INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

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

TO: Interested Parties / Applicant

DATE: May 19, 2009

RE: Indiana Sugars, Inc. / 089-27251-00490

FROM: Matthew Stuckey, Branch Chief
Permits Branch
Office of Air Quality

Notice of Decision: Approval - Effective Immediately

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to IC 13-15-5-3, 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, Suite N 501E, Indianapolis, IN 46204, **within eighteen (18) calendar days of the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

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

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

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

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

Enclosures
FNPER.dot12/03/07

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New Source Review and Minor Source Operating Permit
OFFICE OF AIR QUALITY

Indiana Sugars, Inc.
911 Virginia Street
Gary, Indiana 46402

(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.

This permit is issued to the above mentioned company under the provisions of 326 IAC 2-1.1, 326 IAC 2-6.1 and 40 CFR 52.780, with conditions listed on the attached pages.

Indiana statutes from IC 13 and rules from 326 IAC, quoted in conditions in this permit, are those applicable at the time the permit was issued. The issuance or possession of this permit shall not alone constitute a defense against an alleged violation of any law, regulation or standard, except for the requirement to obtain a MSOP under 326 IAC 2-6.1.

Operation Permit No.: M089-27251-00490	
Issued by: Alfred C. Dumaual, Ph. D., Section Chief Permits Branch Office of Air Quality	Issuance Date: May 19, 2009 Expiration Date: May 19, 2014

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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 and 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 permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-5.1-3(c)][326 IAC 2-6.1-4(a)]

The Permittee owns and operates a stationary sugar products and corn syrup blend manufacturing plant.

Source Address:	911 Virginia Street, Gary, Indiana 46402
Mailing Address:	911 Virginia Street, Gary, Indiana 46402
General Source Phone Number:	(630) 675-0904
SIC Code:	2062
County Location:	Lake
Source Location Status:	Nonattainment for 8-hour ozone standard Nonattainment for PM2.5 standard Attainment for all other criteria pollutants
Source Status:	Minor Source Operating Permit Program Minor Source, under PSD and Emission Offset Rules Minor Source, Section 112 of the Clean Air Act Not 1 of 28 Source Categories

A.2 Emission Units and Pollution Control Equipment Summary

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

(a) Two (2) natural gas-fired boilers, identified as B1 and B2, constructed in 1982, each with a maximum heat input capacity of 4.18 MMBtu per hour, and exhausting to stacks B1 and B2, respectively.

(b) One (1) heat exchanger, identified as H1, approved for construction in 2009, with a maximum capacity of 2.0 MMBtu per hour, and exhausting to stack H1.

(c) Grinding mill and product collection equipment consisting of:

(1) One (1) sugar mill, identified as Unit 1, constructed in 1982, with a maximum throughput of 7,500 pounds per hour of powdered sugar, controlled with an integral fabric filter which serves as a product collector, and exhausting to stack 1.

(2) One (1) bulk transport system, identified as Unit 1A, including a hopper, constructed in 1982, used in conjunction with the sugar mill, identified as Unit 1, with a maximum throughput of 7,500 pounds per hour of powdered sugar, controlled with an integral fabric filter, and exhausting to stack 1A.

(3) One (1) sugar mill, identified as Unit 2, constructed in 1982, with a maximum throughput of 7,500 pounds per hour of powdered sugar, controlled with an integral fabric filter which serves as a product collector, and exhausting to stack 2.

(4) One (1) bulk transport system, identified as Unit 2A, including a hopper, constructed in 1982, used in conjunction with the sugar mill, identified as Unit 2, with a maximum throughput of 7,500 pounds per hour of powdered sugar, controlled with an integral fabric filter, and exhausting to stack 2A.

(5) Bagging operations, identified as Unit 5, constructed in 1992, with a maximum throughput of 15,000 pounds per hour of powdered sugar, controlled with an integral dust collector, and exhausting to stack 5.

(d) Granulated sugar operation, identified as Unit 6, constructed in 2002, controlled with an integral fabric filter, exhausting to stack 6, and including the following:

(1) One (1) truck unloading system, with a maximum throughput capacity of 40,000 pounds per hour of granulated sugar, connected to silo #17 and;

(2) Railcar unloading area #1, connected to bucket elevator #8 and;

(3) Bucket elevator #8, connected to three (3) silos (#18, #20 and #21) and the distributor head and;

(4) Distributor head, connected to dry bulk truck loading, bucket elevator #8, three (3) silos (#18, #20 and #21) and silo #17 and;

(5) Railcar unloading area #2, connected to bucket elevator #5 and;

(6) Bucket elevator #5 connected to silo #17.

(e) One (1) truck unloading system, with a maximum throughput capacity of 50,000 pounds per hour of granulated sugar, and boxing operations with a maximum throughput of 15,000 pounds per hour of granulated sugar, collectively identified as Unit 7, constructed in 2004, controlled with an integral fabric filter, and exhausting to stack 7.

(f) Bagging and reclaim operations, identified as Unit 8, approved for construction in 2009, with a maximum throughput of 15,000 pounds per hour of powdered sugar, controlled with an integral dust collector, and exhausting to stack 8.

(g) Melt tanks, identified as Unit 9, constructed in 1962, approved for modification in 2009, with a maximum capacity of 32,400 pounds of granulated sugar per dry batch, controlled by a scrubber, and exhausting to stack 9.

(h) Fugitive emissions from paved roads and parking lots.

SECTION B GENERAL CONDITIONS

B.1 Definitions [326 IAC 2-1.1-1]

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 2-1.1-1) shall prevail.

B.2 Permit Term [326 IAC 2-6.1-7(a)][326 IAC 2-1.1-9.5][IC 13-15-3-6(a)]

(a) This permit, M089-27251-00490, is issued for a fixed term of five (5) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date of this permit.

(b) If IDEM, OAQ, upon receiving a timely and complete renewal permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect, until the renewal permit has been issued or denied.

B.3 Term of Conditions [326 IAC 2-1.1-9.5]

Notwithstanding the permit term of a permit to construct, a permit to operate, or a permit modification, any condition established in a permit issued pursuant to a permitting program approved in the state implementation plan shall remain in effect until:

(a) the condition is modified in a subsequent permit action pursuant to Title I of the Clean Air Act; or

(b) the emission unit to which the condition pertains permanently ceases operation.

B.4 Enforceability

Unless otherwise stated, all terms and conditions in this permit, including any provisions designed to limit the source's potential to emit, are enforceable by IDEM, the United States Environmental Protection Agency (U.S. EPA) and by citizens in accordance with the Clean Air Act.

B.5 Severability

The provisions of this permit are severable; a determination that any portion of this permit is invalid shall not affect the validity of the remainder of the permit.

B.6 Property Rights or Exclusive Privilege

This permit does not convey any property rights of any sort or any exclusive privilege.

B.7 Duty to Provide Information

(a) The Permittee shall furnish to IDEM, OAQ, within a reasonable time, any information that IDEM, OAQ may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The submittal by the Permittee does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1). Upon request, the Permittee shall also furnish to IDEM, OAQ copies of records required to be kept by this permit.

(b) For information furnished by the Permittee to IDEM, OAQ, the Permittee may include a claim of confidentiality in accordance with 326 IAC 17.1. When furnishing copies of requested records directly to U. S. EPA, the Permittee may assert a claim of confidentiality in accordance with 40 CFR 2, Subpart B.

B.8 Certification

(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 an "authorized individual" 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) An "authorized individual" is defined at 326 IAC 2-1.1-1(1).

B.9 Annual Notification [326 IAC 2-6.1-5(a)(5)]

(a) An annual notification shall be submitted by an authorized individual to the Office of Air Quality stating whether or not the source is in operation and in compliance with the terms and conditions contained in this permit.

(b) The annual notice shall be submitted in the format attached no later than March 1 of each year to:

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

(c) The notification 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.

B.10 Preventive Maintenance Plan [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 or ninety (90) days after initial start-up, whichever is later, including the following information on each facility:

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

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

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

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

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

The PMP extension notification does not require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(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 an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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

B.11 Prior Permits Superseded [326 IAC 2-1.1-9.5]

(a) All terms and conditions of permits established prior to M089-27251-00490 and issued pursuant to permitting programs approved into the state implementation plan have been either:

(1) incorporated as originally stated,

(2) revised, or

(3) deleted.

(b) All previous registrations and permits are superseded by this permit.

B.12 Termination of Right to Operate [326 IAC 2-6.1-7(a)]

The Permittee's right to operate this source terminates with the expiration of this permit unless a timely and complete renewal application is submitted at least one hundred twenty (120) days prior to the date of expiration of the source’s existing permit, consistent with 326 IAC 2-6.1-7.

B.13 Permit Renewal [326 IAC 2-6.1-7]

(a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ and shall include the information specified in 326 IAC 2-6.1-7. Such information shall be included in the application for each emission unit at this source. The renewal application does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Request for renewal shall be submitted to:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

(b) A timely renewal application is one that is:

(1) Submitted at least one hundred twenty (120) days prior to the date of the expiration of this permit; and

(2) If the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

(c) If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-6.1 until IDEM, OAQ takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified in writing by IDEM, OAQ any additional information identified as being needed to process the application.

B.14 Permit Amendment or Revision [326 IAC 2-5.1-3(e)(3)][326 IAC 2-6.1-6]

(a) Permit amendments and revisions are governed by the requirements of 326 IAC 2-6.1-6 whenever the Permittee seeks to amend or modify this permit.

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

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

Any such application shall be certified by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(c) The Permittee shall notify the OAQ within thirty (30) calendar days of implementing a notice-only change. [326 IAC 2-6.1-6(d)]

B.15 Source Modification Requirement

A modification, construction, or reconstruction is governed by the requirements of 326 IAC 2.

B.16 Inspection and Entry
[326 IAC 2-5.1-3(e)(4)(B)][326 IAC 2-6.1-5(a)(4)][IC 13-14-2-2][IC 13-17-3-2][IC 13-30-3-1]

Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee's right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAQ, U.S. EPA, or an authorized representative to perform the following:

(a) Enter upon the Permittee's premises where a permitted source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;

(b) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

(c) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;

(d) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and

(e) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

B.17 Transfer of Ownership or Operational Control [326 IAC 2-6.1-6]

(a) The Permittee must comply with the requirements of 326 IAC 2-6.1-6 whenever the Permittee seeks to change the ownership or operational control of the source and no other change in the permit is necessary.

(b) Any application requesting a change in the ownership or operational control of the source shall contain a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new Permittee. The application shall be submitted to:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

The application which shall be submitted by the Permittee does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(c) The Permittee may implement notice-only changes addressed in the request for a notice-only change immediately upon submittal of the request. [326 IAC 2-6.1-6(d)(3)]

B.18 Annual Fee Payment [326 IAC 2-1.1-7]

(a) The Permittee shall pay annual fees due within thirty (30) calendar days of receipt of a bill from IDEM, OAQ.

(b) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-4230 (ask for OAQ, Billing, Licensing, and Training Section), to determine the appropriate permit fee.

B.19 Credible Evidence [326 IAC 1-1-6]

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

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

Emission Limitations and Standards [326 IAC 2-6.1-5(a)(1)]

C.1 Permit Revocation [326 IAC 2-1.1-9]

Pursuant to 326 IAC 2-1.1-9 (Revocation of Permits), this permit to operate may be revoked for any of the following causes:

(a) Violation of any conditions of this permit.

(b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this permit.

(c) Changes in regulatory requirements that mandate either a temporary or permanent reduction of discharge of contaminants. However, the amendment of appropriate sections of this permit shall not require revocation of this permit.

(d) Noncompliance with orders issued pursuant to 326 IAC 1-5 (Episode Alert Levels) to reduce emissions during an air pollution episode.

(e) For any cause which establishes in the judgment of IDEM, the fact that continuance of this permit is not consistent with purposes of this article.

C.2 Opacity [326 IAC 5-1]

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

(a) Opacity shall not exceed an average of twenty percent (20%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

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

C.3 Open Burning [326 IAC 4-1] [IC 13-17-9]

The Permittee shall not open burn any material except as provided in 326 IAC 4-1-3, 326 IAC 4-1-4 or 326 IAC 4-1-6. The previous sentence notwithstanding, the Permittee may open burn in accordance with an open burning approval issued by the Commissioner under 326 IAC 4-1-4.1.

C.4 Incineration [326 IAC 4-2] [326 IAC 9-1-2]

The Permittee shall not operate an incinerator or incinerate any waste or refuse except as provided in 326 IAC 4-2 and 326 IAC 9-1-2.

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

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

C.6 Fugitive Dust Emissions [326 IAC 6.8-10-3]

Pursuant to 326 IAC 6.8-10-3 (formerly 326 IAC 6-1-11.1) (Lake County Fugitive Particulate Matter Control Requirements), the particulate matter emissions from source wide activities shall meet the following requirements:

(a) The average instantaneous opacity of fugitive particulate emissions from a paved road shall not exceed ten percent (10%).

(b) The average instantaneous opacity of fugitive particulate emissions from an unpaved road shall not exceed ten percent (10%).

(c) The average instantaneous opacity of fugitive particulate emissions from batch transfer shall not exceed ten percent (10%).

(d) The opacity of fugitive particulate emissions from continuous transfer of material onto and out of storage piles shall not exceed ten percent (10%) on a three (3) minute average.

(e) The opacity of fugitive particulate emissions from storage piles shall not exceed ten percent (10%) on a six (6) minute average.

(f) There shall be a zero (0) percent frequency of visible emission observations of a material during the inplant transportation of material by truck or rail at any time.

(g) The opacity of fugitive particulate emissions from the inplant transportation of material by front end loaders and skip hoists shall not exceed ten percent (10%).

(h) There shall be a zero (0) percent frequency of visible emission observations from a building enclosing all or part of the material processing equipment, except from a vent in the building.

(i) The PM10 emissions from building vents shall not exceed twenty-two thousandths (0.022) grains per dry standard cubic foot and ten percent (10%) opacity.

(j) The opacity of particulate emissions from dust handling equipment shall not exceed ten percent (10%).

(k) Any facility or operation not specified in 326 IAC 6.8-10-3 shall meet a twenty percent (20%), three (3) minute average opacity standard.

C.7 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]

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

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

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

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

(A) Asbestos removal or demolition start date;

(B) Removal or demolition contractor; or

(C) Waste disposal site.

(c) The Permittee shall ensure that the notice is postmarked or delivered according to the guidelines set forth in 326 IAC 14-10-3(2).

(d) The notice to be submitted shall include the information enumerated in 326 IAC 14-10-3(3).

All required notifications shall be submitted to:

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

The notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project. The notifications do not require a certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(e) Procedures for Asbestos Emission Control
The Permittee shall comply with the applicable emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-1, emission control requirements are applicable for any removal or disturbance of RACM greater than three (3) linear feet on pipes or three (3) square feet on any other facility components or a total of at least 0.75 cubic feet on all facility components.

(f) Demolition and Renovation
The Permittee shall thoroughly inspect the affected facility or part of the facility where the demolition or renovation will occur for the presence of asbestos pursuant to 40 CFR 61.145(a).

(g) Indiana Licensed Asbestos Inspector
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Licensed Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos. The requirement to use an Indiana Licensed Asbestos inspector is not federally enforceable.

Testing Requirements [326 IAC 2-6.1-5(a)(2)]

C.8 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 and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(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 an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ if the Permittee submits to IDEM, OAQ a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

Compliance Requirements [326 IAC 2-1.1-11]

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

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

Compliance Monitoring Requirements [326 IAC 2-6.1-5(a)(2)]

C.10 Compliance Monitoring [326 IAC 2-1.1-11]

Compliance with applicable requirements shall be documented as required by this permit. The Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. All monitoring and record keeping requirements not already legally required shall be implemented when operation begins.

C.11 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.12 Instrument Specifications [326 IAC 2-1.1-11]

(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

C.13 Response to Excursions or Exceedances

(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; and/or

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

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

(e) The Permittee shall maintain the following records:

(1) monitoring data;

(2) monitor performance data, if applicable; and

(3) corrective actions taken.

C.14 Actions Related to Noncompliance Demonstrated by a Stack Test

(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 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 an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Record Keeping and Reporting Requirements [326 IAC 2-6.1-5(a)(2)]

C.15 Malfunctions Report [326 IAC 1-6-2]

Pursuant to 326 IAC 1-6-2 (Records; Notice of Malfunction):

(a) A record of all malfunctions, including startups or shutdowns of any facility or emission control equipment, which result in violations of applicable air pollution control regulations or applicable emission limitations shall be kept and retained for a period of three (3) years and shall be made available to the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) or appointed representative upon request.

(b) When a malfunction of any facility or emission control equipment occurs which lasts more than one (1) hour, said condition shall be reported to OAQ, using the Malfunction Report Forms (2 pages). Notification shall be made by telephone or facsimile, as soon as practicable, but in no event later than four (4) daytime business hours after the beginning of said occurrence.

(c) Failure to report a malfunction of any emission control equipment shall constitute a violation of 326 IAC 1-6, and any other applicable rules. Information of the scope and expected duration of the malfunction shall be provided, including the items specified in 326 IAC 1-6-2(a)(1) through (6).

(d) Malfunction is defined as any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner. [326 IAC 1-2-39]

C.16 General Record Keeping Requirements [326 IAC 2-6.1-5]

(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 or ninety (90) days of initial start-up, whichever is later.

C.17 General Reporting Requirements [326 IAC 2-1.1-11] [326 IAC 2-6.1-2] [IC 13-14-1-13]

(a) Reports required by conditions in Section D of this permit shall be submitted to:

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

(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 an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(d) The first report shall cover the period commencing on the date of issuance of this permit or the date of initial start-up, whichever is later, and ending on the last day of the reporting period. Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit, “calendar year” means the twelve (12) month period from January 1 to December 31 inclusive.

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(b) One (1) heat exchanger, identified as H1, approved for construction in 2009, with a maximum capacity of 2.0 MMBtu per hour, and exhausting to stack H1.

(c) Grinding mill and product collection equipment consisting of:

(1) One (1) sugar mill, identified as Unit 1, constructed in 1982, with a maximum throughput of 7,500 pounds per hour of powdered sugar, controlled with an integral fabric filter which serves as a product collector, and exhausting to stack 1.

(2) One (1) bulk transport system, identified as Unit 1A, including a hopper, constructed in 1982, used in conjunction with the sugar mill, identified as Unit 1, with a maximum throughput of 7,500 pounds per hour of powdered sugar, controlled with an integral fabric filter, and exhausting to stack 1A.

(3) One (1) sugar mill, identified as Unit 2, constructed in 1982, with a maximum throughput of 7,500 pounds per hour of powdered sugar, controlled with an integral fabric filter which serves as a product collector, and exhausting to stack 2.

(4) One (1) bulk transport system, identified as Unit 2A, including a hopper, constructed in 1982, used in conjunction with the sugar mill, identified as Unit 2, with a maximum throughput of 7,500 pounds per hour of powdered sugar, controlled with an integral fabric filter, and exhausting to stack 2A.

(5) Bagging operations, identified as Unit 5, constructed in 1992, with a maximum throughput of 15,000 pounds per hour of powdered sugar, controlled with an integral dust collector, and exhausting to stack 5.

(d) Granulated sugar operation, identified as Unit 6, constructed in 2002, controlled with an integral fabric filter, exhausting to stack 6, and including the following:

(1) One (1) truck unloading system, with a maximum throughput capacity of 40,000 pounds per hour of granulated sugar, connected to silo #17 and;

(2) Railcar unloading area #1, connected to bucket elevator #8 and;

(3) Bucket elevator #8, connected to three (3) silos (#18, #20 and #21) and the distributor head and;

(4) Distributor head, connected to dry bulk truck loading, bucket elevator #8, three (3) silos (#18, #20 and #21) and silo #17 and;

(5) Railcar unloading area #2, connected to bucket elevator #5 and;

(6) Bucket elevator #5 connected to silo #17.

(e) One (1) truck unloading system, with a maximum throughput capacity of 50,000 pounds per hour of granulated sugar, and boxing operations with a maximum throughput of 15,000 pounds per hour of granulated sugar, collectively identified as

Unit 7, constructed in 2004, controlled with an integral fabric filter, and exhausting to stack 7.

(f) Bagging and reclaim operations, identified as Unit 8, approved for construction in 2009, with a maximum throughput of 15,000 pounds per hour of powdered sugar, controlled with an integral dust collector, and exhausting to stack 8.

(g) Melt tanks, identified as Unit 9, constructed in 1962, approved for modification in 2009, with a maximum capacity of 32,400 pounds of granulated sugar per dry batch, controlled by a scrubber, and exhausting to stack 9.

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

Emission Limitations and Standards [326 IAC 2-6.1-5(a)(1)]

D.1.1 Particulate Matter Emission Limitations [326 IAC 6.8-1-2]

Pursuant to 326 IAC 6.8-1-2(a), the particulate matter emissions from the sugar mills (Units 1 and 2), bulk transport systems (Units 1A and 2A), bagging operation (Unit 5), truck unloading systems (Units 6 and 7), packaging area (Unit 8), melt tanks (Unit 9), and heat exchanger (H1) shall not exceed 0.03 grains per dry standard cubic foot, each.

D.1.2 Preventive Maintenance Plan [326 IAC 1-6-3]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for the sugar mills (Units 1 and 2), bulk transport systems (Units 1A and 2A), bagging operation (Unit 5), truck unloading systems (Units 6 and 7), packaging area (Unit 8), and melt tanks (Unit 9) and their control devices.

Compliance Determination Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

D.1.3 Particulate Control

In order to comply with condition D.1.1 the integral fabric filters, dust collector, particulate collection system, fugitive dust collector and scrubber for particulate control shall be in operation and control emissions from the sugar mills (Units 1 and 2), bulk transport systems (Units 1A and 2A), bagging operation (Unit 5), truck unloading systems (Units 6 and 7), packaging area (Unit 8), and melt tanks (Unit 9) at all times the sugar mills (Units 1 and 2), bulk transport systems (Units 1A and 2A), bagging operation (Unit 5), truck unloading systems (Units 6 and 7), packaging area (Unit 8), and melt tanks (Unit 9) are in operation.

SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(a) Two (2) natural gas-fired boilers, identified as B1 and B2, constructed in 1982, each with a maximum heat input capacity of 4.18 MMBtu per hour, and exhausting to stacks B1 and B2, respectively.

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

Emission Limitations and Standards [326 IAC 2-6.1-5(a)(1)]

D.2.1 Particulate [326 IAC 6-2-2]

Pursuant to 326 IAC 6-2-2(a) (Particulate Emission Limitations for Sources of Indirect Heating), the particulate emissions from the two (2) boilers, identified as B1 and B2, shall be limited to 0.6 pounds per million British thermal unit heat input, each.

D.2.2 Particulate Matter Emission Limitations [326 IAC 6.8-1-2]

Pursuant to 326 IAC 6.8-1-2(b)(3), the particulate matter emissions from the two (2) boilers, identified as B1 and B2, shall not exceed 0.01 grains per dry standard cubic foot, each

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY

MINOR SOURCE OPERATING PERMIT (MSOP) CERTIFICATION

Source Name: Indiana Sugars, Inc.
Source Address: 911 Virginia Street, Gary, Indiana 46402
Mailing Address: 911 Virginia Street, Gary, Indiana 46402
MSOP No.: M089-27251-00490

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:

Date:

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

MINOR SOURCE OPERATING PERMIT
ANNUAL NOTIFICATION

This form should be used to comply with the notification requirements under 326 IAC 2-6.1-5(a)(5).

Company Name:	Indiana Sugars, Inc.
Address:	911 Virginia Street
City:	Gary, Indiana 46402
Phone #:	(630) 675-0904
MSOP #:	M089-27251-00490

I hereby certify that Indiana Sugars, Inc. is :

- ☐ still in operation.
- ☐ no longer in operation.

I hereby certify that Indiana Sugars, Inc. is :

- ☐ in compliance with the requirements of MSOP M089-27251-00490.
- ☐ not in compliance with the requirements of MSOP M089-27251-00490.

Authorized Individual (typed):
Title:
Signature:
Date:

If there are any conditions or requirements for which the source is not in compliance, provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be achieved.

Noncompliance:

MALFUNCTION REPORT

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
FAX NUMBER: (317) 233-6865

This form should only be used to report malfunctions applicable to Rule 326 IAC 1-6 and to qualify for the exemption under 326 IAC 1-6-4.

THIS FACILITY MEETS THE APPLICABILITY REQUIREMENTS BECAUSE IT HAS POTENTIAL TO EMIT 25 TONS/YEAR PARTICULATE MATTER ?_____, 25 TONS/YEAR SULFUR DIOXIDE ?_____, 25 TONS/YEAR NITROGEN OXIDES?_____, 25 TONS/YEAR VOC ?_____, 25 TONS/YEAR HYDROGEN SULFIDE ?_____, 25 TONS/YEAR TOTAL REDUCED SULFUR ?_____, 25 TONS/YEAR REDUCED SULFUR COMPOUNDS ?_____, 25 TONS/YEAR FLUORIDES ?_____, 100 TONS/YEAR CARBON MONOXIDE ?_____, 10 TONS/YEAR ANY SINGLE HAZARDOUS AIR POLLUTANT ?_____, 25 TONS/YEAR ANY COMBINATION HAZARDOUS AIR POLLUTANT ?_____, 1 TON/YEAR LEAD OR LEAD COMPOUNDS MEASURED AS ELEMENTAL LEAD ?_____, OR IS A SOURCE LISTED UNDER 326 IAC 2-5.1-3(2) ?_____. EMISSIONS FROM MALFUNCTIONING CONTROL EQUIPMENT OR PROCESS EQUIPMENT CAUSED EMISSIONS IN EXCESS OF APPLICABLE LIMITATION _____.

THIS MALFUNCTION RESULTED IN A VIOLATION OF: 326 IAC _____ OR, PERMIT CONDITION # _____ AND/OR PERMIT LIMIT OF _____

THIS INCIDENT MEETS THE DEFINITION OF "MALFUNCTION" AS LISTED ON REVERSE SIDE ? Y N

THIS MALFUNCTION IS OR WILL BE LONGER THAN THE ONE (1) HOUR REPORTING REQUIREMENT ? Y N

COMPANY:_____PHONE NO. ( )_____
LOCATION: (CITY AND COUNTY)_____
PERMIT NO. _____ AFS PLANT ID: _____ AFS POINT ID: _____ INSP:_____
CONTROL/PROCESS DEVICE WHICH MALFUNCTIONED AND REASON:_____
_____

DATE/TIME MALFUNCTION STARTED: _____/_____/ 20____ _____ AM / PM

ESTIMATED HOURS OF OPERATION WITH MALFUNCTION CONDITION: _____

DATE/TIME CONTROL EQUIPMENT BACK-IN SERVICE_____/_____/ 20____ _____ AM/PM

TYPE OF POLLUTANTS EMITTED: TSP, PM-10, SO2, VOC, OTHER:_____

ESTIMATED AMOUNT OF POLLUTANT EMITTED DURING MALFUNCTION: _____
_____

MEASURES TAKEN TO MINIMIZE EMISSIONS:_____
_____

REASONS WHY FACILITY CANNOT BE SHUTDOWN DURING REPAIRS:

CONTINUED OPERATION REQUIRED TO PROVIDE ESSENTIAL* SERVICES:_____
CONTINUED OPERATION NECESSARY TO PREVENT INJURY TO PERSONS:_____
CONTINUED OPERATION NECESSARY TO PREVENT SEVERE DAMAGE TO EQUIPMENT:_____
INTERIM CONTROL MEASURES: (IF APPLICABLE)_____
_____
_____

MALFUNCTION REPORTED BY:_____TITLE:_____
(SIGNATURE IF FAXED)

MALFUNCTION RECORDED BY:_____DATE:_____TIME:_____
*SEE PAGE 2

Please note - This form should only be used to report malfunctions applicable to Rule 326 IAC 1-6 and to qualify for the exemption under 326 IAC 1-6-4.

326 IAC 1-6-1 Applicability of rule

Sec. 1. This rule applies to the owner or operator of any facility required to obtain a permit under 326 IAC 2-5.1 or 326 IAC 2-6.1.

326 IAC 1-2-39 "Malfunction" definition

Sec. 39. Any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner.

***Essential services** are interpreted to mean those operations, such as, the providing of electricity by power plants. Continued operation solely for the economic benefit of the owner or operator shall not be sufficient reason why a facility cannot be shutdown during a control equipment shutdown.

If this item is checked on the front, please explain rationale:

_____
_____

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a Registration Transitioning to a Minor Source Operating Permit (MSOP) with New Source Review (NSR)

Source Description and Location

Source Name:	**Indiana Sugars, Inc.**
Source Location:	**911 Virginia Street, Gary, Indiana 46402**
County:	**Lake**
SIC Code:	**2062**
Operation Permit No.:	**M089-27251-00490**
Permit Reviewer:	**Sarah Conner, Ph. D.**

On December 12, 2008, the Office of Air Quality (OAQ) received an application from Indiana Sugars, Inc. related to the construction and operation of new emission units at an existing stationary sugar products and corn syrup blends manufacturing plant and transition from a Registration to a MSOP.

Existing Approvals

The source has been operating under previous approvals including, but not limited to, the following:

(a) Registration Revision No. 089-19908-00490, issued on September 24, 2004; and

(b) Notice-Only Change No. 089-19805-00490, issued on December 13, 2004; and

(c) Registration No. 089-19053-00490, issued on July 30, 2004.

Due to this application, the source is transitioning from a Registration to a MSOP.

County Attainment Status

The source is located in Lake County.

Pollutant	Designation
SO_2	Better than national standards.
CO	Attainment effective February 18, 2000, for the part of the city of East Chicago bounded by Columbus Drive on the north; the Indiana Harbor Canal on the west; 148th Street, if extended, on the south; and Euclid Avenue on the east. Unclassifiable or attainment effective November 15, 1990, for the remainder of East Chicago and Lake County.
O_3	Nonattainment Subpart 2 Moderate effective June 15, 2004, for the 8-hour ozone standard.[1]
PM_{10}	Attainment effective March 11, 2003, for the cities of East Chicago, Hammond, Whiting, and Gary. Unclassifiable effective November 15, 1990, for the remainder of Lake County.
NO_2	Cannot be classified or better than national standards.
Pb	Not designated.
[1]Nonattainment Severe 17 effective November 15, 1990, for the Chicago-Gary-Lake County area for the 1-hour ozone standard which was revoked effective June 15, 2005. Basic nonattainment designation effective federally April 5, 2005, for PM2.5.	

(a) Ozone Standards

Volatile organic compounds (VOC) and Nitrogen Oxides (NOx) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone.

(i) 1-hour ozone standard

On December 22, 2006 the United States Court of Appeals, District of Columbia issued a decision which served to partially vacate and remand the U.S. EPA's final rule for implementation of the eight-hour National Ambient Air quality Standard for ozone. *South Coast Air Quality Mgmt. Dist. v. EPA*, 472 F.3d 882 (D.C. Cir., December 22, 2006), *rehearing denied* 2007 U.S. App. LEXIS 13748 (D.C. Cir., June 8, 2007). The U.S. EPA has instructed IDEM to issue permits in accordance with its interpretation of the *South Coast* decision as follows: Gary-Lake-Porter County was previously designated as a severe non-attainment area prior to revocation of the one-hour ozone standard, therefore, pursuant to the anti-backsliding provisions of the Clean Air Act, any new or existing source must be subject to the major source applicability cut-offs and offset ratios under the area's previous one-hour standard designation. This means that a source must achieve the Lowest Achievable Emission Rate (LAER) if it exceeds 25 tons per year of VOC emissions and must offset any increase in VOC emissions by a decrease of 1.3 times that amount.

On January 26, 1996 in 40 CFR 52.777(i), the U.S. EPA granted a waiver of the requirements of Section 182(f) of the CAA for Lake and Porter Counties, including the lower NOx threshold for nonattainment new source review. Therefore, VOC emissions alone are considered when evaluating the rule applicability relating to the 1-hour ozone standards. Therefore, VOC emissions were reviewed pursuant to the requirements for Emission Offset, 326 IAC 2-3. See the State Rule Applicability for the source section.

(ii) 8-hour ozone standard

VOC and NOx emissions are considered when evaluating the rule applicability relating to the 8-hour ozone standard. Lake County has been designated as nonattainment for the 8-hour ozone standard. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Emission Offset, 326 IAC 2-3. See the State Rule Applicability – Entire Source section.

(b) PM2.5

U.S. EPA, in the Federal Register Notice 70 FR 943 dated January 5, 2005, has designated Lake County as nonattainment for PM2.5. On March 7, 2005 the Indiana Attorney General's Office, on behalf of IDEM, filed a law suit with the Court of Appeals for the District of Columbia Circuit challenging U.S. EPA's designation of nonattainment areas without sufficient data. However, in order to ensure that sources are not potentially liable for a violation of the Clean Air Act, the OAQ is following the U.S. EPA's New Source Review Rule for PM2.5 promulgated on May 8, 2008, and effective on July 15, 2008. Therefore, direct PM2.5 and SO2 emissions were reviewed pursuant to the requirements of Nonattainment New Source Review, 326 IAC 2-1.1-5. See the State Rule Applicability – Entire Source section.

(c) Other Criteria Pollutants

Lake County has been classified as attainment or unclassifiable in Indiana for pollutants PM10, SO2, NO2, and CO. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

Fugitive Emissions

(a) The fugitive emissions of criteria pollutants and hazardous air pollutants are counted toward the determination of 326 IAC 2-6.1 (Minor Source Operating Permits) applicability.

(b) Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2, 326 IAC 2-3, or 326 IAC 2-7, and there is no applicable New Source Performance Standard that was in effect on August 7, 1980, fugitive emissions are not counted toward the determination of PSD, Emission Offset, and Part 70 Permit applicability.

Background and Description of Permitted Emission Units

The Office of Air Quality (OAQ) has reviewed an application, submitted by Indiana Sugars, Inc. on December 12, 2008, relating to construction of a packaging area including a fugitive dust collection system and a natural gas-fired heat exchanger and to the modification of existing melt tanks with the replacement of the existing scrubber with a new scrubber.

The source consists of the following permitted emission unit(s):

(a) Two (2) natural gas-fired boilers, identified as B1 and B2, constructed in 1982, each with a maximum heat input capacity of 4.18 MMBtu per hour, and exhausting to stacks B1 and B2, respectively.

(c) Grinding mill and product collection equipment consisting of:

(1) One (1) sugar mill, identified as Unit 1, constructed in 1982, with a maximum throughput of 7,500 pounds per hour of powdered sugar, controlled with an integral fabric filter which serves as a product collector, and exhausting to stack 1.

(2) One (1) bulk transport system, identified as Unit 1A, including a hopper, constructed in 1982, used in conjunction with the sugar mill, identified as Unit 1, with a maximum throughput of 7,500 pounds per hour of powdered sugar, controlled with an integral fabric filter, and exhausting to stack 1A.

(3) One (1) sugar mill, identified as Unit 2, constructed in 1982, with a maximum throughput of 7,500 pounds per hour of powdered sugar, controlled with an integral fabric filter which serves as a product collector, and exhausting to stack 2.

(4) One (1) bulk transport system, identified as Unit 2A, including a hopper, constructed in 1982, used in conjunction with the sugar mill, identified as Unit 2, with a maximum throughput of 7,500 pounds per hour of powdered sugar, controlled with an integral fabric filter, and exhausting to stack 2A.

(5) Bagging operations, identified as Unit 5, constructed in 1992, with a maximum throughput of 15,000 pounds per hour of powdered sugar, controlled with an integral dust collector, and exhausting to stack 5.

(d) Granulated sugar operation, identified as Unit 6, constructed in 2002, controlled with an integral fabric filter, exhausting to stack 6, and including the following:

(1) One (1) truck unloading system, with a maximum throughput capacity of 40,000 pounds per hour of granulated sugar, connected to silo #17 and;

(2) Railcar unloading area #1, connected to bucket elevator #8 and;

(3) Bucket elevator #8, connected to three (3) silos (#18, #20 and #21) and the distributor head and;

(4) Distributor head, connected to dry bulk truck loading, bucket elevator #8, three (3) silos (#18, #20 and #21) and silo #17 and;

(5) Railcar unloading area #2, connected to bucket elevator #5 and;

(6) Bucket elevator #5 connected to silo #17.

(e) One (1) truck unloading system, with a maximum throughput capacity of 50,000 pounds per hour of granulated sugar, and boxing operations with a maximum throughput of 15,000 pounds per hour of granulated sugar, collectively identified as Unit 7, constructed in 2004, controlled by an integral particulate collection system, and exhausting to stack 7.

The following is a list of the new/modified emission unit(s) and pollution control device:

(b) One (1) heat exchanger, identified as H1, approved for construction in 2009, with a maximum capacity of 2.0 MMBtu per hour, and exhausting to stack H1.

(f) Bagging and reclaim operations, identified as Unit 8, approved for construction in 2009, with a maximum throughput of 15,000 pounds per hour of powdered sugar, controlled with an integral dust collector, and exhausting to stack 8.

Unpermitted Emission Units and Pollution Control Equipment

The source consists of the following unpermitted emission unit:

(g) Melt tanks, identified as Unit 9, constructed in 1962, approved for modification in 2009, with a maximum capacity of 32,400 pounds of granulated sugar per dry batch, controlled by a scrubber, and exhausting to stack 9.

(h) Fugitive emissions from paved roads and parking lots.

"Integral Part of the Process" Determination

(a) IDEM, OAQ previously reviewed information submitted by the applicant to justify why the fabric filters should be an integral part of product collectors, bagging operations and truck unloading system. IDEM made a determination for Registration No. 089-19053-00490, issued on July 30, 2004.

(1) The company has submitted the following justification such that the 2 (two) fabric filters be considered as an integral part of the product collectors – sugar mills (identified as Unit 1 and 2):

The sugar mills grind the granulated sugar to the desired size, mix in small quantities of starch and blow the powdered sugar product to the fabric filters, where material is collected and placed in storage. Each fabric filter itself receives the full product flow. The fabric filters are used to separate the product from the air stream.

IDEM, OAQ has evaluated the justifications and agreed that the fabric filter will be considered as an integral part of the product collectors – sugar mills (identified as Unit 1 and 2). Therefore, the permitting level will be determined using the potential to emit after the two (2) fabric filters. Operating conditions in the proposed permit will specify that these fabric filters shall operate at all times when the product collectors – sugar mills (identified as Unit 1 and 2) are in operation.

(2) The company has submitted the following justification such that the dust collectors be considered as an integral part of the product collector - bulk transport systems (identified as Unit 1A and 2A):

The purpose of the bulk transport systems is to move powdered sugar from product collectors (identified as Unit 1 and 2) to storage tanks prior to packaging. The powdered sugar is pneumatcially transferred into the bulk transport system dust collectors to separate the powdered sugar from the air stream so that the material can be transferred to the storage bins. The only way the material gets into the storage bins is to be captured by the bags and dropped into the bins. Thus, the primary purpose of the of the dust collector is for material transport, and not pollution control.

IDEM, OAQ has evaluated the justifications and agreed that the dust collectors will be considered as an integral part of the product collectors – bulk transport systems (identified as Unit 1A and 2A). Therefore, the permitting level will be determined using the potential to emit after the dust collectors. Operating conditions in the proposed permit will specify that these fabric filters shall operate at all times when the product collectors – bulk transport systems (identified as Unit 1A and 2A) are in operation.

(3) The company has submitted the following justification such that the fabric filter be considered as an integral part of the bagging operations (identified as Unit 5):

Powdered sugar collected by the fabric filter during bagging operations is routed back to sugar mill (identified as Unit 2). The value of the material is approximately $0.30 per pound. The two powdered sugar systems have a combined capacity of 15,000 pounds per hour. The Permittee estimates that the quantity of material captured by the fabric filter used in conjunction with the bagging operation is one (1) percent of this throughput or equal to 150 pounds per hour. Therefore, the value of the material collected is equal to $45.00 per hour or $394,200 per year. Using the equations provided in the EPA Air Pollution Control Cost Manual – Sixth Edition (EPA/452/B-02-001), the cost of the fabric filter with an airflow rate of 21,000 cubic foot per minute (cfm) is approximately equal to $10,000 to $15,000. Based on these figures, the dollar amount saved from the collected material by this equipment is much more than the annual capital cost of the fabric filter.

IDEM, OAQ has evaluated the justifications and agreed that the the fabric filter will be considered as an integral part of the bagging operations (identified as Unit 5). Therefore, the permitting level will be determined using the potential to emit after the fabric filter. Operating conditions in the proposed permit will specify that the fabric filter shall operate at all times when the bagging operations (identified as Unit 5) is in operation.

(4) The company has submitted the following justification such that the fabric filter be considered as an integral part of the granulated sugar operation (identified as Unit 6):

The material is directly transferred into storage bin instead of the fabric filter. However, due to the high flow rate through the truck unloading system, the fabric filter used in conjunction with this system is required to redirect the exhaust (consisting of granulated sugar and fine material) into the storage bin. The Permittee assumes that the storage bin retains at least 95 percent of the granulated sugar transferred, and the quantity captured by the filter is approximately equal to 2,000 pounds per hour. The value of the material is approximately

$0.30 per pound or $600 per hour of operation. Using equations provided in the EPA Air Pollution Control Cost Manual – Sixth Edition (EPA/452/B-02-001), the cost of the fabric filter with a cloth area of 114 square feet is approximately $10,000. Although the truck unloading system is not expected to operate continuously, the cost of the fabric filter would be recovered in 17 hours of operation. Based on these figures, the dollar amount saved from the collected material by this equipment is much more than the annual capital cost of the fabric filter.

IDEM, OAQ has evaluated the justifications and agreed that the fabric filter will be considered an integral part of the granulated sugar operation (identified as Unit 6). Therefore, the permitting level will be determined using the potential to emit after the fabric filter. Operating conditions in the proposed permit will specify that the fabric fitler shall operate at all times when the granulated sugar operation (identified as Unit 6) is in operation.

(b) IDEM, OAQ previously reviewed information submitted by the applicant to justify why the particulate collection system should be an integral part of an additional truck unloading system. IDEM made a determination for a Notice Only Change No. 089-19805-00490, issued on September 24, 2004, to Registration No. 089-19053-00490, issued on July 30, 2004.

(1) The company has submitted the following justification such that the particulate collection system be considered as an integral part of the truck unloading system (identified as Unit 7):

One (1) truck unloading system, collectively identified as Unit 7, was evaluated based on the same reasoning as Unit 6. In addition, the unloading system is pneumatic; therefore, the particulate collection system is considered to be integral to the conveying process.

IDEM, OAQ has evaluated the justifications and agreed that the particulate collection system will be considered an integral part of the truck unloading system (identified as Unit 7). Therefore, the permitting level will be determined using the potential to emit after the fabric filter. Operating conditions in the proposed permit will specify that the fabric fitler shall operate at all times when the truck unloading system (identified as Unit 7) is in operation. This determination was similar to the initial determination made under Registration No. 089-19053-00490, issued on July 30, 2004.

(c) The Permittee has submitted the following information to justify why the fugitive dust collection system should be considered an integral part of the bagging and reclaim operations, identified as Unit 8:

(1) The fugitive dust collector in the powdered sugar packaging area will allow collection and reuse of valuable product. Indiana Sugars was losing money because of product dropping to the floor. This fugitive dust collector will pull the product from floor level (before it reaches the floor). Indiana Sugars will then send this to another company to “reclaim” so they will not lose that profit. They anticipate that 474.5 tons of material will be recovered each year.

(2) The fugitive dust collector being installed to vent out Stack 8 is similar to the baghouse venting out Stack 5. It is actually being added to the bagging operations (Unit 5) to supplement what the other baghouse is doing. Because the fugitive dust collection system renders such a high cost recovery, it should be considered integral to the operation of the emission unit. This interpretation is consistent with the manner in which similar units have been classified at Indiana Sugars under Registration 089-19053-00490, issued on July 30, 2004.

IDEM, OAQ has evaluated the information submitted and agrees that the fugitive dust collection system should be considered an integral part of the bagging and reclaim operations, identified as Unit 8. This determination is based on the fact that the fugitive dust collection system will allow Indiana Sugar to reuse valuable product. Therefore, the permitting level will be determined using the potential to emit after the fugitive dust collection system. Operating conditions in the permit will specify that this fugitive dust collection system shall operate at all times when the bagging and reclaim operations, identified as Unit 8 are in operation.

Enforcement Issues

IDEM is aware that the melt tanks and scrubber, identified as Unit 9, which emits particulate above exempt levels, were constructed and operated prior to receipt of the proper permit. The melt tanks were pre-existing and unlisted in their previous Registration No. 089-19053-00490, issued on July 30, 2004. IDEM is reviewing this matter and will take the appropriate action. Due to an increase in source-wide particulate emissions, the source is transitioning from a Registration to an MSOP. This proposed approval is intended to satisfy the requirements of the construction and operation permit rules.

Emission Calculations

See Appendix A of this TSD for detailed emission calculations.

Permit Level Determination – MSOP

The following table reflects the unlimited potential to emit (PTE) of the entire source 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	27.71
PM10[(1)]	25.34
PM2.5	24.80
SO_2	0.03
NO_x	4.54
VOC	0.25
CO	3.81

(1) Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant".

HAPs	Potential To Emit (tons/year)
Hexane	0.082
Formaldehyde	0.003
All other single HAPs	negligible
TOTAL HAPs	**0.09**

(a) The potential to emit (PTE) (as defined in 326 IAC 2-1.1-1(16)) of pollutants PM, PM_{10}, and $PM_{2.5}$ are each less than one hundred (100) tons per year, but greater than or equal to twenty-five (25) tons per year. The PTE of all other regulated criteria pollutants are less than twenty-five (25) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-6.1. A Minor Source Operating Permit (MSOP) will be issued.

(b) The potential to emit (PTE) (as defined in 326 IAC 2-1.1-1(16)) of any single HAP is less than ten (10) tons per year and the PTE of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA) and not subject to the provisions of 326 IAC 2-7.

Federal Rule Applicability Determination

New Source Performance Standards (NSPS)

(a) The requirements of the New Source Performance Standards for Fossil-Fuel-Fired Steam Generators for Which Construction Is Commenced After August 17, 1971 (40 CFR 60.40, Subpart D), are not included in the permit for the two (2) boilers identified as B1, and B2, because each boiler is rated at less than two hundred and fifty (250) MMBtu per hour.

(b) The requirements of the New Source Performance Standards for Electric Utility Steam Generating Units for Which Construction is Commenced After September 18, 1978 (40 CFR 60.40Da), Subpart Da, are not included in the permit for two (2) boilers identified as B1, and B2, because each boiler is rated at less than two hundred and fifty (250) MMBtu per hour.

(c) The requirements of the New Source Performance Standards for Industrial-Commercial-Institutional Steam Generating Units (40 CFR 60.40b, Subpart Db), are not included in the permit for the two (2) boilers identified as B1, and B2, because each boiler is rated at less than one hundred (100) MMBtu per hour.

(d) The requirements of the New Source Performance Standard for Small Industrial-Commercial-Institutional Steam Generating Units (40 CFR 60.40c, Subpart Dc), are not included in the permit for the two (2) boilers identified as B1, and B2. Construction of these units commenced prior to June 9, 1989 and each of these boilers are rated at less than ten (10) MMBtu per hour.

(e) There are no New Source Performance Standards (NSPS)(40 CFR Part 60) included in the permit.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

(f) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) included in the permit.

Compliance Assurance Monitoring (CAM)

(g) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is not included in the permit, because the unlimited potential to emit of the source is less than the Title V major source thresholds and the source is not required to obtain a Part 70 or Part 71 permit.

State Rule Applicability Determination

The following state rules are applicable to the source:

326 IAC 2-6.1 (Minor Source Operating Permits (MSOP))
MSOP applicability is discussed under the Permit Level Determination – MSOP section above.

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

This source is not a major stationary source, under PSD (326 IAC 2-2), because the potential to emit of all attainment regulated pollutants are less than 250 tons per year, and this source is not one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(gg)(1). Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

326 IAC 2-3 (Emission Offset)

This existing source is not a major stationary source, under Emission Offset (326 IAC 2-3) because the potential to emit all nonattainment regulated pollutants are less than 100 tons per year. Therefore, pursuant to 326 IAC 2-3, the Emission Offset requirements do not apply.

326 IAC 2-1.1-5 (Nonattainment New Source Review)

This existing source is not a major stationary source, under 326 IAC 2-1.1-5 (Nonattainment New Source Review), because the potential to emit particulate matter with a diameter less than ten 2.5 micrometers (PM2.5), is less than 100 tons per year. Therefore, pursuant to 326 IAC 2-1.1-5, the Nonattainment New Source Review requirements do not apply.

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

The potential to emit of any single HAP is less than ten (10) tons per year and the potential to emit of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA) and not subject to the provisions of 326 IAC 2-4.1.

326 IAC 2-6 (Emission Reporting)

Pursuant to 326 IAC 2-6-1, this source is not subject to this rule, because it is not required to have an operating permit under 326 IAC 2-7 (Part 70). The source is located in Lake County, it has potential to emit of NOx and VOC of less than twenty-five (25) tons per year, and it does not emit lead into the ambient air at levels equal to or greater than 5 tons per year. Therefore, 326 IAC 2-6 does not apply.

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:

(1) Opacity shall not exceed an average of twenty percent (20%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(2) 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 Limitations)

The source is subject to the requirements of 326 IAC 6-4, because the paved roads at the source have the potential to emit fugitive particulate emissions. Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions Limitations), the source 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.

326 IAC 6.8-10 (Lake County: Fugitive Particulate Matter)

The source is not subject to the requirements of 326 IAC 6.8-10, because the paved roads at this source have potential fugitive particulate emissions less than 5 tons per year.

Grinding and Product Collection Equipment

326 IAC 6.8-1(Particulate Matter Limitations for Lake County)

This source is located in Lake County and has actual particulate matter emissions greater than 10 tons per year. Therefore the emission units at this source must comply with the requirements of 326 IAC 6.8 or 326 IAC 6-3-2.

(a) Pursuant to 326 IAC 6.8-1-2(a), the particulate matter emissions from the sugar mills (Units 1 and 2), bulk transport systems (Units 1A and 2A), bagging operation (Unit 5), truck unloading systems (Units 6 and 7), packaging area (Unit 8), melt tanks (Unit 9), and heat exchanger (H1) shall not exceed 0.03 grains per dry standard cubic foot, each.

(b) Pursuant to 326 IAC 6.8-1-2(b)(3), the particulate matter emissions from the two (2) boilers, identified as B1 and B2, shall not exceed one-hundredth (0.01) grain per dry standard cubic foot, each.

In order to comply with 326 IAC 6.8 the integral fabric filters, dust collector, particulate collection system, fugitive dust collector and scrubber for particulate control shall be in operation and control emissions from the sugar mills (Units 1 and 2), bulk transport systems (Units 1A and 2A), bagging operation (Unit 5), truck unloading systems (Units 6 and 7), packaging area (Unit 8), and melt tanks (Unit 9) at all times the sugar mills (Units 1 and 2), bulk transport systems (Units 1A and 2A), bagging operation (Unit 5), truck unloading systems (Units 6 and 7), packaging area (Unit 8), and melt tanks (Unit 9) are in operation.

326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)

The Grinding and Product Collection Equipment, consisting of Unit 1, Unit 2, Unit 1A, Unit 2A, Unit 5, Unit 6, Unit 7 and Unit 8, is not subject to the requirements of 326 IAC 8-1-6, since the unlimited VOC potential emissions from each unit is less than twenty-five (25) tons per year.

Boilers

326 IAC 6-2-2 (Particulate Emission Limitations for Sources of Indirect Heating)

Pursuant to 326 IAC 6-2-2(a), the particulate emissions from each of the two (2) boilers, identified as B1 and B2 shall not exceed 0.6 pounds per million British thermal units heat input because the total heat input from both boilers is less than 10 MMBtu per hour.

326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations)

The two (2) boilers, identified as B1 and B2 are not subject to the requirements of 326 IAC 7-1.1-1, because the potential to emit sulfur dioxide from each boiler is less than twenty-five (25) tons per year and less than ten (10) pounds per hour.

326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)

The two (2) boilers, identified as B1 and B2 are not subject to the requirements of 326 IAC 8-1-6, since the unlimited VOC potential emissions from each boiler is less than twenty-five (25) tons per year.

Conclusion and Recommendation

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant. An application for the purposes of this review was received on December 12, 2008.

The operation of this source shall be subject to the conditions of the attached proposed New Source Review and MSOP No. M089-27251-00490. The staff recommends to the Commissioner that this New Source Review and MSOP be approved.

IDEM Contact

(a) Questions regarding this proposed permit can be directed to Sarah Conner, Ph. D. at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) (234-6555) or toll free at 1-800-451-6027 extension 4-6555.

(b) A copy of the findings is available on the Internet at: http://www.in.gov/ai/appfiles/idem-caats/

(c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: www.idem.in.gov

Appendix A: Emission Calculations
Summary of Emissions

Company Name: Indiana Sugars, Inc.
Address City IN Zip: 911 Virginia Street, Gary, Indiana 46402
Permit Number: M089-27251-00490
Reviewer: Sarah Conner, Ph. D.
Date: 2/12/2009

	POTENTIAL TO EMIT IN TONS PER YEAR								
Emission Unit	**PM**	**PM10**	**PM2.5**	**SO2**	**NOx**	**VOC**	**CO**	**Single HAP**	**Total HAPs**
Two Boilers (B1 and B2)	0.07	0.28	0.28	0.02	3.66	0.20	3.08	0.066 (hexane)	0.069
Unit 1	3.38	3.38	3.38	-	-	-	-	-	-
Unit 1A	0.29	0.29	0.29	-	-	-	-	-	-
Unit 2	2.63	2.63	2.63	-	-	-	-	-	-
Unit 2A	0.29	0.29	0.29	-	-	-	-	-	-
Unit 5	1.59	1.59	1.59	-	-	-	-	-	-
Unit 6	0.75	0.75	0.75	-	-	-	-	-	-
Unit 7	0.53	0.53	0.53	-	-	-	-	-	-
Unit 8	2.82	2.82	2.82	-	-	-	-	-	-
Unit 9	12.11	12.11	12.11	-	-	-	-	-	-
Heat Exchanger	0.02	0.07	0.07	0.01	0.88	0.05	0.74	0.016 (hexane)	0.017
Paved Roads	3.25	0.63	0.09	-	-	-	-	-	-
TOTAL	**27.71**	**25.34**	**24.80**	**0.03**	**4.54**	**0.25**	**3.81**	**0.082 (hexane)**	**0.086**

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

Company Name: **Indiana Sugars, Inc.**
Address City IN Zip: **911 Virginia Street, Gary, Indiana 46402**
Permit Number: **M089-27251-00490**
Reviewer: **Sarah Conner, Ph. D.**
Date: **2/12/2009**

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
8.36	73.2

Total for all natural gas fired units (B1 and B2)

	Pollutant						
	PM*	PM10*	PM2.5	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	7.6	0.6	100 **see below	5.5	84
Potential Emission in tons/yr	0.07	0.28	0.28	0.02	3.66	0.20	3.08

*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
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
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
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
HAPs Emissions

Company Name: **Indiana Sugars, Inc.**
Address City IN Zip: **911 Virginia Street, Gary, Indiana 46402**
Permit Number: **M089-27251-00490**
Reviewer: **Sarah Conner, Ph. D.**
Date: **2/12/2009**

	HAPs - Organics				
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.10E-03	1.20E-03	7.50E-02	1.80E+00	3.40E-03
Potential Emission in tons/yr	7.69E-05	4.39E-05	2.75E-03	6.59E-02	1.24E-04

	HAPs - Metals					
	Lead	Cadmium	Chromium	Manganese	Nickel	
Emission Factor in lb/MMcf	5.00E-04	1.10E-03	1.40E-03	3.80E-04	2.10E-03	Total
Potential Emission in tons/yr	1.83E-05	4.03E-05	5.13E-05	1.39E-05	7.69E-05	6.91E-02

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: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100

Company Name: **Indiana Sugars, Inc.**
Address City IN Zip: **911 Virginia Street, Gary, Indiana 46402**
Permit Number: **M089-27251-00490**
Reviewer: **Sarah Conner, Ph. D.**
Date: **2/12/2009**

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
2.00	17.5

Heat Exchanger (H1)

	Pollutant						
	PM*	PM10*	PM2.5	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	7.6	0.6	100 **see below	5.5	84
Potential Emission in tons/yr	0.02	0.07	0.07	0.01	0.88	0.05	0.74

*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
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
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
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
HAPs Emissions

Company Name: **Indiana Sugars, Inc.**
Address City IN Zip: **911 Virginia Street, Gary, Indiana 46402**
Permit Number: **M089-27251-00490**
Reviewer: **Sarah Conner, Ph. D.**
Date: **2/12/2009**

	HAPs - Organics				
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.10E-03	1.20E-03	7.50E-02	1.80E+00	3.40E-03
Potential Emission in tons/yr	1.84E-05	1.05E-05	6.57E-04	1.58E-02	2.98E-05

	HAPs - Metals					
	Lead	Cadmium	Chromium	Manganese	Nickel	
Emission Factor in lb/MMcf	5.00E-04	1.10E-03	1.40E-03	3.80E-04	2.10E-03	Total
Potential Emission in tons/yr	4.38E-06	9.64E-06	1.23E-05	3.33E-06	1.84E-05	1.65E-02

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
Particulate Matter Emissions
From Sugar Mill # 1 (identified as Unit 1)

Company Name: **Indiana Sugars, Inc.**
Address City IN Zip: **911 Virginia Street, Gary, Indiana 46402**
Permit Number: **M089-27251-00490**
Reviewer: **Sarah Conner, Ph. D.**
Date: **2/12/2009**

Potential to Emit Particulate Matter

* Equipment = Fabric Filter		After Control (ton/year)	After Control (lbs/hour)	Before Control (ton/year)
Outlet grain loading (grains/acf) =	0.02	3.38	0.77	338
Air flow rate (acfm) =	4500			
Control Efficiency (%) =	99%			

Assume all PM emissions are equal to PM10 and PM2.5

*IDEM, OAQ previously evaluated the justification for intergral control for registration 089-19053-00490 and agreed that the fabric filter will be considered as an integral part of the product collectors – sugar mills (identified as Unit 1 and 2).

METHODOLOGY

PTE After Control:

PTE PM/PM10/PM2.5 (lbs/hour) = Outlet grain loading (gr/acf) * Air flow rate (acf/min) * 60 min/hour * 1 lb/7000grains

PTE PM/PM10/PM2.5 (ton/year) = Outlet grain loading (gr/acf) * Air flow rate (acf/min) * 60 minute/hour * 1lb/7000 grains * 8760 hours/year * 1ton/2000 lbs

PTE Before Control:

PTE PM/PM10/PM2.5 (ton/year) = Outlet grain loading (gr/acf) * Air flow rate (acf/min) * 60 minute/hour * 1lb/7000 grains * 8760 hours/year * 1ton/2000 lbs * 1/(1-Control Efficiency %

Appendix A: Emission Calculations
Particulate Matter Emissions
From Transport System (identified as Unit 1A) used with Sugar Mill # 1

Company Name: **Indiana Sugars, Inc.**
Address City IN Zip: **911 Virginia Street, Gary, Indiana 46402**
Permit Number: **M089-27251-00490**
Reviewer: **Sarah Conner, Ph. D.**
Date: **2/12/2009**

Potential to Emit Particulate Matter

* Equipment = Fabric Filter		After Control (ton/year)	After Control (lbs/hour)	Before Control (ton/year)
Outlet grain loading (grains/acf) =	0.02	0.29	0.07	28.5
Air flow rate (acfm) =	380			
Control Efficiency (%) =	99%			

Assume all PM emissions are equal to PM10 and PM2.5

*IDEM, OAQ previously evaluated the justification for intergral control for registration 089-19053-00490 and agreed that the dust collectors will be considered as an integral part of the product collectors – bulk transport systems (identified as Unit 1A and 2A).

METHODOLOGY
PTE After Control:
PTE PM/PM10/PM2.5 (lbs/hour) = Grain Loading (gr/acf) * Air Flow Rate (acf/min) * 60 min/hour * 1 lb/7000grains

PTE PM/PM10/PM2.5 (ton/year) = Grain loading (gr/acf) * Air flow rate (acf/min) * 60 minute/hour * 1lb/7000 grains * 8760 hours/year * 1ton/2000 lbs
PTE Before Control:

PTE PM/PM10/PM2.5 (ton/year) = Grain loading (gr/acf) * Air flow rate (acf/min) * 60 minute/hour * 1lb/7000 grains * 8760 hours/year * 1ton/2000 lbs * 1/(1-Control Efficiency %)

Appendix A: Emission Calculations
Particulate Matter Emissions
From Sugar Mill # 2 (identified as Unit 2)

Company Name: **Indiana Sugars, Inc.**
Address City IN Zip: **911 Virginia Street, Gary, Indiana 46402**
Permit Number: **M089-27251-00490**
Reviewer: **Sarah Conner, Ph. D.**
Date: **2/12/2009**

Potential to Emit Particulate Matter

* Equipment = Fabric Filter		After Control (ton/year)	After Control (lbs/hour)	Before Control (ton/year)
Outlet grain loading (grains/acf) =	0.02	2.63	0.60	263
Air flow rate (acfm) =	3500			
Control Efficiency (%) =	99%			

Assume all PM emissions are equal to PM10 and PM2.5

*IDEM, OAQ previously evaluated the justification for intergral control for registration 089-19053-00490 and agreed that the fabric filter will be considered as an integral part of the product collectors – sugar mills (identified as Unit 1 and 2).

METHODOLOGY
PTE After Control:
PTE PM/PM10/PM2.5 (lbs/hour) = Outlet grain loading (gr/acf) * Air flow rate (acf/min) * 60 min/hour * 1 lb/7000grains
PTE PM/PM10/PM2.5 (ton/year) = Outlet grain loading (gr/acf) * Air flow rate (acf/min) * 60 minute/hour * 1lb/7000 grains * 8760 hours/year * 1ton/2000 lbs
PTE Before Control:
PTE PM/PM10/PM2.5 (ton/year) = Outlet grain loading (gr/acf) * Air flow rate (acf/min) * 60 minute/hour * 1lb/7000 grains * 8760 hours/year * 1ton/2000 lbs * 1/(1-Control Efficiency %

Appendix A: Emission Calculations
Particulate Matter Emissions
From Transport System (identified as Unit 2A) used with Sugar Mill # 2

Company Name: **Indiana Sugars, Inc.**
Address City IN Zip: **911 Virginia Street, Gary, Indiana 46402**
Permit Number: **M089-27251-00490**
Reviewer: **Sarah Conner, Ph. D.**
Date: **2/12/2009**

Potential to Emit Particulate Matter

* Equipment = Fabric Filter		After Control (ton/year)	After Control (lbs/hour)	Before Control (ton/year)
Outlet grain loading (grains/acf) =	0.02	0.29	0.07	28.5
Air flow rate (acfm) =	380			
Control Efficiency (%) =	99%			

Assume all PM emissions are equal to PM10 and PM2.5

*IDEM, OAQ previously evaluated the justification for intergral control for registration 089-19053-00490 and agreed that the dust collectors will be considered as an integral part of the product collectors – bulk transport systems (identified as Unit 1A and 2A).

METHODOLOGY
PTE After Control:
PTE PM/PM10/PM2.5 (lbs/hour) = Outlet grain loading (gr/acf) * Air flow rate (acf/min) * 60 min/hour * 1 lb/7000grains
PTE PM/PM10/PM2.5 (ton/year) = Outlet grain loading (gr/acf) * Air flow rate (acf/min) * 60 minute/hour * 1lb/7000 grains * 8760 hours/year * 1ton/2000
PTE Before Control:
PTE PM/PM10/PM2.5 (ton/year) = Outlet grain loading (gr/acf) * Air flow rate (acf/min) * 60 minute/hour * 1lb/7000 grains * 8760 hours/year * 1ton/2000 lbs * 1/(1-Control Efficiency %)

Appendix A: Emission Calculations
Particulate Matter Emissions
From Sugar-Product Bagging (identified as Unit 5)

Company Name: **Indiana Sugars, Inc.**
Address City IN Zip: **911 Virginia Street, Gary, Indiana 46402**
Permit Number: **M089-27251-00490**
Reviewer: **Sarah Conner, Ph. D.**
Date: **2/12/2009**

Potential to Emit Particulate Matter

* Equipment = Dust Collector		After Control (ton/year)	After Control (lbs/hour)	Before Control (ton/year)
Outlet grain loading (grains/acf) =	0.02	1.59	0.36	159
Air flow rate (acfm) =	2112			
Control Efficiency (%) =	99%			

Assume all PM emissions are equal to PM10 and PM2.5

IDEM, OAQ previously evaluated the justification for intergral control for registration 089-19053-00490 and agreed that the fabric filter will be considered as an integral part of the bagging operations (identified as Unit 5).

METHODOLOGY
PTE After Control:
PTE PM/PM10/PM2.5 (lbs/hour) = Outlet grain loading (gr/acf) * Air flow rate (acf/min) * 60 min/hour * 1 lb/7000grains
PTE PM/PM10/PM2.5 (ton/year) = Outlet grain loading (gr/acf) * Air flow rate (acf/min) * 60 minute/hour * 1lb/7000 grains * 8760 hours/year * 1ton/2000 lbs
PTE Before Control:

PTE PM/PM10/PM2.5 (ton/year) = Outlet grain loading (gr/acf) * Air flow rate (acf/min) * 60 minute/hour * 1lb/7000 grains * 8760 hours/year * 1ton/2000 lbs * 1/(1-Control Efficiency %)

Appendix A: Emission Calculations
Particulate Matter Emissions
From Bulk Receiving Area (identified as Unit 6)

Company Name: **Indiana Sugars, Inc.**
Address City IN Zip: **911 Virginia Street, Gary, Indiana 46402**
Permit Number: **M089-27251-00490**
Reviewer: **Sarah Conner, Ph. D.**
Date: **2/12/2009**

Potential to Emit Particulate Matter

* Equipment = Fabric Filter		After Control (ton/year)	After Control (lbs/hour)	Before Control (ton/year)
Outlet grain loading (grains/acf) =	0.02	0.75	0.17	75
Air flow rate (acfm) =	1000			
Control Efficiency (%) =	99%			

Assume all PM emissions are equal to PM10 and PM2.5

*IDEM, OAQ previously evaluated the justification for intergral control for registration 089-19053-00490 and agreed that the fabric filter will be considered as an integral part of the truck unloading system (identified as Unit 6).

METHODOLOGY
PTE After Control:
PTE PM/PM10/PM2.5 (lbs/hour) = Grain Loading (gr/acf) * Air Flow Rate (acf/min) * 60 min/hour * 1 lb/7000grains
PTE PM/PM10/PM2.5 (ton/year) = Grain loading (gr/acf) * Air flow rate (acf/min) * 60 minute/hour * 1lb/7000 grains * 8760 hours/year * 1ton/2000 lbs
PTE Before Control:

PTE PM/PM10/PM2.5 (ton/year) = Grain loading (gr/acf) * Air flow rate (acf/min) * 60 minute/hour * 1lb/7000 grains * 8760 hours/year * 1ton/2000 lbs * 1/(1-Control Efficiency %)

Appendix A: Emission Calculations
Particulate Matter Emissions
From Bulk Sugar Unloading Area (identified as Unit 7)

Company Name: **Indiana Sugars, Inc.**
Address City IN Zip: **911 Virginia Street, Gary, Indiana 46402**
Permit Number: **M089-27251-00490**
Reviewer: **Sarah Conner, Ph. D.**
Date: **2/12/2009**

Potential to Emit Particulate Matter

* Equipment = Fabric Filter		After Control (ton/year)	After Control (lbs/hour)	Before Control (ton/year)
Outlet grain loading (grains/acf) =	0.02	0.53	0.12	53
Air flow rate (acfm) =	700			
Control Efficiency (%) =	99.0%			

Assume all PM emissions are equal to PM10 and PM2.5

*IDEM, OAQ previously evaluated the justification for intergral control for Registration Revision 089-19805-00490 and agreed that the fabric filter will be considered as an integral part of the truck unloading system (identified as Unit 7).

METHODOLOGY
PTE After Control:
PTE PM/PM10/PM2.5 (lbs/hour) = Grain Loading (gr/acf) * Air Flow Rate (acf/min) * 60 min/hour * 1 lb/7000grains
PTE PM/PM10/PM2.5 (ton/year) = Grain loading (gr/acf) * Air flow rate (acf/min) * 60 minute/hour * 1lb/7000 grains * 8760 hours/year * 1ton/2000 lbs
PTE Before Control:

PTE PM/PM10/PM2.5 (ton/year) = Grain loading (gr/acf) * Air flow rate (acf/min) * 60 minute/hour * 1lb/7000 grains * 8760 hours/year * 1ton/2000 lbs * 1/(1-Control Efficiency %)

Appendix A: Emission Calculations
Particulate Matter Emissions
From Fugitive Dust in Packaging Area (identified as Unit 8)

Company Name: **Indiana Sugars, Inc.**
Address City IN Zip: **911 Virginia Street, Gary, Indiana 46402**
Permit Number: **M089-27251-00490**
Reviewer: **Sarah Conner, Ph. D.**
Date: **2/12/2009**

Potential to Emit Particulate Matter

* Equipment = Fabric Filter		After Control (ton/year)	After Control (lbs/hour)	Before Control (ton/year)
Outlet grain loading (grains/acf) =	0.005	2.82	0.64	469
Air flow rate (acfm) =	15000			
Control Efficiency (%) =	99.4%			

Assume all PM emissions are equal to PM10 and PM2.5

*IDEM, OAQ evaluated the justification for intergral control for this NOC 089-27251-00490 and agreed that the fabric filter will be considered as an integral part of the truck unloading system (identified as Unit 8).

METHODOLOGY
PTE After Control:
PTE PM/PM10/PM2.5 (lbs/hour) = Grain Loading (gr/acf) * Air Flow Rate (acf/min) * 60 min/hour * 1 lb/7000grains
PTE PM/PM10/PM2.5 (ton/year) = Grain loading (gr/acf) * Air flow rate (acf/min) * 60 minute/hour * 1lb/7000 grains * 8760 hours/year * 1ton/2000 lbs
PTE Before Control:

PTE PM/PM10/PM2.5 (ton/year) = Grain loading (gr/acf) * Air flow rate (acf/min) * 60 minute/hour * 1lb/7000 grains * 8760 hours/year * 1ton/2000 lbs * 1/(1-Control Efficiency %)

Appendix A: Emissions Calculations
PM/PM10/PM2.5 Emissions
From Fugitive Dust in Mixing Area (identified as Unit 9)

Company Name: **Indiana Sugars, Inc.**
Address City IN Zip: **911 Virginia Street, Gary, Indiana 46402**
Permit Number: **M089-27251-00490**
Reviewer: **Sarah Conner, Ph. D.**
Date: **2/12/2009**

Sugar Loading lbs dry sugar/batch	Potential Throughput batches/year (3 hours/batch, 2 batch tanks)	Potential Throughput tons/year
32,400	5840	94,608

	Controlled		Uncontrolled	
	Total PM[1]	Total PM10[1]	Total PM[1]	Total PM10[1]
Emission Factor in lb/ton sugar	0.0640	0.0640	0.256	0.256
Potential Emission in tons/yr	3.027	3.027	12.110	12.110

Methodology
Note 1: Assume all PM emissions are equal to PM10 and PM2.5

Note 2: There are no emission factors for Sugar Processing available. IDEM has determined to use the AP-42 emission factor from Sugar Beet processing as a conservative estimate. The Sugar Beet Processing section, Table 9.10.1.2-1 for sugar granulator emissions shows a controlled emission factor of 0.064 lb/ton of sugar processed using a rotoclone. Assuming that the rotoclone has a particulate matter control efficiency of 75%, the uncontrolled emission factor would be 0.256 lb/ton of sugar processed.

Note 3: The melt tanks are vertical tanks with closed tops that have connections going into them for adding the hot water and the sugar. Only granulated sugar is added to the tanks. The scrubber is there to pull off mostly steam from the tank. There is no powder coming off from the tanks. Therefore, the emission factor for the sugar granulator probably overestimates the particulate matter from the melt tanks.

Potential Throughput (Tons/year) = Sugar Loading (lbs dry sugar/batch) x Potential Throughput (batches/year)
Potential to Emit (tons/yr) = Throughput (tons/yr) x Emission Factor (lb/ton)/2,000 lb/ton

Appendix A: Emission Calculations
Fugitive Dust Emissions - Paved Roads

Company Name: Indiana Sugars, Inc
Address City IN Zip: 911 Virginia Street, Gary, Indiana 46402
Permit Number: M089-27251-00490
Reviewer: Sarah Conner, Ph. D.
Date: 2/12/2009

Paved Roads at Industrial Site

The following calculations determine the amount of emissions created by paved roads, based on 8,760 hours of use and AP-42, Ch 13.2.1 (12/2003).

Vehicle Informtation (provided by source)

Type	Maximum number of vehicles	Number of one-way trips per day per vehicle	Maximum trips per day (trip/day)	Maximum Weight Loaded (tons/trip)	Total Weight driven per day (ton/day)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/day)	Maximum one-way miles (miles/yr)
Vehicle (entering plant) (one-way trip)	60.0	1.0	60.0	15.0	900.0	825	0.156	9.4	3421.9
Vehicle (leaving plant) (one-way trip)	60.0	1.0	60.0	40.0	2400.0	825	0.156	9.4	3421.9
		Total	**120.0**		**3300.0**			**18.8**	**6843.8**

Average Vehicle Weight Per Trip = 27.5 tons/trip
Average Miles Per Trip = 0.16 miles/trip

Unmitigated Emission Factor, Ef = [k * (sL/2)^0.65 * (W/3)^1.5 - C] (Equation 1 from AP-42 13.2.1)

	PM	PM10	PM2.5	
where k =	0.082	0.016	0.0024	lb/mi = particle size multiplier (AP-42 Table 13.2.1-1)
W =	27.5	27.5	27.5	tons = average vehicle weight (provided by source)
C =	0.00047	0.00047	0.00036	lb/mi = emission factor for vehicle exhaust, brake wear, and tire wear (AP-42 Table 13.2.1-2)
sL =	0.6	0.6	0.6	g/m^2 = Ubitiguous Baseline Silt Loading Values of paved roads (Table 13.2.1-3 for summer months)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, Eext = E * [1 - (p/4N)]
Mitigated Emission Factor, Eext = Ef * [1 - (p/4N)]
where p = 125 days of rain greater than or equal to 0.01 inches (see Fig. 13.2.1-2)
N = 365 days per year

	PM	PM10	PM2.5	
Unmitigated Emission Factor, Ef =	1.04	0.20	0.03	lb/mile
Mitigated Emission Factor, Eext =	0.95	0.19	0.03	lb/mile

Process	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)
Vehicle (entering plant) (one-way trip)	1.78	0.35	0.05	1.63	0.32	0.05
Vehicle (leaving plant) (one-way trip)	1.78	0.35	0.05	1.63	0.32	0.05
	3.56	**0.69**	**0.10**	**3.25**	**0.63**	**0.09**

Methodology

Total Weight driven per day (ton/day) = [Maximum Weight Loaded (tons/trip)] * [Maximum trips per day (trip/day)]
Maximum one-way distance (mi/trip) = [Maximum one-way distance (feet/trip) / [5280 ft/mile]
Maximum one-way miles (miles/day) = [Maximum trips per year (trip/day)] * [Maximum one-way distance (mi/trip)]
Average Vehicle Weight Per Trip (ton/trip) = SUM[Total Weight driven per day (ton/day)] / SUM[Maximum trips per day (trip/day)]
Average Miles Per Trip (miles/trip) = SUM[Maximum one-way miles (miles/day)] / SUM[Maximum trips per year (trip/day)]
Unmitigated PTE (tons/yr) = [Maximum one-way miles (miles/yr)] * [Unmitigated Emission Factor (lb/mile)] * (ton/2000 lbs)
Mitigated PTE (tons/yr) = [Maximum one-way miles (miles/yr)] * [Mitigated Emission Factor (lb/mile)] * (ton/2000 lbs)
Controlled PTE (tons/yr) = [Mitigated PTE (tons/yr)] * [1 - Dust Control Efficiency]