



# 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](http://www.idem.IN.gov)

TO: Interested Parties / Applicant

DATE: August 22, 2011

RE: General Aluminum Mfg Co. / 151 - 30775 - 00032

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

If you wish to challenge this decision, IC 4-21.5-3-7 and IC 13-15-7-3 require that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office Environmental Adjudication, 100 North Senate Avenue, Government Center North, 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-MOD.dot 12/3/07



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August 22, 2011

John Jordan  
General Aluminum Manufacturing Company  
303 East Swager Drive  
Fremont, Indiana 46737

Re: 151-30775-00032  
Second Minor Revision to  
M151-22617-00032

Dear John Jordan:

General Aluminum Manufacturing Company was issued a Minor Source Operating Permit (MSOP) No. M151-22617-00032 on April 16, 2007 for a stationary aluminum die casting source, located at 303 East Swager Drive, Fremont, Indiana 46737. On August 8, 2011, the Office of Air Quality (OAQ) received an application from the source requesting to construct a new gas-fired reverberatory furnace, identified as EU-05, similar to an existing furnace currently permitted at the facility. In its Minor Permit Revision No. 151-30658-00032, issued July 27, 2011, this source was approved to construct a new furnace. Subsequent to this approval, the furnace planned was no longer available. The source has selected another furnace, similar to the approved furnace, but with a different maximum heat input rating. Therefore, the source has applied for its second minor permit revision. The attached Technical Support Document (TSD) provides additional explanation of the changes to the permit. Pursuant to the provisions of 326 IAC 2-6.1-6, these changes to the permit are required to be reviewed in accordance with the Minor Permit Revision (MPR) procedures of 326 IAC 2-6.1-6(h). Pursuant to the provisions of 326 IAC 2-6.1-6, a minor permit revision to this permit is hereby approved as described in the attached Technical Support Document (TSD).

The following construction conditions are applicable to the proposed project:

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

Pursuant to 326 IAC 2-6.1-6, this permit shall be revised by incorporating the minor permit revision into the permit. All other conditions of the permit shall remain unchanged and in effect. Attached please find the entire revised permit.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter, please contact Jack Harmon, of my staff, at 317-233-4228 or 1-800-451-6027, and ask for extension 3-4228.

Sincerely,



Iryn Calilung, Section Chief  
Permits Branch  
Office of Air Quality

Attachments: Technical Support Document and revised permit

IC/jh

cc: File - Steuben County  
Steuben County Health Department  
U.S. EPA, Region V  
Compliance and Enforcement Branch  
Billing, Licensing and Training Section



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## New Source Construction and Minor Source Operating Permit OFFICE OF AIR QUALITY

**General Aluminum Manufacturing Company  
303 East Swager Drive  
Fremont, Indiana 46737**

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

This permit is issued to the above mentioned company under the provisions of 326 IAC 2-1.1, 326 IAC 2-5.1, 326 IAC 2-6.1 and 40 CFR 52.780, with conditions listed on the attached pages.

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

Operation Permit No.: M151-22617-00032	
Original Signed by: Nisha Sizemore, Branch Chief Permits Branch Office of Air Quality	Issuance Date: April 16, 2007  Expiration Date: April 16, 2012

First Minor Permit Revision No. 151-30658-00032, issued July 27, 2011

Second Minor Permit Revision No.: 151-30775-00032	
Issued by:  Iryn Calilung, Section Chief Permits Branch Office of Air Quality	Issuance Date: August 22, 2011  Expiration Date: April 16, 2012

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## SECTION A SOURCE SUMMARY

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

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

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The Permittee owns and operates a stationary aluminum die casting source, melting only clean charge.

Source Address:	303 East Swager Drive, Fremont, Indiana 46737
General Source Phone Number:	260-495-2600
SIC Code:	3365 (Aluminum Foundries)
County Location:	Steuben
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Minor Source Operating Permit Program Minor Source, under PSD and Emission Offset Rules Minor Source, Section 112 of the Clean Air Act Not 1 of 28 Source Categories

### A.2 Emission Units and Pollution Control Equipment Summary

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

- (a) One (1) natural gas-fired reverberatory furnace, identified as EU01, exhausting to Stack RF-STK, melting only clean charge which can include aluminum t-bar, sow, ingot and/or internal runarounds, adding cover and wall flux, neither of which contains any HAPs, to prevent the buildup of oxides in the furnace, constructed in July 2003, modified in 2006, increasing capacity: 2.50 to 3.00 tons of metal per hour, 3.50 million British thermal units per hour, and 3.28 pounds per hour of cover flux and 0.32 pounds per hour of wall flux.
- (b) Eight (8) electric die casting machine holding furnaces, identified as EU02, two (2) constructed in 1985, one (1) constructed in 1996, one (1) constructed in 1999, one (1) constructed in 2000, one (1) constructed in 2003 and two (2) constructed in 2006, holding capacity: 2,500 pounds of aluminum each, equipped with two (2) natural gas-fired torches used only during electrical power outages, torch capacity: 0.500 million British thermal units per hour, each.
- (c) Eight (8) die cast machines, identified as EU03, two (2) constructed in 1985, one (1) constructed in 1996, one (1) constructed in 1999, one (1) constructed in 2000, one (1) constructed in 2003 and two (2) constructed in 2006, capacity: 0.4375 tons of aluminum per hour, each, and 2.57 pounds of die lube per hour (11.25 tons of die lube per year), each.
- (d) Four (4) natural gas-fired space heaters, constructed between 1990 and 1995, capacity: 0.035 million British thermal units per hour, each.
- (e) One (1) natural gas-fired ladle preheater, constructed in 1985, capacity: 0.900 million British thermal units per hour.
- (f) Two (2) parts rinsers, constructed in the 1990s, including:

- (1) One (1) enclosed parts rinser which uses a water-based detergent.
- (2) One (1) enclosed parts rinser which uses a water-based detergent, identified as Rainbow Line Hurricane Rinser.
- (g) One (1) natural gas-fired makeup air unit, constructed in 1995, capacity: 1.00 million British thermal units per hour.
- (h) One (1) shotblaster, identified as EU04, constructed in 2006, equipped with a wet scrubber for particulate control that exhausts inside the building, capacity: 3,300 pounds of steel shot and 500 pounds of aluminum parts per hour.
- (i) One (1) natural gas-fired reverberatory furnace, identified as EU-05, approved for construction in 2011, with a maximum throughput capacity of 1.5 tons aluminum clean charge per hour, with a maximum heat input capacity of 8.0 MMBtu/hr, and exhausting to stack RFT-STK-02. This furnace has a cover flux added at a maximum rate of 3.28 pounds per hour and a wall flux added to prevent oxide buildup on the walls at a maximum rate of 0.32 pounds per hour. Neither flux contains HAPs.

## **SECTION B GENERAL CONDITIONS**

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

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Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, the applicable definitions found in the statutes or regulations (IC 13-11, 326 IAC 1-2 and 326 IAC 2-1.1-1) shall prevail.

### **B.2 Revocation of Permits [326 IAC 2-1.1-9(5)]**

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Pursuant to 326 IAC 2-1.1-9(5)(Revocation of Permits), the Commissioner may revoke this permit if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

### **B.3 Affidavit of Construction [326 IAC 2-5.1-3(h)] [326 IAC 2-5.1-4]**

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This document shall also become the approval to operate pursuant to 326 IAC 2-5.1-4 when prior to the start of operation, the following requirements are met:

- (a) The attached Affidavit of Construction shall be submitted to the Office of Air Quality (OAQ), verifying that the emission units were constructed as proposed in the application or the permit. The emission units covered in this permit may begin operating on the date the Affidavit of Construction is postmarked or hand delivered to IDEM if constructed as proposed.
- (b) If actual construction of the emission units differs from the construction proposed in the application, the source may not begin operation until the permit has been revised pursuant to 326 IAC 2 and an Operation Permit Validation Letter is issued.
- (c) The Permittee shall attach the Operation Permit Validation Letter received from the Office of Air Quality (OAQ) to this permit.

### **B.4 Permit Term [326 IAC 2-6.1-7(a)][326 IAC 2-1.1-9.5][IC 13-15-3-6(a)]**

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- (a) This permit, M151-22617-00032, is issued for a fixed term of five (5) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date of this permit.
- (b) If IDEM, OAQ, upon receiving a timely and complete renewal permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect, until the renewal permit has been issued or denied.

### **B.5 Term of Conditions [326 IAC 2-1.1-9.5]**

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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.6 Enforceability**

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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.7 Severability**

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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.8 Property Rights or Exclusive Privilege**

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

**B.9 Duty to Provide Information**

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- (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. 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.10 Annual Notification [326 IAC 2-6.1-5(a)(5)]**

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- (a) An annual notification shall be submitted by an authorized individual to the Office of Air Quality stating whether or not the source is in operation and in compliance with the terms and conditions contained in this permit.
- (b) The annual notice shall be submitted in the format attached no later than March 1 of each year to:  
  
Indiana Department of Environmental Management  
Compliance and Enforcement Branch, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251
- (c) The notification shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

**B.11 Preventive Maintenance Plan [326 IAC 1-6-3]**

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- (a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) no later than ninety (90) days after issuance of this permit or ninety (90) days after initial start-up, whichever is later, including the following information on each facility:
  - (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
  - (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and
  - (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

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

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

The Permittee shall implement the PMPs.

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

- (a) All terms and conditions of permits established prior to M151-22617-00032 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.13 Termination of Right to Operate [326 IAC 2-6.1-7(a)]

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

B.14 Permit Renewal [326 IAC 2-6.1-7]

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

Request for renewal shall be submitted to:

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

- (b) A timely renewal application is one that is:
  - (1) Submitted at least one hundred twenty (120) days prior to the date of the expiration of this permit; and
  - (2) If the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.
- (c) If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-6.1 until IDEM, OAQ takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified, pursuant to 326 IAC 2-6.1-4(b), in writing by IDEM, OAQ any additional information identified as being needed to process the application.

B.15 Permit Amendment or Revision [326 IAC 2-5.1-3(e)(3)][326 IAC 2-6.1-6]

- (a) Permit amendments and revisions are governed by the requirements of 326 IAC 2-6.1-6 whenever the Permittee seeks to amend or modify this permit.
- (b) Any application requesting an amendment or modification of this permit shall be submitted to:  
  
Indiana Department of Environmental Management  
Permit Administration and Support Section, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251
- (c) The Permittee shall notify the OAQ no later than thirty (30) calendar days of implementing a notice-only change. [326 IAC 2-6.1-6(d)]

B.16 Source Modification Requirement

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

B.17 Inspection and Entry

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

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

- (a) Enter upon the Permittee's premises where a permitted source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
- (b) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- (c) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, inspect, at reasonable times, any facilities, equipment (including monitoring and air

pollution control equipment), practices, or operations regulated or required under this permit;

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

**B.18 Transfer of Ownership or Operational Control [326 IAC 2-6.1-6]**

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- (a) The Permittee must comply with the requirements of 326 IAC 2-6.1-6 whenever the Permittee seeks to change the ownership or operational control of the source and no other change in the permit is necessary.
- (b) Any application requesting a change in the ownership or operational control of the source shall contain a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new Permittee. The application shall be submitted to:

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

The application which shall be submitted by the Permittee does require an affirmation that the statements in the application are true and complete by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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

**B.19 Annual Fee Payment [326 IAC 2-1.1-7]**

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- (a) The Permittee shall pay annual fees due no later than thirty (30) calendar days of receipt of a bill from IDEM, OAQ,.
- (b) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-4230 (ask for OAQ, Billing, Licensing, and Training Section), to determine the appropriate permit fee.

**B.20 Credible Evidence [326 IAC 1-1-6]**

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

## SECTION C SOURCE OPERATION CONDITIONS

Entire Source

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

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

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

- (a) Violation of any conditions of this permit.
- (b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this permit.
- (c) Changes in regulatory requirements that mandate either a temporary or permanent reduction of discharge of contaminants. However, the amendment of appropriate sections of this permit shall not require revocation of this permit.
- (d) Noncompliance with orders issued pursuant to 326 IAC 1-5 (Episode Alert Levels) to reduce emissions during an air pollution episode.
- (e) For any cause which establishes in the judgment of IDEM, the fact that continuance of this permit is not consistent with purposes of this article.

#### C.3 Opacity [326 IAC 5-1]

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

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

#### C.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 except as provided in 326 IAC 4-2 or in this permit. The Permittee shall not operate a refuse incinerator or refuse burning equipment except as provided in 326 IAC 9-1-2 or in this permit.

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

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

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

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

All required notifications shall be submitted to:

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

The notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project.

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

- (f) **Demolition and Renovation**  
The Permittee shall thoroughly inspect the affected facility or part of the facility where the demolition or renovation will occur for the presence of asbestos pursuant to 40 CFR 61.145(a).
- (g) **Indiana Licensed Asbestos Inspector**  
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Licensed Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos. The requirement to use an Indiana Licensed Asbestos inspector is not federally enforceable.

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

#### **C.8 Performance Testing [326 IAC 3-6]**

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- (a) For performance testing required by this permit, a test protocol, except as provided elsewhere in this permit, shall be submitted to:  
  
Indiana Department of Environmental Management  
Compliance and Enforcement Branch, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251  
  
no later than thirty-five (35) days prior to the intended test date.
- (b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date.
- (c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ if the Permittee submits to IDEM, OAQ a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

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

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

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

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

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

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

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

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

## Corrective Actions and Response Steps

### C.12 Response to Excursions or Exceedances

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Upon detecting an excursion where a response step is required by the D Section or an exceedance of a limitation in this permit:

- (a) The Permittee shall take reasonable response steps to 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 excess emissions.
- (b) The response shall include minimizing the period of any startup, shutdown or malfunction. The response may include, but is not limited to, the following:
  - (1) initial inspection and evaluation;
  - (2) recording that operations returned or are returning 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 normal or usual manner of operation.
- (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 record the reasonable response steps taken.

**C.13 Actions Related to Noncompliance Demonstrated by a Stack Test**

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- (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 submit a description of its response actions to IDEM, OAQ, no later than seventy-five (75) days after the date of the test.
- (b) A retest to demonstrate compliance shall be performed no later than one hundred eighty (180) days after the date of the test. Should the Permittee demonstrate to IDEM, OAQ that retesting in one hundred eighty (180) 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.

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

**C.14 Malfunctions Report [326 IAC 1-6-2]**

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

- (a) A record of all malfunctions, including startups or shutdowns of any facility or emission control equipment, which result in violations of applicable air pollution control regulations or applicable emission limitations shall be kept and retained for a period of three (3) years and shall be made available to the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) or appointed representative upon request.
- (b) When a malfunction of any facility or emission control equipment occurs which lasts more than one (1) hour, said condition shall be reported to OAQ, using the Malfunction Report Forms (2 pages). Notification shall be made by telephone or facsimile, as soon as practicable, but in no event later than four (4) daytime business hours after the beginning of said occurrence.
- (c) Failure to report a malfunction of any emission control equipment shall constitute a violation of 326 IAC 1-6, and any other applicable rules. Information of the scope and expected duration of the malfunction shall be provided, including the items specified in 326 IAC 1-6-2(a)(1) through (6).
- (d) Malfunction is defined as any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner. [326 IAC 1-2-39]

**C.15 General Record Keeping Requirements [326 IAC 2-6.1-5]**

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- (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, for all record keeping requirements not already legally required, the Permittee shall be allowed up to ninety (90) days from the date of

permit issuance or the date of initial start-up, whichever is later, to begin such record keeping.

C.16 General Reporting Requirements [326 IAC 2-1.1-11] [326 IAC 2-6.1-2] [IC 13-14-1-13]

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

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

- (b) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.
- (c) The first report shall cover the period commencing on the date of issuance of this permit or the date of initial start-up, whichever is later, and ending on the last day of the reporting period. Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit, "calendar year" means the twelve (12) month period from January 1 to December 31 inclusive.

## SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

### Emissions Unit Description:

- (a) One (1) natural gas-fired reverberatory furnace, identified as EU01, exhausting to Stack RF-STK, melting only clean charge which can include aluminum t-bar, sow, ingot and/or internal runarounds, adding cover and wall flux, neither of which contains any HAPs, to prevent the buildup of oxides in the furnace, constructed in July 2003, modified in 2006, increasing capacity: 2.50 to 3.00 tons of metal per hour, 3.50 million British thermal units per hour, and 3.28 pounds per hour of cover flux and 0.32 pounds per hour of wall flux.
- (b) Eight (8) electric die casting machine holding furnaces, identified as EU02, two (2) constructed in 1985, one (1) constructed in 1996, one (1) constructed in 1999, one (1) constructed in 2000, one (1) constructed in 2003 and two (2) constructed in 2006, holding capacity: 2,500 pounds of aluminum each, equipped with two (2) natural gas-fired torches used only during electrical power outages, torch capacity: 0.500 million British thermal units per hour, each.
- (c) Eight (8) die cast machines, identified as EU03, two (2) constructed in 1985, one (1) constructed in 1996, one (1) constructed in 1999, one (1) constructed in 2000, one (1) constructed in 2003 and two (2) constructed in 2006, capacity: 0.4375 tons of aluminum per hour, each, and 2.57 pounds of die lube per hour (11.25 tons of die lube per year), each.
- (d) Four (4) natural gas-fired space heaters, constructed between 1990 and 1995, capacity: 0.035 million British thermal units per hour, each.
- (e) One (1) natural gas-fired ladle preheater, constructed in 1985, capacity: 0.900 million British thermal units per hour.
- (f) Two (2) parts rinsers, constructed in the 1990s, including:
  - (1) One (1) enclosed parts rinser which uses a water-based detergent.
  - (2) One (1) enclosed parts rinser which uses a water-based detergent, identified as Rainbow Line Hurricane Rinser.
- (g) One (1) natural gas-fired makeup air unit, constructed in 1995, capacity: 1.00 million British thermal units per hour.
- (h) One (1) shotblaster, identified as EU04, constructed in 2006, equipped with a wet scrubber for particulate control that exhausts inside the building, capacity: 3,300 pounds of steel shot and 500 pounds of aluminum parts per hour. The controls for this unit are not considered integral to the process.
- (i) One (1) natural gas-fired reverberatory furnace, identified as EU-05, approved for construction in 2011, with a maximum throughput capacity of 1.5 tons of aluminum clean charge per hour, with a maximum heat input capacity of 8.0 MMBtu/hr, and exhausting to stack RFT-STK-02. This furnace has a cover flux added at a maximum rate of 3.28 pounds per hour and a wall flux added to prevent oxide buildup on the walls at a maximum rate of 0.32 pounds per hour. Neither flux contains HAPs.

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

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

### D.1.1 Particulate [326 IAC 6-3-2]

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- (a) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the particulate emission rate from the reverberatory furnace, identified as EU01, shall not exceed 8.56 pounds per hour when operating at a process weight rate of 6,000 pounds per hour.
- (b) Pursuant to 326 IAC 6-3-2, (Particulate Emission Limitations for Manufacturing Processes), the particulate emission rate from the reverberatory furnace, identified as EU-05, shall not exceed 5.38 pounds per hour when operating at a process weight rate of 1.502 tons per hour.
- (c) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the particulate emission rate from the shotblaster, identified as EU04, shall not exceed 6.30 pounds per hour when operating at a process weight rate of 3,800 pounds per hour.

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

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

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

### D.1.2 Prevention of Significant Deterioration (PSD) [326 IAC 2-2]

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- (a) In order to render 326 IAC 2-2 (PSD) not applicable, the Permittee shall melt only clean charge in the two reverberatory melt furnaces, identified as EU-01 and EU-05, at all times.
- (b) Clean charge shall be defined as furnace charge materials, including molten aluminum; T-bar; sow; ingot; billet; pig; aluminum scrap known by the owner or operator to be entirely free of paints, coatings, and lubricants; uncoated/unpainted aluminum chips that have been thermally dried or treated by a centrifugal cleaner; aluminum scrap dried at 343 °C (650°F) or higher; aluminum scrap delacquered/decoated at 482 °C (900 °F) or higher, and runaround scrap.

### D1.3 Preventive Maintenance Plan [326 IAC 1-6-3]

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A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for the shotblaster and its control device.

## Compliance Determination Requirements

### D.1.4 Particulate Control

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In order to comply with Condition D.1.1, the wet scrubber for particulate control shall be in operation and control emissions from the shotblaster, identified as EU04 at all times that the shotblaster is in operation.

### D.1.5 Testing Requirements [326 IAC 2-1.1-11]

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Within ninety (90) days after the issuance of this MSOP 151-22617-00032, in order to verify that both the PM and PM<sub>10</sub> emission factors for the reverberatory furnace, identified as EU01, exhausting to Stack RF-STK, do not exceed 1.1 pounds per ton, the Permittee shall perform PM and PM<sub>10</sub> testing for reverberatory furnace, identified as EU01, utilizing methods as approved by the Commissioner. PM<sub>10</sub> includes filterable and condensable PM<sub>10</sub>. Testing shall be conducted in accordance with Section C - Performance Testing.

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

### **D.1.6 Visible Emissions Notations**

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

### **D.1.7 Wet Scrubber Parametric Monitoring**

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- (a) The Permittee shall record the pressure drop across the wet scrubber used in conjunction with shot blaster at least once per day when the shotblaster is in operation. When for any one reading, the pressure drop across the wet scrubber is outside the normal range of 5.0 and 10.0 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.
- (b) The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once every six (6) months.

### **D.1.8 Wet Scrubber Failure Detection**

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- (a) For a wet scrubber 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.
- (b) For a wet scrubber 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.

## **Record Keeping and Reporting Requirement [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]**

### **D.1.9 Record Keeping Requirements**

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- (a) To document compliance with Condition D.1.6, the Permittee shall maintain records of daily visible emission notations of the reverberatory furnace and the shotblaster stack exhausts.

- (b) To document compliance with Condition D.1.7, the Permittee shall maintain records once per day of the pressure drop.
- (c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

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

**MINOR SOURCE OPERATING PERMIT  
CERTIFICATION**

Source Name: General Aluminum Manufacturing Company  
Source Address: 303 E. Swager Dr., Fremont, Indiana 46737  
Mailing Address: 303 E. Swager Dr., Fremont, Indiana 46737  
Permit No.: MSOP 151-22617-00032

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

Please check what document is being certified:

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

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

Signature:

Printed Name:

Title/Position:

Phone:

Date:

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

**MINOR SOURCE OPERATING PERMIT  
ANNUAL NOTIFICATION**

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

<b>Source Name:</b>	<b>General Aluminum Manufacturing Company</b>
<b>Address:</b>	<b>303 E. Swager Dr.</b>
<b>City:</b>	<b>Fremont, Indiana 46737</b>
<b>Phone #:</b>	<b>260 - 495 - 2600</b>
<b>MSOP #:</b>	<b>151-22617-00032</b>

I hereby certify that General Aluminum Manufacturing Company is

- still in operation.
- no longer in operation.

I hereby certify that General Aluminum Manufacturing Company is

- in compliance with the requirements of MSOP 151-22617-00032.
- not in compliance with the requirements of MSOP 151-22617-00032.

<b>Authorized Individual (typed):</b>
<b>Title:</b>
<b>Signature:</b>
<b>Date:</b>

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

<b>Noncompliance:</b>

**MALFUNCTION REPORT**

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
FAX NUMBER - 317 233-6865**

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

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

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

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

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

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

DATE/TIME MALFUNCTION STARTED: \_\_\_\_/\_\_\_\_/20\_\_\_\_ AM / PM

ESTIMATED HOURS OF OPERATION WITH MALFUNCTION CONDITION: \_\_\_\_\_

DATE/TIME CONTROL EQUIPMENT BACK-IN SERVICE \_\_\_\_/\_\_\_\_/20\_\_\_\_ AM/PM

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

ESTIMATED AMOUNT OF POLLUTANT EMITTED DURING MALFUNCTION: \_\_\_\_\_

MEASURES TAKEN TO MINIMIZE EMISSIONS: \_\_\_\_\_

REASONS WHY FACILITY CANNOT BE SHUTDOWN DURING REPAIRS:

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

MALFUNCTION REPORTED BY: \_\_\_\_\_ TITLE: \_\_\_\_\_  
(SIGNATURE IF FAXED)

MALFUNCTION RECORDED BY: \_\_\_\_\_ DATE: \_\_\_\_\_ TIME: \_\_\_\_\_

\*SEE PAGE 2

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

**326 IAC 1-6-1 Applicability of rule**

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

**326 IAC 1-2-39 "Malfunction" definition**

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

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

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

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## Indiana Department of Environmental Management Office of Air Quality

### Technical Support Document (TSD) for a Minor Permit Revision to a Minor Source Operating Permit (MSOP)

#### Source Description and Location

<b>Source Name:</b>	<b>General Aluminum Manufacturing Company</b>
<b>Source Location:</b>	<b>303 East Swager Drive, Fremont, Indiana 46737</b>
<b>County:</b>	<b>Steuben</b>
<b>SIC Code:</b>	<b>3365 (Aluminum Foundries)</b>
<b>Operation Permit No.:</b>	<b>151-22617-00032</b>
<b>Operation Permit Issuance Date:</b>	<b>April 16, 2007</b>
<b>Minor Permit Revision No.:</b>	<b>151-30775-00032</b>
<b>Permit Reviewer:</b>	<b>Jack Harmon</b>

On August 8, 2011, the Office of Air Quality (OAQ) received an application from General Aluminum Manufacturing Company related to a modification to an existing stationary aluminum die casting source, melting only clean charge.

#### Existing Approvals

The source was issued MSOP No. 151-22617-00032 on April 16, 2007. Since the issuance of the MSOP, the source has been issued one Minor Permit Revision No. 151-30658-00032, issued July 27, 2011.

#### County Attainment Status

The source is located in Steuben County.

Pollutant	Designation
SO <sub>2</sub>	Better than national standards.
CO	Unclassifiable or attainment effective November 15, 1990.
O <sub>3</sub>	Unclassifiable or attainment effective June 15, 2004, for the 8-hour ozone standard. <sup>1</sup>
PM <sub>10</sub>	Unclassifiable effective November 15, 1990.
NO <sub>2</sub>	Cannot be classified or better than national standards.
Pb	Not designated.
<sup>1</sup> Unclassifiable or attainment effective October 18, 2000, for the 1-hour ozone standard which was revoked effective June 15, 2005.  Unclassifiable or attainment effective April 5, 2005, for PM <sub>2.5</sub> .	

- (a) **Ozone Standards**  
 Volatile organic compounds (VOC) and Nitrogen Oxides (NO<sub>x</sub>) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NO<sub>x</sub> emissions are considered when evaluating the rule applicability relating to ozone. Steuben County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO<sub>x</sub> emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
- (b) **PM<sub>2.5</sub>**  
 Steuben County has been classified as attainment for PM<sub>2.5</sub>. On May 8, 2008 U.S. EPA

promulgated the requirements for Prevention of Significant Deterioration (PSD) for PM<sub>2.5</sub> emissions. These rules became effective on July 15, 2008. On May 4, 2011 the air pollution control board issued an emergency rule establishing the direct PM<sub>2.5</sub> significant level at ten (10) tons per year. This rule became effective, June 28, 2011. Therefore, direct PM<sub>2.5</sub> and SO<sub>2</sub> emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability – Entire Source section.

- (c) **Other Criteria Pollutants**  
 Steuben County has been classified as attainment or unclassifiable in Indiana for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

**Fugitive Emissions**

- (a) The fugitive emissions of criteria pollutants, hazardous air pollutants, and greenhouse gases are counted toward the determination of 326 IAC 2-6.1 (Minor Source Operating Permits) applicability.
- (b) This type of operation is an aluminum die casting source that melts clean charge only, and is not considered a secondary metal production plant, and, therefore, is not one (1) of the twenty-eight (28) listed source categories under 326 IAC 2-2, 326 IAC 2-3, or 326 IAC 2-7. This determination represents a change from the previous Minor Permit Revision no. 151-30658-00032, issued July 27, 2011, in which it was listed as one of the source categories. Therefore, fugitive emissions will not be counted toward the determination of PSD, Emission Offset, and Part 70 Permit applicability. However, pursuant to 326 IAC 2-6.1, fugitive emissions are still counted toward the determination of MSOP permit level determination.

**Status of the Existing Source**

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

Process/ Emission Unit	Potential To Emit of the Entire Source Prior to Revision (tons/year)									
	PM	PM10	PM2.5	SO <sub>2</sub>	NO <sub>x</sub>	VOC	CO	GHGs as CO <sub>2</sub> e*	Total HAPs	Worst Single HAP
Natural Gas Combustion	0.017	0.070	0.070	0.006	0.919	0.051	0.772	1607.55	0.017	0.017 (Hexane)
Reverberatory Furnace EU-01	14.5	14.5	14.5	0.016	2.410	0.113	0.064	0.00	0.000	0.000
Die Casting Operation EU-02	0.000	0.000	0.000	0.307	0.153	2.150	0.000	0.00	0.000	0.000
Die Lube Application EU-03	0.000	0.000	0.000	0.000	0.000	22.50	0.000	0.00	0.000	0.000
Shot Blaster EU-04	57.80	49.70	49.70	0.000	0.000	0.000	0.000	0.00	0.000	0.000
Reverberatory Furnace EU-05	7.23	7.23	7.23	0.028	4.14	0.193	0.110	0.00	0.000	0.000
Fugitive Emissions	1.06E-01	2.07E-02	2.07E-02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Total PTE of Entire Source</b>	<b>79.7</b>	<b>71.6</b>	<b>71.6</b>	<b>0.36</b>	<b>8.04</b>	<b>25.0</b>	<b>1.29</b>	<b>1607.55</b>	<b>2.513E-02</b>	<b>2.397E-02 (Hexane)</b>
Title V Major Source Thresholds**	NA	100	100	100	100	100	100	100,000	10	10
PSD Major Source Thresholds**	100	100	100	100	100	100	100	100,000	NA	NA

Process/ Emission Unit	Potential To Emit of the Entire Source Prior to Revision (tons/year)									
	PM	PM10	PM2.5	SO <sub>2</sub>	NO <sub>x</sub>	VOC	CO	GHGs as CO <sub>2</sub> e*	Total HAPs	Worst Single HAP
-These emissions are based upon the summary table shown in the Technical Support Document for MSOP No. 151-22617-00032, issued April 16, 2007. *The 100,000 CO <sub>2</sub> e threshold represents the Title V and PSD subject to regulation thresholds for GHGs in order to determine whether a source's emissions are a regulated NSR pollutant under Title V and PSD. There were GHGs emissions calculations included in MSOP Minor Permit Revision No. 151-30658-00032, issued Jul 27, 2011.										

**Description of Proposed Revision**

The Office of Air Quality (OAQ) has reviewed an application, submitted by General Aluminum Manufacturing Company on August 8, 2011, relating to a revision to its current MSOP to add one (1) reverberatory furnace, similar to its existing reverberatory furnace (EU-01). In its Minor Permit Revision No. 151-30658-00032, issued July 27, 2011, this source was approved to construct a new furnace. Subsequent to this approval, the furnace planned to be constructed was no longer available. The source has selected another furnace, similar to the approved furnace, but with a different maximum heat input rating. Therefore, the source has applied for its second minor permit revision.

The following is the new emission unit and pollution control device:

- (a) One (1) natural gas-fired reverberatory furnace, identified as EU-05, approved for construction in 2011, with a maximum throughput capacity of 1.5 tons of aluminum clean charge per hour, with a maximum heat input capacity of 8.0 MMBtu/hr, and exhausting to stack RFT-STK-02. This furnace has a cover flux added at a maximum rate of 3.28 pounds per hour and a wall flux added to prevent oxide buildup on the walls at a maximum rate of 0.32 pounds per hour. Neither flux contains HAPs.

Note: The change in capacity of the furnace is from 6 MMBtu/hr to 8 MMBtu/hr.

In addition, the MSOP Minor Permit Revision No. 151-30658-00032, issued July 27, 2011, listed this source as one (1) of the twenty-eight (28) source categories under 326 IAC 2-2, 326 IAC 2-3, or 326 IAC 2-7. IDEM has re-evaluated this status and has determined that this source is not one of the twenty-eight source categories, as a secondary metal production plant, because it melts clean charge only in its reverberatory furnaces. This issue is discussed in the Fugitive Emissions section above, and IDEM will make this change as a part of this Minor Permit Revision.

**Enforcement Issues**

There are no pending enforcement actions related to this revision.

**Emission Calculations**

See Appendix A of this TSD for detailed emission calculations.

**Permit Level Determination – MSOP Revision**

The following table is used to determine the appropriate permit level under 326 IAC 2-6.1-6. This table reflects the PTE before controls of the proposed revision. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Process/ Emission Unit	Potential To Emit of the Proposed Revision (tons/year)									
	PM	PM10	PM2.5	SO <sub>2</sub>	NOx	VOC	CO	GHGs as CO <sub>2</sub> e**	Total HAPs	Worst Single HAP
Reverberatory Furnace EU-05	7.23	7.23	7.23	0.037	5.52	0.258	0.147	0.00	0.00	0.00
<b>Total PTE of the Proposed Revision</b>	<b>7.23</b>	<b>7.23</b>	<b>7.23</b>	<b>0.037</b>	<b>5.52</b>	<b>0.258</b>	<b>0.147</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

This MSOP is being revised through a MSOP Minor Permit Revision pursuant to 326 IAC 2-6.1-6(g)(4)(A), because the revision involves the construction of an emission unit with potential to emit (PTE) particulate within the ranges specified in 326 IAC 2-6.1-6(g)(4)(A) of greater than 5 tons per year and less than 25 tons per year.

**PTE of the Entire Source After Issuance of the MSOP Revision**

The table below summarizes the potential to emit of the entire source, with updated emissions shown as **bold** values and previous emissions shown as ~~strikethrough~~ values.

Process/ Emission Unit	PTE of the Entire Source After Issuance of the MSOP Revision (tons/year)									
	PM	PM10	PM2.5	SO <sub>2</sub>	NOx	VOC	CO	GHGs as CO <sub>2</sub> e**	Total HAPs	Worst Single HAP
Natural Gas Combustion	0.025	0.101	0.101	0.008	1.332	0.073	1.118	1,607.55	2.513E-02	2.397E-02 (Hexane)
Reverberatory Furnace EU-01	14.50	14.50	14.50	0.016	2.410	0.113	0.064	0.00	0.00	0.00
Die Casting Operation EU-02	0.00	0.00	0.00	0.307	0.153	2.150	0.00	0.00	0.00	0.00
Die Lube Application EU-03	0.00	0.00	0.00	0.00	0.00	22.50	0.00	0.00	0.00	0.00
Shot Blaster EU-04	57.80	49.70	49.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Reverberatory Furnace EU-05*	7.23	7.23	7.23	<del>0.028</del> <b>0.037</b>	<del>4.14</del> <b>5.52</b>	<del>0.193</del> <b>0.258</b>	<del>0.110</del> <b>0.147</b>	0.00	0.00	0.00
Fugitive Emissions	1.06E-01	2.07E-02	2.07E-02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Total PTE of Entire Source</b>	79.7	71.6	71.6	<del>0.36</del> <b>0.37</b>	<del>8.04</del> <b>9.42</b>	<del>25.0</del> <b>25.1</b>	<del>1.29</del> <b>1.33</b>	1,607.55	2.513E-02	2.397E-02 (Hexane)
Title V Major Source Thresholds**	NA	100	100	100	100	100	100	100,000	10	10
PSD Major Source Thresholds**	<del>100</del> <b>250</b>	<del>100</del> <b>250</b>	<del>100</del> <b>250</b>	<del>100</del> <b>250</b>	<del>100</del> <b>250</b>	<del>100</del> <b>250</b>	<del>100</del> <b>250</b>	100,000	NA	NA

\* EU-05 is a replacement of one permitted in MSOP MPR 151-30658-00032. Original one had a maximum heat input rating of 6.0 MMBtu/hr, and the new one is rated at a maximum heat input capacity of 8.0 MMBtu/hr. Therefore, only SO<sub>2</sub>, NOx, VOC, and CO emissions changed.

\*\*The 100,000 CO<sub>2</sub>e threshold represents the Title V and PSD subject to regulation thresholds for GHGs in order to determine whether a source's emissions are a regulated NSR pollutant under Title V and PSD. GHGs emissions calculations were included in MSOP Revision No. 151-30658-00032, issued July 27, 2011. The Major Source Thresholds have been changed from 100 tons per year to 250 tons per year due to the re-evaluation that this source is not considered 1 of 28 listed source categories.

The table below summarizes the potential to emit of the entire source after issuance of this revision,

reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of this MSOP permit revision, and only to the extent that the effect of the control equipment is made practically enforceable in the permit. (Note: the table below was generated from the above table, with bold text un-bolded and strikethrough text deleted)

Process/ Emission Unit	PTE of the Entire Source After Issuance of the MSOP Revision (tons/year)									
	PM	PM10	PM2.5	SO <sub>2</sub>	NO <sub>x</sub>	VOC	CO	GHGs as CO <sub>2</sub> e**	Total HAPs	Worst Single HAP
Natural Gas Combustion	0.025	0.101	0.101	0.008	1.332	0.073	1.118	1,607.55	2.513E-02	2.397E-02 (Hexane)
Reverberatory Furnace EU-01	14.50	14.50	14.50	0.016	2.410	0.113	0.064	0.00	0.00	0.00
Die Casting Operation EU-02	0.00	0.00	0.00	0.307	0.153	2.150	0.00	0.00	0.00	0.00
Die Lube Application EU-03	0.00	0.00	0.00	0.00	0.00	22.50	0.00	0.00	0.00	0.00
Shot Blaster EU-04	57.80	49.70	49.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Reverberatory Furnace EU-05	7.23	7.23	7.23	0.037	5.52	0.258	0.147	0.00	0.00	0.00
Fugitive Emissions	1.06E-01	2.07E-02	2.07E-02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Total PTE of the Entire Source</b>	<b>79.7</b>	<b>71.6</b>	<b>71.6</b>	<b>0.37</b>	<b>9.42</b>	<b>25.1</b>	<b>1.33</b>	<b>1,607.55</b>	<b>2.513E-02</b>	<b>2.397E-02 (Hexane)</b>
Title V Major Source Thresholds**	NA	100	100	100	100	100	100	100,000	10	10
PSD Major Source Thresholds**	250	250	250	250	250	250	250	100,000	NA	NA
**The 100,000 CO <sub>2</sub> e threshold represents the Title V and PSD subject to regulation thresholds for GHGs in order to determine whether a source's emissions are a regulated NSR pollutant under Title V and PSD. GHGs emissions calculations were included in MSOP Revision No. 151-30658-00032, issued July 27, 2011.										

**MSOP Status**

- (a) This revision to an existing Title V minor stationary source will not change the minor status, because the uncontrolled/unlimited potential to emit criteria pollutants from the entire source will still be limited to less than the Title V major source threshold levels. Therefore, the source will still be subject to the provisions of 326 IAC 2-6.1 (MSOP).
- (b) This revision will not change the minor status of the source, because the uncontrolled/unlimited potential to emit of any single HAP will still be less than ten (10) tons per year and the PTE of a combination of HAPs will still be less than twenty-five (25) tons per year. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA) and not subject to the provisions of 326 IAC 2-7.
- (c) This revision will not change the minor status of the source, because the uncontrolled/unlimited potential to emit greenhouse gases (GHGs) will still be less than the Title V subject to regulation threshold of one hundred thousand (100,000) tons of CO<sub>2</sub> equivalent emissions (CO<sub>2</sub>e) per year. Therefore, the source is not subject to the provisions of 326 IAC 2-7.

**Federal Rule Applicability Determination**

#### New Source Performance Standards (NSPS)

- (a) The requirements of New Source Performance Standard, 326 IAC 12, 40 CFR Part 60.260, Subpart Z, (Standards of Performance for Ferroalloy Production Facilities) are not included in this permit because the source does not operate an electric submerged arc furnace.
- (b) The requirements of the New Source Performance Standard, 326 IAC 12, 40 CFR Part 60.190, Subpart S, (Standards of Performance for Primary Aluminum Production Plants) are not included in this permit because the source is not a primary aluminum reduction plant.
- (c) There are no other New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included for this proposed revision.

#### National Emission Standards for Hazardous Air Pollutants (NESHAP)

- (d) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Primary Aluminum Reduction Plants, 40 CFR 63.840, Subpart LL, are not included in this permit because the source is not a primary aluminum reduction plant.
- (e) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Secondary Aluminum Production, 40 CFR 63, Subpart RRR, are not included in this permit because it does not meet the definition of a secondary aluminum production facility. The definition of a secondary aluminum production states that for purposes of this subpart, aluminum die casting facilities, aluminum foundries, and aluminum extrusion facilities are not considered to be secondary aluminum production facilities if the only materials they melt are clean charge, customer returns, or internal scrap, and if they do not operate sweat furnaces, thermal chip dryers, or scrap dryers/delacquering kilns/decoating kilns. This source is a die casting process that melts only clean charge, customer returns or internal scrap and does not operate a sweat furnace, thermal chip dryer or scrap dryer/delacquering kiln/decoating kiln.
- (f) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Primary Nonferrous Metals at Area Source - Zinc, Cadmium, or Beryllium, 40 CFR 63, Subpart GGGGGG, are not included in this permit because this facility is not a zinc, cadmium, or beryllium production facility.
- (g) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Secondary Nonferrous Metals Processing - Area Sources, 40 CFR 63, Subpart TTTTTT, are not included in this permit because it does not meet the definition of a brass or bronze ingot making facility, or a magnesium processing facility, or a zinc processing plant.
- (h) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Area Source Standards for Aluminum, Copper, and Other Nonferrous Foundries, 40 CFR 63, Subpart ZZZZZZ, are not included in this permit because die casting operations in which only clean charge is melted are excluded from this rule.
- (i) There are no other National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) included for this proposed revision.

#### Compliance Assurance Monitoring (CAM)

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

### State Rule Applicability Determination

The following state rules are applicable to the proposed revision:

- (a) 326 IAC 2-6.1 (Minor Source Operating Permits (MSOP))  
MSOP applicability is discussed under the Permit Level Determination – MSOP section above.
- (b) 326 IAC 2-2 (Prevention of Significant Deterioration(PSD))  
This modification to an existing PSD minor stationary source will not change the PSD minor status, because the potential to emit of all attainment regulated pollutants from the entire source will continue to be less than the PSD major source threshold levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply. See PTE of the Entire Source After Issuance of the MSOP Revision Section above.
- (c) 326 IAC 2-3 (Emission Offset)  
This modification to an existing Emission Offset minor stationary source will not change the Emission Offset minor status, because the potential to emit of all nonattainment regulated pollutants from the entire source will continue to be less than 100 tons per year. Therefore, pursuant to 326 IAC 2-3, the Emission Offset requirements do not apply. See PTE of the Entire Source After Issuance of the MSOP Revision Section above.
- (d) 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))  
The proposed revision is not subject to the requirements of 326 IAC 2-4.1, since the unlimited potential to emit of HAPs from the new reverberatory furnace, EU-05, is less than ten (10) tons per year for any single HAP and less than twenty-five (25) tons per year of a combination of HAPs.
- (e) 326 IAC 2-6 (Emission Reporting)  
Pursuant to 326 IAC 2-6-1, this source is not subject to this rule, because it is not required to have an operating permit under 326 IAC 2-7 (Part 70), it is not located in Lake, Porter, or LaPorte County, and it does not emit lead into the ambient air at levels equal to or greater than 5 tons per year. Therefore, 326 IAC 2-6 does not apply.
- (f) 326 IAC 5-1 (Opacity Limitations)  
Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:
  - (1) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
  - (2) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.
- (g) 326 IAC 6-4 (Fugitive Dust Emissions Limitations)  
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.
- (h) 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations)  
This source is subject to the requirements of 326 IAC 6-5, because the source does not have potential fugitive particulate emissions greater than 25 tons per year.

- (j) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)  
Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from the reverberatory furnace EU-05 shall not exceed 5.38 pounds per hour when operating at a process weight rate of 1.502 tons per hour (3000 lbs per hour throughput plus 3.60 pounds per hour fluxes, equals 1.502 tons per hour process weight rate). The pound per hour limitation was calculated with the following equation:

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

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

Based on calculations, the uncontrolled potential to emit particulate from the reverberatory furnace, EU-05, is 1.65 pounds per hour; therefore no control device is needed to comply with this limit. Detailed calculations are shown in Appendix A of this document.

- (k) 326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)  
The proposed revision is not subject to the requirements of 326 IAC 8-1-6, since the unlimited VOC potential emissions from the new reverberatory furnace, EU-05, is less than twenty-five (25) tons per year.
- (l) There are no other 326 IAC 8 Rules that are applicable to the new reverberatory furnace.
- (m) 326 IAC 12 (New Source Performance Standards)  
See Federal Rule Applicability Section of this TSD.
- (n) 326 IAC 20 (Hazardous Air Pollutants)  
See Federal Rule Applicability Section of this TSD.

#### Compliance Determination, Monitoring and Testing Requirements

- (a) There are no new compliance determination and monitoring requirements applicable to this proposed revision, constructing a reverberatory furnace because it is a similar furnace to the existing furnace, and needs no control devices to comply with applicable requirements. IDEM OAQ, Compliance Data Section concurs with this determination. The source shall continue to comply with the requirements in MSOP No.: 151-22617-00032, issued April 16, 2007.
- (b) There are no new testing requirements applicable to this proposed revision, for the new reverberatory furnace because emission factors are the same factors that were used for the existing furnace EU-01 and have been verified through stack testing on June 27, 2007. This new furnace will melt only a clean charge, similar to the existing furnace. Additionally, there are no control devices for this new unit, and the new furnace can comply with applicable requirements without the use of control devices. Therefore, there are no testing requirements for this proposed revision. IDEM OAQ, Compliance Data Section concurs with this determination.

The existing compliance requirements will not change as a result of this revision. The source shall continue to comply with the applicable requirements and permit conditions as contained in MSOP No: 151-22617-00032, issued on April 16, 2007.

#### Proposed Changes

- (a) The following changes listed below are due to the proposed revision. Deleted language appears as ~~strikethrough~~ text and new language appears as **bold** text:

- (1) The source has requested to add one natural gas-fired reverberatory furnace, similar to the existing furnace at the facility. The new furnace, identified as EU-05, has a maximum throughput of 1.5 tons of metal per hour, and has a maximum heat input capacity of 8.0 MMBtu/hr. The furnace also has the capability of adding fluxes to the process, which contain no HAPs. Sections A.2 and D.1 of the permit have been changed to reflect the additional emission unit.
- (2) Upon further review, IDEM OAQ has decided to make the following changes to the permit:
  - (A) IDEM, OAQ has evaluated the source status and has determined that this source is not one (1) of the twenty-eight (28) source categories, under 326 IAC 2-2, 326 IAC 2-3, or 326 IAC 2-7, as discussed above. Section A.1 of the permit has been changed accordingly.
  - (B) The one (1) of twenty-eight (28) source category determination discussed above was made because the source melts clean charge only in its reverberatory furnaces, EU-01 and EU-05. In order to ensure that this source continues to be not one (1) of twenty-eight (28) source categories, it is necessary to add a permit condition requiring the use of clean charge only, and to apply a definition of clean charge. Section D.1 has been changed to add this condition. Subsequent conditions have been renumbered accordingly.
  - (C) IDEM, OAQ has decided to correct typographical errors, as follows: The street name on the cover page contained a spelling error and has been corrected; the Zip Code contained an error in the Quarterly Reports. The correct Zip Code is 46737. Changes have been made to Section A.1 and the reports of the permit accordingly.

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

The Permittee owns and operates a stationary aluminum die casting source, melting only clean charge.

Source Address:	303 Easyt Swager Drive, Fremont, Indiana 46737
General Source Phone Number:	260-495-2600
SIC Code:	3365 (Aluminum Foundries)
County Location:	Steuben
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Minor Source Operating Permit Program Minor Source, under PSD and Emission Offset Rules Minor Source, Section 112 of the Clean Air Act <b>Not 1 of 28 Source Categories (<del>Secondary Metal Production Plant</del>)</b>

A.2 Emission Units and Pollution Control Equipment Summary

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

- (a) ---
- (i) One (1) natural gas-fired reverberatory furnace, identified as EU-05, approved for construction in 2011, with a maximum throughput capacity of 1.5 tons of aluminum clean charge per hour, with a maximum heat input capacity of ~~6.0~~ **8.0** MMBtu/hr, and exhausting to stack RFT-STK-02. This furnace has a cover flux added at a maximum rate of 3.28 pounds per hour and a wall flux added to prevent oxide buildup on the walls at a maximum rate of 0.32 pounds per hour. Neither flux

contains HAPs.

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(a) ---

- (i) One (1) natural gas-fired reverberatory furnace, identified as EU-05, approved for construction in 2011, with a maximum throughput capacity of 1.5 tons of aluminum clean charge per hour, with a maximum heat input capacity of ~~6.0~~ **8.0** MMBtu/hr, and exhausting to stack RFT-STK-02. This furnace has a cover flux added at a maximum rate of 3.28 pounds per hour and a wall flux added to prevent oxide buildup on the walls at a maximum rate of 0.32 pounds per hour. Neither flux contains HAPs.

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

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**D.1.2 Prevention of Significant Deterioration (PSD) [326 IAC 2-2]**

- (a) In order to render 326 IAC 2-2 (PSD) not applicable, the Permittee shall melt only clean charge in the two reverberatory melt furnaces, identified as EU-01 and EU-05, at all times.
- (b) Clean charge shall be defined as furnace charge materials, including molten aluminum; T-bar; sow; ingot; billet; pig; aluminum scrap known by the owner or operator to be entirely free of paints, coatings, and lubricants; uncoated/unpainted aluminum chips that have been thermally dried or treated by a centrifugal cleaner; aluminum scrap dried at 343 °C (650 °F) or higher; aluminum scrap delacquered/decoated at 482 °C (900 °F) or higher, and runaround scrap.

**D.1.23 Preventive Maintenance Plan [326 IAC 1-6-3]**

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**D.1.34 Particulate Control**

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**D.1.45 Testing Requirements [326 IAC 2-1.1-11]**

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**D.1.56 Visible Emissions Notations**

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**D.1.67 Wet Scrubber Parametric Monitoring**

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**D.1.78 Wet Scrubber Failure Detection**

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**D.1.89 Record Keeping Requirements**

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OFFICE OF AIR QUALITY  
MINOR SOURCE OPERATING PERMIT  
CERTIFICATION

Source Name: General Aluminum Manufacturing Company  
Source Address: 303 E. Swager Dr., Fremont, Indiana 46237 46737  
Mailing Address: 303 E. Swager Dr., Fremont, Indiana 46237 46737  
Permit No.: MSOP 151-22617-00032

OFFICE OF AIR QUALITY  
COMPLIANCE BRANCH  
MINOR SOURCE OPERATING PERMIT  
ANNUAL NOTIFICATION

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

Source Name:	General Aluminum Manufacturing Company
Address:	303 E. Swager Dr.
City:	Fremont, Indiana 46237 46737
Phone #:	260 - 495 - 2600
MSOP #:	151-22617-00032

**Conclusion and Recommendation**

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant. An application for the purposes of this review was received on August 8, 2011.

The construction and operation of this proposed revision shall be subject to the conditions of the attached proposed MSOP Minor Revision No. 151-30658-00032. The staff recommends to the Commissioner that this MSOP Minor Revision be approved.

**IDEM Contact**

- (a) Questions regarding this proposed permit can be directed to Jack Harmon at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) 233-4228 or toll free at 1-800-451-6027 extension 3-4228.
- (b) A copy of the findings is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>
- (c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: [www.in.gov/idem](http://www.in.gov/idem)

**Company Name:** General Aluminum Manufacturing Company  
**Address City IN Zip:** 303 E. Swager Dr., Fremont, IN 46737  
**Permit Number:** MSOP 151-22617-00032  
**Minor Permit Revision:** 151-30775-00032  
**Reviewer:** Jack Harmon  
**Application Date:** 2011

## Summary of Emissions After Revision

## Uncontrolled Potential Emissions

Emission Unit	PM	PM-10	PM-2.5	SO <sub>2</sub>	NO <sub>x</sub>	VOC	CO	GHG/CO <sub>2</sub> e	Total HAPs	Worst HAP
	(tons/yr)	(tons/yr)	(tons/yr)	(tons/yr)	(tons/yr)	(tons/yr)	(tons/yr)	(tons/yr)	(tons/yr)	(tons/yr)
										(Hexane)
Natural Gas Comb.	0.025	0.101	0.101	0.008	1.332	0.073	1.118	1607.55	2.513E-02	2.397E-02
Reverb. Furnace EU-01	14.50	14.50	14.50	0.016	2.410	0.113	0.064	0.000	0.00E+00	0.000E+00
Die Casting EU-03	0.000	0.000	0.000	0.307	0.153	2.150	0.000	0.000	0.00E+00	0.000E+00
Die Lube Application EU-03	0.000	0.000	0.000	0.000	0.000	22.50	0.000	0.000	0.00E+00	0.000E+00
Shot Blaster EU-04	57.80	49.70	49.70	0.000	0.000	0.000	0.000	0.000	0.00E+00	0.000E+00
Reverb. Furnace EU-05	7.23	7.23	7.23	0.037	5.520	0.258	0.147	0.000	0.00E+00	0.000E+00
Fugitive Emissions	1.06E-01	2.07E-02	2.07E-02	0.000	0.000	0.000	0.000	0.000	0.00E+00	0.000E+00
<b>Total</b>	<b>79.7</b>	<b>71.6</b>	<b>71.6</b>	<b>0.37</b>	<b>9.42</b>	<b>25.1</b>	<b>1.33</b>	<b>1607.55</b>	<b>2.513E-02</b>	<b>2.397E-02</b>

**Company Name:** General Aluminum Manufacturing Company  
**Address City IN Zip:** 303 E. Swager Dr., Fremont, IN 46737  
**Permit Number:** MSOP 151-22617-00032  
**Minor Permit Revision:** 151-30775-00032  
**Reviewer:** Jack Harmon  
**Application Date:** 2011

**Reverberatory Furnace No. 2 (RF-STK-2) Added 2011**

TYPE OF MATERIAL	Throughput			Capacity		
	LBS/HR	1 TON/2000 lbs	TON/HR	million British thermal units per hour/hr	Capacity mmcf/hr	
Aluminum	3000	2000	1.50	8.00	0.008	
	<b>PM</b>	<b>PM10</b>	<b>SOx</b>	<b>NOx</b>	<b>VOC</b>	<b>CO</b>
lb/ton	1.10	1.10				
lb/mmcf			1.05	157.5	7.35	4.20
Potential Emissions lbs/hr	1.65	1.65	0.0084	1.260	0.0588	0.034
Potential Emissions lbs/day	39.6	39.6	0.202	30.2	1.411	0.806
<b>Potential Emissions tons/year</b>	<b>7.23</b>	<b>7.23</b>	<b>0.037</b>	<b>5.52</b>	<b>0.258</b>	<b>0.147</b>

Source of Emission Factors: STAPPA/ALAPCO Handbook, Section 11, which was approved for use in Registration Revisions 151-18437-00032, issued April 27, 2004.

These emission factors include the emissions utilizing cover and wall fluxes.

The cover and wall fluxes do not contain any HAPs

These emission factors were verified to be valid in the stack test for this source on the existing similar reverberatory furnace dated 6/27/2007 and, therefore, were applied to the new furnace, and are more conservative than the actual emissions.

Throughput per hour and maximum heat input capacity were provided by the source in its application.

Appendix A: Emission Calculations

**Company Name: General Aluminum Manufacturing**  
**Address City IN Zip: 303 E. Swager Dr., Fremont, IN 46**  
**Permit Number: MSOP 151-22617-00032**  
**Minor Permit Revision: 151-30775-00032**  
**Reviewer: Jack Harmon**  
**Application Date: 2011**

Summary of Emissions

Uncontrolled Potential Emissions

Emission Unit	PM	PM-10	SO2	NOx	VOC	CO	Total HAPs
	(tons/yr)	(tons/yr)	(tons/yr)	(tons/yr)	(tons/yr)	(tons/yr)	(tons/yr)
Natural Gas Comb.	0.017	0.070	0.006	0.919	0.051	0.772	0.017
Reverb. Furnace	14.5	14.5	0.016	2.410	0.113	0.064	0.000
Pouring/Casting	0.000	0.000	0.307	0.153	2.150	0.000	0.000
Die Lube Application	0.000	0.000	0.000	0.000	22.5	0.000	0.000
Shot Blaster	57.8	49.7	0.000	0.000	0.000	0.000	0.000
<b>Total</b>	<b>72.3</b>	<b>64.3</b>	<b>0.329</b>	<b>3.48</b>	<b>24.8</b>	<b>0.836</b>	<b>0.017</b>

Controlled Potential Emissions

Emission Unit	PM	PM-10	SO2	NOx	VOC	CO	Total HAPs
	(tons/yr)	(tons/yr)	(tons/yr)	(tons/yr)	(tons/yr)	(tons/yr)	(tons/yr)
Natural Gas Comb.	0.017	0.070	0.006	0.919	0.051	0.772	0.017
Reverb. Furnace	14.5	14.5	0.016	2.410	0.113	0.064	0.000
Pouring/Casting	0.000	0.000	0.307	0.153	2.150	0.000	0.000
Die Lube Application	0.000	0.000	0.000	0.000	22.5	0.000	0.000
Shot Blaster	0.578	0.497	0.000	0.000	0.000	0.000	0.000
<b>Total</b>	<b>15.1</b>	<b>15.1</b>	<b>0.329</b>	<b>3.48</b>	<b>24.8</b>	<b>0.836</b>	<b>0.017</b>

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

**Company Name:** General Aluminum Manufacturing Company  
**Address City IN Zip:** 303 E. Swager Dr., Fremont, IN 46737  
**Permit Number:** MSOP 151-22617-00032  
**Minor Permit Revision:** 151-30775-00032  
**Reviewer:** Jack Harmon  
**Application Date:** 2011

Die Cutting torches, 2@ 0.5 MMBtu/hr, each	1.00
Space heaters, 4@0.035 MMBtu/hr, each	0.14
Make up air unit, 1@1.0 MMBtu/hr	1.00
Ladle preheater, 1@0.9 MMBtu/hr	0.90
<b>Total MMBtu/hr</b>	<b>3.04</b>

Heat Input Capacity MMBtu/hr	HHV mmBtu mmscf	Potential Throughput MMCF/yr
3.04	1000	26.6

Emission Factor in lb/MMCF	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
	1.9	7.6	0.6	100 **see below	5.5	84
Potential Emission in tons/yr	0.025	0.101	0.008	1.332	0.073	1.118

\*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.  
 \*\*Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

**Methodology**

All emission factors are based on normal firing.  
 MMBtu = 1,000,000 Btu  
 MMCF = 1,000,000 Cubic Feet of Gas  
 Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03  
 Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu  
 Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

See page 2 for HAPs emissions calculations.

updated 12/10

**Appendix A: Emissions Calculations**

**Natural Gas Combustion Only**

**MM BTU/HR <100**

**HAPs Emissions**

**Company Name: General Aluminum Manufacturing Company**  
**Address City IN Zip: 303 E. Swager Dr., Fremont, IN 46737**  
**Permit Number: MSOP 151-22617-00032**  
**Minor Permit Revision: 151-30775-00032**  
**Reviewer: Jack Harmon**  
**Application Date: 2011**

HAPs - Organics						Totals
Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03	
Potential Emission in tons/yr	2.796E-05	1.598E-05	9.986E-04	2.397E-02	4.527E-05	2.506E-02

HAPs - Metals						Totals
Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03	
Potential Emission in tons/yr	6.658E-06	1.465E-05	1.864E-05	5.060E-06	2.796E-05	7.297E-05

Methodology is the same as page 1.

Total HAPs 2.513E-02

The five highest organic and metal HAPs emission factors are provided above.  
 Additional HAPs emission factors are available in AP-42, Chapter 1.4.  
 See Page 3 for Greenhouse Gas calculations.

updated 12/10

**Appendix A: Emissions Calculations**

**Natural Gas Combustion Only**

**MM BTU/HR <100**

**Greenhouse Gas Emissions**

**Company Name: General Aluminum Manufacturing Company**

**Address City IN Zip: 303 E. Swager Dr., Fremont, IN 46737**

**Permit Number: MSOP 151-22617-00032**

**Minor Permit Revision: 151-30775-00032**

**Reviewer: Jack Harmon**

**Application Date: 2011**

Emission Factor in lb/MMcf	Greenhouse Gas		
	CO2 120000	CH4 2.3	N2O 2.2
Potential Emission in tons/yr	1597.824	0.03062496	0.02929344
Summed Potential Emissions in tons/yr	1597.88		
CO2e Total in tons/yr	1607.55		

**Methodology**

The N2O Emission Factor for uncontrolled is 2.2. The N2O Emission Factor for low Nox burner is 0.64  
Emission Factors are from AP 42, Table 1.4-2 SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03.

Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission

**Company Name:** General Aluminum Manufacturing Company  
**Address City IN Zip:** 303 E. Swager Dr., Fremont, IN 46737  
**Permit Number:** MSOP 151-22617-00032  
**Minor Permit Revision:** 151-30775-00032  
**Reviewer:** Jack Harmon  
**Application Date:** 2011

**Reverberatory Furnace No. 2 (RF-STK-1)**

TYPE OF MATERIAL	Throughput			Capacity		
	LBS/HR	1 TON/2000 lbs	TON/HR	million British thermal units per hour/hr	Capacity mmcf/hr	
Aluminum	6000	2000	3.00	3.50	0.0035	
	<b>PM</b>	<b>PM10</b>	<b>SOx</b>	<b>NOx</b>	<b>VOC</b>	<b>CO</b>
lb/ton	1.10	1.10				
lb/mmcf			1.05	157.5	7.35	4.20
Potential Emissions lbs/hr	3.30	3.30	0.0037	0.551	0.0257	0.015
Potential Emissions lbs/day	79.2	79.2	0.088	13.2	0.617	0.353
<b>Potential Emissions tons/year</b>	<b>14.45</b>	<b>14.45</b>	<b>0.016</b>	<b>2.41</b>	<b>0.113</b>	<b>0.064</b>

Source of Emission Factors: STAPPA/ALAPCO Handbook, Section 11  
 These emission factors include the emissions utilizing cover and wall fluxes.  
 The cover and wall fluxes do not contain any HAPs

**Appendix A: Secondary Metal Production  
Aluminum**

**Company Name: General Aluminum Manufacturing Company  
Address City IN Zip: 303 E. Swager Dr., Fremont, IN 46737  
Permit Number: MSOP 151-22617-00032  
Minor Permit Revision: 151-30775-00032  
Reviewer: Jack Harmon  
Application Date: 2011**

SCC# 3-04-001-14						
Die Cast Machines - Die Casting Process						
TYPE OF MATERIAL	Throughput LBS/HR		1 TON/2000 lbs	TON/HR		
Aluminum	7000		2000	3.50		
	<b>PM</b> lbs/ton metal charged	<b>PM10</b> lbs/ton metal charged	<b>SOx *</b> lbs/ton metal charged	<b>NOx *</b> lbs/ton metal charged	<b>VOC *</b> lbs/ton metal charged	<b>CO</b> lbs/tons metal charged
	--	--	0.02	0.01	0.14	--
Potential Emissions lbs/hr	#VALUE!	#VALUE!	0.07	0.035	0.490	--
Potential Emissions lbs/day	#VALUE!	#VALUE!	1.68	0.840	11.76	--
Potential Emissions tons/year	#VALUE!	#VALUE!	0.307	0.153	2.15	--

\* Note: Emission factor is from FIRE version 6.24 (March 2004).

There are no PM/PM10 emissions from the die cast machines

**Appendix A: Emission Calculations  
Die Lube Applications**

**Company Name:** General Aluminum Manufacturing Company  
**Address City IN Zip:** 303 E. Swager Dr., Fremont, IN 46737  
**Permit Number:** MSOP 151-22617-00032  
**Minor Permit Revision:** 151-30775-00032  
**Reviewer:** Jack Harmon  
**Application Date:** 2011

**Per Die Casting Machine**

Material	Potential Usage (lbs/hr)	Weight % VOC	Potential VOC Emissions (tons/yr)
<b>Die Lube</b>			
Safety-Lube 1613	2.57	25.00%	2.81

**Total 8 Machines: 22.5**

**Methodology**

VOC emissions (tons/yr) = Usage (lbs/hr) x Weight % VOC x 8,760 hrs/yr \* 1 ton/2,000 lbs

Weight % VOC is based on the information contained in the MSDS for Safety-Lube 1613

There are no HAPs in this material.

**Appendix A: Emission Calculations  
Shotblaster**

**Company Name:** General Aluminum Manufacturing Comp  
**Address City IN Zip:** 303 E. Swager Dr., Fremont, IN 46737  
**Permit Number:** MSOP 151-22617-00032  
**Minor Permit Revision:** 151-30775-00032  
**Reviewer:** Jack Harmon  
**Application Date:** 2011

**Blast Rate**      **3300**      **pounds/hr**  
**Contol Eff.**      **99.00%**

			PM	PM10	PM2.5
<b>Emission Factors lbs/lb shot</b>			0.004	0.003	0.003
Percentage of Emissions			100%	100%	100%
Potential Emissions lbs/hr			13.2	11.4	11.4
<b>Potential Emissions tons/yr*</b>			<b>57.8</b>	<b>49.7</b>	<b>49.7</b>

Emission Factors from STAPPA/ALAPCO "Air Quality Permits", Vol. I, Section 3 "Abrasive Blasting" (1991 edition)

Potential to Emit PM/PM-10 Before Controls (pounds/hour) = PM/PM-10 Emission Emission factor (lbs/lb) \* blast rate (lbs per hour)

Potential to Emit PM/PM-10 Before Controls (tons/year) = PM/PM-10 Emission Emission Rate (lbs/hour) \* 8760 (hours/year) \* 1 ton/2000 pounds

Potential to Emit PM/PM-10 After Controls (tons/year) = Potential to Emit PM/PM-10 Emission Rate Before Controls (lbs/hour) X (1 - Control Efficiency (%))

\*An evaluation was made with Minor Permit Revision 151-30658-00032 on the control device being Intergral to the Process, and a determination made that the controls are NOT considered as integral.

Therefore, potential emissions for the permit level were made without consideration for the control devices on this unit.

**Appendix A: Emissions Calculations  
Particulate Matter from Fugitive Sources**

**Company Name:** General Aluminum Manufacturing Company  
**Address City IN Zip:** 303 East Swager Drive, Fremont, Indiana 46737  
**Permit #:** 151-30775-00032  
**Reviewer:** Jack Harmon  
**Date:** 2011

**Paved Roads**

Maximum Vehicular Speed: 10 mph  
 Average Distance of Haul: 0.25 miles

Vehicle Type	No. of One Way Trips per Day	Weight
Truck	4	40
total	4	

Weighted Average Gross Weight: 40 tons  
 200,000 tons hauled per year  
 40 tons/truck load  
 5000 Trucks loads  
 13.69863 loads per day

Calculations:  
 $E = k(sL/2)^{0.65} * (W/3)^{1.5}$  AP-42 Chapter 13.2.1, Equation 1

E = Emission factor (lbs/vehicle miles traveled(VMT))  
 k = 0.016 particle size multiplier for PM-10  
 0.082 particle size multiplier for PM  
 sL = 0.015 road surface silt content (g/m<sup>2</sup>)  
 W = 40 weighted average vehicle weight (tons)

Value provided by AP-42 Ch. 13 for limited access roads

source: AP-42, chapter 13.2.1, p. 13.2.1-6.

VMT = 1277.5 (miles/yr)

PM  
 E = 0.165963 lbs/VMT

Potential PM Emissions (ton/yr) = Emission factor (lbs/VMT) \* VMT / 2000 (lbs/ton)  
 Potential PM Emissions (ton/yr) = **1.06E-01 tpy**

PM-10  
 E = 0.032383 lbs/VMT

Potential PM-10 Emissions (ton/yr) = Emission factor (lbs/VMT) \* VMT / 2000 (lbs/ton)  
 Potential PM-10 Emissions (ton/yr) = **2.07E-02 tpy**

**Storage Piles**

The section that discusses storage piles, AP-42 Section 13.2.4, indicates that the largest contribution to emissions from the storage pile is the loading into the pile.

**Storage Pile Handling**

There are no storage piles at this facility and, therefore, no handling of storage piles.

$EF (lb/ton) = k * (0.0032) * (U/5)^{1.3} / (M/2)^{1.4}$

where:

k value for:

PM	PM10
0.74	0.35

U value = 10 mph  
 M value = 7.4 %  
 Storage capacity = 0 tons

Moisture content is from AP-42 13.2.4-1 for sand

PM EF = 9.34E-04 lb/ton  
 PM10 EF = 4.42E-04 lb/ton

PM Emissions (ton/yr) = EF (lb/ton) \* Storage Capacity (tons) \* use rate (1/year) \* 1/2000 ton/lb  
**PM Emissions (ton/yr) = 0.00E+00**

PM10 Emissions (ton/yr) = EF (lb/ton) \* Storage Capacity (tons) \* use rate (1/year) \* 1/2000 ton/lb  
**PM10 Emissions (ton/yr) = 0.00E+00**

Total Fugitive Roads and Storage



# 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](http://www.idem.IN.gov)

## SENT VIA U.S. MAIL: CONFIRMED DELIVERY AND SIGNATURE REQUESTED

TO: John Jordan  
General Aluminum Mfg Co.  
303 E Swager Dr  
Fremont, IN 46737

DATE: August 22, 2011

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

SUBJECT: Final Decision  
MSOP - Minor Permit Revision  
151 - 30775 - 00032

Enclosed is the final decision and supporting materials for the air permit application referenced above. Please note that this packet contains the original, signed, permit documents.

The final decision is being sent to you because our records indicate that you are the contact person for this application. However, if you are not the appropriate person within your company to receive this document, please forward it to the correct person.

A copy of the final decision and supporting materials has also been sent via standard mail to:  
Thomas Abernathy, Plant Mgr  
OAQ Permits Branch Interested Parties List

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178, or toll-free at 1-800-451-6027 (ext. 3-0178), and ask to speak to the permit reviewer who prepared the permit. If you think you have received this document in error, please contact Joanne Smiddie-Brush of my staff at 1-800-451-6027 (ext 3-0185), or via e-mail at [jbrush@idem.IN.gov](mailto:jbrush@idem.IN.gov).

Final Applicant Cover letter.dot 11/30/07

# Mail Code 61-53

IDEM Staff	LPOGOST 8/22/2011 General Aluminum Manufacturing Company 151 - 30775 - 00032 final)			AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING
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1		John Jordan General Aluminum Manufacturing Company 303 E Swager Dr Fremont IN 46737 (Source CAATS) Via confirmed delivery									
2		Thomas Abernathy Plant Mgr General Aluminum Manufacturing Company 303 E Swager Dr Fremont IN 46737 (RO CAATS)									
3		Steuben County Board of Commissioners 317 S Wayne Suite 2H Angola IN 46703 (Local Official)									
4		Steuben County Health Department 317 S. Wayne St, Community Center Suite 3-A Angola IN 46703-1938 (Health Department)									
5		Mr. Steve Christman NISWMD 2320 W 800 S, P.O. Box 370 Ashley IN 46705 (Affected Party)									
6		Fremont Town Council PO Box 10, 204 N. Coffin Street Fremont IN 47432 (Local Official)									
7		Mr. Diane Hanson 490 E 300 N Angola IN 46703 (Affected Party)									
8		Mark Zeltwanger 26545 CR 52 Nappanee IN 46550 (Affected Party)									
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