



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: December 23, 2008

RE: Total Industries / 141-21440-00120

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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Federally Enforceable State Operating Permit Renewal OFFICE OF AIR QUALITY

**Total Industries
3333 West Lathrop Drive
South Bend, Indiana 46619**

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

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

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-8 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

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 FESOP under 326 IAC 2-8.

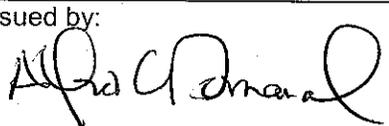
Operation Permit No.: F141-21440-00120	
Issued by:  Alfred C. Dumauval, Ph. D., Section Chief Permits Branch Office of Air Quality	Issuance Date: December 23, 2008 Expiration Date: December 23, 2018

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SECTION A SOURCE SUMMARY

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

A.1 General Information [326 IAC 2-8-3(b)]

The Permittee owns and operates a stationary aluminum mold making operation.

Source Address:	3333 West Lathrop Drive, South Bend, Indiana 46619
Mailing Address:	P.O. Box 3607, South Bend, Indiana 46619
General Source Phone Number:	(574) 232-7484
SIC Code:	3599
County Location:	St. Joseph
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Federally Enforceable State Operating Permit Program Minor Source, under PSD Minor Source, Section 112 of the Clean Air Act Not 1 of 28 Source Categories

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-8-3(c)(3)]

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

- (a) One (1) Omega mixer, identified as OSM1, with a Phenolic Ester no-bake binder system, upgraded in 2000, having a maximum capacity of processing 21 tons of sand per hour, using enclosure for particulate control.
- (b) One (1) Omega mixer, identified as OSM2, with a Phenolic Ester no-bake binder system, upgraded in 2000, having a maximum capacity of processing 13.5 tons of sand per hour, using enclosure for particulate control.
- (c) One (1) pneumatic sand blaster, identified as SB, upgraded in 2000, consisting of two (2) mutually exclusive blasting booths, with a maximum silica sand, olivine sand, grit, or glass bead flow rate of 545.5 pounds per hour and a maximum aluminum casting throughput rate of 20.4 pounds per hour, with a Torrit dust collector, identified as DC-2, for particulate matter control, and exhausting inside the building.
- (d) One (1) Wheelabrator shot blaster, identified as SHB, constructed in 1974, with a maximum steel shot flow rate of 2,969.7 pounds per hour and a maximum aluminum casting throughput rate of 25.5 pounds per hour, with a dust collector, identified as DC-3, for particulate control, exhausting through one (1) stack, identified as DCX-3.
- (e) One (1) gas-electric hybrid furnace with electric ladle, identified as FF5, with a maximum heat input capacity of 0.8 MMBtu per hour, and a maximum capacity to melt 475 pounds of aluminum per hour, exhausting inside the building.
- (f) One (1) Alumiline electric furnace, identified as FF1, with a maximum capacity to melt 545 pounds of aluminum per hour, exhausting inside the building.

A.3 Insignificant Activities [326 IAC 2-7-1(21)][326 IAC 2-8-3(c)(3)(I)]

This stationary source also includes the following insignificant activities:

- (a) Natural gas-fired combustion sources with heat input equal to or less than ten (10) million Btu per hour:
 - (1) One (1) boiler, identified as BLR, with a maximum heat input capacity of 0.67 MMBtu per hour, exhausting through one (1) stack identified as BLR [326 IAC 6-2];
 - (2) One (1) core oven, identified as 1682, with a maximum heat input capacity of 0.58 MMBtu per hour;
 - (3) One (1) torch burn-off with a maximum heat input capacity of 0.43 MMBtu per hour;
 - (4) Two (2) space heaters;
 - (5) Seven (7) radiant heaters; and
 - (6) Two (2) air make up units.
- (b) Grinding and machining operations controlled with fabric filters, scrubbers, mist collectors, wet collectors and electrostatic precipitators with a design grain loading of less than or equal to 0.03 grains per actual cubic foot and a gas flow rate less than or equal to 4,000 actual cubic feet per minute, including the following: deburring; buffing; polishing; abrasive blasting; pneumatic conveying; and woodworking operations.
 - (1) one (1) pattern shop woodworking operation with one (1) dust collector (ID No. DC-1) controlling particulate matter emissions from all woodworking equipment and exhausting through one (1) stack (ID No. DCX-1) [326 IAC 6.5-1].
- (c) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment including:
 - (1) Welding operations consisting of the following equipment [326 IAC 6.5-1]:
 - (A) Two (2) TIG welding stations, identified as ST1 and ST6, each with a maximum welding rod consumption rate of 2 pounds per hour, exhausting through one (1) stack, identified as Z;
 - (B) Three (3) aluminum wire welding stations, identified as ST3, ST4 and ST5, each with a maximum wire consumption rate of 6 pounds per hour, exhausting through one (1) stack identified as Z.
 - (C) One (1) plasma cutting station, identified as ST2, with a maximum metal cutting rate of 600 inches per hour, exhausting through one (1) stack identified as Z.
- (d) VOC and HAP storage containers storing lubricating oils, hydraulic oils, machining oils, and machining fluids including:
 - (1) One (1) 1,321 gallon vertical storage tank, identified as EDMT, storing EDM fluid,

exhausting through one (1) stack, identified as EDM-1.

- (e) Equipment used exclusively for filling drums, pails or other packaging containers with lubricating oils, waxes and greases.
- (f) Application of oils, greases, lubricants or other nonvolatile materials applied as temporary protective coatings.
- (g) Machining where an aqueous cutting coolant continuously floods the machining interface.
- (h) Non-contact, forced and induced draft cooling tower system not regulated under a NESHAP.
- (i) Paved and unpaved roads and parking lots with public access [326 IAC 6-4].
- (j) Other categories with emissions below insignificant thresholds:
 - (1) One (1) EDM machine with trivial emissions, exhausting through one (1) stack identified as EDM-1;
 - (2) One (1) plastic shop producing a maximum of 6.18 pounds of plastic molds per hour, utilizing hand brushing and pouring plastics and fillers, exhausting through one (1) stack identified as X;
 - (3) Four (4) vertical CNC mills, identified as CNC1, CNC2, CNC3 and CNC4, each to machine wood patterns, exhausting into a building;
 - (4) Three (3) sand storage silos with pneumatic conveyors;
 - (5) Two (2) electric furnaces used for holing molten aluminum;
 - (6) Aluminum pouring and mold cooling lines; and
 - (7) Miscellaneous abrasive wheels and band saws located throughout the foundry building.

A.4 FESOP Applicability [326 IAC 2-8-2]

This stationary source, otherwise required to have a Part 70 permit as described in 326 IAC 2-7-2(a), has applied to the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) to renew a Federally Enforceable State Operating Permit (FESOP).

SECTION B GENERAL CONDITIONS

B.1 Definitions [326 IAC 2-8-1]

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

B.2 Permit Term [326 IAC 2-8-4(2)][326 IAC 2-1.1-9.5][IC 13-15-3-6(a)]

- (a) This permit, F141-21440-00120, is issued for a fixed term of ten (10) 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 [326 IAC 2-8-6] [IC 13-17-12]

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 [326 IAC 2-8-4(4)]

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

B.6 Property Rights or Exclusive Privilege [326 IAC 2-8-4(5)(D)]

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

B.7 Duty to Provide Information [326 IAC 2-8-4(5)(E)]

- (a) The Permittee shall furnish to IDEM, OAQ, within a reasonable time, any information that IDEM, OAQ may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The submittal by the Permittee does require the certification by 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 [326 IAC 2-8-3(d)][326 IAC 2-8-4(3)(C)(i)][326 IAC 2-8-5(1)]

- (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 Compliance Certification [326 IAC 2-8-5(a)(1)]

- (a) The Permittee shall annually submit a compliance certification report which addresses the status of the source's compliance with the terms and conditions contained in this permit, including emission limitations, standards, or work practices. All certifications shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted no later than April 15 of each year to:

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

- (b) The annual compliance certification report required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.
- (c) The annual compliance certification report shall include the following:
 - (1) The appropriate identification of each term or condition of this permit that is the basis of the certification;
 - (2) The compliance status;
 - (3) Whether compliance was continuous or intermittent;
 - (4) The methods used for determining the compliance status of the source, currently and over the reporting period consistent with 326 IAC 2-8-4(3); and
 - (5) Such other facts, as specified in Sections D of this permit, as IDEM, OAQ may require to determine the compliance status of the source.

The submittal by the Permittee does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

B.10 Compliance Order Issuance [326 IAC 2-8-5(b)]

IDEM, OAQ may issue a compliance order to this Permittee upon discovery that this permit is in nonconformance with an applicable requirement. The order may require immediate compliance or contain a schedule for expeditious compliance with the applicable requirement.

B.11 Preventive Maintenance Plan [326 IAC 1-6-3][326 IAC 2-8-4(9)][326 IAC 2-8-5(a)(1)]

- (a) If required by specific condition(s) in Section D of this permit, the Permittee shall maintain and implement Preventive Maintenance Plans (PMPs) 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.
- (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.12 Emergency Provisions [326 IAC 2-8-12]

- (a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for noncompliance with a federal or state health-based emission limitation except as provided in 326 IAC 2-8-12.
- (b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a health-based or technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that describe the following:
- (1) An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;
 - (2) The permitted facility was at the time being properly operated;
 - (3) During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit;
 - (4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ, and Northern Regional Office within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

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

Northern Regional Office phone: (574) 245-4870; fax: (574) 245-4877.

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

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

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

The notice fulfills the requirement of 326 IAC 2-8-4(3)(C)(ii) and must contain the following:

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

The notification which shall be submitted by the Permittee does not require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (6) The Permittee immediately took all reasonable steps to correct the emergency.
- (c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.
 - (d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.
 - (e) The Permittee seeking to establish the occurrence of an emergency shall make records available upon request to ensure that failure to implement a PMP did not cause or contribute to an exceedance of any limitations on emissions. However, IDEM, OAQ may require that the Preventive Maintenance Plans required under 326 IAC 2-8-3(c)(6) be revised in response to an emergency.
 - (f) Failure to notify IDEM, OAQ by telephone or facsimile of an emergency lasting more than one (1) hour in accordance with (b)(4) and (5) of this condition shall constitute a violation of 326 IAC 2-8 and any other applicable rules.
 - (g) Operations may continue during an emergency only if the following conditions are met:
 - (1) If the emergency situation causes a deviation from a technology-based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.
 - (2) If an emergency situation causes a deviation from a health-based limit, the Permittee may not continue to operate the affected emissions facilities unless:

- (A) The Permittee immediately takes all reasonable steps to correct the emergency situation and to minimize emissions; and
- (B) Continued operation of the facilities is necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw material of substantial economic value.

Any operations shall continue no longer than the minimum time required to prevent the situations identified in (g)(2)(B) of this condition.

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

B.13 Prior Permits Superseded [326 IAC 2-1.1-9.5]

- (a) All terms and conditions of permits established prior to F141-21440-00120 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.14 Termination of Right to Operate [326 IAC 2-8-9][326 IAC 2-8-3(h)]

The Permittee's right to operate this source terminates with the expiration of this permit unless a timely and complete renewal application is submitted at least nine (9) months prior to the date of expiration of the source's existing permit, consistent with 326 IAC 2-8-3(h) and 326 IAC 2-8-9.

B.15 Deviations from Permit Requirements and Conditions [326 IAC 2-8-4(3)(C)(ii)]

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

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

using the attached Quarterly Deviation and Compliance Monitoring Report, or its equivalent. A deviation required to be reported pursuant to an applicable requirement that exists independent of this permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report.

The Quarterly Deviation and Compliance Monitoring Report does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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

B.16 Permit Modification, Reopening, Revocation and Reissuance, or Termination
[326 IAC 2-8-4(5)(C)][326 IAC 2-8-7(a)][326 IAC 2-8-8]

- (a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a Federally Enforceable State Operating Permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any condition of this permit. [326 IAC 2-8-4(5)(C)] The notification by the Permittee does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (b) This permit shall be reopened and revised under any of the circumstances listed in IC 13-15-7-2 or if IDEM, OAQ determines any of the following:
 - (1) That this permit contains a material mistake.
 - (2) That inaccurate statements were made in establishing the emissions standards or other terms or conditions.
 - (3) That this permit must be revised or revoked to assure compliance with an applicable requirement. [326 IAC 2-8-8(a)]
- (c) Proceedings by IDEM, OAQ to reopen and revise this permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of this permit for which cause to reopen exists. Such reopening and revision shall be made as expeditiously as practicable. [326 IAC 2-8-8(b)]
- (d) The reopening and revision of this permit, under 326 IAC 2-8-8(a), shall not be initiated before notice of such intent is provided to the Permittee by IDEM, OAQ at least thirty (30) days in advance of the date this permit is to be reopened, except that IDEM, OAQ may provide a shorter time period in the case of an emergency. [326 IAC 2-8-8(c)]

B.17 Permit Renewal [326 IAC 2-8-3(h)]

- (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 2-8-3. Such information shall be included in the application for each emission unit at this source, except those emission units included on the trivial or insignificant activities list contained in 326 IAC 2-7-1(21) and 326 IAC 2-7-1(40). The renewal application does require the certification by 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
Permits Branch, 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 nine (9) months prior to the date of the expiration of this permit; and
 - (2) If the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

- (c) If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-8 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.18 Permit Amendment or Revision [326 IAC 2-8-10][326 IAC 2-8-11.1]

- (a) Permit amendments and revisions are governed by the requirements of 326 IAC 2-8-10 or 326 IAC 2-8-11.1 whenever the Permittee seeks to amend or modify this permit.

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

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue
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 may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-10(b)(3)]

B.19 Operational Flexibility [326 IAC 2-8-15][326 IAC 2-8-11.1]

- (a) The Permittee may make any change or changes at the source that are described in 326 IAC 2-8-15(b) through (d) without a prior permit revision, if each of the following conditions is met:

- (1) The changes are not modifications under any provision of Title I of the Clean Air Act;
- (2) Any approval required by 326 IAC 2-8-11.1 has been obtained;
- (3) The changes do not result in emissions which exceed the limitations provided in this permit (whether expressed herein as a rate of emissions or in terms of total emissions);
- (4) The Permittee notifies the:

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

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Regulation Development Branch - Indiana (AR-18J)

77 West Jackson Boulevard
Chicago, Illinois 60604-3590

in advance of the change by written notification at least ten (10) days in advance of the proposed change. The Permittee shall attach every such notice to the Permittee's copy of this permit; and

- (5) The Permittee maintains records on-site, on a rolling five (5) year basis, which document all such changes and emission trades that are subject to 326 IAC 2-8-15(b) through (d). The Permittee shall make such records available, upon reasonable request, for public review.

Such records shall consist of all information required to be submitted to IDEM, OAQ in the notices specified in 326 IAC 2-8-15(b)(2), (c)(1), and (d).

- (b) Emission Trades [326 IAC 2-8-15(c)]
The Permittee may trade emissions increases and decreases at the source, where the applicable SIP provides for such emission trades without requiring a permit revision, subject to the constraints of Section (a) of this condition and those in 326 IAC 2-8-15(c).
- (c) Alternative Operating Scenarios [326 IAC 2-8-15(d)]
The Permittee may make changes at the source within the range of alternative operating scenarios that are described in the terms and conditions of this permit in accordance with 326 IAC 2-8-4(7). No prior notification of IDEM, OAQ, or U.S. EPA is required.
- (d) Backup fuel switches specifically addressed in, and limited under, Section D of this permit shall not be considered alternative operating scenarios. Therefore, the notification requirements of part (a) of this condition do not apply.

B.20 Source Modification Requirement [326 IAC 2-8-11.1]

A modification, construction, or reconstruction is governed by the requirements of 326 IAC 2 and 326 IAC 2-8-11.1.

B.21 Inspection and Entry [326 IAC 2-8-5(a)(2)][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 FESOP 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.22 Transfer of Ownership or Operational Control [326 IAC 2-8-10]

- (a) The Permittee must comply with the requirements of 326 IAC 2-8-10 whenever the Permittee seeks to change the ownership or operational control of the source and no other change in the permit is necessary.
- (b) Any application requesting a change in the ownership or operational control of the source shall contain a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new Permittee. The application shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue
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 administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-10(b)(3)]

B.23 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-8-4(6)] [326 IAC 2-8-16][326 IAC 2-1.1-7]

- (a) The Permittee shall pay annual fees to IDEM, OAQ within thirty (30) calendar days of receipt of a billing. Pursuant to 326 IAC 2-7-19(b), if the Permittee does not receive a bill from IDEM, OAQ the applicable fee is due April 1 of each year.
- (b) Failure to pay may result in administrative enforcement action or revocation of this permit.
- (c) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-4230 (ask for OAQ, Billing, Licensing, and Training Section), to determine the appropriate permit fee.

B.24 Advanced Source Modification Approval [326 IAC 2-8-4(11)] [326 IAC 2-1.1-9]

- (a) The requirements to obtain a permit modification under 326 IAC 2-8-11.1 are satisfied by this permit for the proposed emission units, control equipment or insignificant activities in Sections A.2 and A.3.
- (b) Pursuant to 326 IAC 2-1.1-9 any permit authorizing construction may be revoked if construction of the emission unit has not commenced within eighteen (18) months from the date of issuance of the permit, or if during the construction, work is suspended for a continuous period of one (1) year or more.

B.25 Credible Evidence [326 IAC 2-8-4(3)][326 IAC 2-8-5][62 FR 8314] [326 IAC 1-1-6]

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

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

Emission Limitations and Standards [326 IAC 2-8-4(1)]

C.1 Particulate Emission Limitations For Processes with Process Weight Rates Less Than One Hundred (100) Pounds per Hour [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2(e)(2), particulate emissions from any process not exempt under 326 IAC 6-3-1(b) or (c) which has a maximum process weight rate less than 100 pounds per hour and the methods in 326 IAC 6-3-2(b) through (d) do not apply shall not exceed 0.551 pounds per hour.

C.2 Overall Source Limit [326 IAC 2-8]

The purpose of this permit is to limit this source's potential to emit to less than major source levels for the purpose of Section 502(a) of the Clean Air Act.

(a) Pursuant to 326 IAC 2-8:

- (1) The potential to emit any regulated pollutant, except particulate matter (PM), from the entire source shall be limited to less than one hundred (100) tons per twelve (12) consecutive month period.
- (2) The potential to emit any individual hazardous air pollutant (HAP) from the entire source shall be limited to less than ten (10) tons per twelve (12) consecutive month period; and
- (3) The potential to emit any combination of HAPs from the entire source shall be limited to less than twenty-five (25) tons per twelve (12) consecutive month period.

(b) Pursuant to 326 IAC 2-2 (PSD), potential to emit particulate matter (PM) from the entire source shall be limited to less than two hundred fifty (250) tons per twelve (12) consecutive month period.

(c) This condition shall include all emission points at this source including those that are insignificant as defined in 326 IAC 2-7-1(21). The source shall be allowed to add insignificant activities not already listed in this permit, provided that the source's potential to emit does not exceed the above specified limits.

(d) Section D of this permit contains independently enforceable provisions to satisfy this requirement.

C.3 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 thirty percent (30%) 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.4 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.5 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.6 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.7 Stack Height [326 IAC 1-7]

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

C.8 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]

- (a) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is at least 260 linear feet on pipes or 160 square feet on other facility components, or at least thirty-five (35) cubic feet on all facility components, then the notification requirements of 326 IAC 14-10-3 are mandatory. All demolition projects require notification whether or not asbestos is present.
- (b) The Permittee shall ensure that a written notification is sent on a form provided by the Commissioner at least ten (10) working days before asbestos stripping or removal work or before demolition begins, per 326 IAC 14-10-3, and shall update such notice as necessary, including, but not limited to the following:
- (1) When the amount of affected asbestos containing material increases or decreases by at least twenty percent (20%); or
 - (2) If there is a change in the following:
 - (A) Asbestos removal or demolition start date;
 - (B) Removal or demolition contractor; or
 - (C) Waste disposal site.
- (c) The Permittee shall ensure that the notice is postmarked or delivered according to the guidelines set forth in 326 IAC 14-10-3(2).
- (d) The notice to be submitted shall include the information enumerated in 326 IAC 14-10-3(3).

All required notifications shall be submitted to:

Indiana Department of Environmental Management
Asbestos Section, Office of Air Quality
100 North Senate Avenue
MC 61-52 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.

Testing Requirements [326 IAC 2-8-4(3)]

C.9 Performance Testing [326 IAC 3-6]

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

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

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue
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.10 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 2-8-4][326 IAC 2-8-5(a)(1)]

C.11 Compliance Monitoring [326 IAC 2-8-4(3)][326 IAC 2-8-5(a)(1)]

Unless otherwise specified in this permit, all monitoring and record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance or ninety (90) days of initial start-up, whichever is later. If required by Section D, the Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. If due to circumstances beyond its control, that equipment cannot be installed and operated within ninety (90) days, the Permittee may extend the compliance schedule related to the equipment for an additional ninety (90) days provided the Permittee notifies:

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

in writing, prior to the end of the initial ninety (90) day compliance schedule, with full justification of the reasons for the inability to meet this date.

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

Unless otherwise specified in the approval for the new emission unit(s), compliance monitoring for new emission units or emission units added through a permit revision shall be implemented when operation begins.

C.12 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.13 Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-8-4(3)][326 IAC 2-8-5(1)]

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

Corrective Actions and Response Steps [326 IAC 2-8-4][326 IAC 2-8-5(a)(1)]

C.14 Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]

Pursuant to 326 IAC 1-5-2 (Emergency Reduction Plans; Submission):

- (a) The Permittee has prepared and submitted written emergency reduction plans (ERPs) consistent with safe operating procedures.
- (b) Upon direct notification by IDEM, OAQ that a specific air pollution episode level is in effect, the Permittee shall immediately put into effect the actions stipulated in the approved ERP for the appropriate episode level. [326 IAC 1-5-3]

C.15 Risk Management Plan [326 IAC 2-8-4] [40 CFR 68]

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

C.16 Response to Excursions or Exceedances [326 IAC 2-8-4] [326 IAC 2-8-5]

- (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.17 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-8-4][326 IAC 2-8-5]

- (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 2-8-4(3)]

C.18 General Record Keeping Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-5]

- (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.19 General Reporting Requirements [326 IAC 2-8-4(3)(C)] [326 IAC 2-1.1-11]

- (a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported. This report shall be submitted within thirty (30) days of the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (b) The report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted to:

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

- (c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.
- (d) Unless otherwise specified in this permit, all reports required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. All reports do require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (e) 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.

Stratospheric Ozone Protection

C.20 Compliance with 40 CFR 82 and 326 IAC 22-1

Pursuant to 40 CFR 82 (Protection of Stratospheric Ozone), Subpart F, except as provided for motor vehicle air conditioners in Subpart B, the Permittee shall comply with the standards for recycling and emissions reduction:

- (a) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to 40 CFR 82.156.
- (b) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 CFR 82.158.
- (c) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR 82.161.

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (a) One (1) Omega mixer, identified as OSM1, with a Phenolic Ester no-bake binder system, upgraded in 2000, having a maximum capacity of processing 21 tons of sand per hour, using enclosure for particulate control.
- (b) One (1) Omega mixer, identified as OSM2, with a Phenolic Ester no-bake binder system, upgraded in 2000, having a maximum capacity of processing 13.5 tons of sand per hour, using enclosure for particulate control.

(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 2-8-4(1)]

D.1.1 Particulate Matter Limitation [326 IAC 2-2]

The particulate matter emissions from the Omega mixers, OSM1 and OSM2, shall be less than 215.07 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with the above limit, combined with the potential to emit particulate matter from other emission units at the source, shall limit the particulate matter from the entire source to less than 250 tons per twelve (12) consecutive month period and render 326 IAC 2-2 not applicable.

D.1.2 PM10 Limitation [326 IAC 2-8]

The PM10 emissions from the Omega mixers, OSM and OSM2, shall be less than 43.80 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with the above limit, combined with the potential to emit PM10 from other units at the source, shall limit the PM10 from the entire source to less than 100 tons per twelve (12) consecutive month period and render 326 IAC 2-7 not applicable.

D.1.3 Particulate Matter Limitation [326 IAC 6.5-1]

Pursuant to 326 IAC 6.5-1, the particulate matter emissions from the Omega mixers, OSM1 and OSM2, shall not exceed 0.03 grains per dry standard cubic foot.

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

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

SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (c) One (1) pneumatic sand blaster, identified as SB, upgraded in 2000, consisting of two (2) mutually exclusive blasting booths, with a maximum silica sand, olivine sand, grit, or glass bead flow rate of 545.5 pounds per hour and a maximum aluminum casting throughput rate of 20.4 pounds per hour, with a Torrit dust collector, identified as DC-2, for particulate matter control, and exhausting inside the building.
- (d) One (1) Wheelabrator shot blaster, identified as SHB, constructed in 1974, with a maximum steel shot flow rate of 2,969.7 pounds per hour and a maximum aluminum casting throughput rate of 25.5 pounds per hour, with a dust collector, identified as DC-3, for particulate control, exhausting through one (1) stack, identified as DCX-3.

(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 2-8-4(1)]

D.2.1 Particulate Matter Limitation [326 IAC 2-2]

The particulate matter emissions from the sand blaster (SB), shall be less than 7.52 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. The particulate matter emissions from the shot blaster (SHB), shall be less than 22.61 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with the above limit, combined with the potential to emit particulate matter from other emission units at the source, shall limit the particulate matter from the entire source to less than 250 tons per twelve (12) consecutive month period and render 326 IAC 2-2 not applicable.

D.2.2 PM10 Limitations [326 IAC 2-8]

The PM10 emissions from the sand blaster (SB), shall be less than 18.01 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. The PM10 emissions from the shot blaster (SHB), shall be less than 18.01 tons per twelve (12) consecutive month period, with compliance determined at the end of each month.

Compliance with the above limit, combined with the potential to emit PM10 from other units at the source, shall limit the PM10 from the entire source to less than 100 tons per twelve (12) consecutive month period and render 326 IAC 2-7 not applicable.

D.2.3 Particulate Matter Limitation [326 IAC 6.5-1]

Pursuant to 326 IAC 6.5-1, the particulate matter emissions from the sand blaster (SB) and the shot blaster (SHB), shall not exceed 0.03 grains per dry standard cubic foot.

D.2.4 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

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

Compliance Determination Requirements

D.2.5 Particulate Control

In order to comply with Conditions D.2.1 and D.2.2, the dust collectors identified as DC-2 and DC-3 shall be in operation and control particulate emissions from the sand blaster (SH) and shot

blaster (SHB), respectively, at all times the sand blaster (SH) and shot blaster (SHB) are in operation.

Compliance Monitoring Requirements [326 IAC 2-8-4][326 IAC 2-8-5(a)(1)]

D.2.6 Visible Emission Notations

- (a) Visible emission notations of the shot blaster dust collector, identified as DC-3, stack exhaust shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

D.2.7 Parametric Monitoring

- (a) The Permittee shall record the pressure drop across the dust collector identified as DC-3 used in conjunction with the shot blaster (SHB), respectively, at least once per day when the shot blaster (SHB) is in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 2.0 and 5.0, or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.
- (b) The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once every six (6) months.

D.2.8 Broken or Failed Bag Detection

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

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

Record Keeping Requirements [326 IAC 2-8-4(3)]

D.2.9 Record Keeping Requirements

- (a) To document compliance with Condition D.2.6, the Permittee shall maintain a daily record of visible emission notations for the dust collector, identified as DC-3, controlling emissions from the shot blaster (SHB). The Permittee shall include in each daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g., the process did not operate that day).
- (b) To document compliance with Condition D.2.7, the Permittee shall maintain records of the pressure drop across the dust collector identified as DC-3.
- (c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

SECTION D.3 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

Insignificant Activities:

- (a) Natural gas-fired combustion sources with heat input equal to or less than ten (10) million Btu per hour:
 - (1) One (1) boiler, identified as BLR, with a maximum heat input capacity of 0.67 MMBtu per hour, exhausting through one (1) stack identified as BLR [326 IAC 6-2];
- (b) Grinding and machining operations controlled with fabric filters, scrubbers, mist collectors, wet collectors and electrostatic precipitators with a design grain loading of less than or equal to 0.03 grains per actual cubic foot and a gas flow rate less than or equal to 4,000 actual cubic feet per minute, including the following: deburring; buffing; polishing; abrasive blasting; pneumatic conveying; and woodworking operations.
 - (1) one (1) pattern shop woodworking operation with one (1) dust collector (ID No. DC-1) controlling particulate matter emissions from all woodworking equipment and exhausting through one (1) stack (ID No. DCX-1) [326 IAC 6.5-1].
- (c) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment including:
 - (1) Welding operations consisting of the following equipment [326 IAC 6.5-1]:
 - (A) Two (2) TIG welding stations, identified as ST1 and ST6, each with a maximum welding rod consumption rate of 2 pounds per hour, exhausting through one (1) stack, identified as Z;
 - (B) Three (3) aluminum wire welding stations, identified as ST3, ST4 and ST5, each with a maximum wire consumption rate of 6 pounds per hour, exhausting through one (1) stack identified as Z.
 - (C) One (1) plasma cutting station, identified as ST2, with a maximum metal cutting rate of 600 inches per hour, exhausting through one (1) stack identified as Z.

(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 2-8-4(1)]

D.3.1 Particulate Matter Limitation [326 IAC 6.5-1]

- (a) Pursuant to 326 IAC 6.5-1-2(b)(3), the particulate emissions from the natural gas-fired boiler, identified as BLR, shall not exceed 0.01 grain per dry standard cubic foot.

- (b) Pursuant to 326 IAC 6.5-1-2(a), the particulate emissions from the welding operations and the woodworking operations shall not exceed 0.03 grain per dry standard cubic foot each.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY**

**FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
CERTIFICATION**

Source Name: Total Industries
Source Address: 3333 West Lathrop Drive, South Bend, Indiana 46619
Mailing Address: P.O. Box 3607, South Bend, Indiana 46619
FESOP Permit No.: F141-21440-00120

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 BRANCH
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
Phone: (317) 233-0178
Fax: (317) 233-6865**

**FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
EMERGENCY OCCURRENCE REPORT**

Source Name: Total Industries
Source Address: 3333 West Lathrop Drive, South Bend, Indiana 46619
Mailing Address: P.O. Box 3607, South Bend, Indiana 46619
FESOP Permit No.: F141-21440-00120

This form consists of 2 pages

Page 1 of 2

- This is an emergency as defined in 326 IAC 2-7-1(12)
- The Permittee must notify the Office of Air Quality (OAQ), within four (4) business hours (1-800-451-6027 or 317-233-0178, ask for Compliance Section); and
 - The Permittee must submit notice in writing or by facsimile within two (2) working days (Facsimile Number: 317-233-6865), and follow the other requirements of 326 IAC 2-7-16

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

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

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

Page 2 of 2

Date/Time Emergency started:
Date/Time Emergency was corrected:
Was the facility being properly operated at the time of the emergency? Y N Describe:
Type of Pollutants Emitted: TSP, PM-10, SO ₂ , VOC, NO _x , CO, Pb, other:
Estimated amount of pollutant(s) emitted during emergency:
Describe the steps taken to mitigate the problem:
Describe the corrective actions/response steps taken:
Describe the measures taken to minimize emissions:
If applicable, describe the reasons why continued operation of the facilities are necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw materials of substantial economic value:

Form Completed by: _____

Title / Position: _____

Date: _____

Phone: _____

A certification is not required for this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF AIR QUALITY
 COMPLIANCE DATA SECTION
 FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
 QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT**

Source Name: Total Industries
 Source Address: 3333 West Lathrop Drive, South Bend, Indiana 46619
 Mailing Address: P.O. Box 3607, South Bend, Indiana 46619
 FESOP Permit No.: F141-21440-00120

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

<p>This report shall be submitted quarterly based on a calendar year. Any deviation from the requirements, the date(s) of each deviation, the probable cause of the deviation, and the response steps taken must be reported. A deviation required to be reported pursuant to an applicable requirement that exists independent of the permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. Additional pages may be attached if necessary. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period".</p>	
<input type="checkbox"/> NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.	
<input type="checkbox"/> THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD	
Permit Requirement (specify permit condition #)	
Date of Deviation:	Duration of Deviation:
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	
Permit Requirement (specify permit condition #)	
Date of Deviation:	Duration of Deviation:
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Permit Requirement (specify permit condition #)	
Date of Deviation:	Duration of Deviation:
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	
Permit Requirement (specify permit condition #)	
Date of Deviation:	Duration of Deviation:
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	
Permit Requirement (specify permit condition #)	
Date of Deviation:	Duration of Deviation:
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Form Completed by: _____

Title / Position: _____

Date: _____

Phone: _____

Attach a signed certification to complete this report.

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a Federally Enforceable State Operating Permit
Renewal

Source Background and Description

Source Name:	Total Industries
Source Location:	3333 West Lathrop Drive, South Bend, Indiana 46619
County:	St. Joseph
SIC Code:	3599
Permit Renewal No.:	F141-21440-00120
Permit Reviewer:	Anne-Marie C. Hart

The Office of Air Quality (OAQ) has reviewed the operating permit renewal application from Total Industries relating to the operation of an aluminum mold making operation.

History

On July 13, 2005, Total Industries submitted an application to the OAQ requesting to renew its operating permit. Total Industries was issued a FESOP (F141-6217-00120) on July 18, 2001.

Permitted Emission Units and Pollution Control Equipment

- (a) One (1) Omega mixer, identified as OSM1, with a Phenolic Ester no-bake binder system, upgraded in 2000, having a maximum capacity of processing 21 tons of sand per hour, using enclosure for particulate control.
- (b) One (1) Omega mixer, identified as OSM2, with a Phenolic Ester no-bake binder system, upgraded in 2000, having a maximum capacity of processing 13.5 tons of sand per hour, using enclosure for particulate control.
- (c) One (1) pneumatic sand blaster, identified as SB, upgraded in 2000, consisting of two (2) mutually exclusive blasting booths, with a maximum silica sand, olivine sand, grit, or glass bead flow rate of 545.5 pounds per hour and a maximum aluminum casting throughput rate of 20.4 pounds per hour, with a Torrit dust collector, identified as DC-2, for particulate matter control, and exhausting inside the building.
- (d) One (1) Wheelabrator shot blaster, identified as SHB, constructed in 1974, with a maximum steel shot flow rate of 2,969.7 pounds per hour and a maximum aluminum casting throughput rate of 25.5 pounds per hour, with a dust collector, identified as DC-3, for particulate control, exhausting through one (1) stack, identified as DCX-3.
- (e) One (1) gas-electric hybrid furnace with electric ladle, identified as FF5, with a maximum heat input capacity of 0.8 MMBtu per hour, and a maximum capacity to melt 475 pounds of aluminum per hour, exhausting inside the building.
- (f) One (1) Alumiline electric furnace, identified as FF1, with a maximum capacity to melt 545 pounds of aluminum per hour, exhausting inside the building.

Emission Units and Pollution Control Equipment Removed From the Source

- (a) One (1) pattern shop surface coating operation, consisting of three (3) spray guns, identified as PS-9, PS-10 and PS-11, each utilizing a high volume low pressure (HVLP) spray application system, spraying a maximum of 63.6 pounds of wood patterns per hour, with dry filters for particulate matter overspray control, exhausting through one (1) stack identified as Y.

Insignificant Activities

- (a) Natural gas-fired combustion sources with heat input equal to or less than ten (10) million Btu per hour:
 - (1) One (1) boiler, identified as BLR, with a maximum heat input capacity of 0.67 MMBtu per hour, exhausting through one (1) stack identified as BLR [326 IAC 6-2];
 - (2) One (1) core oven, identified as 1682, with a maximum heat input capacity of 0.58 MMBtu per hour;
 - (3) One (1) torch burn-off with a maximum heat input capacity of 0.43 MMBtu per hour;
 - (4) Two (2) space heaters;
 - (5) Seven (7) radiant heaters; and
 - (6) Two (2) air make up units.
- (b) Grinding and machining operations controlled with fabric filters, scrubbers, mist collectors, wet collectors and electrostatic precipitators with a design grain loading of less than or equal to 0.03 grains per actual cubic foot and a gas flow rate less than or equal to 4,000 actual cubic feet per minute, including the following: deburring; buffing; polishing; abrasive blasting; pneumatic conveying; and woodworking operations.
 - (1) one (1) pattern shop woodworking operation with one (1) dust collector (ID No. DC-1) controlling particulate matter emissions from all woodworking equipment and exhausting through one (1) stack (ID No. DCX-1) [326 IAC 6.5-1].
- (c) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment including:
 - (1) Welding operations consisting of the following equipment [326 IAC 6.5-1]:
 - (A) Two (2) TIG welding stations, identified as ST1 and ST6, each with a maximum welding rod consumption rate of 2 pounds per hour, exhausting through one (1) stack, identified as Z;
 - (B) Three (3) aluminum wire welding stations, identified as ST3, ST4 and ST5, each with a maximum wire consumption rate of 6 pounds per hour, exhausting through one (1) stack identified as Z.
 - (C) One (1) plasma cutting station, identified as ST2, with a maximum metal cutting rate of 600 inches per hour, exhausting through one (1) stack identified as Z.

- (d) VOC and HAP storage containers storing lubricating oils, hydraulic oils, machining oils, and machining fluids including:
 - (1) One (1) 1,321 gallon vertical storage tank, identified as EDMT, storing EDM fluid, exhausting through one (1) stack, identified as EDM-1.
- (e) Equipment used exclusively for filling drums, pails or other packaging containers with lubricating oils, waxes and greases.
- (f) Application of oils, greases, lubricants or other nonvolatile materials applied as temporary protective coatings.
- (g) Machining where an aqueous cutting coolant continuously floods the machining interface.
- (h) Non-contact, forced and induced draft cooling tower system not regulated under a NESHAP.
- (i) Paved and unpaved roads and parking lots with public access [326 IAC 6-4].
- (j) Other categories with emissions below insignificant thresholds:
 - (1) One (1) EDM machine with trivial emissions, exhausting through one (1) stack identified as EDM-1;
 - (2) One (1) plastic shop producing a maximum of 6.18 pounds of plastic molds per hour, utilizing hand brushing and pouring plastics and fillers, exhausting through one (1) stack identified as X;
 - (3) Four (4) vertical CNC mills, identified as CNC1, CNC2, CNC3 and CNC4, each to machine wood patterns, exhausting into a building;
 - (4) Three (3) sand storage silos with pneumatic conveyors;
 - (5) Two (2) electric furnaces used for holding molten aluminum;
 - (6) Aluminum pouring and mold cooling lines; and
 - (7) Miscellaneous abrasive wheels and band saws located throughout the foundry building.

Existing Approvals

Since the issuance of the Significant Source Modification (141-11172-00120) on October 6, 1999, the source has constructed or has been operating under the following approvals as well:

- (a) FESOP No. 141-6217-00120 issued on July 18, 2001; and
- (b) Minor Permit Revision No. 141-15531-00120 issued on June 2, 2003.

All terms and conditions of previous permits issued pursuant to permitting programs approved into the state implementation plan have been either incorporated as originally stated, revised, or deleted by this permit. All previous registrations and permits are superseded by this permit.

Air Pollution Control Justification as an Integral Part of the Process

In October 1993 a Final Order Granting Summary Judgment was signed by Administrative Law Judge (“ALJ”) Garrettson resolving an appeal filed by Kimball Hospitality Furniture Inc. (Cause Nos. 92-A-J-730 and 92-A-J-833) related to the method by which IDEM calculated potential emissions from woodworking operations. In his findings, the ALJ determined that particulate controls are necessary for the facility to produce its normal product and are integral to the normal operation of the facility, and therefore, potential emissions should be calculated after controls. Based on this ruling, potential emissions for particulate matter for the woodworking operation controlled by the dust collector identified as DC-1 were calculated after consideration of the controls.

Enforcement Issue

There are no enforcement actions pending.

Emission Calculations

See Appendix A of this document for detailed emission calculations.

County Attainment Status

The source is located in St. Joseph County

Pollutant	Designation
SO ₂	Better than national standards.
CO	Unclassifiable or attainment effective November 15, 1990.
O ₃	Attainment effective July 19, 2007, for the 8-hour ozone standard. ¹
PM ₁₀	Unclassifiable effective November 15, 1990.
NO ₂	Cannot be classified or better than national standards.
Pb	Not designated.
¹ Attainment effective October 18, 2000, for the 1-hour ozone standard for the South Bend-Elkhart area, including St. Joseph County, and is a maintenance area for the 1-hour ozone National Ambient Air Quality Standards (NAAQS) for purposes of 40 CFR 51, Subpart X*. The 1-hour standard was revoked effective June 15, 2005. Unclassifiable or attainment effective April 5, 2005, for PM2.5.	

- (a) Ozone Standards
- (1) On October 25, 2006, the Indiana Air Pollution Control Board finalized a rule revision to 326 IAC 1-4-1 revoking the one-hour ozone standard in Indiana.
 - (2) On September 6, 2007, the Indiana Air Pollution Control Board finalized a temporary emergency rule to re-designate Allen, Clark, Elkhart, Floyd, LaPorte, and St. Joseph as attainment for the 8-hour ozone standard.
 - (3) On November 9, 2007, the Indiana Air Pollution Control Board finalized a temporary emergency rule to re-designate Boone, Clark, Elkhart, Floyd, LaPorte, Hamilton, Hancock, Hendricks, Johnson, Madison, Marion, Morgan, Shelby, and St. Joseph as attainment for the 8-hour ozone standard.
 - (4) Volatile organic compounds (VOC) and Nitrogen Oxides (NOx) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NOx emissions are considered when evaluating the rule applicability relating

to ozone. St. Joseph County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

- (b) **PM2.5**
 St. Joseph County has been classified as attainment for PM2.5. On May 8, 2008 U.S. EPA promulgated the requirements for Prevention of Significant Deterioration (PSD) for PM2.5 emissions, and the effective date of these rules was July 15th, 2008. Indiana has three years from the publication of these rules to revise its PSD rules, 326 IAC 2-2, to include those requirements. The May 8, 2008 rule revisions require IDEM to regulate PM10 emissions as a surrogate for PM2.5 emissions until 326 IAC 2-2 is revised.
- (c) **Other Criteria Pollutants**
 St. Joseph County has been classified as attainment or unclassifiable in Indiana for all other regulated criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
- (d) **Fugitive Emissions**
 Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 or 326 IAC 2-3, fugitive emissions are not counted toward the determination of PSD and Emission Offset applicability.

Unrestricted Potential Emissions

Appendix A of this TSD reflects the unrestricted potential emissions of the source.

- (a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of PM10 is equal to or greater than 100 tons per year. The source is subject to the provisions of 326 IAC 2-7. However, the source has agreed to limit their PM10 emissions to less than Title V levels, therefore the source will be issued a FESOP.
- (b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of all other criteria pollutants are less than 100 tons per year.
- (c) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is less than ten (10) tons per year and the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination of HAPs is less than twenty-five (25) tons per year.
- (d) Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-7, fugitive emissions are not counted toward the determination of Part 70 applicability.

Potential to Emit After Issuance

The source has opted to remain a FESOP source. The table below summarizes the potential to emit, reflecting all limits of the emission units. Any control equipment is considered enforceable only after issuance of this FESOP and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

Process/ Emission Unit	Potential To Emit (tons/year)							
	PM	PM ₁₀	PM _{2.5}	SO ₂	VOC	CO	NO _x	HAPs
Omega Mixers (OSM1 and OSM2)	<215.07	<43.80	<43.80	0.00	5.43	0.00	0.00	5.43

Process/ Emission Unit	Potential To Emit (tons/year)							
	PM	PM ₁₀	PM _{2.5}	SO ₂	VOC	CO	NO _x	HAPs
Gas-Electric Hybrid Furnace FF5	0.00	0.00	0.00	0.02	0.15	0.00	0.01	0.00
Electric Furnace FF1	0.00	0.00	0.00	0.02	0.17	0.00	0.01	0.00
Woodworking Operation	0.41	0.41	0.41	0.00	0.00	0.00	0.00	0.00
Sand Blaster SB	<7.52	<18.01	<18.01	0.00	0.00	0.00	0.00	0.00
Wheelabrator Shot Blaster SHB	<22.61	<18.01	<18.01	0.00	0.00	0.00	0.00	0.00
Natural Gas Combustion	0.02	0.08	0.08	0.31	0.06	0.91	1.09	0.02
Welding Operations	4.37	4.37	4.37	0.00	0.00	0.00	0.00	0.07
Total Emissions	<250	<100	<100	0.35	5.80	0.91	1.11	5.52

- (a) This existing stationary source is not major for PSD because the emissions of each criteria pollutant are less than two hundred fifty (<250) tons per year, and it is not one of the twenty-eight (28) listed source categories.
- (b) Fugitive Emissions
 Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 or 326 IAC 2-3, fugitive emissions are not counted toward the determination of PSD and Emission Offset applicability.

Federal Rule Applicability

- (a) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included in the permit for this source.
- (b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAP) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) included in this permit renewal.

State Rule Applicability - Entire Source

326 IAC 1-6-3 (Preventive Maintenance Plan)

The source has submitted preventive maintenance plans on March 30, 1999.

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

The potential to emit particulate matter from the source is greater 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). However, the source has agreed to limit the potential particulate matter emissions to less than 250 tons per year from the entire source to maintain minor source status.

The particulate matter emissions from the following units shall be limited as follows with compliance determined at the end of each month: the Omega mixers (OSM1 and OSM2) shall be limited to less than 215.07 tons per twelve (12) consecutive month period; the sand blaster (SB) shall be limited to less than 7.52 tons per twelve (12) consecutive month period; and the Wheelabrator shot blaster (SHB) shall be limited to less than 22.61 tons per twelve (12) consecutive month period.

Compliance with the above limits, combined with the potential to emit particulate matter from other units at the source, shall limit particulate matter from the entire source to less than 250 tons per twelve (12) consecutive month period and render 326 IAC 2-2 not applicable.

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

The potential to emit any single hazardous air pollutant or any combination of hazardous air pollutants is less than 10 and 25 tons per year, respectively. Therefore, 326 IAC 2-4.1 does not apply.

326 IAC 2-6 (Emission Reporting)

This source is located in St. Joseph County and the potential to emit of each criteria pollutant is less than one hundred (100) tons per year. Therefore, 326 IAC 2-6 does not apply.

326 IAC 2-8 (FESOP)

Pursuant to FESOP F141-6217-00120 issued July 18, 2001, the source shall limit the potential PM10 emissions from the following units to less than 100 tons per twelve (12) consecutive month period as follows with compliance determined at the end of each month: the PM10 emissions from the Omega mixers (OSM1 and OSM2) shall not exceed 43.80 tons per twelve (12) consecutive month period; the PM10 emissions from the sand blaster (SB) shall not exceed 18.01 tons per twelve (12) consecutive month period; and the PM10 emissions from the Wheelabrator shot blaster (SHB) shall not exceed 18.01 tons per twelve (12) consecutive month period.

Compliance with the above limits, combined with the potential to emit PM10 from other emission units at the source, shall limit the PM10 from the entire source to less than 100 tons per twelve (12) consecutive month period and render 326 IAC 2-7 not applicable.

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 Exemptions), opacity shall meet the following, unless otherwise stated in the permit:

- (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

326 IAC 6-4 (Fugitive Dust 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 6-5 (Fugitive Particulate Matter Emission Limitations)

This source, located in St. Joseph County, has a potential to emit less than 25 tons of fugitive particulate. Therefore, the source is not subject to 326 IAC 6-5.

State Rule Applicability – Individual Facilities

326 IAC 6.5-1 (Particulate Matter Limitations Except Lake County)

This source is located in St. Joseph County and has a source-wide potential to emit greater than 100 tons per year. Therefore, the particulate matter emissions from the Omega mixers (OSM1 and OSM2), sand blaster (SB), Wheelabrator shot blaster (SHB), welding operations and woodworking operations shall not exceed 0.03 grain per dry standard cubic foot.

All particulate control equipment shall be in use at all times these units are in operation in order to comply with this limit.

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

The aluminum furnaces identified as FF5 and FF1 are not sources of indirect heating. Therefore, the aluminum furnaces are not subject to 326 IAC 6-2.

326 IAC 6.5-1 (Particulate Emission Limitations Except Lake County)

This source is located in St. Joseph County. Therefore, the natural gas-fired boiler, identified as BLR, is subject to 326 IAC 6.5-1-2(b)(3). Pursuant to 326 IAC 6.5-1-2(b)(3), the particulate emissions from the natural gas-fired boiler, identified as BLR, shall not exceed 0.01 grain per dry standard cubic foot.

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

The potential VOC emissions from the two aluminum furnaces identified as FF5 and FF1 are less than 25 tons per year. Therefore, the aluminum furnaces are not subject to 326 IAC 8-1-6.

Compliance Determination and Monitoring Requirements

Permits issued under 326 IAC 2-8 are required to ensure that sources can demonstrate compliance with all applicable state and federal rules on a continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a continuous demonstration. When this occurs, IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-8-4. As a result, Compliance Determination Requirements are included in the permit. The Compliance Determination Requirements in Section D of the permit are those conditions that are found directly within state and federal rules and the violation of which serves as grounds for enforcement action.

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

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

- (a) The dust collectors DC-2 and DC-3 used in conjunction with the pneumatic sand blaster (SH) and the Wheelabrator shot blaster (SHB), respectively, have applicable compliance determination conditions as specified below:
 - (1) Visible emission notations of the shot blaster dust collector (DC-3) stack exhaust shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal. For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time. In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions. A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process. If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

- (2) The Permittee shall record the pressure drop across each of the dust collector DC-3 used in conjunction with the shot blaster (SHB) at least once per day when the shot blaster is in operation. When for any one reading, the pressure drop across the DC-3 baghouse is outside the normal range of 2.0 to 5.0 inches, of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit. The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once every six (6) months.
- (3) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions). For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emissions unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions). Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces or triboflows.

These monitoring conditions are necessary because the dust collectors for the pneumatic sand blaster and the shot blaster must operate properly to ensure compliance with 326 IAC 2-2 and 326 IAC 2-8.

Recommendation

The staff recommends to the Commissioner that the FESOP Renewal F141-21140-00120 be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on July 13, 2005.

Conclusion

The operation of this aluminum mold making operation shall be subject to the conditions of the attached FESOP Renewal F141-21440-00120.

**Appendix A: Emission Calculations
Emissions Summary**

Company Name: Total Industries
Address City IN Zip: 3333 West Lathrop Drive, South Bend Indiana 46619
Permit Number: F141-21440-00120
Plt ID: 141-00120
Reviewer: Anne-Marie C. Hart
Date: November 3, 2008

Uncontrolled Emissions

Emission Unit/Process	Tons/Year								
	PM	PM10	PM2.5	SO2	NOx	VOC	CO	Total HAP	Worst-Case HAP
Omega Mixer OSM1	331.13	49.67	49.67	0.00	0.00	5.43	0.00	5.43	4.53 Phenol
Omega Mixer OSM2**	212.87	31.93	31.93	0.00	0.00	5.43	0.00	5.43	4.53 Phenol
Gas-Electric Hybrid Furnace FF5	0.00	0.00	0.00	0.02	0.01	0.15	0.00	0.00	0.00
Electric Furnace FF1	0.00	0.00	0.00	0.02	0.01	0.17	0.00	0.00	0.00
Woodworking Operation***	0.41	0.41	0.41	0.00	0.00	0.00	0.00	0.00	0.00
Sand Blaster SB	97.95	68.57	68.57	0.00	0.00	0.00	0.00	0.00	0.00
Wheelabrator Shot Blaster SHB	52.03	44.75	44.75	0.00	0.00	0.00	0.00	0.00	0.00
Natural Gas Combustion	0.02	0.08	0.08	0.31	1.09	0.06	0.91	2.05E-02	1.96E-02 Hexane
Welding Operations	4.37	4.37	4.37	0.00	0.00	0.00	0.00	6.95E-02	6.00E-02 Manganese
Total*	485.90	167.84	167.84	0.35	1.11	5.80	0.91	5.52	4.53 Phenol

Controlled Emissions

Emission Unit/Process	Tons/Year								
	PM	PM10	PM2.5	SO2	NOx	VOC	CO	Total HAP	Worst-Case HAP
Omega Mixer OSM1	33.11	4.97	4.97	0.00	0.00	5.43	0.00	5.43	4.53 Phenol
Omega Mixer OSM2**	21.29	3.19	3.19	0.00	0.00	5.43	0.00	5.43	4.53 Phenol
Gas-Electric Hybrid Furnace FF5	0.00	0.00	0.00	0.02	0.01	0.15	0.00	0.00	0.00
Electric Furnace FF1	0.00	0.00	0.00	0.02	0.01	0.14	0.00	0.00	0.00
Woodworking Operation***	0.41	0.41	0.41	0.00	0.00	0.00	0.00	0.00	0.00
Sand Blaster SB	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Wheelabrator Shot Blaster SHB	0.26	0.22	0.22	0.00	0.00	0.00	0.00	0.00	0.00
Natural Gas Combustion	0.02	0.08	0.08	0.31	1.09	0.06	0.91	2.05E-02	1.96E-02 Hexane
Welding Operations	4.37	4.37	4.37	0.00	0.00	0.00	0.00	6.95E-02	6.00E-02 Manganese
Total*	38.18	10.05	10.05	0.35	1.11	5.78	0.91	5.52	4.53 Phenol

*The total source emissions include the emissions from the Omega Mixer OSM1 only. The molding line which is fed by the mixers can only process sand from one mixer at a time. The emissions from OSM2 will not be counted toward total source potential emissions.

** Potential emissions from the Omega Mixer OSM2 are not counted toward total source potential emissions.

*** The dust collector controlling particulate emissions from the woodworking operation is considered integral to the process.

Appendix A: Emission Calculations
Omega Mixers (OSM1 and OSM2)
Company Name: Total Industries
Address City IN Zip: 3333 West Lathrop Drive, South Bend Indiana 46619
Permit Number: F141-21440-00120
Pit ID: 141-00120
Reviewer: Anne-Marie C. Hart
Date: November 3, 2008

VOC and HAP Emissions

Material (ALpHASET 9010 Liquid Resin)	Percent in Product	Percent Released	Percent Remaining in Mold/Core	Maximum Sand Processed (ton/hr)	Maximum Liquid Resin Usage Rate (lb/ton of sand)	Potential VOC/HAP (lb/hr)	Potential VOC/HAP (tons/yr)
Formaldehyde	0.99%	2%	0%	30	34.5	0.20	0.90
Phenol	5%	0%	2%	30	34.5	1.04	4.53
Total						1.24	5.43

PM and PM10/PM2.5 Emissions

Emission Unit	Process Rate (ton/hr)	Pollutant	Emission Factor (lb/ton)	Uncontrolled Emissions (tons/year)	Control Efficiency	Controlled Emissions
Omega Sand Mixer #1	21.00	PM	3.60	331.13	90%	33.11
	21.00	PM10/PM2.5	0.54	49.67	90%	4.97
Omega Sand Mixer #2	13.50	PM	3.60	212.87	90%	21.29
	13.50	PM10/PM2.5	0.54	31.93	90%	3.19

Methodology:

VOC/HAP tons per year = % HAP in product * % HAP released and/or % HAP remaining core * max. sand processed (ton/hr) * max. resin usage rate (lb/ton)

Controlled PM and PM10 tons/yr = process rate (tons/hr) * emission factor (lb/ton) * 4.38 * 1/(1 - control efficiency)

Notes:

The percent remaining in mold/core is released when destroyed and exposed to molten metal.

The co-reactant (ALpHACURE 910) acts as a catalyst and does not result in VOC/HAP emissions.

The percent released and remaining in mold/core values are derived from the American Foundrymen's Society (AFS), Form R, Gold Book, 2007.

The applicant claims a 90% control efficiency because the sand going into the mixers is treated with the liquid resin and coreactant materials and the mixers are enclosed.

Testing is required to verify the 90% control efficiency applied by the applicant.

PM and PM-10 Emission factors from USEPA's Factor Information Retrieval (FIRE) Data System. SCC#3-04-003-50

Appendix A: Emission Calculations

Furnace Emissions (FF5 and FF1)

Company Name: Total Industries
Address City IN Zip: 3333 West Lathrop Drive, South Bend Indiana 46619
Permit Number: F141-21440-00120
Plt ID: 141-00120
Reviewer: Anne-Marie C. Hart
Date: November 3, 2008

Gas-electric hybrid furnace (ID Unit No. FF5)

Maximum Capacity **2080.50 ton/year**

NOx Emission Factor (lb/ton)	SOx Emission Factor (lb/ton)	VOC Emission Factor (lb/ton)	Potential NOx Emissions (tons/year)	Potential SOx Emissions (tons/year)	Potential VOC Emissions (tons/year)
0.01	0.02	0.14	0.01	0.02	0.15

Electric Furnace (ID Unit No. FF1)

Maximum Capacity **2387.10 tons/year**

NOx Emission Factor (lb/ton)	SOx Emission Factor (lb/ton)	VOC Emission Factor (lb/ton)	Potential NOx Emissions (tons/year)	Potential SOx Emissions (tons/year)	Potential VOC Emissions (tons/year)
0.01	0.02	0.14	0.01	0.02	0.17

Emission factors from Webfire December 2005, SCC# 3-04-001-14

Potential emissions (tons/year) = Maximum Capacity (tons/year) x Emission Factor (lb/ton) x (1 ton/2000 lb)

Appendix A: Emission Calculations

Woodworking Operation

Company Name: Total Industries
Address City IN Zip: 3333 West Lathrop Drive, South Bend Indiana 46619
Permit Number: F141-21440-00120
Plt ID: 141-00120
Reviewer: Anne-Marie C. Hart
Date: November 3, 2008

Baghouse DC-1 (Woodworking)						
Process	No. of Units	Grain Loading per Actual Cubic Foot of Outlet Air	Air to Cloth Ratio Air Flow (acfm/ft ²)	Total Filter Area (ft ²)	Control Efficiency	Total PM/PM10/PM2.5 Emissions (tons/year)
PS-1 - PS-8, PS-12, PS-13	1	0.00270	10.0	400	95.00%	0.41

Total Emissions Based on Rated Capacity at 8,760 Hours/Year

Total emissions determined after the use of control equipment. The dust collector associated with the woodworking operation is considered integral to the process.

Table 1 - Emission Factors for Abrasives

Abrasive	Emission Factor	
	lb PM / lb abrasive	lb PM10 / lb PM
Sand	0.041	0.70
Grit	0.010	0.70
Steel Shot	0.004	0.86
Other	0.010	

Table 2 - Density of Abrasives (lb/ft3)

Abrasive	Density (lb/ft3)
Al oxides	160
Sand	99
Steel	487

Table 3 - Sand Flow Rate (FR1) Through Nozzle (lb/hr)

Flow rate of Sand Through a Blasting Nozzle as a Function of Nozzle pressure and Internal Diameter

Internal diameter, in	Nozzle Pressure (psig)							
	30	40	50	60	70	80	90	100
1/8	28	35	42	49	55	63	70	77
3/16	65	80	94	107	122	135	149	165
1/4	109	138	168	195	221	255	280	309
5/16	205	247	292	354	377	420	462	507
3/8	285	355	417	477	540	600	657	720
7/16	385	472	550	645	755	820	905	940
1/2	503	615	725	835	945	1050	1160	1265
5/8	820	990	1170	1336	1510	1680	1850	2030
3/4	1140	1420	1670	1915	2160	2400	2630	2880
1	2030	2460	2900	3340	3780	4200	4640	5060

Calculations

Adjusting Flow Rates for Different Abrasives and Nozzle Diameters

Flow Rate (FR) = Abrasive flow rate (lb/hr) with internal nozzle diameter (ID)
FR1 = Sand flow rate (lb/hr) with internal nozzle diameter (ID1) From Table 3 =
D = Density of abrasive (lb/ft3) From Table 2 =
D1 = Density of sand (lb/ft3) =
ID = Actual nozzle internal diameter (in) =
ID1 = Nozzle internal diameter (in) from Table 3 =

600
90
99
0.375
0.375

Flow Rate (FR) (lb/hr) = 545.455 per nozzle

Uncontrolled Emissions (E, lb/hr)

EF = emission factor (lb PM / lb abrasive) From Table 1 =
FR = Flow Rate (lb/hr) =
w = fraction of time of wet blasting =
N = number of nozzles =

0.041
545.455
0
1

Uncontrolled PM Emissions =	22.36 lb/hr
	97.95 ton/yr

Uncontrolled PM10/PM2.5 Emissions =	15.65 lb/hr
	68.57 ton/yr

Baghouse DC-2 Control Efficiency = 99.99%

Controlled PM Emissions =	2.24E-03 lb/hr
	0.01 ton/yr

Controlled PM10/PM2.5 Emissions =	1.57E-03 lb/hr
	0.01 ton/yr

METHODOLOGY

Emission Factors from STAPPA/ALAPCO "Air Quality Permits", Vol. I, Section 3 "Abrasive Blasting" (1991 edition)
Ton/yr = lb/hr X 8760 hr/yr X ton/2000 lbs
Flow Rate (FR) (lb/hr) = FR1 x (ID/ID1)² x (D/D1)
E = EF x FR x (1-w/200) x N
w should be entered in as a whole number (if w is 50%, enter 50)

Appendix A: Emission Calculations

Abrasive Blasting - Unit SHB
Company Name: Total Industries
Address City IN Zip: 3333 West Lathrop Drive, South Bend Indiana 46619
Permit Number: F141-21440-00120
Plt ID: 141-00120
Reviewer: Anne-Marie C. Hart
Date: November 3, 2008

Table 1 - Emission Factors for Abrasives

Abrasive	Emission Factor	
	lb PM / lb abrasive	lb PM10 / lb PM
Sand	0.041	0.70
Grit	0.010	0.70
Steel Shot	0.004	0.86
Other	0.010	

Table 2 - Density of Abrasives (lb/ft3)

Abrasive	Density (lb/ft3)
Al oxides	160
Sand	99
Steel	487

Table 3 - Sand Flow Rate (FR1) Through Nozzle (lb/hr)

Flow rate of Sand Through a Blasting Nozzle as a Function of Nozzle pressure and Internal Diameter

Internal diameter	Nozzle Pressure (psig)							
	30	40	50	60	70	80	90	100
1/8	28	35	42	49	55	63	70	77
3/16	65	80	94	107	122	135	149	165
1/4	109	138	168	195	221	255	280	309
5/16	205	247	292	354	377	420	462	507
3/8	285	355	417	477	540	600	657	720
7/16	385	472	560	645	755	820	905	940
1/2	503	615	725	835	945	1050	1160	1265
5/8	820	990	1170	1336	1510	1680	1850	2030
3/4	1140	1420	1670	1915	2160	2400	2630	2880
1	2030	2460	2900	3340	3780	4200	4640	5060

Calculations

Adjusting Flow Rates for Different Abrasives and Nozzle Diameter:

Flow Rate (FR) = Abrasive flow rate (lb/hr) with internal nozzle diameter (ID)
 FR1 = Sand flow rate (lb/hr) with internal nozzle diameter (ID1) From Table 3 =
 D = Density of abrasive (lb/ft3) From Table 2 =
 D1 = Density of sand (lb/ft3) =
 ID = Actual nozzle internal diameter (in) =
 ID1 = Nozzle internal diameter (in) from Table 3 =

600
490
99
0.375
0.375

Flow Rate (FR) (lb/hr) = 2969.697 per nozzle

Uncontrolled Emissions (E, lb/hr)

EF = emission factor (lb PM / lb abrasive) From Table 1 =
 FR = Flow Rate (lb/hr) =
 w = fraction of time of wet blasting =
 N = number of nozzles =

0.004
2969.697
0
1

Uncontrolled PM Emissions =	11.88 lb/hr
	52.03 ton/yr

Uncontrolled PM10/PM2.5 Emissions =	10.22 lb/hr
	44.75 ton/yr

Baghouse DC-2 Control Efficiency = 99.50%

Controlled PM Emissions =	5.94E-02 lb/hr
	0.26 ton/yr
Controlled PM10/PM2.5 Emissions =	5.11E-02 lb/hr
	0.22 ton/yr

METHODOLOGY

Emission Factors from STAPPA/ALAPCO "Air Quality Permits", Vol. I, Section 3 "Abrasive Blasting" (1991 edition)
 Ton/yr = lb/hr X 8760 hr/yr X ton/2000 lbs
 Flow Rate (FR) (lb/hr) = FR1 x (ID/ID1)2 x (D/D1)
 E = EF x FR x (1-w/200) x N
 w should be entered in as a whole number (if w is 50%, enter 50)

Appendix A: Emissions Calculations

Natural Gas Combustion Only

MM BTU/HR <100

Company Name: Total Industries
Address City IN Zip: 3333 West Lathrop Drive, South Bend Indiana 46619
Permit Number: F141-21440-00120
Plt ID: 141-00120
Reviewer: Anne-Marie C. Hart
Date: November 3, 2008

Total Heat Input Capacity
MMBtu/hr

Potential Throughput
MMCF/yr

2.5		
0.8	MMBtu/hr	Gas-Electric Furnace
0.67	MMBtu/hr	Boiler BLR
0.58	MMBtu/hr	Core Oven
0.43	MMBtu/hr	Torch Burn-off

21.7

Emission Factor in lb/MMCF	Pollutant					
	PM*	PM10/PM2.5*	SO2	NOx	VOC	CO
	1.9	7.6	28.5	100	5.5	84
				**see below		
Potential Emission in tons/yr	0.02	0.08	0.31	1.09	0.06	0.91

*PM emission factor is filterable PM only. PM10/PM2.5 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

Emission Factor in lb/MMcf	HAPs - Organics				
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	2.281E-05	1.303E-05	8.147E-04	1.955E-02	3.693E-05

Emission Factor in lb/MMcf	HAPs - Metals				
	Lead	Cadmium	Chromium	Manganese	Nickel
	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	5.431E-06	1.195E-05	1.521E-05	4.128E-06	2.281E-05

Total HAP 2.050E-02

Methodology is the same as above.

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
Welding and Thermal Cutting**

**Company Name: Total Industries
Address City IN Zip: 3333 West Lathrop Drive, South Bend Indiana 46619
Permit Number: F141-21440-00120
Pit ID: 141-00120
Reviewer: Anne-Marie C. Hart
Date: November 3, 2008**

PROCESS	Number of Stations	Max. electrode consumption per station (lbs/hr)		EMISSION FACTORS* (lb pollutant/lb electrode)				EMISSIONS (lbs/hr)				HAPS (lbs/hr)
				PM = PM10 = PM2.5	Mn	Ni	Cr	PM = PM10 = PM2.5	Mn	Ni	Cr	
WELDING												
Metal Inert Gas (MIG)(carbon steel)	3	6		0.0055	0.0005			0.099	0.009	0.000	0	0.009
Tungsten Inert Gas (TIG)(carbon steel)	2	2		0.0055	0.0005			0.022	0.002	0.000	0	0.002
FLAME CUTTING	Number of Stations	Max. Metal Thickness Cut (in.)	Max. Metal Cutting Rate (in./minute)	EMISSION FACTORS (lb pollutant/1,000 inches cut, 1" thick)**				EMISSIONS (lbs/hr)				HAPS (lbs/hr)
				PM = PM10 = PM2.5	Mn	Ni	Cr	PM = PM10 = PM2.5	Mn	Ni	Cr	
Oxyacetylene	3	2	15	0.1622	0.0005	0.0001	0.0003	0.876	0.003	0.001	0.002	0.005
EMISSION TOTALS												
Potential Emissions lbs/hr								1.00				0.02
Potential Emissions lbs/day								23.93				0.38
Potential Emissions tons/year								4.37				0.07

METHODOLOGY

*Emission Factors are default values for carbon steel unless a specific electrode type is noted in the Process column.

**Emission Factor for plasma cutting from American Welding Society (AWS). Trials reported for wet cutting of 8 mm thick mild steel with 3.5 m/min cutting speed (at 0.2 g/min emitted). Therefore, the emission factor for

Using AWS average values: (0.25 g/min)/(3.6 m/min) x (0.0022 lb/g)/(39.37 in./m) x (1,000 in.) = 0.0039 lb/1,000 in. cut, 8 mm thick

Plasma cutting emissions, lb/hr: (# of stations)(max. cutting rate, in./min.)(60 min./hr.)(emission factor, lb. pollutant/1,000 in. cut, 8 mm thick)

Cutting emissions, lb/hr: (# of stations)(max. metal thickness, in.)(max. cutting rate, in./min.)(60 min./hr.)(emission factor, lb. pollutant/1,000 in. cut, 1" thick)

Welding emissions, lb/hr: (# of stations)(max. lbs of electrode used/hr/station)(emission factor, lb. pollutant/lb. of electrode used)

Emissions, lbs/day = emissions, lbs/hr x 24 hrs/day

Emissions, tons/yr = emissions, lbs/hr x 8,760 hrs/year x 1 ton/2,000 lbs.