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
(317) 232-8603
(800) 451-6027
www.IN.gov/idem

TO: Interested Parties / Applicant

DATE: October 13, 2006

RE: Iron Dynamics, Inc. / 033-22673-00076

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 13-17-3-4 and 326 IAC 2, this approval is effective immediately, unless a petition for stay of effectiveness is filed and granted, and may be revoked or modified in accordance with the provisions of IC 13-15-7-1.

If you wish to challenge this decision, IC 4-21.5-3-7 and IC 13-15-7-3 require that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office Environmental Adjudication, 100 North Senate Avenue, Government Center North, 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-MOD.dot 03/23/06

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October 13, 2006

Mr. Barry Smith
Environmental Engineer
Iron Dynamics, Inc.
4500 Country Road 59
Butler, IN 46721

Re: Significant Source Modification
033-22673-00076

Dear Mr. Smith:

Iron Dynamics, Inc., located at 4500 County Road 59, Butler, IN 46721, applied for a Part 70 operating permit (033-12614-00076) in 1996. An application to modify the source was received on February 15, 2006. Pursuant to 326 IAC 2-7-10.5, the following emission units are approved for construction at the source:

One (1) SAF Building Dust Control System; identified as DC-1; constructed in 2006; with emissions controlled by a 300,000 scfm baghouse; exhausting to stack 90.

The proposed PSD Significant Source Modification approval will be incorporated into the pending Part 70 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 2-7-10.5(h). If there are any changes to the proposed construction the source can not operate until an Operation Permit Validation Letter is issued.

Pursuant to Contract No. A305-5-65, IDEM, OAQ has assigned the processing of this application to Eastern Research Group, Inc., (ERG). Therefore, questions should be directed to Bob Sidner, ERG, 1600 Perimeter Park Drive, Morrisville, North Carolina 27560, or call (703) 633-1701 to speak directly to Mr. Sidner. Questions may also be directed to Matt Stuckey at IDEM, OAQ, 100 North Senate Avenue, Indianapolis, Indiana, 46204-2251, or call (800) 451-6027, and ask for Matt Stuckey or extension 3-0203, or reach him at e-mail address mstuckey@idem.in.gov.

Sincerely,

Original signed by

Nisha Sizemore, Chief
Permits Branch
Office of Air Quality

ERG/BS

Attachments:

cc: File - Dekalb County
U.S. EPA, Region V
Dekalb County Health Department
Air Compliance Section Inspector – Dick Sekula
Compliance Data Section - Karen Nowak
Administrative and Development - Sara Cloe
Technical Support and Modeling - Jeffrey Stoakes

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PART 70 PREVENTION OF SIGNIFICANT DETERIORATION (PSD) SIGNIFICANT SOURCE MODIFICATION OFFICE OF AIR QUALITY

Iron Dynamics, Inc.
4500 County Road 59
Butler, Indiana 46721

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

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

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

Source Modification: 033-22673-00076	
Issued by: Original signed by Nisha Sizemore, Chief Permits Branch Office of Air Quality	Issuance Date:October 13, 2006

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SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1, A.3 and A.4 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-7-4(c)][326 IAC 2-7-5(15)][326 IAC 2-7-1(22)

The Permittee owns and operates a stationary Direct Reduced Iron (DRI) manufacturing operation at a steel mini-mill.

Responsible Official:	Plant Manager designee as defined in 326 IAC 2-7-1(34)(A)
Source Address:	4500 County Road 59, Butler, Indiana 46721
Mailing Address:	4500 County Road 59, Butler, Indiana 46721
Phone Number:	260-868-8000
SIC Code:	3312
County Location:	DeKalb
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Permit Program Major Source under PSD Rules Minor Source, Section 112 of the Clean Air Act 1 of 28 Source Categories

A.2 Part 70 Source Definition [326 IAC 2-7-1(22)]

The source consists of:

(a) Steel Dynamics, Inc., the primary operation, located at 4500 County Road 59, Butler, Indiana 46721; and

(b) Iron Dynamics, Inc., the supporting operation, located at 4500 County Road 59, Butler, Indiana 46721.

IDEM has determined that Steel Dynamics, Inc. (033-00043) and Iron Dynamics, Inc. (033-00076) are under common control. These two plants are considered one source for Part 70 applicability.

Separate Part 70 permits will be issued to Steel Dynamics, Inc. (033-8068-00043) and Iron Dynamics, Inc. (033-12614-00076), solely for administrative purposes. For this permit, the Permittee is Iron Dynamics, Inc., the supporting operation.

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

Iron Dynamics, Inc. is approved to construct the following emission units and pollution control devices:

One (1) SAF Building Dust Control System; identified as DC-1; constructed in 2006; with emissions controlled by a 300,000 scfm baghouse; exhausting to stack 90.

A.4 Part 70 Permit Applicability [326 IAC 2-7-2]

Iron Dynamics, Inc. is required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because:

(a) It is a major source, as defined in 326 IAC 2-7-1(22);

(b) It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).

SECTION B GENERAL CONDITIONS

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

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

B.2 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 2-2-8]

Pursuant to 326 IAC 2-2-8(a)(1), this approval to construct shall expire if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is discontinued for a period of eighteen (18) months or more.

B.4 Approval to Operate 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.

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

(a) Where specifically designated by this permit or required by an applicable requirement, any application form, report, or compliance certification submitted shall contain certification by a responsible official of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

(b) One (1) certification shall be included, using the attached Certification Form, with each submittal requiring certification. One (1) certification may cover multiple forms in one (1) submittal.

(c) A responsible official is defined at 326 IAC 2-7-1(34).

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

(a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) within ninety (90) days after issuance of this permit, including the following information on each facility:

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

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

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

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

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

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

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

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

B.7 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 approval;

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

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

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

Indiana Department of Environmental Management
Compliance 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 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.

B.8 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)]

B.9 Credible Evidence [326 IAC 2-7-5(3)][326 IAC 2-7-6][62 FR 8314][326 IAC 1-1-6]

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

SECTION C GENERAL OPERATION CONDITIONS

Entire Source

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

C.1 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 approval:

(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.2 Fugitive Dust Emissions [326 IAC 6-4]

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

C.3 Stack Height [326 IAC 1-7]

The Permittee shall comply with the applicable provisions of 326 IAC 1-7 (Stack Height Provisions), for all exhaust stacks through which a potential (before controls) of twenty-five (25) tons per year or more of particulate matter or sulfur dioxide is emitted.

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

C.4 Performance Testing [326 IAC 3-6]

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

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

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

no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ if the Permittee submits to IDEM, OAQ, a reasonable written explanation

not later than five (5) days prior to the end of the initial forty-five (45) day period.

Compliance Requirements [326 IAC 2-1.1-11]

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

If required by Section D, all monitoring and record keeping requirements shall be implemented when operation begins. The Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment.

C.7 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.8 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 have a scale such that the expected normal reading 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 pressure gauge or other 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.9 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.10 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 approval exceed the level specified in any condition of this approval, 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.11 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 326 IAC 2-3-3(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 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 326 IAC 2-3-3(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 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.12 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.

(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 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 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 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 2-3-2(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) SAF Building Dust Control System; identified as DC-1; constructed in 2006; with emissions controlled by a 300,000 scfm baghouse; exhausting to stack 90.

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

D.1.1 Particulate Matter Limitations (PM/PM_{10}) - Best Available Control Technology [326 IAC 2-2-3]

(a) Pursuant to 326 IAC 2-2-3 (BACT), the filterable PM emissions from the SAF Building Dust Control System shall not exceed 0.0018 grains per dry standard cubic foot (gr/dscf) and 4.63 pounds per hour (lb/hr).

(b) Pursuant to 326 IAC 2-2-3 (BACT), the filterable and condensible PM/PM_{10} emissions from the SAF Building Dust Control System shall not exceed 0.004 grains per dry standard cubic foot (gr/dscf) and 10.29 pounds per hour (lb/hr).

D.1.2 Opacity Limits - Best Available Control Technology [326 IAC 2-2-3]

Pursuant to 326 IAC 2-2-3 (BACT), visible emissions of the exhaust from the SAF Building Dust Control System shall not exceed three percent (3%) opacity, as determined by a six (6) minute average (24 readings taken in accordance with EPA Method 9, Appendix A).

D.1.3 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Condition B.6 (Preventive Maintenance Plan), of this permit, is required for the SAF Building Dust Control System and its associated baghouse.

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

D.1.4 Particulate Matter (PM/PM_{10}) Control [326 IAC 2-2-3]

(a) Except as otherwise provided by statute, rule, or in this permit, and in order to comply with Condition D.1.1, the baghouse for PM/PM_{10} control shall be in operation and control emissions from the SAF Building Dust Control System at all times any PM-emitting facility in the SAF Building or SAF Building Dust Control System is in operation.

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

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

Within 60 days after achieving full operation, but no later than 180 days after initial start up, the Permittee shall perform PM/PM_{10} and opacity testing on the stack emissions from the SAF Building Dust Control System in order to demonstrate compliance with the PM/PM_{10} and opacity limits established by 326 IAC 2-2-3. These tests shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. PM_{10} includes filterable and condensible PM_{10}. Testing shall be completed using methods approved by the Commissioner and conducted in accordance with Section C - Performance Testing.

D.1.6 Visible Emission Notations

(a) Visible emission notations of the SAF Building Dust Control System baghouse exhaust (stack 90) shall be performed once per day during normal daylight operations when

exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.

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

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

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

(e) If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Condition C.9 (Response to Excursions or Exceedances). Failure to take response steps in accordance with Condition C.9 (Response to Excursions or Exceedances) shall be considered a deviation from this permit.

D.1.7 Parametric Monitoring

(a) The Permittee shall record the pressure drop across the baghouse used in conjunction with the SAF Building Dust Control System at least once per day when the SAF building Dust Control System is in operation. When for any one reading, the pressure drop across the baghouse is outside 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 appropriate 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.

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

D.1.8 Broken or Failed Bag Detection [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

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

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

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

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

D.1.9 Record Keeping Requirements

(a) To document compliance with Condition D.1.6, the Permittee shall maintain records of the visible emission notations required by that condition.

(b) To document compliance with Condition D.1.7, the Permittee shall maintain records of the pressure drop readings required by that condition.

(c) All records shall be maintained in accordance with Condition C.11 (General Record Keeping Requirements) of this permit.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY

PART 70 SOURCE MODIFICATION CERTIFICATION

Source Name: Iron Dynamics, Inc.
Source Address: 4500 Country Road 59, Butler, IN 46721
Mailing Address: 4500 Country Road 59, Butler, IN 46721
Permit No.: 033-22673-00076

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: Iron Dynamics, Inc.
Source Address: 4500 Country Road 59, Butler, IN 46721
Mailing Address: 4500 Country Road 59, Butler, IN 46721
Permit No.: 033-22673-00076

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

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

- C 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
- C The Permittee must submit notice in writing or by facsimile within two (**2**) working days (Facsimile Number: 317-233-6865), and follow the other requirements of 326 IAC 2-7-16.

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

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

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

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

Form Completed by:

Title / Position:

Date:

Phone:

A certification is not required for this report.

Mail to: Office Of Air Quality
100 North Senate Avenue
Indianapolis, Indiana 46204-2251

Iron Dynamics
4500 County Road 59
Butler, Indiana 46721

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 knowledge of the representations contained in this affidavit and am authorized to make these representations on behalf of _____ .
(Company Name) (Company Name)

4. I hereby certify that Iron Dynamics, located at 4500 County Road 59, Butler, IN 46721 has constructed the SAF Building Dust Control System in conformity with the requirements and intent of the construction permit application received by the Office of Air Quality on February 15, 2006 and as permitted pursuant to **SSM 033-22673-00076.**

5. Additional facilities were constructed/substituted as described in the attachment to this document and were not made in accordance with the construction permit.

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

Technical Support Document (TSD) for a Prevention of Significant Deterioration (PSD) Part 70 Significant Source Modification

Source Description and Location

Source Name:	Iron Dynamics, Inc.
Source Location:	4500 County Road 59, Butler, Indiana 46721
County:	Dekalb
SIC Code:	3312
Operation Permit No.:	T033-12614-00076
Operation Permit Issuance Date:	not yet issued
Significant Source Modification No.:	033-22673-00076
Permit Reviewer:	ERG/BS

Source Definition

Pursuant to T033-12614-00076, not yet issued:

This steel and iron manufacturing source consists of:

(a) Steel Dynamics, Inc., the primary operation, located at 4500 County Road 59, Butler, Indiana 46721; and

(b) Iron Dynamics, Inc., the supporting operation, located at 4500 County Road 59, Butler, Indiana 46721.

IDEM has determined that Steel Dynamics, Inc. (033-00043) and Iron Dynamics, Inc. (033-00076) are under common control. These two plants are considered one source for Part 70 applicability.

Separate Part 70 permits will be issued to Steel Dynamics, Inc. (033-8068-00043) and Iron Dynamics, Inc. (033-12614-00076), solely for administrative purposes. For this permit, the Permittee is Iron Dynamics, Inc., the supporting operation.

Existing Approvals

The source has a pending Part 70 Operating Permit (033-12614-00076). This permit was put on public notice on January 29, 2004. On April 13, 2005, the source was issued PSD SSM 033-19160-00076 for the addition of a coal dryer and an ore dryer.

The source has not received any other air approvals since the Part 70 permit was put on PN.

County Attainment Status

The source is located in Dekalb County.

Pollutant	Status
PM_{10}	Attainment
$PM_{2.5}$	Attainment
SO_2	Attainment
NO_2	Attainment
8-hour Ozone	Attainment
CO	Attainment
Lead	Attainment

(a) Volatile organic compounds (VOC) and nitrogen oxides (NOx) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NOx emissions are considered when evaluating the rule applicability relating to the ozone standards. Dekalb County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

(b) Dekalb County has been classified as attainment for PM2.5. U.S. EPA has not yet established the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 for $PM_{2.5}$ emissions. Therefore, until the U.S. EPA adopts specific provisions for PSD review for $PM_{2.5}$ emissions, it has directed states to regulate PM_{10} emissions as a surrogate for $PM_{2.5}$ emissions.

(c) Dekalb County has been classified as attainment for all other criteria pollutants and lead. Therefore, these emissions were reviewed pursuant to the requirements for PSD, 326 IAC 2-2.

(d) Since this source is classified as an iron and steel mill 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, fugitive emissions are counted toward the determination of PSD applicability.

Source Status

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

Pollutant	Emissions* (tons/year)
PM	Greater than 100
PM10	Greater than 100
SO_2	Greater than 100
VOC	Greater than 100
CO	Greater than 100
NO_x	Greater than 100

* According to the TSD for T033-12614-00076, not yet issued.

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 in one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(gg)(1).

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)
A single HAP	Less than 10
Total HAPs	Less than 25

This existing source is not a major source of HAPs, as defined in 40 CFR 63.41, because HAPs emissions are less than ten (10) tons per year for any single HAP and less than twenty-five (25) tons per year of a combination of HAPs. Therefore, this source is an area 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)
PM	133
PM10	133
SO_2	160
VOC	103
CO	518
NO_x	564
HAP's	Less than 10 for a single HAP and less than 25 tons for total HAPs

Description of Proposed Modification

The Office of Air Quality (OAQ) reviewed a Part 70 modification application from IDI (submitted on February 15, 2006) regarding the construction and operation of:

One (1) SAF Building Dust Control System; identified as DC-1; constructed in 2006; with emissions controlled by a 300,000 scfm baghouse; exhausting to stack 90.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (^{0}F)
90	Dust Collection	125	10	300,000	70

Enforcement Issues

There are no pending enforcement actions.

Emission Calculations

See Appendix A of this document for detailed emission calculations (page 1).

Permit Level Determination – Part 70

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

The following table is used to determine the appropriate permit level under 326 IAC 2-7-10.5. This

table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Pollutant	Potential To Emit (tons/year)
PM	Greater than 25
PM10	Greater than 15
PM2.5	Greater than 15
SO_2	-
VOC	-
CO	-
NO_x	-

Pursuant to 326 IAC 2-7-10.5(f)(1), this modification is being performed through a Part 70 Significant Source Modification because this is a modification subject to 326 IAC 2-2 (PSD); see the Permit Level Determination – PSD section of this document for more information.

Permit Level Determination – PSD

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

	Potential to Emit (tons/year)					
Process/Emission Unit	**PM**	**PM_{10}/ $PM_{2.5}$**	**SO_2**	**VOC**	**CO**	**NO_X**
SAF Building Dust Collection System	45.1	20.3	0	0	0	0
PSD Significant Level	25	15	40	40	100	40

This modification to an existing major stationary source is major because the emissions increase is greater than the PSD major source thresholds. Therefore, pursuant to 326 IAC 2-2, the modification is subject to the requirements of PSD.

Federal Rule Applicability Determination

(a) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included for this modification.

(b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 20; and 40 CFR Parts 61 and 63) included for this modification.

(c) This existing iron and steel mill plant is a minor source for HAPs. Therefore, the requirements of the National Emission Standards for Hazardous Air Pollutants for Iron and Steel Foundries (326 IAC 20, 40 CFR Part 63, Subpart EEEEE) are not included in this modification.

(d) This source is subject to the provisions of 40 CFR Part 64, Compliance Assurance Monitoring (CAM). In order for this rule to apply, a pollutant-specific-emissions-unit at a source that requires a Part 70 or Part 71 permit must meet three criteria for a given pollutant: 1) the unit has potential emissions (before controls), of the applicable regulated air pollutant, equal or greater than 100 percent of the amount required for a source to be classified as a major source, 2) the unit is subject to an applicable emission limitation or standard for the applicable regulated air pollutant, and 3) the unit uses a control device to achieve compliance with the applicable emission limitation or standard.

DC-1 has potential pre-control (but not post-control) emissions greater than 100 tons of

PM/PM_{10} per year, is subject to 326 IAC 2-2, and requires the use of a baghouse to achieve compliance with 326 IAC 2-2. Therefore, DC-1 is classified as an "other" unit with respect to CAM and is subject to the requirements of 40 CFR Part 64. Pursuant to 40 CFR 64.5(b), the Permittee is required to submit the information required under 40 CFR 64.4 regarding DC-1 as part of the Part 70 renewal application. A CAM plan must be submitted as part of the Renewal application.

State Rule Applicability Determination

326 IAC 2-2 (Prevention of Significant Deterioration)

This source is located in DeKalb County which is designated as attainment for all criteria pollutants. Based upon emission calculations (See Appendix A) completed by the source and reviewed by the IDEM, OAQ, the emission increase of the modification exceeds the PSD significant threshold levels in 326 IAC 2-2-1 for particulate matter (PM) and particulate matter of 10 microns or less (PM_{10}). Therefore, PM and PM_{10} emissions have been reviewed pursuant to 326 IAC 2-2.

The PSD provisions require that this major PSD modification be reviewed to ensure compliance with the National Ambient Air Quality Standards and apply the requirements of Best Available Control Technology (BACT). Specifically, 326 IAC 2-2-3 requires a BACT review, 326 IAC 2-2-4 and 326 IAC 2-2-5 require the evaluation of the modification's impact on air quality, 326 IAC 2-2-6 requires an assessment of increment consumption and 326 IAC 2-2-7 requires an evaluation of additional impacts. A review of these rules is included below:

326 IAC 2-2-3 (PSD: Best Available Control Technology)

Pursuant to 326 IAC 2-2-3, a detailed BACT analysis was completed by the IDEM, OAQ and is included in Appendix B.

326 IAC 2-2-4 (PSD: Air Quality Analysis)

Pursuant to 326 IAC 2-2-4, an air quality analysis of the new source or the major modification is needed to determine if pre-construction monitoring is required. In most cases, post-construction monitoring can satisfy this requirement if the pre-construction monitoring threshold has been exceeded.

As described in Appendix C, the modeled PM_{10} emissions increase of the modification was determined to cause a significant impact on air quality. Specifically, the modeled post-modification ambient air concentration of PM_{10} was greater than the relevant monitoring de minimis concentration of 13 ug/m^3 (24-hr average). Therefore, pursuant to 326 IAC 2-2-4, this modification is subject to the pre-construction air quality monitoring requirements of 326 IAC 2-2-4.

IDI satisfies the pre-construction monitoring requirement for PM_{10} since there is air quality monitoring data representative of the area. Air quality monitors have already been established in the vicinity of the plant after it was constructed.

326 IAC 2-2-5 (PSD: Air Quality Impact)

Pursuant to 326 IAC 2-2-5, an air dispersion modeling study was performed using the U.S. EPA's Industrial Source Complex Short-Term 3 (ISC3) model (version 02035). This study was conducted in order to estimate the maximum ambient concentrations of PM_{10} that result from the additional emissions associated with the modification. A detailed review of this study is included in Appendix C.

In summary, the estimated maximum ambient PM_{10} impacts combined with the background PM_{10} concentrations did not exceed the PM_{10} NAAQS (for both 24-hr and annual averages).

326 IAC 2-2-6 (PSD: Increment Consumption)

Pursuant to 326 IAC 2-2-6(a), any modeling completed under 326 IAC 2-2-5 shall demonstrate that the increase in ambient pollutant concentration (resulting from the modification) does not exceed eighty percent (80%) of the available Maximum Allowable Increment (MAI) over the

baseline concentration for that pollutant. See Appendix C for a review and demonstration of increment consumption.

In summary, the estimated impact of the modification consumes less than 80% of the available PSD PM_{10} increment. No further analysis is required.

326 IAC 2-2-7 (PSD: Additional Analyses)

Pursuant to 326 IAC 2-2-7(a), an analysis of the impairment to visibility, soils and vegetation was completed along with an assessment of the air quality impacts related to residential and commercial growth due to the modification. A detailed review of this study is included in Appendix C.

In summary, the results of the additional impact analysis conclude the operation of the facility will have no significant impact on economic growth, soils, vegetation or visibility in the immediate vicinity or on any Class I area.

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

DC-1 is not a manufacturing process and is therefore not subject to the requirements of 326 IAC 6-3-2.

Testing Requirements

Within 60 days after achieving full operation, but no later than 180 days after initial start up, the Permittee shall perform PM/PM_{10} and opacity testing on the stack emissions from the SAF Building Dust Control System in order to demonstrate compliance with the PM/PM_{10} and opacity limits established by 326 IAC 2-2. These tests shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. PM_{10} includes filterable and condensible PM_{10}. Testing shall be completed using methods approved by the Commissioner and conducted in accordance with Section C - Performance Testing.

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 monitoring requirements applicable to the facility addressed by this TSD are provided in Section D of the attached source modification.

Conclusion and Recommendation

The construction and operation of this proposed modification shall be subject to the conditions of the attached proposed PSD Part 70 Significant Source Modification No. 033-22673-00076. The staff recommends to the Commissioner that this PSD Part 70 Significant Source Modification be approved.

APPENDIX B -
BEST AVAILABLE CONTROL TECHNOLOGY (BACT) DETERMINATION

Source Information and Description of Modification

Source Name:	Iron Dynamics, Inc.
Source Location:	4500 County Road 59, Butler, Indiana 46721
County:	Dekalb
SIC Code:	3312
Operation Permit No.:	T033-12614-00076
Operation Permit Issuance Date:	not yet issued
Significant Source Modification No.:	033-22673-00076
Permit Reviewer:	ERG/BS

The Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) has performed the following federal BACT (Best Available Control Technology) review for a major modification relating to a Direct Reduced Iron (DRI) manufacturing operation owned and operated by Iron Dynamics, Inc. ("IDI") located in Butler, Indiana. The following emission units will be added or modified, pursuant to 326 IAC 2-2, in order to complete this modification:

Added Emission Units

One (1) SAF Building Dust Control System; identified as DC-1; constructed in 2006; with emissions controlled by a 300,000 scfm baghouse; exhausting to stack 90.

Background and Process Description

The rotary hearth furnace process consists of several key steps. Coal and ore are dried in separate buildings and the coal is then pulverized. The pulverized coal and ore are then transferred to the common building that houses the Submerged Arc Furnace (SAF) and the Rotary Hearth Furnace ((RHF) where it is pelletized. The pellets are transferred to the RHF, where it is converted into Direct Reduced Iron, formed into briquettes and transferred to the SAF.

The processes, transfer points, conveying operations, and other ancillary operations located in the SAF building result in a dusty atmosphere. Note that this dust is contained in the building and is not fugitive emissions. The dusty atmosphere within the building affects employee health, reduces visibility in an already dangerous work environment, increases the risk of explosion, accumulates on the floor (which is easily stirred up), accumulates on surfaces that are susceptible to vibration (thereby creating more dust), impairs equipment operation, and cause excessive wear on equipment.

Past attempts to control the dust have not proven as successful as the vendors advertised. As a result, IDI has evaluated the SAF building environment and determined that the solution is the addition of a new dust collection system.

BACT Description

This source is located in Dekalb County which is designated as attainment for all criteria pollutants. Based upon emission calculations completed by the IDEM, OAQ, the emission increase of the modification exceeds the Prevention of Significant Deterioration (PSD) significance threshold levels in 326 IAC 2-2-1 for particulate matter (PM) and particulate matter of 10 microns or less (PM10). Therefore, PM and PM10 emissions have been reviewed pursuant to 326 IAC 2-2-3 which requires a BACT determination.

> BACT is defined as "an emission limitation based on the maximum degree of reduction of each pollutant subject to regulation under the CAA emitted from or which results from any major emitting facility, which the permitting authority, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such facility through application of production processes and available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of each such pollutant. In no event shall application of 'best available control technology' result in emissions of any pollutants which will exceed the emissions allowed by any applicable standard established pursuant to section 111 or 112 of this Act."

According to the *"Top-Down" Best Available Control Technology Guidance Document* outlined in the 1990 draft USEPA *New Source Review Workshop Manual*, BACT analyses are conducted with a 'top-down' approach which consists of the following steps:

(1) Identify all potentially available control options;

(2) Eliminate technically infeasible control options;

(3) Rank remaining control technologies by control effectiveness;

(4) Evaluate control options; and

(5) Select BACT.

Also in accordance with the *"Top-Down" Best Available Control Technology Guidance Document* outlined in the 1990 draft USEPA *New Source Review Workshop Manual*, BACT analyses (specifically step 4) must take into account the energy, environmental, and economic impacts on the source. These reductions may be determined through the application of available control techniques, process design, and/or operational limitations. Such reductions are necessary to demonstrate that the emissions remaining after application of BACT will not cause or contribute to air pollution, thereby protecting public health and the environment. This BACT determination is based on the following information:

(1) The EPA RACT/BACT/LAER (RBLC) Clearinghouse;

(2) EPA and State air quality permits;

(3) Communications with control device equipment manufacturers;

(4) The EPA New Source Review website;

(5) Technical books and articles; and

(6) Guidance documents from, and communications with, state agencies.

Scope of BACT

A portion of the dust collected by DC-1 will be exhausted to stack 90. The following BACT review will determine the appropriate BACT to control PM/PM10 emissions from the collection of dust in the SAF building.

For the purposes of this review, PM and PM10 are evaluated together. As a result, particulate matter emissions are referred to as PM/PM10; this indicates that the PM emissions or limit and the PM10 emissions or limit are the same.

Note that IDI has proposed that BACT for the SAF Building Dust Control System is 0.004 gr/dscf.

BACT for PM/PM10

Step 1 – Identify Control Options

The OAQ reviewed 117 facilities and 400 processes listed in the EPA's RBLC under the RBLC Code 81.000 (Ferrous Metals Industry) that implemented BACT to control PM/PM10 emissions. Of these facilities and processes, the following five (5) records were identified that address emissions from dust generated by meltshop operations and dust handling:

Source	RBLC ID	Date of permit issuance	PM/PM10 BACT limit (gr/dscf)	PM/PM10 BACT limit (% opacity)
Erie Nugget	MN-0061	6/26/05	0.005	10%
Nucor Steel	IN-0108	11/21/03	0.0052 (a)	3%
Timken Company	OH-0246	2/21/03	0.01	-
Beta Steel Corp.	IN-0109	5/30/03	0.0052 (b)	5%
IDI	**	**	0.0052 (b)	3%
IDI - Proposed	*NA*	*NA*	*0.004*	*3%*

** - Not listed in the RBLC but established via PSD SSM 033-15955-00076, issued December 18, 2002.
(a) This BACT determination established a 0.0052 filterable and condensible PM10 limit and a 0.0018 filterable PM limit.
(b) These BACT determinations indicated that the PM10 limits include filterable and condensible components.

According to information available in the EPA's *Compilation of Air Pollutant Emission Factors, AP-42 Ch. 12.5 (Iron and Steel Production)* and the EPA's *CATC Technical Bulletins and Air Pollution Control Technology Fact Sheets*, PM/PM10 emissions from a dust collection system could be controlled with fabric filter baghouse, electrostatic precipitator (ESP), wet scrubber, or high efficiency air filter (HEAF).

Step 2 – Eliminate Technically Infeasible Control Options

The OAQ has determined that all of the available control options are technically feasible.

Step 3 – Rank Remaining Control Options by Control Effectiveness

The technically feasible control options rank as follows:

Control Type	Estimated PM/PM10 Control Efficiency
High Efficiency Air Filter (HEAF)	99%+
Fabric Filter Collector (i.e. Baghouse)	99%+
Electrostatic Precipitator (ESP)	90-99%
Wet Scrubber	80-90%

These estimated efficiencies are based on information provided in the EPA's Air Pollution Control Technology Fact Sheets located at www.epa.gov/ttn/catc/products.html.

Step 4 - Evaluate Control Options

A review of the EPA's technical bulletins and technology fact sheets located at:

www.epa.gov/ttn/catc/products.html; and

http://www.epa.gov/compliance/resources/publications/assistance/sectors/notebooks/index.html

state that fabric filter collectors (i.e. baghouses) have demonstrated excellent effectiveness and reliability when properly designed and operated to collect dry particulates; a collector will generally have an extremely high particulate matter collection efficiency for relatively minimal cost. In addition, no other particulate control devices can obtain nearly that level of control with the exception of HEAFs; which may achieve 99+% efficiencies only through the use of very expensive units.

IDI has proposed to use a fabric filter baghouse to control PM/PM10 emissions from the DC-1. Since this control option provides the highest level of control, further review (including cost effectiveness) is not necessary.

IDI's proposed PM10 BACT limit of 0.004 gr/dscf and 3% opacity is more stringent than the most stringent limitation established in recent BACT determinations for similar operations. However, the 0.0018 gr/dscf filterable PM BACT limit on Nucor Steel's Meltshop EAF baghouse from permit 107-16823-00038, issued November 21, 2003, is more stringent that IDI's proposed 0.004 gr/dscf limit. Both IDI's SDF Building Dust Control System and Nucor's Meltshop EAF baghouse are designed to control fugitive emissions from various meltshop operations.

According to the emissions calculations provided in Appendix A to the Technical Support Document, the use of a baghouse with an outlet grain loading of 0.004 gr/dscf PM10 and 0.0018 gr/dscf PM and an exhaust flow of 300,000 scfm will potentially reduce PM10 emissions from DC-1 by 4460 tons per year and PM emissions by 2007 tons per year.

Note that:
0.004 gr/dscf x 300,000 scfm x 0.00857 lb-min/gr-hr = 10.29 lb PM10/hr (stack 90).
0.0018 gr/dscf x 300,000 scfm x 0.00857 lb-min/gr-hr = 4.63 lb PM/hr (stack 90).

Step 5 – Select BACT

Based on the considerations mentioned above, the IDEM, OAQ has determined that BACT for IDI's SAF Building Dust Control system is the use of a fabric filter collector/baghouse. As a result, the Permittee shall comply with the following requirements determined to be PM/PM10 BACT for the SAF Building Dust Control System:

(a) Pursuant to 326 IAC 2-2-3 (BACT), the filterable PM emissions from the SAF Building Dust Control System shall not exceed 0.0018 grains per dry standard cubic foot (gr/dscf) and 4.63 pounds per hour (lb/hr).

(b) Pursuant to 326 IAC 2-2-3 (BACT), the filterable and condensable PM/PM_{10} emissions from the SAF Building Dust Control System shall not exceed 0.004 grains per dry standard cubic foot (gr/dscf) and 10.29 pounds per hour (lb/hr).

(c) Pursuant to 326 IAC 2-2-3 (BACT), visible emissions of the exhaust from the SAF Building Dust Control System shall not exceed three percent (3%) opacity, as determined by a six (6) minute average (24 readings taken in accordance with EPA Method 9, Appendix A).

Compliance with these limitations satisfies the requirements of 326 IAC 2-2-3.

Appendix C
Air Quality Analysis

Iron Dynamics, Incorporated (IDI)

Butler, Indiana (DeKalb County)
Tracking and Plant ID: 033-22673-00076

Proposed Project

Iron Dynamics, Inc. (IDI) submitted a request for a significant source modification of their facility with an increase in the Particulate Matter less than 10 microns (PM_{10}) emissions. The following emission unit will be added in order to complete this modification:

One (1) SAF Building Dust Control System; identified as DC-1; constructed in 2006; with emissions controlled by a 300,000 scfm baghouse; exhausting to stack 90.

Keramida Environmental, Inc., prepared the permit application for IDI. The Modeling Section in the Office of Air Quality (QAQ) received the permit application in February 2006. This document provides the air quality analysis review of the permit application.

Analysis Summary

Based on the potential emissions after controls, a PSD air quality analysis was triggered for PM_{10}. The significant impact analysis determined that modeling concentrations for PM_{10} exceeded the significant impact levels. A refined analysis was required and showed no violation of the NAAQS and the PSD increment. The pre-and post-construction monitoring requirements are not necessary. A Hazardous Air Pollutant (HAP) analysis was not performed since there was no HAP emissions increase. An additional impact analysis was conducted and showed no significant impact. Based on the modeling results, the proposed modification will not have a significant impact upon federal air quality standards.

Air Quality Impact Objectives

The purpose of the air quality impact analysis in the permit application is to accomplish the following objectives. Each objective is individually addressed in this document in each section outlined below.

A. Establish which pollutants require an air quality analysis based on PSD significant emission rates.

B. Provide analyses of actual stack heights with respect to Good Engineering Practice (GEP), the meteorological data used, a description of the model used in the analysis, and the receptor grid utilized for the analyses.

C. Determine the significant impact level, the area impacted by the source's emissions and background air quality levels.

D. Demonstrate that the source will not cause or contribute to a violation of the National Ambient Air Quality Standard (NAAQS) or PSD increment if the applicant exceeds significant impact levels.

E. Perform a qualitative analysis of the source's impact on general growth, soils, vegetation and visibility in the impact area with emphasis on any Class I areas. The nearest Class I area is Kentucky's Mammoth Cave National Park.

F. Summarize the Air Quality Analysis

Section A - Pollutants Analyzed for Air Quality Impact

Applicability

The PSD requirements, 326 IAC 2-2, apply in attainment and unclassifiable areas and require an air quality impact analysis of each regulated pollutant emitted in significant amounts by a major stationary source or modification. Significant emission levels for each pollutant are defined in 326 IAC 2-2-1 and in the Code of Federal Register (CFR) 52.21(b) (23) (i).

Proposed Project Emissions

Particulate Matter less than 10 microns (PM_{10}) is the pollutant that will be emitted from the revision of IDI's emission limits. An air quality analysis is required for this pollutant because potential emissions after controls exceed the significant emission rate as shown in Table 1:

TABLE 1
Significant Emission Rates for PSD

POLLUTANT	POTENTIAL EMISSION RATE (Source Totals)	SIGNIFICANT EMISSION RATE	PRELIMINARY AQ ANALYSIS REQUIRED
	(tons/year)	(tons/year)	
PM_{10}	45.1	15	Yes

Modeled emission rates were taken from Table 4-1 of the permit application.

Section B – Good Engineering Practice (GEP), Met Data, Model Used, Receptor Grid

Stack Height Compliance with Good Engineering Practice (GEP)

Applicability

Stacks should comply with GEP requirements established in 326 IAC 1-7-4. If stacks are lower than GEP, excessive ambient concentrations due to aerodynamic downwash may occur. Dispersion modeling credit for stacks taller than 65 meters (213 feet) is limited to GEP for the purpose of establishing emission limitations. The GEP stack height takes into account the distance and dimensions of nearby structures, which would affect the downwind wake of the stack. The downwind wake is considered to extend five times the lesser of the structure's height or width. A GEP stack height is determined for each nearby structure by the following formula:

$$Hg = H + 1.5L$$

Where: Hg is the GEP stack height
H is the structure height
L is the structure's lesser dimension (height or width)

Existing Stack

Since the existing stack height of the unit for which the modification is proposed is below GEP

stack height, the effect of aerodynamic downwash will be accounted for in the air quality analysis for the project.

Meteorological Data

The meteorological data used in the Industrial Source Complex Short Term (ISCST3) model consisted of 1990 through 1994 surface data from the Fort Wayne Airport Weather Service station merged with the mixing heights from Dayton, Ohio Airport National Weather Service station. The meteorological data was purchased through the National Oceanic and Atmospheric Administration (NOAA) and National Climatic Data Center (NCDC) and preprocessed into ISCST3 ready format using U.S.EPA's PCRAMMET.

Model Description

Keramida Environmental Inc. used ISC3, Version 02035. OAQ used the same model version to determine maximum off-property concentrations or impacts for each pollutant. All regulatory default options were utilized in the U.S. EPA approved model, as listed in the 40 Code of Federal Register Part 51, Appendix W "Guideline on Air Quality Models".

The Auer Land Use Classification Scheme was used to determine the land use in the area. The area is considered primarily rural; therefore, a rural classification was used.

Receptor Grid

The receptor grid extended to approximately 10 kilometers from the plant. Fence line receptors were closely spaced (100 meters) near the plant boundary to identify the influence of aerodynamic building downwash.

Section C - Significant Impact Level/Area (SIA) and Background Air Quality Levels

A significant impact analysis was conducted to determine if the source exceeded the PSD significant impact levels (concentrations). If the source's concentrations exceed these levels, further air quality analysis is required. Modeling for PM_{10} was required because the results did exceed significant impact levels. Significant impact levels are defined by the following time periods in Table 2 below with all maximum-modeled concentrations from the worst case operating scenarios.

TABLE 2
Significant Impact Analysis

POLLUTANT	TIME AVERAGING PERIOD	MAXIMUM MODELED IMPACTS (ug/m^3)	SIGNIFICANT IMPACT LEVEL (ug/m^3)	REFINED AQ ANALYSIS REQUIRED
PM_{10}	24 Hour	15.8	5	Yes
PM_{10}	Annual	0.90	1	No

Pre-construction Monitoring Analysis

Applicability

The PSD requirements, 326 IAC 2-2-4, require an air quality analysis of the new source or the major modification to determine if the pre-construction monitoring threshold is triggered. In most cases, post construction monitoring can satisfy this requirement if the pre-construction monitoring threshold has been exceeded.

Modeling Results

A comparison of the preliminary modeling results was compared to the PSD preconstruction

monitoring thresholds. The results are shown in the table below.

TABLE 3
Preconstruction Monitoring Analysis

POLLUTANT	TIME AVERAGING PERIOD	MAXIMUM MODELED IMPACTS (ug/m^3)	DEMINIMIS LEVEL (ug/m3)	ABOVE DE MINIMIS LEVEL
PM_{10}	24 Hour	15.8	13	Yes

The criteria pollutant, PM_{10}, did trigger the preconstruction monitoring. IDI can satisfy the preconstruction monitoring requirement for PM_{10} since there is air quality monitoring data representative of the area. Air quality monitors have already been established in the vicinity of the plant after it was constructed.

Background Concentrations

Applicability

EPA's "Ambient Monitoring Guidelines for Prevention of Significant Deterioration" (EPA-450/4-87-007) Section 2.4.1 is cited for approval of the monitoring sites for this area.

Background Monitors

The results from the monitoring site are considered conservative since it is actually reading concentrations from IDI. This scenario lends itself to the possibility of double counting IDI's concentrations using values from the modeling and the monitor in the NAAQS analysis. The monitoring site is approximately 900 meters from the facility.

For 24-hour background concentrations, the average second highest monitoring values were used. Annual background concentrations were taken from the maximum annual values. It was agreed between IDI and IDEM that a conservative approach be taken in place of the preconstruction monitoring requirement.

TABLE 4
Existing Monitoring Data Used For Background Concentrations *

Pollutant	Monitoring Site	Averaging Period	Concentration ug/m3
PM_{10}	Dekalb County 4500 County Road 59	H2H 24 Hour	51.7
PM_{10}	Dekalb County **4500 County Road 59**	Annual	29

*OAQ used the most conservative values for the air quality analysis. It is standard policy to use the latest 3 years of data.

Section D - NAAQS and PSD Increment

NAAQS Compliance Analysis and Results

IDEM supplied emission inventories of all sources within a 50-kilometer radius of IDI. Inventories were taken from the IDEM's air quality web site. The NAAQS inventories are generated from I-STEPS (State Emission Processing System) in accordance with 326 IAC 2-6. The PSD increment inventories include sources that affect the increment based on the major and minor source baseline dates and are compiled from permits issued by IDEM.

NAAQs modeling for the appropriate time-averaging periods for PM_{10} was conducted and compared to the respective NAAQs limit. OAQ modeling results are shown in Table 5. All maximum-modeled concentrations were compared to the respective NAAQS limit. All maximum-modeled concentrations during the five years were below the NAAQS limits and further modeling was not required.

TABLE 5
NAAQS Analysis

Pollutant	Year	Time-Averaging Period	Maximum Concentration ug/m3	Background Concentration ug/m3	Total ug/m3	NAAQS Limit ug/m3	NAAQS Violation
PM_{10}	1993	24 hour (H2H)	23.1	51.7	74.8	150	NO
PM_{10}	1990	Annual	4.0	29	33	50	NO

Analysis and Results of Source Impact on the PSD Increment

Applicability

Maximum allowable increases (PSD increments) are established by 326 IAC 2-2 for PM_{10}. This rule also limits a source to no more than 80 percent of the available PSD increment to allow for future growth.

Source Impact

Since the impact for PM_{10} from IDI modeled above significant impact levels, a PSD increment analysis for the existing major sources and its surrounding counties was required. Results of the increment modeling are summarized in Table 6 below.

TABLE 6
Increment Analysis

Pollutant	Year	Time-Averaging Period	Maximum Concentration ug/m3	PSD Increment ug/m3	Percent Impact on the PSD Increment	Increment Violation
PM_{10}	1993	24 Hour (H2H)	23.1	30	77.0%	NO
PM_{10}	1990	Annual	4.0	18	22.2%	NO

The results of the increment analysis indicate the highest second high 24 hour concentration for PM_{10} was not above 80% of the available increment. No further analysis is required.

Part E – Qualitative Analysis

Additional Impact Analysis

All PSD permit applicants must prepare additional impacts analysis for each pollutant subject to regulation under the Act. This analysis assesses the impacts on soils and vegetation, caused by any increase in emissions of any regulated pollutant from the source. The IDI PSD permit application provided an additional impact analysis performed by Keramida Environmental.

Economic Growth

Since there is no construction involved in revising the emission limit, there will be no growth associated with this change.

Soils and Vegetation Analysis

A list of soil types present in the general area was determined. Soil types include the following: Loamy Glacial Till, Moderate Thick Loess Over Loamy Glacial Till, and Thin Loess Over Loamy Glacial Till.

Due to the agricultural nature of the land, crops in the Dekalb County area consist mainly of corn, wheat, and soybeans (1997 Agricultural Census for Dekalb County). The maximum modeled concentrations for IDI are well below the threshold limits necessary to have adverse impacts on the

surrounding vegetation such as autumn bent, nimblewill, barnyard grass, bishopscap and horsetail, and milkweed (Flora of Indiana – Charles Deam). Livestock in Dekalb County consist mainly of hogs, beef and milk cows (1992 Agricultural Census for Dekalb County) and will not be adversely impacted from the facility. Trees in the area are mainly hardwoods. These are hardy trees and no significant adverse impacts are expected due to modeled concentrations.

Federal Endangered Species Analysis

Federally endangered or threatened species are listed by the U.S. Fish and Wildlife Service; Division of Endangered Species for Indiana and includes 12 species of mussels, 4 species of birds, 2 species of bat and butterflies and 1 specie of snake. The mussels and birds listed are commonly found along major rivers and lakes while the bats are found near caves. The facility is not expected to have any additional adverse effects on the habitats of the species than what has already occurred from the industrial and residential activities in the area.

Federally endangered or threatened plants as listed by the U.S. Fish and Wildlife Service, Division of Endangered Species for Indiana list two threatened and one endangered species of plants. The endangered plant is found along the sand dunes in northern Indiana while the two threatened species do not thrive in industrialized and residential areas. The facility is not expected to impact that area.

Visibility Analysis

The VISCREEN model is designed as a screening model to determine the visual impact parameters from a single source plume. It is used basically to determine whether or not a plume is visible as an object itself.

The PM_{10} emissions limits were used to run a local visibility Level 1 analysis. VISCREEN Version 1.01 was used to determine if the color difference parameter (Delta-E) or the plume (green) contrast limits were exceeded. The Delta-E was developed to specify the perceived magnitude of color and brightness changes and is used as the primary basis for determining the perceptibility of plume visual impacts. The plume constant can be defined at any wavelength as the relative difference in the intensity (called spectral radiance) between the viewed object and its background. This is used to determine how the human eye responds differently to different wavelengths of light. The Delta-E of 2.0 and the plume contrast of 0.05 were not exceeded at the nearest interstate location, along I-69.

Additional Analysis Conclusions

Finally, the results of the additional impact analysis conclude the operation of the facility will have no significant impact on economic growth, soils, vegetation or visibility in the immediate vicinity or on any Class I area.

Part F - Summary of Air Quality Analysis

IDI applied for a modification of their facility with an increase of their PM_{10} emissions. Keramida Environmental Incorporated of Indianapolis, Indiana prepared the PSD application. Dekalb County is designated as attainment for all criteria. PM_{10} emission rates associated with the proposed facility exceeded the respective significant emission rates. Modeling results taken from the latest version of the ISC3 model showed PM_{10} impacts were predicted to be greater than the significant impact levels. IDI did trigger preconstruction monitoring for PM_{10} but can satisfy the preconstruction monitoring requirement since there is existing air quality monitoring data representative of the area. The NAAQS and increment modeling for PM_{10} showed no violations of the standards. An air toxic analysis was not preformed because there was no HAP increase. The nearest Class I area is Mammoth Cave National Park in Kentucky over 100 kilometers away from the source. An additional impact analysis was required but the operation of the proposed facility will have no significant impact.

Appendix A: Emission Calculations
PM/PM10 Emissions
From a Dust Collection System

Company Name: **Iron Dynamics, Inc.**
Address : **4500 County Road 59, Butler, IN 46721**
SSM: **033-22673-00076**
Reviewer: **ERG/BS**
Date: **August 18, 2006**

Process Description: Dust Collection System

PM Control Equipment:	Baghouse (Stack 90)	
Grain Loading:	0.004	grains/dscf PM10
Grain Loading:	0.0018	grains/dscf PM
Air Flow Rate:	300,000	dscf/min
Control Efficiency:	99.0%	

1. Potential to Emit After Control:

Hourly PM Emissions	= 0.0018 (gr/dscf) x 300,000 (dscf/min) x 60 (min/hr) x 1/7000 (lb/gr) =	**4.63 lbs/hr**
Annual PM emissions	= 10.3 lbs/hr x 8760 hr/yr x 1/2000 (ton/lb) =	**20.3 tons/yr**
Hourly PM10 Emissions	= 0.004 (gr/dscf) x 300,000 (dscf/min) x 60 (min/hr) x 1/7000 (lb/gr) =	**10.29 lbs/hr**
Annual PM10 emissions	= 10.3 lbs/hr x 8760 hr/yr x 1/2000 (ton/lb) =	**45.1 tons/yr**

2. Potential to Emit Before Control:

PTE of PM Before Control	= 20.3 tons/yr / (1-99% Control Efficiency) =	**2,027 tons/yr**
PTE of PM/PM10 Before Control	= 45.1 tons/yr / (1-99% Control Efficiency) =	**4,505 tons/yr**