will initially be utilized as a phenolic urethane cold box core making operation, consisting of the following:

- (1) Two (2) sand/resin mixers, identified as Mixer #10 and Mixer #11, each with a maximum throughput capacity of 15 tons of sand per hour and 34.18 pounds of resin per hour, with no emission controls;
- (2) One (1) enclosed pneumatic sand transporter for transferring sand from the storage silo to a sand holding hopper and sand weigh hopper above the two (2) sand/resin mixers (Mixer #10 and Mixer #11). The sand hoppers use a dust collector, identified as Dust Collector V, for particulate matter control which exhausts through one (1) stack (ID V);
- (3) Two (2) CB-50 cold box core machines, identified as Core Machine #29 and Core Machine #30, each producing a maximum of 7 tons of cores per hour, using a maximum of 2.75 pounds of DMIPA catalyst per ton of core sand, both exhausting through an existing acid scrubber which controls VOC emissions, identified as Acid Scrubber AF, exhausting through one (1) stack (ID AF).

Even though the acid scrubber is not required by the LCC for compliance with emission limits, the VOC emissions from Core Machines #29 and #30 may be vented through the acid scrubber when these core machines use phenolic urethane resin and DMIPA as catalyst.

The VOC emissions from Core Machines #29 and #30 would not be vented through the acid scrubber when an alternate resin/catalyst system is used. Acceptable alternate resin and catalyst systems shall not include amine catalysts.

- (4) Two (2) core wash dip tanks, identified as DP-29 and DP-30, each with a maximum capacity of 15 tons of cores per hour and 20.408 pounds of core wash per ton of core sand with no emission controls; and
- (5) One (1) natural gas-fired core oven, identified as Core Oven #29, with a maximum rated heat input capacity of 6.0 million British thermal units (MMBtu) per hour, with no emission controls, exhausting through one (1) stack, identified as V-45.

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

---

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

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

## SECTION B

## GENERAL CONSTRUCTION CONDITIONS

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

---

Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, the applicable definitions found in the statutes or regulations (IC 13-11, 326 IAC 1-2 and 326 IAC 2-7) shall prevail.

### B.2 Effective Date of the Permit [IC13-15-5-3]

---

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)]

---

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)]

---

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)]**

---

- (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]**

---

- (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 46204-2251

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

- (b) A copy of the PMPs shall be submitted to IDEM, OAQ, upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ, may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions or potential to emit. The PMPs do not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).
- (c) To the extent the Permittee is required by 40 CFR Part 60/63 to have an Operation Maintenance, and Monitoring (OMM) Plan for a unit, such Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

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

---

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

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

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

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

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

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

---

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

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

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

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

---

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

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

**C.6 Compliance Requirements [326 IAC 2-1.1-11]**

---

The commissioner may require stack testing, monitoring, or reporting at any time to assure compliance with all applicable requirements by issuing an order under 326 IAC 2-1.1-11. Any monitoring or testing shall be performed in accordance with 326 IAC 3 or other methods approved by the commissioner or the U. S. EPA.

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

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

---

Unless otherwise specified in this permit, all monitoring and record keeping requirements not already legally required shall be implemented 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.8 Monitoring Methods [326 IAC 3] [40 CFR 60] [40 CFR 63]**

---

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

**C.9 Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]**

---

- (a) When required by any condition of this permit, an analog instrument used to measure a parameter related to the operation of an air pollution control device shall have a scale such that the expected maximum reading for the normal range shall be no less than twenty percent (20%) of full scale.
- (b) The Permittee may request that the IDEM, OAQ approve the use of an instrument that does not meet the above specifications provided the Permittee can demonstrate that an alternative instrument specification will adequately ensure compliance with permit conditions requiring the measurement of the parameters.

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

**C.10 Response to Excursions or Exceedances [326 IAC 2-7-5] [326 IAC 2-7-6]**

---

- (a) Upon detecting an excursion or exceedance, the Permittee shall restore operation of the emissions unit (including any control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions.
- (b) The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Corrective actions may include, but are not limited to, the following:
  - (1) initial inspection and evaluation;
  - (2) recording that operations returned to normal without operator action (such as through response by a computerized distribution control system); or
  - (3) any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.
- (c) A determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, the following:
  - (1) monitoring results;
  - (2) review of operation and maintenance procedures and records;
  - (3) inspection of the control device, associated capture system, and the process.
- (d) Failure to take reasonable response steps shall be considered a deviation from the permit.
- (e) The Permittee shall maintain the following records:
  - (1) monitoring data;

- (2) monitor performance data, if applicable; and
- (3) corrective actions taken.

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

---

- (a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for noncompliance with a federal or state health-based emission limitation.
- (b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that describe the following:
  - (1) An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;
  - (2) The permitted facility was at the time being properly operated;
  - (3) During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit;
  - (4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ, and IDEM Northern Regional Office within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

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

and

IDEM Northern Regional Office  
Telephone Number: 1-800-753-5519 or  
Telephone Number: 574-245-4870  
Facsimile Number: 574-245-4877

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

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

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

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

- (A) A description of the emergency;

- (B) Any steps taken to mitigate the emissions; and
- (C) Corrective actions taken.

The notification which shall be submitted by the Permittee does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

- (6) The Permittee immediately took all reasonable steps to correct the emergency.
- (c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.
- (d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.
- (e) The Permittee seeking to establish the occurrence of an emergency shall make records available upon request to ensure that failure to implement a PMP did not cause or contribute to an exceedance of any limitations on emissions. However, IDEM, OAQ, may require that the Preventive Maintenance Plans required under 326 IAC 2-7-4(c)(9) be revised in response to an emergency.
- (f) Failure to notify IDEM, OAQ, by telephone or facsimile of an emergency lasting more than one (1) hour in accordance with (b)(4) and (5) of this condition shall constitute a violation of 326 IAC 2-7 and any other applicable rules.
- (g) If the emergency situation causes a deviation from a technology-based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.

C.12 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.13 General Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-6] [326 IAC 2-2] [326 IAC 2-3]

---

- (a) Records of all required monitoring data, reports and support information required by this permit shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.
- (b) Unless otherwise specified in this permit, all record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance.
- (c) If there is a reasonable possibility that a "project" (as defined in 326 IAC 2-2-1 (qq) and/or 326 IAC 2-3-1 (ll)) at an existing emissions unit, other than projects at a Clean Unit, which is not part of a "major modification" (as defined in 326 IAC 2-2-1 (ee) and/or 326 IAC 2-3-1 (z)) may result in significant emissions increase and the Permittee elects to utilize the "projected actual emissions" (as defined in 326 IAC 2-2-1 (rr) and/or 326 IAC 2-3-1 (mm)), the Permittee shall comply with following:
  - (1) Before beginning actual construction of the "project" (as defined in 326 IAC 2-2-1 (qq) and/or 326 IAC 2-3-1 (ll)) at an existing emissions unit, document and maintain the following records:
    - (A) A description of the project.
    - (B) Identification of any emissions unit whose emissions of a regulated new source review pollutant could be affected by the project.
    - (C) A description of the applicability test used to determine that the project is not a major modification for any regulated NSR pollutant, including:
      - (i) Baseline actual emissions;
      - (ii) Projected actual emissions;
      - (iii) Amount of emissions excluded under section 326 IAC 2-2-1(rr)(2)(A)(iii) and/or 326 IAC 2-3-1(mm)(2)(A)(3); and
      - (iv) An explanation for why the amount was excluded, and any netting calculations, if applicable.
  - (2) Monitor the emissions of any regulated NSR pollutant that could increase as a result of the project and that is emitted by any existing emissions unit identified in (1)(B) above; and
  - (3) Calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of five (5) years following resumption of regular operations after the change, or for a period of ten (10) years following resumption of regular operations after the change if the project increases the design capacity of or the potential to emit that regulated NSR pollutant at the emissions unit.

C.14 General Reporting Requirements [326 IAC 2-7-5(3)(C)] [326 IAC 2-1.1-11] [326 IAC 2-2] [326 IAC 2-3]

---

(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 46204-2251

(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.

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

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

(f) The report for a project at an existing emissions unit shall be submitted within sixty (60) days after the end of the year and contain the following:

- (1) The name, address, and telephone number of the major stationary source.
- (2) The annual emissions calculated in accordance with (c)(2) and (3) in Section C- General Record Keeping Requirements.
- (3) The emissions calculated under the actual-to-projected actual test stated in 326 IAC 2-2-2(d)(3) and/or 326 IAC 2-3-2(c)(3).
- (4) Any other information that the Permittee deems fit to include in this report,

Reports required in this part shall be submitted to:

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

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

## SECTION D.1

## FACILITY OPERATION CONDITIONS

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

One (1) Large Core Production Cell (ID LCC), which will initially be utilized as a phenolic urethane cold box core making operation, consisting of the following:

- (1) Two (2) sand/resin mixers, identified as Mixer #10 and Mixer #11, each with a maximum throughput capacity of 15 tons of sand per hour and 34.18 pounds of resin per hour, with no emission controls;
- (2) One (1) enclosed pneumatic sand transporter for transferring sand from the storage silo to a sand holding hopper and sand weigh hopper above the two (2) sand/resin mixers (Mixer #10 and Mixer #11). The sand hoppers use a dust collector, identified as Dust Collector V, for particulate matter control which exhausts through one (1) stack (ID V);
- (3) Two (2) CB-50 cold box core machines, identified as Core Machine #29 and Core Machine #30, each producing a maximum of 7 tons of cores per hour, using a maximum of 2.75 pounds of DMIPA catalyst per ton of core sand, both exhausting through an existing acid scrubber which controls VOC emissions, identified as Acid Scrubber AF, exhausting through one (1) stack (ID AF).

Even though the acid scrubber is not required by the LCC for compliance with emission limits, the VOC emissions from Core Machines #29 and #30 may be vented through the acid scrubber when these core machines use phenolic urethane resin and DMIPA as catalyst.

The VOC emissions from Core Machines #29 and #30 would not be vented through the acid scrubber when an alternate resin/catalyst system is used. Acceptable alternate resin and catalyst systems shall not include amine catalysts.

- (4) Two (2) core wash dip tanks, identified as DP-29 and DP-30, each with a maximum capacity of 15 tons of cores per hour and 20.408 pounds of core wash per ton of core sand with no emission controls; and
- (5) One (1) natural gas-fired core oven, identified as Core Oven #29, with a maximum rated heat input capacity of 6.0 million British thermal units (MMBtu) per hour, with no emission controls, exhausting through one (1) stack, identified as V-45.

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

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

#### D.1.1 VOC Emission Limitations [326 IAC 8-1-6][326 IAC 2-2]

The VOC emissions from this modification shall be limited as follows:

- (a) The total volatile organic compound (VOC) emissions from the two (2) resin/sand mixers (Mixers #10 and #11), the two (2) core machines (Core Machines #29 and #30), and the two (2) core wash dip tanks (DP-29 and DP-30) shall not exceed the following:
  - (1) 0.02904 pound VOC per pound of resin used;
  - (2) 1.0 pound VOC per pound of catalyst used;
  - (3) 0.02 pound VOC per pound of core wash used;
  - (4) 0.9 pound VOC per pound of release agent used; and
  - (5) 1.0 pound VOC per pound of core box cleaner used.

Where: Resin #1 and Catalyst #1 shall represent the current resin/catalyst system in use. Resin #2/Catalyst #2 and Resin #3/Catalyst #3 shall represent the other resin/catalyst systems in the Large Core Production Cell that may be used in the future. The VOC emission rates for the mixture of Resin #2 and Catalyst #2 and Resin #3 and Catalyst #3 shall be determined by VOC stack testing to be conducted within 180 days of commencing operations using either of these resin/catalyst systems.

- (b) The amount of resin used in the two (2) resin/sand mixers and the two (2) core machines combined shall not exceed 299,399.3 pounds per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (c) The amount of catalyst used in the two (2) core machines combined shall not exceed 32,934.6 pounds per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (d) The amount of core wash used in the two (2) core wash dip tanks combined shall not exceed 245,504.7 pounds per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (e) The amount of release agent used in the two (2) core machines combined shall not exceed 1,397 pounds per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (f) The amount of core box cleaner used in the two (2) core machines combined shall not exceed 1,725 pounds per twelve consecutive month period, with compliance determined at the end of each month.

A summary of the above VOC emission limits is included in the following table:

Usage Limit (pounds per year)*	VOC Content Limit (lb VOC per lb material)	VOC Emission Limit (tons/yr)
299,399.3 (resin)	0.02904	4.35
32,934.6 (catalyst)	1.0	16.47
245,504.7 (core wash)	0.02	2.46
1,397 (release agent)	0.9	0.63
1,725 (core box cleaner)	1.0	0.86
<b>Total</b>		<b>24.77</b>

Compliance with these limitations shall limit emissions of VOC from the LCC to less than 25 tons per year so that the requirements of 326 IAC 8-1-6 (New Facilities, General Reduction Requirements) do not apply. Compliance with these limitations shall also limit emissions of VOC from the LCC such that the emissions increases from the existing emission units, based on the Actual to Projected Actual test in 326 IAC 2-2-2, plus the limited potential to emit from the LCC will be less than the PSD significant threshold of 40 tons per year, so that this modification at a major stationary source will not be major for Prevention of Significant Deterioration under 326 IAC 2-2-1.

**D.1.2 Particulate Matter (PM) and Particulate Matter Less than 10 Microns (PM-10) [326 IAC 2-2]**

The PM and PM10 emissions from the Large Core Production Cell (ID LCC) shall be limited as follows:

- (a) Total PM emissions from the Large Core Production Cell (ID LCC) shall not exceed 0.33 pounds PM per ton of sand throughput;
- (b) Total PM10 emissions from the Large Core Production Cell (ID LCC) shall not exceed 0.065 pound PM10 per ton of sand throughput;

- (c) The throughput of sand to the Large Core Production Cell (ID LCC) shall not exceed 12,005 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with the above limitations shall limit PM and PM10 emissions from the Large Core Production Cell (ID LCC) such that the emissions increases from the existing emission units, based on the Actual to Projected Actual test in 326 IAC 2-2-2, plus the limited potential to emit from the LCC will be less than the PSD significant thresholds of 25 and 15 tons per year, respectively, so that this modification at a major stationary source will not be major for Prevention of Significant Deterioration under 326 IAC 2-2-1:

D.1.3 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the sand handling in the Large Core Production Cell (ID LCC) shall not exceed 40.03 pounds per hour when operating at a process weight rate of 30 tons per hour.

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

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

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

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

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

**Compliance Determination Requirements**

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

- (a) During the period within 60 days of achieving the maximum production rate but no later than 180 days after start-up of the core sand/resin mixers and cold box core machines, in order to demonstrate compliance with Condition D.1.1, the Permittee shall perform VOC testing for the core sand/resin mixers and cold box core machines when using the resin identified as Resin #1 and the catalyst identified as Catalyst #1 utilizing methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C- Performance Testing.
- (b) During the period within 60 days of achieving the maximum production rate but no later than 180 days after start-up of the core sand/resin mixers and cold box core machines using the resin identified as Resin #2 and the catalyst identified as Catalyst #2, in order to demonstrate compliance with Condition D.1.1, the Permittee shall perform VOC testing for the core sand/resin mixers and cold box core machines when using the resin identified as Resin #2 and the catalyst identified as Catalyst #2 utilizing methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C- Performance Testing.

- (c) During the period within 60 days of achieving the maximum production rate but no later than 180 days after start-up of the core sand/resin mixers and cold box core machines using the resin identified as Resin #3 and the catalyst identified as Catalyst #3, in order to demonstrate compliance with Condition D.1.1, the Permittee shall perform VOC testing for the core sand/resin mixers and cold box core machines when using the resin identified as Resin #3 and the catalyst identified as Catalyst #3 utilizing methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C- Performance Testing.

#### D.1.6 VOC Emissions

---

Compliance with the VOC emission limit in condition D.1.1 shall be determined using the following equation:

Total VOC Emissions (pounds/month) = (Pounds Resin # 1 used/month)x(0.02904 pound VOC/pound resin used) + (Pounds Catalyst # 1 used/month)x(1.0 pound VOC/pound of catalyst used) + (Pounds Resin # 2 used and Pounds Catalyst # 2 used/month<sup>1</sup>)x(VOC emission per unit of use (determined from stack test)) + (Pounds Resin # 3 used and Pounds Catalyst # 3 used/month<sup>1</sup>)x(VOC emission per unit of use (determined from stack test)) + (Pounds Core Wash used/month)x(0.02 pound VOC/pound of core wash used) + (Pounds Release Agent used)x(0.9 pound VOC/pound of Release Agent used) + (Pounds core box cleaner)x(1.0 pound VOC/pound of core box cleaner used)

<sup>1</sup> If catalyst used contains a VOC.

#### D.1.7 Particulate Control

---

In order to comply with conditions D.1.2 and D.1.3, the dust collector V for particulate control shall be in operation and control emissions from the Large Core Production Cell with a minimum overall control efficiency of 90.83% at all times that the Large Core Production Cell is in operation.

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

#### D.1.8 Visible Emissions Notations

---

- (a) Daily visible emission notations of the dust collector V stack exhaust shall be performed during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

#### D.1.9 Parametric Monitoring

---

The Permittee shall record the pressure drop across the dust collector V used in conjunction with the core sand handling for the Large Core Production Cell, at least once per day when the core sand handling is in operation. When for any one reading, the pressure drop across the dust collector is outside the normal range of 3.0 and 8.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

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

#### D.1.10 Broken or Failed Cartridge Dust Collector Detection

---

In the event that failure of the cartridge filter dust collector has been observed, the failed units and the associated process will be shut down immediately until the failed unit has been repaired or replaced. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

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

#### D.1.11 Record Keeping Requirements

---

- (a) To document compliance with Condition D.1.1, the Permittee shall maintain records of the usage of each of the resin, catalyst, core wash, release agent, and core box cleaner in the Large Core Production Cell (ID LCC) for each month. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the VOC content of the core wash, release agent, and core box cleaner used. 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.1.2(c), the Permittee shall maintain records of the throughput of sand to the Large Core Production Cell (ID LCC) for each month. Records necessary to demonstrate compliance shall be available within 30 days of the end of each compliance period.
- (c) To document compliance with Condition D.1.8, the Permittee shall maintain records of visible emission notations of the dust collector V stack exhaust once per day.
- (d) To document compliance with Condition D.1.9, the Permittee shall maintain records once per day of the pressure drop across dust collector V.
- (e) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

#### D.1.12 Reporting Requirements

---

A quarterly summary of the information to document compliance with Conditions D.1.1 and D.1.2 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: Dalton Corporation Warsaw Manufacturing Facility  
Source Address: 1900 East Jefferson Street, Warsaw, Indiana 46581  
Mailing Address: P.O. Box 1388, Warsaw, Indiana 46581-1388  
Source Modification No.: 085-21851-00003

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

Please check what document is being certified:

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

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Signature:

Printed Name:

Title/Position:

Phone:

Date:

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE BRANCH  
100 North Senate Avenue  
Indianapolis, Indiana 46204-2251  
Phone: 317-233-0178  
Fax: 317-233-6865**

**PART 70 SOURCE MODIFICATION  
EMERGENCY OCCURRENCE REPORT**

Source Name: Dalton Corporation Warsaw Manufacturing Facility  
Source Address: 1900 East Jefferson Street, Warsaw, Indiana 46581  
Mailing Address: P.O. Box 1388, Warsaw, Indiana 46581-1388  
Source Modification No.: 085-21851-00003

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

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

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

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

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: Dalton Corporation Warsaw Manufacturing Facility  
 Source Address: 1900 East Jefferson Street, Warsaw, Indiana 46581  
 Mailing Address: P.O. Box 1388, Warsaw, Indiana 46581-1388  
 Source Modification No.: 085-21851-00003  
 Facility: Large Core Production Cell (ID LCC)  
 Parameter: VOC emissions

- Limit: (a) The usage of resin shall not exceed 299,399.3 pounds per twelve (12) consecutive month period, with compliance determined at the end of each month.  
 (b) The usage of catalyst shall not exceed 32,934.6 pounds per twelve (12) consecutive month period, with compliance determined at the end of each month.  
 (c) The usage of core wash shall not exceed 245,504.7 pounds per twelve (12) consecutive month period, with compliance determined at the end of each month.  
 (d) The usage of release agent shall not exceed 1,397 pounds per twelve (12) consecutive month period, with compliance determined at the end of each month.  
 (e) The usage of core box cleaner shall not exceed 1,725 pounds per twelve consecutive month period, with compliance determined at the end of each month.

YEAR:

Month	Material ID	Column 1	Column 2	Column 1 + Column 2
		Material Throughput This Month (tons)	Material Throughput Previous 11 Months (tons)	12 Month Total Material Throughput (tons)
Month 1	Resin			
	Catalyst			
	Core Wash			
	Release Agent			
	Core Box Cleaner			
Month 2	Resin			
	Catalyst			
	Core Wash			
	Release Agent			
	Core Box Cleaner			
Month 3	Resin			
	Catalyst			
	Core Wash			
	Release Agent			
	Core Box Cleaner			

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: Dalton Corporation Warsaw Manufacturing Facility  
Source Address: 1900 East Jefferson Street, Warsaw, Indiana 46581  
Mailing Address: P.O. Box 1388, Warsaw, Indiana 46581-1388  
Source Modification No.: 085-21851-00003  
Facility: Large Core Production Cell (ID LCC)  
Parameter: PM and PM10 emissions  
Limit: The throughput of sand to the Large Core Production Cell (ID LCC) shall not exceed 12,005 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

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 46204-2251

Dalton Corporation Warsaw Manufacturing Facility  
P.O. Box 1388  
Warsaw, Indiana 46581-1388

**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 Dalton Corporation Warsaw Manufacturing Facility, 1900 East Jefferson Street, Warsaw, Indiana, 46581, has constructed the Large Core Production Cell (ID LCC) in conformity with the requirements and intent of the construction permit application received by the Office of Air Quality on September 30, 2005 and as permitted pursuant to **Source Modification No. 085-21851-00003** 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 Part 70 Significant Source Modification

Source Name:	Dalton Corporation Warsaw Manufacturing Facility
Source Location:	1900 East Jefferson Street, Warsaw, IN 46581
County:	Kosciusko
SIC Code:	3321
Source Modification No.:	085-21851-00003
Permit Reviewer:	Trish Earls/EVP

On August 23, 2006, the Office of Air Quality (OAQ) had a notice published in the Times Union, Warsaw, Indiana, stating that Dalton Corporation Warsaw Manufacturing Facility had applied for a Significant Source Modification to construct and operate a large core production cell (LCC) at its existing gray iron foundry operation. 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 September 21, 2006, Lisa McCoy of Dalton Corporation Warsaw Manufacturing Facility submitted comments on the proposed permit. The summary of the comments and corresponding responses are as follows (additions in **bold**, deletions in ~~strikeout~~):

**Comment #1**

**p.4, A.2, p. 15, D.1** - The LCC is referred to as a phenolic urethane cold box core making operation. When Resin #1 and Catalyst #1 are in use, this will be an accurate description; however, when Resins #2 and #3 and Catalyst #2 and #3 are in use it will not be accurate. Insert "Large Core Production Cell (ID LCC) **that will initially be utilized as a** phenolic urethane cold box core making operation, consisting of the following:"

**p. 4, A.2(1)** - The maximum resin use rate per hour should be 34.18 pounds of resin instead of 34.26 pounds per hour. [299,399.3 pounds per twelve consecutive months/8760 hours of operation = 34.18]. This is a minor difference but it will assist us in the future should we need to determine how the limits were arrived at.

**TSD, p. 3, Description (1)** - As above, the maximum resin usage should be 34.18 lb/hr.

**p.4, A.2(3) and TSD, p. 3, Description** - The two CB-50 core machines are identified as exhausting through an existing acid scrubber at stack ID AF. The VOC limits that Dalton accepted do not require that the core machines be controlled when utilizing Resin #1/Catalyst #1 (phenolic urethane resin and DMIPA). If Dalton uses Resin #2/Catalyst #2 or Resin#3/Catalyst #3 the core machines will not exhaust through the existing amine scrubber because an amine will not be used. This description of the core machines exhausting through AF may also cause confusion when stack testing. Dalton suggests that either any reference to the core machine exhausting through the existing scrubber be removed from the permit or that language be added to clarify that no VOC control is required due to the limits taken although Dalton may choose to exhaust through stack ID AF.

**TSR, p.4, Stack Summary** - This description of the core machines exhausting through AF may cause confusion when stack testing. Dalton suggests that either any reference to the core machine exhausting through the existing scrubber be removed from the permit or that language be added to clarify that no VOC control is required due to the limits taken although Dalton may voluntarily choose to exhaust through stack ID AF.

### **Response #1**

The requested changes to the permit will be made. The scrubber exhausting through stack AF is not required to comply with the VOC emission limit for the LCC for any of the resin/catalyst systems that will be used in the LCC. The scrubber is an amine scrubber which only controls amines. Therefore, when the alternate resin/catalyst systems are used, which will not use an amine catalyst, the emissions will not be vented through the scrubber. The description will be revised to state that Dalton may choose to exhaust through the scrubber exhausting through stack AF when the phenolic urethane resin and DMIPA are used. The facility description for the LCC under sections A.2 and D.1 of the permit is revised as follows:

One (1) Large Core Production Cell (ID LCC), which is **will initially be utilized as** a phenolic urethane cold box core making operation, consisting of the following:

- (1) Two (2) sand/resin mixers, identified as Mixer #10 and Mixer #11, each with a maximum throughput capacity of 15 tons of sand per hour and ~~34.26~~ **34.18** pounds of resin per hour, with no emission controls;
- (2) One (1) enclosed pneumatic sand transporter for transferring sand from the storage silo to a sand holding hopper and sand weigh hopper above the two (2) sand/resin mixers (Mixer #10 and Mixer #11). The sand hoppers use a dust collector, identified as Dust Collector V, for particulate matter control which exhausts through one (1) stack (ID V);
- (3) Two (2) CB-50 cold box core machines, identified as Core Machine #29 and Core Machine #30, each producing a maximum of 7 tons of cores per hour, using a maximum of 2.75 pounds of DMIPA catalyst per ton of core sand, both exhausting through an existing acid scrubber which controls VOC emissions, identified as Acid Scrubber AF, exhausting through one (1) stack (ID AF).

**Even though the acid scrubber is not required by the LCC for compliance with emission limits, the VOC emissions from Core Machines #29 and #30 may be vented through the acid scrubber when these core machines use phenolic urethane resin and DMIPA as catalyst.**

**The VOC emissions from Core Machines #29 and #30 would not be vented through the acid scrubber when an alternate resin/catalyst system is used. Acceptable alternate resin and catalyst systems shall not include amine catalysts.**

- (4) Two (2) core wash dip tanks, identified as DP-29 and DP-30, each with a maximum capacity of 15 tons of cores per hour and 20.408 pounds of core wash per ton of core sand with no emission controls; and
- (5) One (1) natural gas-fired core oven, identified as Core Oven #29, with a maximum rated heat input capacity of 6.0 million British thermal units (MMBtu) per hour, with no emission controls, exhausting through one (1) stack, identified as V-45.

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

**Comment #2**

**p.16, D.1.1, VOC Summary** - The emission limit total is 24.77 not the 24.76 listed. Again, a minor difference but this total is used throughout the permit and any discrepancy will make it hard to determine how the limits were arrived at in the future if required.

**Response #2**

The table in condition D.1.1 is revised as follows:

Usage Limit (pounds per year)*	VOC Content Limit (lb VOC per lb material)	VOC Emission Limit (tons/yr)
299,399.3 (resin)	0.02904	4.35
32,934.6 (catalyst)	1.0	16.47
245,504.7 (core wash)	0.02	2.46
1,397 (release agent)	0.9	0.63
1,725 (core box cleaner)	1.0	0.86
<b>Total</b>		<b><del>24.76</del> 24.77</b>

## Indiana Department of Environmental Management Office of Air Quality

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

#### Source Description and Location

<b>Source Name:</b>	<b>Dalton Corporation Warsaw Manufacturing Facility</b>
<b>Source Location:</b>	<b>1900 East Jefferson Street, Warsaw, IN 46581</b>
<b>County:</b>	<b>Kosciusko</b>
<b>SIC Code:</b>	<b>3321</b>
<b>Operation Permit No.:</b>	<b>T085-6708-00003</b>
<b>Operation Permit Issuance Date:</b>	<b>Pending</b>
<b>Significant Source Modification No.:</b>	<b>085-21851-00003</b>
<b>Permit Reviewer:</b>	<b>Trish Earls/EVP</b>

#### Existing Approvals

The source submitted an application for a Part 70 Operating Permit on September 26, 1996. At this time, this application is still under review. The source is operating under the following approvals:

- (a) Permit No. 43-11-86-0190, issued on January 19, 1983;
- (b) Permit No. 43-11-86-0191, issued on January 19, 1983;
- (c) Permit No. 43-11-86-0192, issued on January 19, 1983;
- (d) Permit No. 43-11-86-0193, issued on January 19, 1983;
- (e) CP 085-4463-00003, issued on July 17, 1995;
- (f) CP 085-9477-00003, issued on March 20, 1998;
- (g) AA 085-9579-00003, issued on October 26, 1998;
- (h) Exemption No. 085-10830-00003, issued on May 3, 1999;
- (i) Interim Significant Permit Revision Petition I-085-14027-00003, issued on March 30, 2001;
- (j) Significant Source Modification No. 085-14027-00003, issued on February 22, 2002;
- (k) Administrative Amendment No. 085-15816-00003, issued on August 23, 2002;
- (l) Significant Source Modification No. 085-18009-00003, issued on December 9, 2003;
- (m) Administrative Amendment No. 085-18455-00003, issued on February 16, 2004;
- (n) Review Request No. 085-16361-00003, issued on November 12, 2004;
- (o) Interim Significant Source Modification No. 085-21851-00003, issued on October 26, 2005;
- (p) Interim Significant Source Modification No. 085-22046-00003, issued on February 10, 2006; and
- (q) Significant Source Modification No. 085-22046-00003, issued on March 23, 2006.

#### County Attainment Status

The source is located in Kosciusko County.

<b>Pollutant</b>	<b>Status</b>
PM10	Attainment
PM2.5	Attainment
SO <sub>2</sub>	Attainment
NO <sub>2</sub>	Attainment
8-hour Ozone	Attainment
CO	Attainment
Lead	Attainment

- (a) Volatile organic compounds (VOC) and nitrogen oxides (NO<sub>x</sub>) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC emissions and NO<sub>x</sub> emissions are considered when evaluating the rule applicability relating to ozone. Kosciusko County has been designated as attainment or unclassifiable for ozone. Therefore, VOC emissions and NO<sub>x</sub> emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
- (b) Kosciusko County has been classified as attainment for PM<sub>2.5</sub>. U.S. EPA has not yet established the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 for PM<sub>2.5</sub> emissions. Therefore, until the U.S.EPA adopts specific provisions for PSD review for PM<sub>2.5</sub> emissions, it has directed states to regulate PM<sub>10</sub> emissions as a surrogate for PM<sub>2.5</sub> emissions.
- (c) Kosciusko County has been classified as attainment or unclassifiable for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
- (d) Since this source is classified as a secondary metal production plant, it is considered one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(gg)(1).
- (e) Fugitive Emissions  
 Since this type of operation is in one of the twenty-eight (28) listed source categories under 326 IAC 2-2 or 326 IAC 2-3, fugitive emissions are counted toward the determination of PSD and Emission Offset applicability.

<b>Source Status</b>
----------------------

The table below summarizes the potential to emit of the entire source, prior to the proposed modification, after consideration of all enforceable limits established in the effective permits:

Pollutant	Emissions (tons/year)
PM	236.54
PM <sub>10</sub>	171.55
SO <sub>2</sub>	149.99
VOC	182.91
CO	735.43
NO <sub>x</sub>	59.12

- (a) This existing source is a major stationary source, under PSD (326 IAC 2-2), because a regulated pollutant is emitted at a rate of 100 tons per year or more, and it is one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(gg)(1).
- (b) These emissions are based upon previous approvals issued to this source.

The table below summarizes the potential to emit HAPs for the entire source, prior to the proposed modification, after consideration of all enforceable limits established in the effective permits:

HAPs	Potential To Emit (tons/year)
Single HAP	Greater than 10
TOTAL	Greater than 25

This existing source is a major source of HAPs, as defined in 40 CFR 63.41, because HAP emissions are greater than ten (10) tons per year for a single HAP and greater than twenty-five (25) tons per year for a combination of HAPs. Therefore, this source is a major source under Section 112 of the Clean Air Act (CAA).

### Actual Emissions

The following table shows the actual emissions from the source. This information reflects the 2003 OAQ emission data.

Pollutant	Actual Emissions (tons/year)
PM10	152.0
PM2.5	109.0
SO <sub>2</sub>	27.0
VOC	148.0
CO	653.0
NO <sub>x</sub>	38.0
HAP (Lead)	0.0

### Description of Proposed Modification

The Office of Air Quality (OAQ) has reviewed a modification application, submitted by Dalton Corporation Warsaw Manufacturing Facility on September 30, 2005, relating to the construction and operation of a large core production cell to its existing gray iron foundry operation located in Warsaw, Indiana. The following is a list of the proposed emission units and pollution control devices:

One (1) Large Core Production Cell (ID LCC), which is a phenolic urethane cold box core making operation, consisting of the following:

- (1) Two (2) sand/resin mixers, identified as Mixer #10 and Mixer #11, each with a maximum throughput capacity of 15 tons of sand per hour and 34.26 pounds of resin per hour, with no emission controls;
- (2) One (1) enclosed pneumatic sand transporter for transferring sand from the storage silo to a sand holding hopper and sand weigh hopper above the two (2) sand/resin mixers (Mixer #10 and Mixer #11). The sand hoppers use a dust collector, identified as Dust Collector V, for particulate matter control which exhausts through one (1) stack (ID V);
- (3) Two (2) CB-50 cold box core machines, identified as Core Machine #29 and Core Machine #30, each producing a maximum of 7 tons of cores per hour, using a maximum of 2.75 pounds of DMIPA catalyst per ton of core sand, both exhausting through an existing acid scrubber which controls VOC emissions, identified as Acid Scrubber AF, exhausting through one (1) stack (ID AF);
- (4) Two (2) core wash dip tanks, identified as DP-29 and DP-30, each with a maximum capacity of 15 tons of cores per hour and 20.408 pounds of core wash per ton of core sand with no emission controls; and
- (5) One (1) natural gas-fired core oven, identified as Core Oven #29, with a maximum rated heat input capacity of 6.0 million British thermal units (MMBtu) per hour, with no emission controls, exhausting through one (1) stack, identified as V-45.

The equipment will be installed to accommodate Dalton’s current customers’ parts mix that requires larger cores. Several parts requiring smaller cores in higher volumes have been lost to competitors. Dalton does not anticipate additional sand throughput through the core room or any increases in iron poured as a result of this project because the mix has shifted the size of cores needed—not the volume of sand necessary. However, the existing emission units that could be affected by this project are as follows; the cupola could potentially increase its charge to melt more iron to be used for any additional molds that might be required in order to accommodate the additional cores that could potentially be made; this increase in iron melted would result in an increase in iron throughput at the pouring, cooling, shakeout and sand handling processes and a corresponding increase in castings requiring processing. The pollutants that could potentially be increased would be VOCs from the cupola and pouring, cooling and shakeout and PM and PM10 from all the affected processes.

**Enforcement Issues**

There are no pending enforcement actions related to this modification.

**Stack Summary**

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (°F)
AF	PUCB Core Machines	58.5	3.5	30,000	ambient
V	Dust Collector V	22.0	14"x32"	2,400	ambient
V-45	Core oven	58.5	1.25	Approx. 3,000	Approx. 275
To be determined	Alternative Resin #2 & #3 PUCB Core Machines	To be determined	To be determined	To be determined	To be determined

**Emission Calculations**

See Appendix A of this document for detailed emission calculations.

**Permit Level Determination – Part 70**

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source or emission unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, IDEM, or the appropriate local air pollution control agency.”

The following table is used to determine the appropriate permit level under 326 IAC 2-7-10.5. This table reflects the PTE before controls of the new emission units only. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Pollutant	Potential To Emit (tons/year)
PM	473.09
PM10	71.16
SO <sub>2</sub>	0.02
VOC	253.7
CO	2.21
NO <sub>x</sub>	2.63

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

This source modification is subject to 326 IAC 2-7-10.5(f)(4)(A) and (D) because the potential to emit of PM, PM10 and VOC from the modification is greater than 25 tons per year.

**Permit Level Determination – PSD**

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

Criteria Pollutants	Baseline Actual Emissions (tpy) [1]	Projected Actual Emissions (tpy) [2]	Emissions Increase from Existing Emission Units (tpy) {Column [2] – Column [1]} [3]	Limited Potential to Emit from LCC (tpy) [4]	Total Emissions Increase from Project (tpy) {Column [3] + Column [4]} [5]	Significant Increase Level (tpy) [6]
PM10	156.55	170.12	13.57	0.392	13.96	15
PM	211.54	234.50	22.96	1.98	24.94	25
VOC	142.91	157.96	15.05	24.9	39.95	40

[1] "Baseline actual emissions" are defined in 326 IAC 2-2-1(e) as the rate the pollutant was emitted during a consecutive twenty-four (24) month period within the ten (10) year period immediately preceding the proposed project's construction. For this project the 24 month period occurred from 1997 to 1998. The existing emission units included in this analysis are as follows; the cupola, pouring, cooling, shakeout, sand handling processes and castings finishing operations.

[2] "Projected actual emissions" are defined in 326 IAC 2-2-1(rr) as future emissions excluding any increase in emissions from the project that could have been accommodated during the consecutive twenty-four (24) month period used to establish the baseline actual emissions. These emissions represent the maximum allowable emissions as included in Significant Source Mod. No. 085-14027-00003 for the existing emission units that could be affected by this modification.

[3] In accordance with 326 IAC 2-2-2(d)(3), the emissions increase that is calculated as the sum of the difference between the projected actual emissions and the baseline actual emissions for each emissions unit.

[4] These emissions represent limits on PM, PM10, and VOC emissions from the LCC that the source has accepted such that the total emissions increase from the project will not exceed the PSD significant thresholds of 25, 15, and 40 tons per year, respectively. The VOC emission limit for the LCC will also render the requirements of 326 IAC 8-1-6 not applicable.

[6] "Significant" is defined in 326 IAC 2-2-1(xx) for PM and PM10, and in 326 IAC 2-3-1(qq) for VOC.



**Federal Rule Applicability Determination**

The following federal rules are applicable to the source due to this modification:

- (a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this proposed modification.
- (b) The affected source, the iron foundry, is subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Iron and Steel Foundries, (40 CFR 63, Subpart EEEEE, and 326 IAC 20-1-1), effective the date the rule is published in the Federal Register. Pursuant to this rule, the Permittee must comply with 40 CFR 63, Subpart EEEEE on and after the date that is three years after the effective date of the rule, except as provided in paragraph (d), or accept and meet an enforceable HAP emissions limit below the major source threshold prior to three years after the effective date of the rule.

The requirements of 40 CFR 63, Subpart EEEEE only apply to triethylamine (TEA) cold box mold or core making lines at iron and steel foundries. Therefore, since the phenolic urethane cold box core making operations being installed in this modification use DMIPA as a catalyst and do not use a TEA catalyst, the requirements of this rule are not included in this modification for the core making operation.

- (c) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is applicable to new or modified emission units that involve a pollutant-specific emission unit and meet the following criteria:
  - (1) has a potential to emit before controls equal to or greater than the major source threshold for the pollutant involved;
  - (2) is subject to an emission limitation or standard for that pollutant; and
  - (3) uses a control device, as defined in 40 CFR 64.1, to comply with that emission limitation or standard.

The following table is used to identify the applicability of each of the criteria, under 40 CFR 64.1, to each new or modified emission unit involved:

Emission Unit	Control Device Used	Emission Limitation (Y/N)	Uncontrolled PTE (tons/year)	Controlled PTE (tons/year)	Major Source Threshold (tons/year)	CAM Applicable (Y/N)	Large Unit (Y/N)
LCC - PM	Dust Collector	Y	473.04	0.15	100	Y	N
LCC – PM10	Dust Collector	Y	70.96	0.02	100	N	N
LCC - VOC	Scrubber*	Y	253.56	24.76*	100	N	N

\*VOC emissions are limited to 24.76 via usage limits and associated emission limits. The scrubber is not required to comply with the VOC emission limit, because the VOC limit is specified as before the use of control.

Based on this evaluation, the requirements of 40 CFR Part 64, CAM are applicable to the Large Core Production Cell for PM upon issuance of the Title V Renewal. A CAM plan must be submitted as part of the Renewal application.

### State Rule Applicability Determination

The following state rules are applicable to the source due to the modification:

#### **326 IAC 2-2 (PSD)**

PSD applicability is discussed under the Permit Level Determination - PSD section.

The following limitations that the source has accepted to limit VOC emissions to less than 25 tons per year to render the requirements of 326 IAC 8-1-6 (New Facilities, General Reduction Requirements) not applicable, will also limit emissions increases of VOC from the project to less than the PSD significant level of 40 tons per year so that this modification at a major stationary source will not be major for Prevention of Significant Deterioration under 326 IAC 2-2-1:

- (a) The total volatile organic compound (VOC) emissions from the two (2) resin/sand mixers (Mixers #10 and #11), the two (2) core machines (Core Machines #29 and #30), and the two (2) core wash dip tanks (DP-29 and DP-30) shall not exceed the following:
- (1) 0.02904 pound VOC per pound of resin used;
  - (2) 1.0 pound VOC per pound of catalyst used;
  - (3) 0.02 pound VOC per pound of core wash used;
  - (4) 0.9 pound VOC per pound of release agent used; and
  - (5) 1.0 pound VOC per pound of core box cleaner used.

Where: Resin #1 and Catalyst #1 represent the current resin/catalyst system in use. The source has proposed to use two other resin/catalyst systems in the Large Core Production Cell in the future. These would be identified as Resin #2/Catalyst #2 and Resin #3/Catalyst #3. The VOC emission rates for the mixture of Resin #2 and Catalyst #2 and Resin #3 and Catalyst #3 will be determined by VOC stack testing to be conducted within 180 days of commencing operations using either of these resin/catalyst systems.

- (b) The amount of resin used in the two (2) resin/sand mixers and the two (2) core machines combined shall not exceed 299,399.3 pounds per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (c) The amount of catalyst used in the two (2) core machines combined shall not exceed 32,934.6 pounds per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (d) The amount of core wash used in the two (2) core wash dip tanks combined shall not exceed 245,504.7 pounds per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (e) The amount of release agent used in the two (2) core machines combined shall not exceed 1,397 pounds per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (f) The amount of core box cleaner used in the two (2) core machines combined shall not exceed 1,725 pounds per twelve consecutive month period, with compliance determined at the end of each month.

- (g) Compliance with the VOC emission limit shall be determined using the following equation:

Total VOC Emissions (pounds/month) = (Pounds Resin # 1 used/month)x(0.02904 pound VOC/pound resin used) + (Pounds Catalyst # 1 used/month)x(1.0 pound VOC/pound of catalyst used) + (Pounds Resin # 2 used and Pounds Catalyst #2 used/month<sup>1</sup>)x(VOC emission per unit of use (determined from stack test)) + (Pounds Resin # 3 used and Pounds Catalyst #3 used/month<sup>1</sup>)x(VOC emission per unit of use (determined from stack test)) + (Pounds Core Wash used/month)x(0.02 pound VOC/pound of core wash used) + (Pounds Release Agent used)x(0.9 pound VOC/pound of Release Agent used) + (Pounds core box cleaner)x(1.0 pound VOC/pound of core box cleaner used)

<sup>1</sup> If catalyst used contains a VOC.

A summary of the above VOC emission limits is included in the following table:

Usage Limit (pounds per year)*	VOC Content Limit (lb VOC per lb material)	VOC Emission Limit (tons/yr)
299,399.3 (resin)	0.02904	4.35
32,934.6 (catalyst)	1.0	16.47
245,504.7 (core wash)	0.02	2.46
1,397 (release agent)	0.9	0.63
1,725 (core box cleaner)	1.0	0.86
<b>Total</b>		<b>24.76</b>

\* The material usage limits are expressed in pounds per year because they are based on VOC content limits in pound VOC per pound of material used.

The following limitations will limit PM and PM10 emissions from the Large Core Production Cell (ID LCC) such that the emissions increases from the existing emission units, based on the Actual to Projected Actual test in 326 IAC 2-2-2, plus the limited potential to emit from the LCC will be less than the PSD significant thresholds of 25 and 15 tons per year, respectively, so that this modification at a major stationary source will not be major for Prevention of Significant Deterioration under 326 IAC 2-2-1:

- (a) Total PM emissions from the Large Core Production Cell (ID LCC) shall not exceed 0.33 pounds PM per ton of sand throughput;
- (b) Total PM10 emissions from the Large Core Production Cell (ID LCC) shall not exceed 0.065 pound PM10 per ton of sand throughput;
- (c) The throughput of sand to the Large Core Production Cell (ID LCC) shall not exceed 12,005 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

The Permittee shall operate the dust collector for particulate control at a minimum overall control efficiency of 90.83% at all times that the Large Core Production Cell is in operation.

**326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))**

The operation of the Large Core Production Cell (ID LCC) will emit less than ten (10) tons per year for a single HAP and less than twenty-five (25) tons per year for a combination of HAPs. Therefore, 326 IAC 2-4.1 does not apply.

**326 IAC 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).

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

Pursuant to 326 IAC 6-3-2(e), the particulate from the sand handling in the Large Core Production Cell (ID LCC) shall not exceed 40.03 pounds per hour when operating at a process weight rate of 30 tons per hour. The pound per hour limitation was calculated with the following equation:

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

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

The cartridge collector shall be in operation at all times the LCC is in operation, in order to comply with this limit.

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

This rule applies to facilities located anywhere in the state that were constructed on or after January 1, 1980, which have potential volatile organic compounds (VOC) emissions of 25 tons per year or more, and which are not otherwise regulated by other provisions of 326 IAC 8, and requires the reduction of VOC emissions using Best Available Control Technology (BACT). The source has accepted the following limitations to limit VOC emissions to less than 25 tons per year to render the requirements of 326 IAC 8-1-6 (New Facilities, General Reduction Requirements) not applicable:

- (a) The total volatile organic compound (VOC) emissions from the two (2) resin/sand mixers (Mixers #10 and #11), the two (2) core machines (Core Machines #29 and #30), and the two (2) core wash dip tanks (DP-29 and DP-30) shall not exceed the following:
  - (1) 0.02904 pound VOC per pound of resin used;
  - (2) 1.0 pound VOC per pound of catalyst used;
  - (3) 0.02 pound VOC per pound of core wash used;
  - (4) 0.9 pound VOC per pound of release agent used; and
  - (5) 1.0 pound VOC per pound of core box cleaner used.

Where: Resin #1 and Catalyst #1 represent the current resin/catalyst system in use. The source has proposed to use two other resin/catalyst systems in the Large Core Production Cell in the future. These would be identified as Resin #2/Catalyst #2 and Resin #3/Catalyst #3. The VOC emission rates for the mixture of Resin #2 and Catalyst #2 and Resin #3 and Catalyst #3 will be determined by VOC stack testing to be conducted within 180 days of commencing operations using either of these resin/catalyst systems.

- (b) The amount of resin used in the two (2) resin/sand mixers and the two (2) core machines combined shall not exceed 299,399.3 pounds per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (c) The amount of catalyst used in the two (2) resin/sand mixers and the two (2) core machines combined shall not exceed 32,934.6 pounds per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (d) The amount of core wash used in the two (2) core wash dip tanks combined shall not exceed 245,504.7 pounds per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (e) The amount of release agent used in the two (2) core machines combined shall not exceed 1,397 pounds per twelve (12) consecutive month period, with compliance determined at the end of each month.
- (f) The amount of core box cleaner used in the two (2) core machines combined shall not exceed 1,725 pounds per twelve consecutive month period, with compliance determined at the end of each month.
- (g) Compliance with the VOC emission limit shall be determined using the following equation:

Total VOC Emissions (pounds/month) = (Pounds Resin # 1 used/month)x(0.02904 pound VOC/pound resin used) + (Pounds Catalyst # 1 used/month)x(1.0 pound VOC/pound of catalyst used) + (Pounds Resin # 2 used and Pounds Catalyst #2 used/month<sup>1</sup>)x(VOC emission per unit of use (determined from stack test)) + (Pounds Resin # 3 used and Pounds Catalyst #3 used/month<sup>1</sup>)x(VOC emission per unit of use (determined from stack test)) + (Pounds Core Wash used/month)x(0.02 pound VOC/pound of core wash used) + (Pounds Release Agent used)x(0.9 pound VOC/pound of Release Agent used) + (Pounds core box cleaner)x(1.0 pound VOC/pound of core box cleaner used)

<sup>1</sup> If catalyst used contains a VOC.

A summary of the above VOC emission limits is included in the following table:

Usage Limit (pounds per year)*	VOC Content Limit (lb VOC per lb material)	VOC Emission Limit (tons/yr)
299,399.3 (resin)	0.02904	4.35
32,934.6 (catalyst)	1.0	16.47
245,504.7 (core wash)	0.02	2.46
1,397 (release agent)	0.9	0.63
1,725 (core box cleaner)	1.0	0.86
<b>Total</b>		<b>24.76</b>

\* The material usage limits are expressed in pounds per year because they are based on VOC content limits in pound VOC per pound of material used.

### Compliance Determination and Monitoring Requirements

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with all applicable state and federal rules on a continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a continuous demonstration. When this occurs IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, Compliance Determination Requirements are included in the permit. The Compliance Determination Requirements in Section D of the permit are those conditions that are found directly within state and federal rules and the violation of which serves as grounds for enforcement action.

If the Compliance Determination Requirements are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also in Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

The Compliance Determination Requirements applicable to this modification are as follows:

- (a) The Large Core Production Cell (ID LCC) has applicable compliance determination conditions as specified below:
  - (1) The following testing requirements apply to this modification:
    - (A) During the period within 60 days of achieving the maximum production rate but no later than 180 days after start-up of the core sand/resin mixers and cold box core machines, in order to demonstrate compliance with the VOC limitations, the Permittee shall perform VOC testing for the core sand/resin mixers and cold box core machines when using the resin identified as Resin #1 and the catalyst identified as Catalyst #1 utilizing methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C-Performance Testing.
    - (B) During the period within 60 days of achieving the maximum production rate but no later than 180 days after start-up of the core sand/resin mixers and cold box core machines using the resin identified as Resin #2 and the catalyst identified as Catalyst #2, in order to demonstrate compliance with the VOC limitations, the Permittee shall perform VOC testing for the core sand/resin mixers and cold box core machines when using the resin identified as Resin #2 and the catalyst identified as Catalyst #2 utilizing methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C-Performance Testing.

- (C) During the period within 60 days of achieving the maximum production rate but no later than 180 days after start-up of the core sand/resin mixers and cold box core machines using the resin identified as Resin #3 and the catalyst identified as Catalyst #3, in order to demonstrate compliance with the VOC limitations, the Permittee shall perform VOC testing for the core sand/resin mixers and cold box core machines when using the resin identified as Resin #3 and the catalyst identified as Catalyst #3 utilizing methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C- Performance Testing.

There are no PM or PM10 testing requirements for the sand handling in the Large Core Production Cell because emissions were calculated using US EPA's AP-42, an accepted emission factor source.

The compliance monitoring requirements applicable to this modification are as follows:

- (b) The Large Core Production Cell (ID LCC) has applicable compliance monitoring conditions as specified below:
- (1) Daily visible emission notations of the dust collector V stack exhaust shall be performed during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.
  - (2) 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.
  - (3) 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.
  - (4) 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.
  - (5) If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.
  - (6) The Permittee shall record the pressure drop across the dust collector V used in conjunction with the core sand handling for the Large Core Production Cell, at least once per day when the core sand handling is in operation. When for any one reading, the pressure drop across the dust collector is outside the normal range of 3.0 and 8.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.

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

These monitoring conditions are necessary because the dust collector controlling particulate emissions from the sand handling associated with the Large Core Production Cell (ID LCC) must operate properly to ensure compliance with 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes), to comply with the PM and PM10 emission limits so that this modification at a major stationary source will not be major for Prevention of Significant Deterioration under 326 IAC 2-2-1, and to comply with 326 IAC 2-7 (Part 70)).

### **Conclusion and Recommendation**

The construction and operation of this proposed modification shall be subject to the conditions of the attached proposed Part 70 Significant Source Modification No. 085-21851-00003. The staff recommends to the Commissioner that this Part 70 Significant Source Modification be approved.

## Appendix A: Emission Calculations Summary

**Company Name:** Dalton Corporation Warsaw Manufacturing Facility  
**Address City IN Zip:** 1900 E. Jefferson Street, Warsaw, Indiana 46581  
**Permit Number:** 085-21851  
**Plt ID:** 085-00003  
**Reviewer:** Trish Earls/EVP  
**Date:** 9/30/05

<b>Total Potential To Emit (tons/year)</b>			
Emissions Generating Activity			
Pollutant	Core Making	Core Oven	TOTAL
PM	473.04	0.05	473.09
PM10	70.96	0.20	71.16
SO2	0.00	0.02	0.02
NOx	0.00	2.63	2.63
VOC	253.56	0.14	253.70
CO	0.00	2.21	2.21
total HAPs	0.07	0.05	0.12
worst case single HAP	(Naphthalene) 0.05	(Hexane) 0.047	(Naphthalene) 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			
<b>Total Limited Potential To Emit (tons/year)</b>			
Emissions Generating Activity			
Pollutant	Core Making	Core Oven	TOTAL
PM	0.15	0.05	0.20
PM10	0.02	0.20	0.22
SO2	0.00	0.02	0.02
NOx	0.00	2.63	2.63
VOC	24.76	0.14	24.90
CO	0.00	2.21	2.21
total HAPs	Negl.	0.05	0.05
worst case single HAP	Negl.	(Hexane) 0.047	(Hexane) 0.047
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: Dalton Corporation Warsaw Manufacturing Facility  
 Address City IN Zip: 1900 E. Jefferson Street, Warsaw, Indiana 46581  
 Permit Number: 085-21851  
 Pit ID: 085-00003  
 Reviewer: Trish Earls/EVP

Core Making Operation	Maximum Throughput						
	LBS/HR	TON/HR					
TYPE OF MATERIAL	28000		14				
Sand	2734		1.37				
	PM lbs/ton sand handled	PM10 lbs/ton sand handled	SOx lbs/ton sand handled	NOx lbs/ton sand handled	VOC * lbs/ton sand handled	CO lbs/ton sand handled	Lead lbs/ton sand handled
	0	0	0.0	0.0	4.135	0.0	0.0
Potential Uncontrolled Emissions lbs/hr	0.00	0.00	0.00	0.00	57.89	0.00	0.00
<b>Potential Uncontrolled Emissions tons/year</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>253.56</b>	<b>0.00</b>	<b>0.00</b>
Limited Uncontrolled Emissions lbs/hr	0.00	0.00	0.00	0.00	5.65	0.00	0.00
<b>Limited Uncontrolled Emissions tons/year</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>24.76</b>	<b>0.00</b>	<b>0.00</b>

\* VOC emission factor includes emissions from resin, catalyst, core box cleaner, release agent, and core wash usage based on resin manufacturer's data and mass balance for catalyst, core box cleaner, release agent, and core wash. See pages 3 and 4 of Appendix A for derivation of emission factor. Limited emissions based on usage limits included in the Source Modification.

3-04-003-50 Core Sand Handling	Maximum Throughput						
	LBS/HR	TON/HR	Dust Collector V Control Efficiency (%)				
TYPE OF MATERIAL	60000		30				
Sand	2741		1.37				
	PM lbs/ton sand handled	PM10 lbs/ton sand handled	SOx lbs/ton sand handled	NOx lbs/ton sand handled	VOC lbs/ton sand handled	CO lbs/ton sand handled	Lead lbs/ton sand handled
	3.6	0.54	0.0	0.0	0.000	0.0	0.0
Potential Uncontrolled Emissions lbs/hr	108.00	16.20	0.00	0.00	0.00	0.00	0.00
<b>Potential Uncontrolled Emissions tons/year</b>	<b>473.04</b>	<b>70.96</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	0.03	5.1E-03	0.00	0.00	0.00	0.00	0.00
<b>Limited Controlled Emissions tons/year</b>	<b>0.15</b>	<b>0.02</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</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.

**Appendix A: Grey Iron Foundry Operations  
VOC Emission Factor Derivation Using a Mass Balance Approach**

**Company Name: Dalton Corporation Warsaw Manufacturing Facility**  
**Address City IN Zip: 1900 E. Jefferson Street, Warsaw, Indiana 46581**  
**Permit Number: 085-21851**  
**Plt ID: 085-00003**  
**Reviewer: Trish Earls/EVP**  
**Date: 9/30/05**

**Phenolic Urethane Core Making**

***Resin VOC emission factor at the mixer***

VOC = 0.185 based on HA Technical Report

Sigma Cure 7211/7518 (highest VOC containing resin) =	0.132 lbs VOC/ton of sand	(according to HA Technical Report - Immediately After Mixing)
2003 Stack Test data =	0.085 lbs VOC/ton of sand	
Safety Factor to be used in PSD application =	40%	

VOC Emission Factor = (Sigma Cure 7211/7518 VOC Emissions Immediately After Mixing)(Safety Factor)  
VOC Emission Factor = (0.132 lbs VOC/ton of sand)(1.40)  
VOC Emission Factor = 0.185 lbs VOC/ton of sand

***Resin VOC emission factor at the core machine***

VOC = 0.541 based on HA Technical Report

Sigma Cure 7211/7518 (highest VOC containing resin) =	0.726 lbs VOC/ton of sand	(according to HA Technical Report -12-hours)
Resin VOC Emission Factor at the mixer =	0.185 lbs VOC/ton of sand	

VOC Emission Factor = (Sigma Cure 7211/7518 VOC Emissions 12-hour) - (Resin VOC Emission Factor at the mixer)  
VOC Emission Factor = (0.726 lbs VOC/ton of sand) - (0.185 lbs VOC/ton of sand)  
VOC Emission Factor = 0.541 lbs VOC/ton of sand

***Catalyst VOC emission factor***

VOC = 2.75 based on mass balance

Worst-Case DMIPA to Sand usage =		
DMIPA usage =	11,124 lbs DMIPA	Usage rates are based on worst-case actual usages.
Sand usage =	4,166 tons sand	

VOC Emission Factor = (DMIPA usage)/(Sand usage)  
VOC Emission Factor = (11,124 lbs DMIPA)/(4,166 tons sand)  
VOC Emission Factor = 2.67 lbs VOC/ton of sand

Added a safety factor into derived VOC Emission Factor = 2.75 lbs VOC/ton of sand

**Appendix A: Grey Iron Foundry Operations  
VOC Emission Factor Derivation Using a Mass Balance Approach**

**Company Name: Dalton Corporation Warsaw Manufacturing Facility  
Address City IN Zip: 1900 E. Jefferson Street, Warsaw, Indiana 46581  
Permit Number: 085-21851  
Plt ID: 085-00003  
Reviewer: Trish Earls/EVP  
Date: 9/30/05**

**Core box cleaner VOC emission factor**

VOC = 0.14 lb/ton derived from mass balance

Core Box Cleaner

Number of Barrels Purchased per Year = 20  
Gallons per Barrel = 55  
Density of Core Box Cleaner = 8.13  
Percent VOC = 100%  
Tons of Sand Purchased per Year = 62,200

VOC Emission Factor = (Number of Barrels Purchased per Year)(Gallons per Barrel)(Density of Core Box Cleaner)(Percent VOC)/(Tons of Sand Purchased per Year)  
VOC Emission Factor = (20 Barrels/Year)(55 Gallons/Barrel)(7.5 Pounds/Gallon)(100% VOC)/(62,200 Tons of Sand/Year)  
VOC Emission Factor = 0.144 lbs VOC/ton Sand

**Release Agent VOC emission factor =**

VOC = 0.10 lb/ton derived from mass balance

Release Agent

Pounds of Release Agent Purchased per Year = 7,226  
Percent VOC = 90.0%  
Tons of Sand Purchased per Year = 62,200

VOC Emission Factor = (Pounds of Release Agent Purchased per Year)(Percent VOC)/(Tons of Sand Purchased per Year)  
VOC Emission Factor = (4,320 Pounds of Release Agent/Year)(90.0 % VOC)/(65,000 Tons of Sand/Year)  
VOC Emission Factor = 0.105 lbs VOC/ton Sand

**Low VOC core wash VOC emission factor**

VOC = 0.41 lb/ton derived from mass balance

Core Wash:

Pounds of Core Wash Used Per Ton of Sand = 20.408  
Percent VOC = 2.00%

VOC Emission Factor = (Pounds of Core Wash Used per Tons of Sand Processed)(Percent VOC)  
VOC Emission Factor = (20.408 Pounds of Core Wash/Ton of Sand)(2% VOC)  
VOC Emission Factor = 0.41 lbs VOC/ton Sand

**Sum of all VOC emission factors above = 4.135**

**Appendix A: Emission Calculations**  
**HAP Emission Calculations - Phenolic Urethane Coldbox Core Making**

**Company Name: Dalton Corporation Warsaw Manufacturing Facility**  
**Address City IN Zip: 1900 E. Jefferson Street, Warsaw, Indiana 46581**  
**Permit Number: 085-21851**  
**Plt ID: 085-00003**  
**Reviewer: Trish Earls/EVP**  
**Date: 9/30/05**

Material	Maximum Usage (lbs/hr)	Weight % Phenol	Weight % MDI	Weight % Formaldehyde	Weight % Naphthalene	Phenol Emissions (ton/yr)	MDI Emissions (ton/yr)	Formaldehyde Emissions (ton/yr)	Naphthalene Emissions (ton/yr)
<b>Phenolic Coldbox Core Making</b>									
Phenolic Urethane Coldbox Part I Resin	18.84	5.00%	0.00%	1.00%	1.00%	0.00	0.00	0.02	0.03
Phenolic Urethane Coldbox Part II Resin	15.42	0.00%	50.00%	0.00%	1.00%	0.00	0.00	0.00	0.02

<b>0.00</b>	<b>0.00</b>	<b>0.02</b>	<b>0.05</b>
-------------	-------------	-------------	-------------

<b>0.07</b>
-------------

**Reduction Factors for Core Making**

Pollutant	Phenolic Urethane Coldbox Part I Reduction Factors	Phenolic Urethane Coldbox Part II Reduction Factors
Phenol	0.00%	N/A
MDI	N/A	0.00%
Formaldehyde	2.00%	N/A
Naphthalene	3.25%	3.25%

**METHODOLOGY**

Max. Hourly Resin Usage Rate = Max. Annual Resin Usage rate (lbs/yr) / 8,760 (hrs/yr)

HAP Emissions from Resins = Max. Hourly Usage Rate \* % HAP \* Reduction Factor \* 8760 hrs/yr \* 1 ton/2000 lbs

Reduction factors obtained from the American Foundrymen's Society Publication entitled "Form R Reporting of Binder Chemicals used in Foundries", and refers to the weight percent of HAP that is emitted to the atmosphere.

None of the other materials used in the core making operation contain HAPs.

**Appendix A: Emissions Calculations  
Natural Gas Combustion Only  
MM BTU/HR <100  
Core Oven**

**Company Name: Dalton Corporation Warsaw Manufacturing Facility**  
**Address City IN Zip: 1900 E. Jefferson Street, Warsaw, Indiana 46581**  
**Permit Number: 085-21851**  
**Plt ID: 085-00003**  
**Reviewer: Trish Earls/EVP**  
**Date: 9/30/05**

Heat Input Capacity  
MMBtu/hr

Potential Throughput  
MMCF/yr

6.0

52.6

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	0.20	0.02	2.63	0.14	2.21

\*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  
 Core Oven  
 HAPs Emissions**

**Company Name: Dalton Corporation Warsaw Manufacturing Facility**  
**Address City IN Zip: 1900 E. Jefferson Street, Warsaw, Indiana 46581**  
**Permit Number: 085-21851**  
**Pit ID: 085-00003**  
**Reviewer: Trish Earls/EVP**  
**Date: 9/30/05**

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	5.519E-05	3.154E-05	1.971E-03	4.730E-02	8.935E-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	1.314E-05	2.891E-05	3.679E-05	9.986E-06	5.519E-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.

### Appendix A: Emission Calculations

**Company Name:** Dalton Corporation Warsaw Manufacturing Facility  
**Address City IN Zip:** 1900 E. Jefferson Street, Warsaw, Indiana 46581  
**Permit Number:** 085-21851  
**Plt ID:** 085-00003  
**Reviewer:** Trish Earls/EVP

#### Estimated Increases in Annual Emissions of Criteria Air Pollutants

Criteria Pollutants	Baseline Actual Emissions (tpy) [1]	Projected Actual Emissions (tpy) [2]	Emissions Increase from Existing Emission Units (tpy) {Column [2] - Column [1]} [3]	Limited Potential To Emit from LCC [4]	Total Emissions Increase from Project {Column [3] + Column [4]} [5]	Significant Increase Levels (tpy) [6]
PM10	156.55	170.12	13.57	0.392	13.96	15
PM	211.54	234.50	22.96	1.98	24.94	25
VOC	142.91	157.96	15.05	24.9	39.95	40

[1] "Baseline actual emissions" are defined in 326 IAC 2-2-1(e) as the rate the pollutant was emitted during a consecutive twenty-four (24) month period within the ten (10) year period immediately preceding the proposed project's construction. For this project the 24 month period occurred from 1997 to 1998.

[2] "Projected actual emissions" are defined in 326 IAC 2-2-1(rr) as future emissions excluding any increase in emissions from the project that could have been accommodated during the consecutive twenty-four (24) month period used to establish the baseline actual emissions. These emissions represent the maximum allowable emissions as included in Significant Source Mod. No. 085-14027-00003 for the existing emission units that could be affected by this modification.

[3] In accordance with 326 IAC 2-2-2(d)(3), the emissions increase that is calculated as the sum of the difference between the projected actual emissions and the baseline actual emissions for each emissions unit.

[4] The source will accept limits on PM, PM10, and VOC emissions from the LCC such that the total emissions increase from the project will not exceed the PSD significant thresholds.

[6] "Significant" is defined in 326 IAC 2-2-1(xx) for PM and PM10, and in 326 IAC 2-3-1(qq) for VOC.