



Mitchell E. Daniels, Jr.  
Governor

Thomas W. Easterly  
Commissioner

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

TO: Interested Parties / Applicant  
DATE: February 25, 2005  
RE: Alcoa, Inc. –Warrick Operations/SSM 173-18836-00007  
FROM: Paul Dubenetzky  
Chief, Permits Branch  
Office of Air Quality

### Notice of Decision: Approval - Effective Immediately

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to IC 13-15-5-3, this permit is effective immediately, unless a petition for stay of effectiveness is filed and granted according to IC 13-15-6-3, and may be revoked or modified in accordance with the provisions of IC 13-15-7-1.

If you wish to challenge this decision, IC 4-21.5-3 and IC 13-15-6-1 require that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Room 1049, Indianapolis, IN 46204, **within eighteen (18) calendar days of the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

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

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

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

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

Enclosures  
FNPER.dot 1/10/05



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
*We make Indiana a cleaner, healthier place to live.*

---

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February 25, 2005

Mr. Michael R. Lucas, VP & Gen. Mgr.  
Alcoa, Inc. - Warrick Operations  
Bldg. 1  
P.O. Box 10  
Newburgh, IN 47629-0010

Re: Significant Source Modification No:  
**173-18836-00007**

Dear Mr. Lucas:

Alcoa, Inc. - Warrick Operations applied for a Part 70 Operating Permit on September 19, 1996 for a primary aluminum processing source. An application to revise the operating requirements for the alumina handling system from that in Section D.1 of SSM 173-11342-00007, issued on May 23, 2000 was received on April 12, 2004. Pursuant to 326 IAC 2-7-10.5 the following are approved for the source:

- (1) In order to render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable to the alumina handling system, the modification revises Condition D.1.2 of SSM 173-11342-00007 from emission limits on the alumina handling system of 24.0 tons of PM and 14.0 tons of PM<sub>10</sub> per year to the following:
  - (a) PM and PM<sub>10</sub> emissions from Dust Collector 112A shall each not exceed 0.006 grain per dry standard cubic foot at a flow rate of 26,900 actual cubic feet per minute, equivalent to 1.38 pounds of PM and PM<sub>10</sub> per hour, each; and
  - (b) PM and PM<sub>10</sub> emissions from Dust Collector 166 shall each not exceed 0.023 grain per dry standard cubic foot at a flow rate of 7,000 actual cubic feet per minute, equivalent to 1.38 pounds of PM and PM<sub>10</sub> per hour, each.
- (2) Subsequent revisions to and/or additions of compliance determination, record keeping, and reporting requirements have been made in this modification to demonstrate compliance with the revised PSD minor limit summarized in paragraph (1).
- (3) As a result of the changes summarized in paragraphs (1) and (2), this modification revised, added and/or did not include several requirements from Sections A, B, and C of SSM 173-11342-00007, issued on May 23, 2000. In addition, this modification has incorporated the applicable requirements from SSM 173-11342-00007 that have not been otherwise revised or deleted.

The Significant Source Modification approval will be incorporated into the pending Part 70 permit application pursuant to 326 IAC 2-7-10.5(l)(3).

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 contact Michael S. Schaffer, c/o OAQ, 100 North Senate Avenue, Indianapolis, Indiana, 46204, at 631-691-3395, ext. 23 or in Indiana at 1-800-451-6027 (ext 631-691-3395).

Sincerely,

Original signed by  
Paul Dubenetzky, Chief  
Permits Branch  
Office of Air Quality

Attachments

MSS/MES

cc: File - Warrick County  
U.S. EPA, Region V  
Warrick County Health Department  
Southwest Regional Office  
Air Compliance Section Inspector - Richard Sekula  
Compliance Branch  
Administrative and Development  
Technical Support and Modeling - Michele Boner



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## **PART 70 SIGNIFICANT SOURCE MODIFICATION OFFICE OF AIR QUALITY**

### **Alcoa, Inc. - Warrick Operations Junction Indiana Highways 66 and 61 Newburgh, Indiana 47629**

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

This approval is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

|   |                                  |
|---|----------------------------------|
| Source Modification No.: 173-18836-00007  |                                  |
| Issued by: Original signed by<br>Paul Dubenetzky, Branch Chief<br>Office of Air Quality | Issuance Date: February 25, 2005 |

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## SECTION A

## SOURCE SUMMARY

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

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

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The Permittee owns and operates a primary aluminum reduction source.

|                              |   |
|------------------------------|---|
| Responsible Official:        | Vice President & General Manager  |
| Source Address:              | Junction Indiana Highways 66 and 61, Newburgh, Indiana 47629  |
| Mailing Address:             | Bldg. 860 E, P.O. Box 10, Newburgh, Indiana 47629-0010  |
| General Source Phone Number: | 812 - 853 - 6111  |
| SIC Code:                    | 3334  |
| County Location:             | Warrick   |
| Source Location Status:      | Nonattainment for ozone under the 8-hour standard<br>Attainment for all other criteria pollutants   |
| Source Status:               | Part 70 Permit Program<br>Major Source, under PSD and Emission Offset Rules;<br>Major Source, Section 112 of the Clean Air Act<br>1 of 28 Source Categories |

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

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

#### Alumina Handling System

- (a) The following emission units in the alumina handling system are equipped with Dust Collector 112A, exhausting to Stack 112A:
- (1) Enriched Alumina Truck Unloading (BL-08), capacity: 60,000 pounds of enriched alumina per hour;
  - (2) Enriched Alumina Tank 151A Distribution Box (FM-15), capacity: 200,000 pounds of enriched alumina per hour;
  - (3) Enriched Alumina Tank 151B Distribution Box (FM-16), capacity: 200,000 pounds of enriched alumina per hour;
  - (4) Enriched Alumina Tank 151A Distribution Airslide (FM-13), capacity: 160,000 pounds of enriched alumina per hour;
  - (5) Enriched Alumina Tank 151B Distribution Airslide (FM-14), capacity: 160,000 pounds of enriched alumina per hour;
  - (6) Enriched Alumina Central Distribution Box (FM-12), capacity: 160,000 pounds of enriched alumina per hour;

- (7) Enriched Alumina B3/B4/B5/B6 Airslide (FM-11), capacity: 160,000 pounds of enriched alumina per hour;
  - (8) Enriched Alumina Dense Phase Transporter (VS-01), capacity: 14,000 pounds of enriched alumina per hour;
  - (9) Fresh Alumina Airslide (FM-01), capacity: 200,000 pounds of fresh alumina per hour;
  - (10) Fresh Alumina Airslide (FM-02), capacity: 200,000 pounds of fresh alumina per hour;
  - (11) Fresh Alumina Airlift (AE-01), capacity: 200,000 pounds of fresh alumina per hour; and
  - (12) Fresh Alumina Airlift (AE-02), capacity: 200,000 pounds of fresh alumina per hour.
- (b) The following emission units in the alumina handling system are equipped with Dust Collector 166, exhausting to Stack 166:
- (1) B3/B4/B5/B6 Alumina Airlift Feed Box (FM-08), capacity: 160,000 pounds of alumina per hour;
  - (2) B3/B4/B5 Alumina Airslide (FM-06), capacity: 120,000 pounds of alumina per hour;
  - (3) B3/B4 Alumina Airslide (FM-04), capacity: 80,000 pounds of alumina per hour;
  - (4) B3/B4 Alumina Airslide (FM-03), capacity: 80,000 pounds of alumina per hour;
  - (5) B5 Alumina Vibrating Screen (SC-01), capacity: 40,000 pounds of alumina per hour;
  - (6) B5 Alumina Airlift (AE-04), capacity: 40,000 pounds of alumina per hour;
  - (7) B5 Alumina Airslide (FM-07), capacity: 40,000 pounds of alumina per hour;
  - (8) B6 Alumina Vibrating Screen (SC-02), capacity: 40,000 pounds of alumina per hour;
  - (9) B6 Alumina Airlift (AE-03), capacity: 40,000 pounds of alumina per hour; and
  - (10) B6 Alumina Airslide (FM-05), capacity: 40,000 pounds of alumina per hour.

A.3 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)]  
[326 IAC 2-7-5(15)]

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This source modification does not include any specifically regulated insignificant activities as defined in 326 IAC 2-7-1(21).

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

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

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

**SECTION B GENERAL CONSTRUCTION CONDITIONS**

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

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

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

Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.

**B.3 Revocation of Permits [326 IAC 2-1.1-9(5)] [326 IAC 2-7-10.5(i)]**

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

**B.4 Significant Source Modification [326 IAC 2-7-10.5(h)]**

This document shall also become the approval to operate pursuant to 326 IAC 2-7-10.5(h) as follows:

In the event that the Part 70 application is being processed at the same time as this application, the following additional procedures shall be followed for obtaining the right to operate:

- (a) If the Part 70 draft permit has not gone on public notice, then the change/addition covered by the Significant Source Modification will be included in the Part 70 draft.
- (b) If the Part 70 permit has gone thru final EPA proposal and would be issued ahead of the Significant Source Modification, the Significant Source Modification will go through a concurrent 45 day EPA review. Then the Significant Source Modification will be incorporated into the final Part 70 permit at the time of issuance.
- (c) If the Part 70 permit has gone through public notice, but has not gone through final EPA review and would be issued after the Significant Source Modification is issued, then the Modification would be added to the proposed Part 70 permit, and the Part 70 permit will be issued after EPA review.

**SECTION C GENERAL OPERATION CONDITIONS**

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

- (a) Where specifically designated by this permit or required by an applicable requirement, any application form, report, or compliance certification submitted shall contain certification by a responsible official of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
- (b) One (1) certification shall be included, using the attached Certification Form, with each submittal requiring certification.
- (c) A responsible official is defined at 326 IAC 2-7-1(34).

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

- (a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) when operation begins, including the following information on each facility:
  - (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
  - (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and
  - (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

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

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

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

- (b) The Permittee shall implement the PMPs as necessary to ensure that failure to implement a PMP does not cause or contribute to a violation of any limitation on emissions or potential to emit.
- (c) 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 contributes to any violation. The PMP does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).
- (d) Records of preventive maintenance shall be retained for a period of at least five (5) years. These records shall be kept 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.

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

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

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

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

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

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

C.4 Opacity [326 IAC 5-1]

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

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

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

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

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

C.6 Operation of Equipment [326 IAC 2-7-6(6)]

Except as otherwise provided by statute or rule, or in this permit, all air pollution control equipment listed in this permit and used to comply with an applicable requirement shall be operated at all times that the emission units vented to the control equipment are in operation.

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

The Permittee shall comply with the applicable provisions of 326 IAC 1-7 (Stack Height Provisions), for all exhaust stacks through which a potential (before controls) of twenty-five (25) tons per year or more of particulate matter or sulfur dioxide is emitted by using ambient air quality modeling pursuant to 326 IAC 1-7-4.

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

#### C.8 Performance Testing [326 IAC 3-6] [326 IAC 2-1.1-11]

- (a) Compliance testing on new emission units shall be conducted within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up, if specified in Section D of this approval. All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this approval, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

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

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

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

- (b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require certification by the "responsible official" as defined by 326 IAC 2-7-1(34).
- (c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ within forty-five (45) days after the completion of the testing. An extension may be granted by the IDEM, OAQ, if the source submits to IDEM, OAQ, a reasonable written explanation within five (5) days prior to the end of the initial forty-five (45) day period.

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

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

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

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

#### C.10 Compliance Monitoring [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

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

#### C.11 Monitoring Methods [326 IAC 3] [40 CFR 60] [40 CFR 63]

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

#### C.12 Pressure Gauge and Other Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

- (a) Whenever a condition in this permit requires the measurement of pressure drop across any part of the unit or its control device, the gauge employed shall have a scale such that the expected normal reading shall be no less than twenty percent (20%) of full scale and be

accurate within plus or minus two percent ( $\pm 2\%$ ) of full scale reading.

- (b) Whenever a condition in this permit requires the measurement of a flow rate, the instrument employed shall have a scale such that the expected normal reading shall be no less than twenty percent (20%) of full scale and be accurate within plus or minus two percent ( $\pm 2\%$ ) of full scale reading.
- (c) The Permittee may request the IDEM, OAQ approve the use of a pressure gauge or other instrument that does not meet the above specifications provided the Permittee can demonstrate an alternative pressure gauge or other instrument specification will adequately ensure compliance with permit conditions requiring the measurement of pressure drop or other parameters.

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

#### **C.13 Compliance Response Plan - Preparation, Implementation, Records, and Reports [326 IAC 2-7-5] [326 IAC 2-7-6]**

- (a) The Permittee is required to prepare a Compliance Response Plan (CRP) for each compliance monitoring condition of this permit. A CRP shall be submitted to IDEM, OAQ upon request. The CRP shall be prepared within ninety (90) days after issuance of this permit by the Permittee, supplemented from time to time by the Permittee, maintained on site, and comprised of:
  - (1) Reasonable response steps that may be implemented in the event that a response step is needed pursuant to the requirements of Section D of this permit; and an expected timeframe for taking reasonable response steps.
  - (2) If, at any time, the Permittee takes reasonable response steps that are not set forth in the Permittee's current Compliance Response Plan and the Permittee documents such response in accordance with subsection (e) below, the Permittee shall amend its Compliance Response Plan to include such response steps taken.
- (b) For each compliance monitoring condition of this permit, reasonable response steps shall be taken when indicated by the provisions of that compliance monitoring condition as follows:
  - (1) Reasonable response steps shall be taken as set forth in the Permittee's current Compliance Response Plan; or
  - (2) If none of the reasonable response steps listed in the Compliance Response Plan is applicable or responsive to the excursion, the Permittee shall devise and implement additional response steps as expeditiously as practical. Taking such additional response steps shall not be considered a deviation from this permit so long as the Permittee documents such response steps in accordance with this condition.
  - (3) If the Permittee determines that additional response steps would necessitate that the emissions unit or control device be shut down, and it will be ten (10) days or more until the unit or device will be shut down, then the Permittee shall promptly notify IDEM, OAQ of the expected date of the shut down, the status of the applicable compliance monitoring parameter with respect to normal, and the results of the actions taken up to the time of notification.
  - (4) Failure to take reasonable response steps shall constitute a violation of the permit.

- (c) The Permittee is not required to take any further response steps for any of the following reasons:
  - (1) A false reading occurs due to the malfunction of the monitoring equipment and prompt action was taken to correct the monitoring equipment.
  - (2) The Permittee has determined that the compliance monitoring parameters established in the permit conditions are technically inappropriate, has previously submitted a request for a minor permit modification to the permit, and such request has not been denied.
  - (3) An automatic measurement was taken when the process was not operating.
  - (4) The process has already returned or is returning to operating within "normal" parameters and no response steps are required.
- (d) When implementing reasonable steps in response to a compliance monitoring condition, if the Permittee determines that an exceedance of an emission limitation has occurred, the Permittee shall report such deviations pursuant to Section C - Deviations from Permit Requirements and Conditions.
- (e) The Permittee shall record all instances when response steps are taken. In the event of an emergency, the provisions of 326 IAC 2-7-16 (Emergency Provisions) requiring prompt corrective action to mitigate emissions shall prevail.
- (f) Except as otherwise provided by a rule or provided specifically in Section D, all monitoring as required in Section D shall be performed when the emission unit is operating, except for time necessary to perform quality assurance and maintenance activities.

C.14 Emergency Provisions [326 IAC 2-7-16]

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

Telephone Number: 1-800-451-6027 (ask for Office of Air Quality, Compliance Section), or  
Telephone Number: 317-233-5674 (ask for Compliance Section)  
Facsimile Number: 317-233-5967  
Southwest Regional Office: 812-380-2305, facsimile 812-380-2304

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

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

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

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

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

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

- (6) The Permittee immediately took all reasonable steps to correct the emergency.
- (c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.
  - (d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.
  - (e) IDEM, OAQ, may require that the Preventive Maintenance Plans required under 326 IAC 2-7-4-(c)(10) be revised in response to an emergency.
  - (f) Failure to notify IDEM, OAQ, by telephone or facsimile of an emergency lasting more than one (1) hour in accordance with (b)(4) and (5) of this condition shall constitute a violation of 326 IAC 2-7 and any other applicable rules.
  - (g) If the emergency situation causes a deviation from a technology-based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.

C.15 Deviations from Permit Requirements and Conditions [326 IAC 2-7-5(3)(C)(ii)] [326 IAC 2-7-6]

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

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

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

The Quarterly Deviation and Compliance Monitoring Report does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

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

**C.16 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5] [326 IAC 2-7-6]**

- (a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall take appropriate response actions. The Permittee shall submit a description of these response actions to IDEM, OAQ, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize excess emissions from the affected facility while the response actions are being implemented.
- (b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAQ that retesting in one hundred and twenty (120) days is not practicable, IDEM, OAQ may extend the retesting deadline.
- (c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

The documents submitted pursuant to this condition do require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

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

**C.17 General Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-6]**

- (a) Records of all required data, reports and support information 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 kept at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.
- (b) Unless otherwise specified in this permit, all record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance.

**C.18 General Reporting Requirements [326 IAC 2-7-5(3)(C)]**

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

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

- (b) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.
- (c) Unless otherwise specified in this permit, all reports required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. All reports do require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).
- (d) The first report shall cover the period commencing on the date of issuance of this permit and ending on the last day of the reporting period. Reporting periods are based on calendar years.

**SECTION D.1 FACILITY OPERATION CONDITIONS**

**Facility Description [326 IAC 2-7-5(15)]: Alumina Handling System**

- (a) The following emission units in the alumina handling system are equipped with Dust Collector 112A, exhausting to Stack 112A:
- (1) Enriched Alumina Truck Unloading (BL-08), capacity: 60,000 pounds of enriched alumina per hour;
  - (2) Enriched Alumina Tank 151A Distribution Box (FM-15), capacity: 200,000 pounds of enriched alumina per hour;
  - (3) Enriched Alumina Tank 151B Distribution Box (FM-16), capacity: 200,000 pounds of enriched alumina per hour;
  - (4) Enriched Alumina Tank 151A Distribution Airslide (FM-13), capacity: 160,000 pounds of enriched alumina per hour;
  - (5) Enriched Alumina Tank 151B Distribution Airslide (FM-14), capacity: 160,000 pounds of enriched alumina per hour;
  - (6) Enriched Alumina Central Distribution Box (FM-12), capacity: 160,000 pounds of enriched alumina per hour;
  - (7) Enriched Alumina B3/B4/B5/B6 Airslide (FM-11), capacity: 160,000 pounds of enriched alumina per hour;
  - (8) Enriched Alumina Dense Phase Transporter (VS-01), capacity: 14,000 pounds of enriched alumina per hour;
  - (9) Fresh Alumina Airslide (FM-01), capacity: 200,000 pounds of fresh alumina per hour;
  - (10) Fresh Alumina Airslide (FM-02), capacity: 200,000 pounds of fresh alumina per hour;
  - (11) Fresh Alumina Airlift (AE-01), capacity: 200,000 pounds of fresh alumina per hour; and
  - (12) Fresh Alumina Airlift (AE-02), capacity: 200,000 pounds of fresh alumina per hour.
- (b) The following emission units in the alumina handling system are equipped with Dust Collector 166, exhausting to Stack 166:
- (1) B3/B4/B5/B6 Alumina Airlift Feed Box (FM-08), capacity: 160,000 pounds of alumina per hour;
  - (2) B3/B4/B5 Alumina Airslide (FM-06), capacity: 120,000 pounds of alumina per hour;
  - (3) B3/B4 Alumina Airslide (FM-04), capacity: 80,000 pounds of alumina per hour;
  - (4) B3/B4 Alumina Airslide (FM-03), capacity: 80,000 pounds of alumina per hour;
  - (5) B5 Alumina Vibrating Screen (SC-01), capacity: 40,000 pounds of alumina per hour;
  - (6) B5 Alumina Airlift (AE-04), capacity: 40,000 pounds of alumina per hour;
  - (7) B5 Alumina Airslide (FM-07), capacity: 40,000 pounds of alumina per hour;
  - (8) B6 Alumina Vibrating Screen (SC-02), capacity: 40,000 pounds of alumina per hour;
  - (9) B6 Alumina Airlift (AE-03), capacity: 40,000 pounds of alumina per hour; and
  - (10) B6 Alumina Airslide (FM-05), capacity: 40,000 pounds of alumina per hour.

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

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

#### **D.1.1 Particulate Matter (PM) [326 IAC 6-3-2]**

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable PM emission rate for the alumina handling system shall not exceed a total of 51.3 pounds per hour when operating at a total (system-wide) process weight rate of 100 tons of alumina per hour.

The allowable PM emission rate was calculated with the following equation.

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

$$E = 55.0 P^{0.11} - 40 \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

The requirements of this condition shall supersede the requirements of Condition D.1.1 of SSM 173-11342-00007, issued on May 23, 2000.

#### **D.1.2 PSD Minor Limit [326 IAC 2-2]**

- (a) PM and PM<sub>10</sub> emissions from Dust Collector 112A shall each not exceed 0.006 grain per dry standard cubic foot at a flow rate of 26,900 actual cubic feet per minute, equivalent to 1.38 pounds of PM and PM<sub>10</sub> per hour, each.
- (b) PM and PM<sub>10</sub> emissions from Dust Collector 166 shall each not exceed 0.023 grain per dry standard cubic foot a flow rate of 7,000 actual cubic feet per minute, equivalent to 1.38 pounds of PM and PM<sub>10</sub> per hour, each.
- (c) Compliance with the limits in paragraphs (a) and (b) of this condition shall ensure that the PM emissions from the alumina handling system do not exceed twenty-five (25) tons per year and that the PM<sub>10</sub> emissions from the alumina handling system do not exceed fifteen (15) tons per year, which renders the requirements of 326 IAC 2-2 not applicable.

The requirements of this condition shall supersede the requirements of Condition D.1.2 of SSM 173-11342-00007, issued on May 23, 2000.

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

A Preventive Maintenance Plan, in accordance with Section C - Preventive Maintenance Plan, of this permit, is required for the alumina handling system and its control devices.

### **Compliance Determination Requirements**

#### **D.1.4 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]**

Within 180 days after the issuance of SSM 173-18836, in order to demonstrate compliance with Conditions D.1.1 and D.1.2, the Permittee shall perform PM and PM<sub>10</sub> testing on Dust Collectors 112A and 166 utilizing methods as approved by the Commissioner. These tests shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. PM<sub>10</sub> includes filterable and condensable PM<sub>10</sub>. Testing shall be conducted in accordance with Section C-Performance Testing.

#### **D.1.5 Particulate Control**

Pursuant to SSM 173-11342-00007, issued on May 23, 2000, and in order to comply with Conditions D.1.1 and D.1.2, except as necessary to supply alumina to control fluoride emissions, Dust Collectors 112A and 166 for particulate control shall be in operation and control emissions from the alumina handling system at all times that the alumina handling system is in operation.

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

#### **D.1.6 Bag Leak Detection System**

The Permittee shall install and operate a continuous bag leak detection system for each dust collector stack exhaust (112A and 166) in the alumina handling system. The bag leak detection system shall meet the following requirements:

- (a) Each electrodynamic bag leak detection system shall be installed, calibrated, operated, and maintained in accordance with manufacturer's specifications.
- (b) The Permittee shall calibrate each bag leak detection system such that:
  - (1) For Dust Collector 112A, the bag leak detection alarm shall activate whenever PM and/or PM<sub>10</sub> emissions from Stack 112A are greater than or equal to 0.0030 grains per dry standard cubic foot at a flow rate of 26,900 actual cubic feet per minute, equivalent to greater than or equal to 0.692 pounds of PM and/or PM<sub>10</sub> per hour.
  - (2) For Dust Collector 166, the bag leak detection alarm shall activate whenever PM and/or PM<sub>10</sub> emissions from Stack 166 are greater than or equal to 0.0115 grains per dry standard cubic foot at a flow rate of 7,000 actual cubic feet per minute, equivalent to greater than or equal to 0.690 pounds of PM and/or PM<sub>10</sub> per hour.

Failure to comply with the requirements in paragraphs (b)(1) and (b)(2) of this condition shall be considered a deviation from this permit.

- (c) In order to ensure compliance with paragraphs (b)(1) and (b)(2) of this condition, the Permittee shall perform annual calibration tests utilizing methods as approved by the Commissioner.
- (d) The bag leak detection system shall be certified by the manufacturer to be capable of detecting PM emissions at concentrations down to ten (10) milligrams per actual cubic meter (0.0044 grains per actual cubic foot).
- (e) The bag leak detection system sensor shall provide output of relative or absolute PM loadings.
- (f) The bag leak detection system shall be equipped with a device to continuously record the output signal from the sensor.
- (g) The bag leak detection system shall be equipped with an alarm system that will sound automatically when an increase in relative PM emissions over a preset level is detected. The alarm shall be located where it is easily heard by plant operating personnel.
- (h) For negative pressure or induced air fabric filters, the bag leak detector shall be installed downstream of the fabric filter.
- (i) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors.
- (j) The baseline output shall be established by adjusting the range and the averaging period of the device and establishing the alarm set points and the alarm delay time.
- (k) Following initial adjustment of the system, the Permittee shall not adjust the sensitivity or range, averaging period, alarm set points, or alarm delay time except as detailed in the Compliance Response Plan. In no case may the sensitivity be increased by more than one

hundred (100%) percent or decreased more than fifty (50%) percent over a 365-day period unless such adjustment follows a complete fabric filter inspection which demonstrates that the fabric filter is in good operating condition.

- (I) In the event that a bag leak detection system should malfunction, fail or otherwise need repair, the Permittee shall perform visible emissions notations of the stack exhausts associated with that bag leak detection system as follows:
  - (1) Daily visible emission notations of the dust collector stack exhausts shall be performed during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.
  - (2) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
  - (3) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
  - (4) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
  - (5) The Compliance Response Plan for the alumina handling system shall contain troubleshooting contingency and response steps for when an abnormal emission is observed. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

The requirements of this condition shall supersede the requirements of Condition D.1.6 of SSM 173-11342-00007, issued on May 23, 2000.

#### D.1.7 Bag Leak Detection Alarm Activation

In the event that a bag leak detection system alarm is activated for any reason, the same corrective actions specified in the Compliance Response Plan for use during periods of startup, shutdown, and malfunction, shall be followed to correct the cause for the alarm, regardless of whether the alarm is caused by a malfunction as defined, the Permittee shall take the following response steps:

- (a) For Dust Collectors 112A and 166 which are single compartment baghouses, if failure is indicated by a bag leak detection alarm activation that is not a false alarm, or if bag failure is determined by other means, such as daily visible emissions notations and/or daily checks of the particulate concentration readings from electrodynamic bag leak detectors, then the associated process will be shut down after four (4) hours of operation following bag failure if the failed units have not been repaired or replaced. Operations may continue after four (4) hours of operation following bag failure only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section C - Emergency Provisions).
- (b) After bag failure, if the alumina handling system continues to operate, until the failed bag is repaired or replaced, the Permittee shall monitor the hourly PM emission rate recorded by the electrodynamic bag leak detector's data acquisition system until the failed bag is repaired or replaced.

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

**D.1.8 Record Keeping Requirements**

- (a) To document compliance with Condition D.1.6(c), the Permittee shall keep a log of the annual calibration test results. These records shall remain onsite for at least two (2) years after each calibration test.
- (b) To document compliance with Condition D.1.6(l), the Permittee shall maintain records of daily visible emission notations of the dust collector stack exhausts when the applicable bag leak detection system malfunctions, fails or otherwise needs repair.
- (c) To document compliance with Condition D.1.7(a), the Permittee shall maintain records of each bag leak detection alarm activation and the response steps taken.
- (d) To document compliance with Condition D.1.7(b), when bag failure occurs at either Dust Collector 112A or 166, the Permittee shall keep a log of the hourly PM and PM<sub>10</sub> emission rates recorded by the electrodynamic bag leak detector's data acquisition system.
- (e) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

The requirements of this condition shall supersede the requirements of Condition D.1.7 of SSM 173-11342-00007, issued on May 23, 2000.

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

**PART 70 SOURCE MODIFICATION  
CERTIFICATION**

Source Name: Alcoa, Inc. - Warrick Operations  
Source Address: Junction Indiana Highways 66 & 61, Newburgh, Indiana 47629  
Mailing Address: Bldg. 860E, P.O. Box 10, Newburgh, Indiana 47629-0010  
Source Modification No.: SSM 173-18836-00007

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

Please check what document is being certified:

- Test Result (specify) \_\_\_\_\_
- Report (specify) \_\_\_\_\_
- Notification (specify) \_\_\_\_\_
- Affidavit (specify) \_\_\_\_\_
- Other (specify) \_\_\_\_\_

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

Signature:

Printed Name:

Title/Position:

Date:

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE BRANCH  
100 North Senate Avenue  
Indianapolis, Indiana 46204  
Phone: 317-233-5674  
Fax: 317-233-5967**

**PART 70 SOURCE MODIFICATION  
EMERGENCY OCCURRENCE REPORT**

Source Name: Alcoa, Inc. - Warrick Operations  
Source Address: Junction Indiana Highways 66 & 61, Newburgh, Indiana 47629  
Mailing Address: Bldg. 860E, P.O. Box 10, Newburgh, Indiana 47629-0010  
Source Modification No.: SSM 173-18836-00007

**This form consists of 2 page**

**Page 1 of 2**

- 9** This is an emergency as defined in 326 IAC 2-7-1(12)
- C** The Permittee must notify the Office of Air Quality (OAQ), within four (4) business hours (1-800-451-6027 or 317-233-5674, ask for Compliance Section); and
  - C** The Permittee must submit notice in writing or by facsimile within two (2) working days (Facsimile Number: 317-233-5967), and follow the other requirements of 326 IAC 2-7-16.

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

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

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

Page 2 of 2

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

Form Completed by: \_\_\_\_\_

Title / Position: \_\_\_\_\_

Date: \_\_\_\_\_

Phone: \_\_\_\_\_

A certification is not required for this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
 OFFICE OF AIR QUALITY  
 COMPLIANCE DATA SECTION**

**PART 70 SOURCE MODIFICATION  
 QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT**

Source Name: Alcoa, Inc. - Warrick Operations  
 Source Address: Junction Indiana Highways 66 & 61, Newburgh, Indiana 47629  
 Mailing Address: Bldg. 860E, P.O. Box 10, Newburgh, Indiana 47629-0010  
 Source Modification No.: SSM 173-18836-00007

**Months:** \_\_\_\_\_ **to** \_\_\_\_\_ **Year:** \_\_\_\_\_

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

|  |                               |
|--|-------------------------------|
| <b>Permit Requirement</b> (specify permit condition #) |                               |
| <b>Date of Deviation:</b>                              | <b>Duration of Deviation:</b> |
| <b>Number of Deviations:</b>                           |                               |
| <b>Probable Cause of Deviation:</b>                    |                               |
| <b>Response Steps Taken:</b>                           |                               |
| <b>Permit Requirement</b> (specify permit condition #) |                               |
| <b>Date of Deviation:</b>                              | <b>Duration of Deviation:</b> |
| <b>Number of Deviations:</b>                           |                               |
| <b>Probable Cause of Deviation:</b>                    |                               |
| <b>Response Steps Taken:</b>                           |                               |
| <b>Permit Requirement</b> (specify permit condition #) |                               |
| <b>Date of Deviation:</b>                              | <b>Duration of Deviation:</b> |
| <b>Number of Deviations:</b>                           |                               |
| <b>Probable Cause of Deviation:</b>                    |                               |
| <b>Response Steps Taken:</b>                           |                               |

Form Completed By: \_\_\_\_\_

Title/Position: \_\_\_\_\_

Date: \_\_\_\_\_

Phone: \_\_\_\_\_

Attach a signed certification to complete this report.

## Indiana Department of Environmental Management Office of Air Quality

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

#### Source Background and Description

|   |   |
|---|---|
| <b>Source Name:</b>                         | <b>Alcoa, Inc. - Warrick Operations</b>                                 |
| <b>Source Location:</b>                     | <b>Junction Indiana Highways 66 and 61, Newburgh,<br/>Indiana 47629</b> |
| <b>County:</b>                              | <b>Warrick</b>  |
| <b>SIC Code:</b>                            | <b>3334</b>   |
| <b>Operation Permit No.:</b>                | <b>T 173-6627-00007</b>   |
| <b>Operation Permit Issuance Date:</b>      | <b>Not Yet Issued</b>   |
| <b>Significant Source Modification No.:</b> | <b>SSM 173-18836-00007</b>  |
| <b>Permit Reviewer:</b>                     | <b>Michael S. Schaffer</b>  |

The Office of Air Quality (OAQ) has reviewed a modification application from Alcoa, Inc. - Warrick Operations relating to the operation of an alumina handling system, constructed in 2000, which was permitted to replace a previously existing alumina handling system in SSM 173-11342-00007, issued on May 23, 2000.

The following equipment is involved in this modification (changes to any permitted equipment appear as ~~strikeouts~~, new language appears in **bold** using the equipment list from SSM 173-11342).

#### Alumina Handling System:

- (†) (a) The following emission units ~~in the alumina handling system exhausting to~~ **are equipped with Dust Collector 112A-4, exhausting to Stack 112A:**
- (a) (1) Enriched Alumina Truck Unloading (BL-08), ~~with a maximum capacity: of 60,000 pounds~~ **of enriched alumina** per hour;
  - (b) (2) Enriched Alumina Tank 151A Distribution Box (FM-15), ~~with a maximum capacity: of 200,000 pounds~~ **of enriched alumina** per hour;
  - (c) (3) Enriched Alumina Tank 151B Distribution Box (FM-16), ~~with a maximum capacity: of 200,000 pounds~~ **of enriched alumina** per hour;
  - (d) (4) Enriched Alumina Tank 151A Distribution Airslide (FM-13), ~~with a maximum capacity: of 160,000 pounds~~ **of enriched alumina** per hour;
  - (e) (5) Enriched Alumina Tank 151B Distribution Airslide (FM-14), ~~with a maximum capacity: of 160,000 pounds~~ **of enriched alumina** per hour;
  - (f) (6) Enriched Alumina Central Distribution Box (FM-12), ~~with a maximum capacity: of 160,000 pounds~~ **of enriched alumina** per hour;
  - (g) (7) Enriched Alumina B3/B4/B5/B6 Airslide (FM-11), ~~with a maximum capacity: of 160,000 pounds~~ **of enriched alumina** per hour;

- (h) (8) Enriched Alumina Dense Phase Transporter (VS-01), ~~with a maximum capacity: of~~ 14,000 pounds **of enriched alumina** per hour;
  - (i) (9) Fresh Alumina Airslide (FM-01), ~~with a maximum capacity: of~~ 200,000 pounds **of fresh alumina** per hour;
  - (j) (10) Fresh Alumina Airslide (FM-02), ~~with a maximum capacity: of~~ 200,000 pounds **of fresh alumina** per hour;
  - (k) (11) Fresh Alumina Airlift (AE-01), ~~with a maximum capacity: of~~ 200,000 pounds **of fresh alumina** per hour; **and**
  - (l) (12) Fresh Alumina Airlift (AE-02), ~~with a maximum capacity: of~~ 200,000 pounds **of fresh alumina** per hour.
- (2) (b) The following emission units **in the alumina handling system** ~~exhausting to~~ **are equipped with Dust Collector 454-1166, exhausting to Stack 166:**
- (a) (1) B3/B4/B5/B6 Alumina Airlift Feed Box (FM-08), ~~with a maximum capacity: of~~ 160,000 pounds **of alumina** per hour;
  - (b) (2) B3/B4/B5 Alumina Airslide (FM-06), ~~with a maximum capacity: of~~ 120,000 pounds **of alumina** per hour;
  - (c) (3) B3/B4 Alumina Airslide (FM-04), ~~with a maximum capacity: of~~ 80,000 pounds **of alumina** per hour;
  - (d) (4) B3/B4 Alumina Airslide (FM-03), ~~with a maximum capacity: of~~ 80,000 pounds **of alumina** per hour;
  - (e) (5) B5 Alumina Vibrating Screen (SC-01), ~~with a maximum capacity: of~~ 40,000 pounds **of alumina** per hour;
  - (f) (6) B5 Alumina Airlift (AE-04), ~~with a maximum capacity: of~~ 40,000 pounds **of alumina** per hour;
  - (g) (7) B5 Alumina Airslide (FM-07), ~~with a maximum capacity: of~~ 40,000 pounds **of alumina** per hour;
  - (h) (8) B6 Alumina Vibrating Screen (SC-02), ~~with a maximum capacity: of~~ 40,000 pounds **of alumina** per hour;
  - (i) (9) B6 Alumina Airlift (AE-03), ~~with a maximum capacity: of~~ 40,000 pounds **of alumina** per hour; **and**
  - (j) (10) B6 Alumina Airslide (FM-05), ~~with a maximum capacity: of~~ 40,000 pounds **of alumina** per hour.

## History

This existing source submitted their Part 70 (T 173-6627-00007) application on September 19, 1996.

On September 13, 1999, Alcoa, Inc. - Warrick Operations submitted a modification application (SSM

173-11342-00007) requesting to replace an existing alumina handling system and associated bag-house with a new alumina handling system and two (2) new baghouses.

On April, 12, 2004 with additional information provided on July 28 and August 31, 2004, Alcoa, Inc. - Warrick Operations submitted a modification application (SSM 173-18836-00007) for the current alumina handling system. In the application Alcoa Inc. - Warrick Operations indicated that the bag leak detection systems which are used at Dust Collectors 112A and 166 have been calibrated in accordance with the 1997 U.S. EPA "Fabric Filter Bag Leak Detection Guidance," and are being operated properly. However, the bag leak detection systems are not accurately detecting bag leaks. After lengthy discussions with IDEM, OAQ pertaining to the bag leak detection issue, on December 3, 2004, Alcoa, Inc. - Warrick Operations requested that Condition D.1.6 of SSM 173-11342-00007, issued on May 23, 2000 be revised such that the existing triboelectric bag leak detection system at the alumina handling operation could be replaced with an electrodynamic bag leak detection system which is not required to be calibrated in accordance with 1997 U.S. EPA "Fabric Filter Bag Leak Detection Guidance."

As a result of that request, as part of this modification, Alcoa, Inc. - Warwick operations has agreed to revise the PM and PM<sub>10</sub> limits in Condition D.1.2 of S.M. 173-11342-00007, issued on May 23, 2000 on the alumina handling system from "24.0 tons of PM and 14.0 tons of PM<sub>10</sub> per year" to the following:

- (a) PM and PM<sub>10</sub> emissions from Dust Collector 112A shall each not exceed 0.006 grain per dry standard cubic foot at a flow rate of 26,900 actual cubic feet per minute, equivalent to 1.38 pounds of PM and PM<sub>10</sub> per hour, each.
- (b) PM and PM<sub>10</sub> emissions from Dust Collector 166 shall each not exceed 0.023 grain per dry standard cubic foot at a flow rate of 7,000 actual cubic feet per minute, equivalent to 1.38 pounds of PM and PM<sub>10</sub> per hour respectively.
- (c) Compliance with paragraphs (a) and (b) shall ensure that PM emissions from the alumina handling system are less than twenty-five (25) tons per year and that PM<sub>10</sub> emissions from the alumina handling system are less than fifteen (15) tons per year which renders the requirements of 326 IAC 2-2 not applicable.

### Existing Approvals

The source applied for a Part 70 Operating Permit on September 19, 1996. The source has been operating under previous approvals including, but not limited to, the following:

- (a) Minor Source Modification 173-20390-00007, issued on December 14, 2004;
- (b) Significant Permit Modification 173-18905-00007, issued on September 24, 2004;
- (c) Significant Source Modification 173-17780-00007, issued on July 21, 2004;
- (d) Significant Source Modification 173-18465-00007, issued on March 16, 2004;
- (e) Significant Source Modification 173-16034-00007, issued on March 28, 2003;
- (f) Administrative Amendment 173-16991-00007, issued on January 30, 2003;
- (g) Administrative Amendment 173-16685-00007, issued on December 27, 2002;
- (h) Significant Source Modification 173-15661-00007, issued on August 23, 2002;

- (l) Minor Source Modification 173-15352-00007, issued on April 23, 2002;
- (j) Minor Source Modification 173-14944-00007, issued on December 5, 2001;
- (k) Significant Source Modification 173-14145-00007, issued on July 7, 2001;
- (l) Minor Source Modification 173-12886-00007, issued on February 1, 2001;
- (m) Minor Permit Modification 173-12588-00007, issued on October 10, 2000;
- (n) Minor Source Modification 173-12676-00007, issued on October 2, 2000;
- (o) Minor Permit Modification 173-11419-00007, issued on June 9, 2000;
- (p) Significant Source Modification 173-11342-00007, issued on May 23, 2000;
- (q) Significant Source Modification 173-11598-00007, issued on February 3, 2000;
- (r) Administrative Amendment 173-11403-00007, issued on January 28, 2000;
- (s) CP 173-11414-00007, issued on December 15, 1999;
- (t) CP 10913-00007, issued on October 1, 1999;
- (u) Exemption 173-10598-00007, issued on September 20, 1999;
- (v) Minor Source Modification 173-10959-00007, issued on July 15, 1999;
- (w) Exemption 173-10142-00007, issued on October 28, 1998;
- (x) Registration 173-9960-00007, issued on August 6, 1998;
- (y) Registration 173-9574-00007, issued on August 6, 1998;
- (z) Exemption 173-9620-00007, issued on June 17, 1998;
- (aa) Exemption 173-9644-00007, issued on May 5, 1998;
- (bb) Administrative Amendment 173-8566-00007, issued on May 29, 1997;
- (cc) Registration 173-8161-00007, issued on May 19, 1997;
- (dd) Registration 173-8193-00007, issued on May 13, 1997;
- (ee) Administrative Amendment 173-6196-00007, issued on September 27, 1996;
- (ff) Registration 173-6325-00007, issued on August 28, 1996;
- (gg) Administrative Amendment 173-5524-00007, issued on May 6, 1996;
- (hh) Registration 173-5449-00007, issued on April 11, 1996;
- (ii) Administrative Amendment 173-4611-00007, issued on November 30, 1995; and

(jj) CP173-4501-00007, issued on June 16, 1995.

**Enforcement Issue**

There are no enforcement issued pending regarding the equipment in this modification.

**Stack Summary**

| Stack ID | Operation                              | Height (feet) | Diameter (feet) | Flow Rate (acfm) | Temperature (EF) |
|----------|--|---------------|-----------------|------------------|------------------|
| 112A     | Alumina Handling System Dust Collector | 53.0          | 3.40            | 29,600           | Ambient          |
| 166      | Alumina Handling System Dust Collect   | 86.0          | 2.65            | 7,000            | Ambient          |

**Recommendation**

The staff recommends to the Commissioner that the Part 70 Significant Source Modification be approved. This recommendation is based on the following facts and conditions:

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

An application for the purposes of this review was received on April 12, 2004. Additional information was received on July 28, August 31, and December 3, 2004.

**Emission Calculations**

See Page 1 of 1 in Appendix A of this document for detailed emissions calculations.

**Potential To Emit of Modification**

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

This table reflects the PTE of the alumina handling system as stated on Page 3 of 7 in the TSD to S.M. 173-11342-00007, issued on May 23, 2000.

| Pollutant        | Potential To Emit (tons/year) |
|------------------|-------------------------------|
| PM               | 255                           |
| PM <sub>10</sub> | Greater than 100              |
| SO <sub>2</sub>  | -                             |
| VOC              | -                             |
| CO               | -                             |

| Pollutant       | Potential To Emit<br>(tons/year) |
|-----------------|----------------------------------|
| NO <sub>x</sub> | -                                |

**Justification for Modification**

- (a) The Part 70 Operating Permit is being modified through a Part 70 Significant Source Modification to a yet to be issued Part 70 Operating Permit in order to revise the PM and PM<sub>10</sub> limits, compliance determination, compliance monitoring, and recording keeping and reporting requirements to S.M. 173-11342-00007, issued on May 23, 2000. Pursuant to 326 IAC 326 IAC 2-7-12(d), significant changes to existing Part 70 conditions requires a Part 70 Significant Permit Modification.
- (b) Since the Part 70 Operating Permit for this source has not been issued, the approval of this Significant Source Modification will satisfy the requirements of 326 IAC 2-7-12(d).

**Actual Emissions**

The following table shows the actual emissions from the source. This information reflects the 2002 OAQ emission data.

| Pollutant        | Actual Emissions<br>(tons/year) |
|------------------|---------------------------------|
| PM               | Greater than 250                |
| PM <sub>10</sub> | 646                             |
| SO <sub>2</sub>  | 3,192                           |
| VOC              | 595                             |
| CO               | 22,537                          |
| NO <sub>x</sub>  | 251                             |
| HAP(Lead)        | 0.090                           |

**County Attainment Status**

The source is located in Warwick County.

| Pollutant        | Status              |
|------------------|---------------------|
| PM <sub>10</sub> | attainment          |
| SO <sub>2</sub>  | attainment          |
| NO <sub>2</sub>  | attainment          |
| 1-Hour Ozone     | attainment          |
| 8-Hour Ozone     | basic nonattainment |
| CO               | attainment          |

| Pollutant | Status     |
|-----------|------------|
| Lead      | attainment |

- (a) Volatile organic compounds (VOC) and nitrogen oxides (NO<sub>x</sub>) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NO<sub>x</sub> emissions are considered when evaluating the rule applicability relating to the ozone standards. Warwick County has been designated as nonattainment for the 8-hour ozone standard. Therefore, VOC and NO<sub>x</sub> emissions were reviewed pursuant to the requirements for 326 IAC 2-1.1-5 (Nonattainment New Source Review).
- (b) Warwick County has been classified as attainment or unclassifiable for PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>2</sub>, CO and Lead. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

**Source Status**

Existing Source PSD or Emission Offset Definition (emissions after controls, based upon 8760 hours of operation per year at rated capacity and/or as otherwise limited):

| Pollutant        | Emissions (tons/year) |
|------------------|-----------------------|
| PM               | Greater than 100      |
| PM <sub>10</sub> | Greater than 100      |
| SO <sub>2</sub>  | Greater than 100      |
| VOC              | Greater than 100      |
| CO               | Greater than 100      |
| NO <sub>x</sub>  | Greater than 100      |

This existing source is a major stationary source because an attainment regulated pollutant is emitted at a rate of one hundred (100) tons per year or more, and since this source is a primary aluminum reduction source, it is one of the 28 listed source categories.

These emissions are based upon Alcoa, Inc. - Warwick Operations' 2002 Annual Source Emission Statement.

**Potential to Emit of Modification After Issuance**

The table below summarizes the potential to emit, reflecting all limits, of this Part 70 source modification after controls. The control equipment is considered federally enforceable only after issuance of this Part 70 source modification.

| <b>Pollutant</b>                                 | <b>PM</b><br>(tons/yr) | <b>PM<sub>10</sub></b><br>(tons/yr) | <b>SO<sub>2</sub></b><br>(tons/yr) | <b>VOC</b><br>(tons/yr) | <b>CO</b><br>(tons/yr) | <b>NO<sub>x</sub></b><br>(tons/yr) | <b>HAPs</b><br>(tons/yr) |
|--|------------------------|-------------------------------------|------------------------------------|-------------------------|------------------------|------------------------------------|--------------------------|
| Dust Collector 112A                              | 6.06                   | 6.06                                | -                                  | -                       | -                      | -                                  | -                        |
| Dust Collector 166                               | 6.04                   | 6.04                                | -                                  | -                       | -                      | -                                  | -                        |
| Total Emissions From Dry Alumina Handling System | 12.1                   | 12.1                                | -                                  | -                       | -                      | -                                  | -                        |
| PSD Significant Levels                           | 25                     | 15                                  | 40                                 | 40                      | 100                    | 40                                 | -                        |

In Condition D.1.2 of S.M. 173-11342-00007, issued on May 23, 2000, the source limited the alumina handling system to less than 24.0 tons of PM per year and 14.0 tons of PM<sub>10</sub> per year, which are both less than PSD significant levels.

As part of this modification, Alcoa, Inc. - Warwick Operations has elected to change Condition D.1.2 of S.M. 173-11342-00007 to the following:

- (a) PM and PM<sub>10</sub> emissions from Dust Collector 112A shall each not exceed 0.006 grain per dry standard cubic foot at a flow rate of 26,900 actual cubic feet per minute, equivalent to 1.38 pounds of PM and PM<sub>10</sub> per hour, each.
- (b) PM and PM<sub>10</sub> emissions from Dust Collector 166 shall each not exceed 0.023 grain per dry standard cubic foot at a flow rate of 7,000 actual cubic feet per minute, equivalent to 1.38 pounds of PM and PM<sub>10</sub> per hour, each.
- (c) The pound per hour equivalencies in paragraphs (a) and (b) are equivalent to 6.06 tons of PM and PM<sub>10</sub> per year, each, from Dust Collector 112A and 6.04 tons of PM and PM<sub>10</sub> per year, each from Dust Collector 166. As a result, the limits in paragraphs (a) and (b) are also equivalent to a total of 12.1 tons of PM and PM<sub>10</sub> per year, each from the entire alumina handling system.

The modification involving the alumina handling system (S.M. 173-11342-00007, issued on May 23, 2000) continues to be a modification to an existing major stationary source that is not major since the revised emission increases from that modification which have resulted from this modification are less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

**Part 70 Permit Determination**

326 IAC 2-7 (Part 70 Permit Program)

This existing source submitted their Part 70 (T 173-6627-00007) application on September 19, 1996. The alumina handling system that is being reviewed under this permit shall be incorporated into the

submitted Part 70 application.

### **Federal Rule Applicability**

- (a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this proposed modification.
- (b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14, 326 IAC 20, 40 CFR 61 and 40 CFR Part 63) applicable to this proposed modification.
- (c) This modification does involve a pollutant-specific emissions unit as defined in 40 CFR 64.1 for PM and PM<sub>10</sub>:
  - (1) with the potential to emit before controls equal to or greater than the major source threshold for PM and PM<sub>10</sub>;
  - (2) that is subject to an emission limitation or standard for PM and PM<sub>10</sub>; and
  - (3) uses a control device as defined in 40 CFR 64.1 to comply with that emission limitation or standard.Therefore, the requirements of 40 CFR Part 64, Compliance Assurance Monitoring, are applicable to this modification.
- (d) The pollutant-specific emission unit is not a "large unit" as described in 40 CFR 64.5. Therefore, the Permittee shall submit a CAM plan pursuant to 40 CFR 64 as part of the Part 70 Renewal application.

### **State Rule Applicability - Individual Facilities**

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

- (a) This source is one of the 28 listed source categories and therefore, fugitive emissions are counted toward the determination of PSD applicability.
- (b) In order to revise the limited potential to emit from the alumina handling system such that the potential to emit PM and PM<sub>10</sub> will remain less than twenty five (25) tons of PM per year and less than fifteen (15) tons of PM<sub>10</sub> per year, the following PM and PM<sub>10</sub> limits are proposed for Dust Collectors 112A and 166:
  - (1) PM and PM<sub>10</sub> emissions from Dust Collector 112A shall each not exceed 0.006 grain per dry standard cubic foot at a flow rate of 26,900 actual cubic feet per minute, equivalent to 1.38 pounds of PM and PM<sub>10</sub> per hour, each; and
  - (2) PM and PM<sub>10</sub> emissions from Dust Collector 166 shall each not exceed 0.023 grain per dry standard cubic foot at a flow rate of 7,000 actual cubic feet per minute, equivalent to 1.38 pounds of PM and PM<sub>10</sub> per hour, each.

Compliance with the limits in paragraphs (b)(1) and (b)(2) shall render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable to this modification.

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

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable PM emission rate from the emission units in the alumina handling system shall not exceed a total of 51.3 pounds per hour when operating at a total (system-wide) process weight rate of 100 tons of alumina per hour. The allowable PM emission rate was calculated with the following equation.

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

$$E = 55.0 P^{0.11} - 40 \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

The dust collectors for the alumina handling system will be in operation at all times the alumina handling system is in operation, in order to comply with this limit.

### Testing Requirements

Since there are PM and PM<sub>10</sub> emission rate limits to render the requirements of a major PSD modification not applicable to this modification, the following stack testing requirement will be incorporated into this modification:

Within 180 days after the issuance of this permit, in order to demonstrate compliance with the 326 IAC 6-3-2 as well as 326 IAC 2-2 PM and PM<sub>10</sub> limits, the Permittee shall perform PM and PM<sub>10</sub> testing on Dust Collectors 112A and 166 utilizing methods as approved by the Commissioner. These tests shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. PM<sub>10</sub> includes filterable and condensible PM<sub>10</sub>. Testing shall be conducted in accordance with Section C- Performance Testing.

### Compliance Requirements

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

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

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

Dust Collectors 112A and 166 have applicable compliance monitoring requirements as specified below:

- (a) The Permittee shall install and operate a continuous bag leak detection system for each dust collector stack exhaust (112A and 166) in the alumina handling system. The bag leak detection system shall meet the following requirements:

- (1) Each electrodynamic bag leak detection system shall be installed, calibrated, operated, and maintained in accordance with manufacturer's specifications.
- (2) The Permittee shall calibrate each bag leak detection system such that:
  - (A) For Dust Collector 112A, the bag leak detection alarm shall activate whenever PM and/or PM<sub>10</sub> emissions from Stack 112A are greater than or equal to 0.0030 grains per dry standard cubic foot at a flow rate of 26,900 actual cubic feet per minute, equivalent to greater than or equal to 0.692 pounds of PM and/or PM<sub>10</sub> per hour.
  - (B) For Dust Collector 166, the bag leak detection alarm shall activate whenever PM and/or PM<sub>10</sub> emissions from Stack 166 are greater than or equal to 0.0115 grains per dry standard cubic foot at a flow rate of 7,000 actual cubic feet per minute, equivalent to greater than or equal to 0.690 pounds of PM and/or PM<sub>10</sub> per hour.

Failure to comply with the requirements in paragraphs (a)(2)(A) and (a)(2)(B) will be considered a deviation from the permit.

- (3) In order to ensure compliance with paragraphs (b)(1) and (b)(2) of this condition, the Permittee shall perform annual calibration tests utilizing methods as approved by the Commissioner.
- (4) The bag leak detection system shall be certified by the manufacturer to be capable of detecting PM emissions at concentrations down to ten (10) milligrams per actual cubic meter (0.0044 grains per actual cubic foot).
- (5) The bag leak detection system sensor shall provide output of relative or absolute PM loadings.
- (6) The bag leak detection system shall be equipped with a device to continuously record the output signal from the sensor.
- (7) The bag leak detection system shall be equipped with an alarm system that will sound automatically when an increase in relative PM emissions over a preset level is detected. The alarm shall be located where it is easily heard by plant operating personnel.
- (8) For negative pressure or induced air fabric filters, the bag leak detector shall be installed downstream of the fabric filter.
- (9) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors.
- (10) The baseline output shall be established by adjusting the range and the averaging period of the device and establishing the alarm set points and the alarm delay time.
- (11) Following initial adjustment of the system, the Permittee shall not adjust the sensitivity or range, averaging period, alarm set points, or alarm delay time except as detailed in the Compliance Response Plan. In no case may the sensitivity be increased by more than one hundred (100%) percent or decreased more than fifty (50%) percent over a 365-day period unless such adjustment follows a complete

fabric filter inspection which demonstrates that the fabric filter is in good operating condition.

- (12) In the event that a bag leak detection system should malfunction, fail or otherwise need repair, the Permittee shall perform visible emissions notations of the stack exhausts associated with that bag leak detection system as follows:
- (A) Daily visible emission notations of the dust collector stack exhausts shall be performed during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.
  - (B) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
  - (C) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
  - (D) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
  - (E) The Compliance Response Plan for the alumina handling system shall contain troubleshooting contingency and response steps for when an abnormal emission is observed. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.
- (b) In the event that a bag leak detection system alarm is activated for any reason, the same corrective actions specified in the Compliance Response Plan for use during periods of startup, shutdown, and malfunction, shall be followed to correct the cause for the alarm, regardless of whether the alarm is caused by a malfunction as defined, the Permittee shall take the following response steps:
- (1) For Dust Collectors 112A and 166 which are single compartment baghouses, if failure is indicated by a bag leak detection alarm activation that is not a false alarm, or if bag failure is determined by other means, such as daily visible emissions notations and/or daily checks of the particulate concentration readings from electrodynamic bag leak detectors, then the associated process will be shut down after four (4) hours of operation following bag failure if the failed units have not been repaired or replaced. Operations may continue after four (4) hours of operation following bag failure only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section C - Emergency Provisions).
  - (2) After bag failure, if the alumina handling system continues to operate, until the failed bag is repaired or replaced, in order to demonstrate compliance with the PSD Minor limits, the Permittee shall calculate hourly PM and PM<sub>10</sub> emission rates from the alumina handling system as follows:
    - (A) PM and PM<sub>10</sub> emissions from Dust Collector 112A in pounds per hour shall be calculated using the following equation:

$$E = 0.0186 * P_{112A} \text{ where } E = \text{PM or PM}_{10} \text{ Emission Rate (lbs/hr), and}$$
$$P_{112A} = \text{Alumina Throughput (tons/hr)}$$

- (B) PM and PM<sub>10</sub> emissions from Dust Collector 166 in pounds per hour shall be calculated using the following equation:

$$E = 0.0026 * P_{166} \text{ where } E = \text{PM or PM}_{10} \text{ Emission Rate (lbs/hr), and}$$
$$P_{166} = \text{Alumina Throughput (tons/hr)}$$

These monitoring conditions are necessary because Dust Collectors 112A and 166 must operate properly to comply with 326 IAC 6-3-2, 326 IAC 2-2, and 326 IAC 2-7 (Part 70).

### Changes To Existing Source Modification

The permit conditions proposed in this modification are consistent with requirements of SSM 173-11342-00007, issued on May 23, 2000. Changed A, C, and D Section conditions from SSM 173-11342-00007 as a result of this modification will appear with deletions as ~~strikeouts~~ and new language in **bold** as follows:

#### Change 1:

The Office of Air Management (OAM) is now known as the Office of Air Quality (OAQ). This change will be implemented throughout this modification.

#### Change 2:

Section A will be revised due to changes in the alumina handling system's equipment list as well as a change in the county attainment status for ozone. The changes to Section A will be as follows:

### SECTION A

### SOURCE SUMMARY

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

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

The Permittee owns and operates ~~an alumina production foundry~~ **a primary aluminum reduction source.**

|                              |   |
|------------------------------|---|
| Responsible Official:        | <del>Mr. Melvin W. Lager</del> <b>Vice President &amp; General Manager</b>                                      |
| Source Address:              | Junction <del>State Routes</del> <b>Indiana Highways</b> 66 and 61, Newburgh, Indiana 47629                     |
| Mailing Address:             | Bldg. 860 E, P.O. Box 10, Newburgh, Indiana 47629-0010  |
| General Source Phone Number: | 812 - 853 - 1519  |
| SIC Code:                    | 3334  |
| County Location:             | Warrick   |
| Source Location Status:      | <b>Nonattainment for ozone under the 8-hour standard</b><br>Attainment for all <b>other</b> criteria pollutants |
| Source Status:               | Part 70 Permit Program<br>Major Source, under PSD Rules <b>and Nonattainment NSR</b> ;                          |

Major Source, Section 112 of the Clean Air Act  
**1 of 28 Source Categories**

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

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

**Alumina Handling System:**

(+) (a) The following emission units **in the alumina handling system** ~~exhausting to~~ **are equipped with Dust Collector 112A-4, exhausting to Stack 112A:**

- (a) (1) Enriched Alumina Truck Unloading (BL-08), ~~with a maximum capacity: of~~ 60,000 pounds **of enriched alumina** per hour;
- (b) (2) Enriched Alumina Tank 151A Distribution Box (FM-15), ~~with a maximum capacity: of~~ 200,000 pounds **of enriched alumina** per hour;
- (c) (3) Enriched Alumina Tank 151B Distribution Box (FM-16), ~~with a maximum capacity: of~~ 200,000 pounds **of enriched alumina** per hour;
- (d) (4) Enriched Alumina Tank 151A Distribution Airslide (FM-13), ~~with a maximum capacity: of~~ 160,000 pounds **of enriched alumina** per hour;
- (e) (5) Enriched Alumina Tank 151B Distribution Airslide (FM-14), ~~with a maximum capacity: of~~ 160,000 pounds **of enriched alumina** per hour;
- (f) (6) Enriched Alumina Central Distribution Box (FM-12), ~~with a maximum capacity: of~~ 160,000 pounds **of enriched alumina** per hour;
- (g) (7) Enriched Alumina B3/B4/B5/B6 Airslide (FM-11), ~~with a maximum capacity: of~~ 160,000 pounds **of enriched alumina** per hour;
- (h) (8) Enriched Alumina Dense Phase Transporter (VS-01), ~~with a maximum capacity: of~~ 14,000 pounds **of enriched alumina** per hour;
- (i) (9) Fresh Alumina Airslide (FM-01), ~~with a maximum capacity: of~~ 200,000 pounds **of fresh alumina** per hour;
- (j) (10) Fresh Alumina Airslide (FM-02), ~~with a maximum capacity: of~~ 200,000 pounds **of fresh alumina** per hour;
- (k) (11) Fresh Alumina Airlift (AE-01), ~~with a maximum capacity: of~~ 200,000 pounds **of fresh alumina** per hour; **and**
- (l) (12) Fresh Alumina Airlift (AE-02), ~~with a maximum capacity: of~~ 200,000 pounds **of fresh alumina** per hour.

(+) (b) The following emission units **in the alumina handling system** ~~exhausting to~~ **are equipped with Dust Collector 454-1166, exhausting to Stack 166:**

- (a) (1) B3/B4/B5/B6 Alumina Airlift Feed Box (FM-08), ~~with a maximum capacity: of~~

160,000 pounds **of alumina** per hour;

- (b) **(2)** B3/B4/B5 Alumina Airslide (FM-06), ~~with a maximum capacity: of 120,000 pounds of alumina~~ per hour;
- (c) **(3)** B3/B4 Alumina Airslide (FM-04), ~~with a maximum capacity: of 80,000 pounds of alumina~~ per hour;
- (d) **(4)** B3/B4 Alumina Airslide (FM-03), ~~with a maximum capacity: of 80,000 pounds of alumina~~ per hour;
- (e) **(5)** B5 Alumina Vibrating Screen (SC-01), ~~with a maximum capacity: of 40,000 pounds of alumina~~ per hour;
- (f) **(6)** B5 Alumina Airlift (AE-04), ~~with a maximum capacity: of 40,000 pounds of alumina~~ per hour;
- (g) **(7)** B5 Alumina Airslide (FM-07), ~~with a maximum capacity: of 40,000 pounds of alumina~~ per hour;
- (h) **(8)** B6 Alumina Vibrating Screen (SC-02), ~~with a maximum capacity: of 40,000 pounds of alumina~~ per hour;
- (i) **(9)** B6 Alumina Airlift (AE-03), ~~with a maximum capacity: of 40,000 pounds of alumina~~ per hour; **and**
- (j) **(10)** B6 Alumina Airslide (FM-05), ~~with a maximum capacity: of 40,000 pounds of alumina~~ per hour.

**A.3 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)]**  
**[326 IAC 2-7-5(15)]**

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**This source modification does not include any specifically regulated insignificant activities as defined in 326 IAC 2-7-1(21).**

**A.3.4 Part 70 Permit Applicability [326 IAC 2-7-2]**

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

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

**Change 3:**

Condition B.1 will be deleted and since the alumina handling system has been already constructed Condition B.5 (now Condition B.4) will be revised in this modification as follows.

**B.1** ~~Permit No Defense~~

~~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.~~

**B.5 4** Significant Source Modification [326 IAC 2-7-10.5(h)]

~~This document shall also become the approval to operate pursuant to 326 IAC 2-7-10.5(h) when, prior to start of operation, the following requirements are met as follows:~~

- ~~(a) The attached affidavit of construction shall be submitted to the Office of Air Management (OAM), Permit Administration & Development Section, verifying that the emission units were constructed as proposed in the application. The emissions units covered in the Significant Source Modification approval may begin operating on the date the affidavit of construction is postmarked or hand delivered to IDEM if constructed as proposed.~~
- ~~(b) If actual construction of the emissions units differs from the construction proposed in the application, the source may not begin operation until the source modification has been revised pursuant to 326 IAC 2-7-11 or 326 IAC 2-7-12 and an Operation Permit Validation Letter is issued.~~
- ~~(c) If construction is completed in phases; i.e., the entire construction is not done continuously, a separate affidavit must be submitted for each phase of construction. Any permit conditions associated with operation start up dates such as stack testing for New Source Performance Standards (NSPS) shall be applicable to each individual phase.~~
- ~~(d) The Permittee shall receive an Operation Permit Validation Letter from the Chief of the Permit Administration & Development Section and attach it to this document.~~

~~However,~~ In the event that the ~~Title V~~ **Part 70** application is being processed at the same time as this application, the following additional procedures shall be followed for obtaining the right to operate:

- ~~(1)~~ **(a)** If the ~~Title V~~ **Part 70** draft permit has not gone on public notice, then the change/addition covered by the Significant Source Modification will be included in the ~~Title V~~ **Part 70** draft.
- ~~(2)~~ **(b)** If the ~~Title V~~ **Part 70** permit has gone thru final EPA proposal and would be issued ahead of the Significant Source Modification, the Significant Source Modification will go thru a concurrent 45 day EPA review. Then the Significant Source Modification will be incorporated into the final ~~Title V~~ **Part 70** permit at the time of issuance.
- ~~(3)~~ **(c)** If the ~~Title V~~ **Part 70** permit has not gone thru final EPA review and would be issued after the Significant Source Modification is issued, then the Modification would be added to the proposed ~~Title V~~ **Part 70** permit, and the ~~Title V~~ **Part 70** permit will issued after EPA review.

**Change 4:**

Since the facility operation conditions in Section D.1 will be significantly changing as a result of this modification, the general operation conditions in Section C must be updated. The changes to Section C of the permit are as follows:

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

- (a)** If required by specific condition(s) in Section D of this permit, the Permittee shall prepare

and maintain Preventive Maintenance Plans (PMPs) when operation begins, including the following information on each facility:

- (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
- (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and
- (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

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

Indiana Department of Environmental Management  
Compliance Branch, Office of Air ~~Management~~ **Quality**  
100 North Senate Avenue, P. O. Box 6015  
Indianapolis, Indiana 46206-6015

**The PMP and the PMP extension notification do not require the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).**

- (b) The Permittee shall implement the ~~Preventive Maintenance Plans~~ **PMPs** as necessary to ensure that failure to implement a ~~Preventive Maintenance Plan~~ **PMP** does not cause or contribute to a violation of any limitation on emissions or potential to emit.
- (c) **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 contributes to any violation. The PMP does not require the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).**
- (~~e~~) (d) Records of preventive maintenance shall be retained for a period of at least five (5) years. These records shall be kept 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.

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

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

Indiana Department of Environmental Management  
Permits Branch, Office of Air ~~Management~~ **Quality**  
100 North Senate Avenue, P.O. Box 6015  
Indianapolis, Indiana 46206-6015

Any such application should be certified by the “responsible official” as defined by 326 IAC 2-7-1(34) ~~only if a certification is required by the terms of the applicable rule.~~

**C.5 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 Stack Height [326 IAC 1-7]**

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**The Permittee shall comply with the applicable provisions of 326 IAC 1-7 (Stack Height Provisions), for all exhaust stacks through which a potential (before controls) of twenty-five (25) tons per year or more of particulate matter or sulfur dioxide is emitted by using ambient air quality modeling pursuant to 326 IAC 1-7-4.**

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

**C.6.8 Performance Testing [326 IAC 3-6] [326 IAC 2-1.1-11]**

(a) Compliance testing on new emission units shall be conducted within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up, if specified in Section D of this approval. All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this approval, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, ~~OM~~ **OAQ**.

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

Indiana Department of Environmental Management  
Compliance Data Section, Office of Air Management ~~Quality~~ **Quality**  
100 North Senate Avenue, P. O. Box 6015  
Indianapolis, Indiana 46206-6015

no later than thirty-five (35) days prior to the intended test date. ~~The Permittee shall notify IDEM, OM of the actual date at least two weeks prior to the test date.~~ **The protocol submitted by the Permittee does not require certification by the "responsible official" as defined by 326 IAC 2-7-1(34).**

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

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

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

**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. Any monitoring or testing shall be performed in accordance with 326 IAC 3 or other methods approved by the commissioner or the U.S. EPA.**

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

**C.7 10 Compliance Monitoring [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]**

~~All monitoring and record keeping requirements not already legally required shall be implemented upon permit issuance. If required by Section D, the Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. If due to circumstances beyond its control, that equipment cannot be installed and operated within ninety (90) days, the Permittee may extend the compliance schedule related to the equipment for an additional ninety (90) days provided the Permittee notifies:~~

~~Indiana Department of Environmental Management  
Compliance Branch, Office of Air Management  
100 North Senate Avenue, P. O. Box 6015  
Indianapolis, Indiana 46206-6015~~

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

~~The notification which shall be submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).~~

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

**C.11 Monitoring Methods [326 IAC 3] [40 CFR 60] [40 CFR 63]**

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

**C.12 Pressure Gauge and Other Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]**

- (a) Whenever a condition in this permit requires the measurement of pressure drop across any part of the unit or its control device, the gauge employed shall have a scale such that the expected normal reading shall be no less than twenty percent (20%) of full scale and be accurate within plus or minus two percent ( $\pm 2\%$ ) of full scale reading.**
- (b) Whenever a condition in this permit requires the measurement of a flow rate, the instrument employed shall have a scale such that the expected normal reading shall be no less than twenty percent (20%) of full scale and be accurate within plus or minus two percent ( $\pm 2\%$ ) of full scale reading.**
- (c) The Permittee may request the IDEM, OAQ approve the use of a pressure gauge or other instrument that does not meet the above specifications provided the Permittee can demonstrate an alternative pressure gauge or other instrument specification will adequately ensure compliance with permit conditions requiring the measurement of pressure drop or other parameters.**

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

~~C.8 Compliance Monitoring Plan - Failure to Take Response Steps [326 IAC 2-7-5][326 IAC 2-7-6][326 IAC 1-6]~~

- ~~(a) The Permittee is required to implement a compliance monitoring plan to ensure that reasonable information is available to evaluate its continuous compliance with applicable requirements. The compliance monitoring plan can be either an entirely new document, consisting of whole information contained in other documents, or consist of a combination of new information and information contained in other documents. If the compliance monitoring plan incorporates, by reference, information contained in other documents, the Permittee shall identify, as part of the compliance monitoring plan, the documents in which the information is found. The elements of the compliance monitoring are:~~
- ~~(1) This condition;~~
  - ~~(2) The Compliance Determination Requirements in Section D of this approval;~~
  - ~~(3) The Compliance Monitoring Requirements in Section D of this approval;~~
  - ~~(4) The Record Keeping and Reporting Requirements in Section C (Monitoring Data Availability, General Record Keeping Requirements, and General Reporting Requirements) and in Section D of this approval; and~~
  - ~~(5) A Compliance Response Plan (CRP) for each compliance monitoring condition of this approval. CRPs shall be submitted to IDEM, OAM upon request and shall be subject to review and approval by IDEM, OAM. The CRP shall be prepared within ninety (90) days after issuance of this approval by the Permittee and maintained on site, and is comprised of:~~
    - ~~(A) Response steps that will be implemented in the event that compliance related information indicates that a response step is needed pursuant to the requirements of Section D of this approval; and~~
    - ~~(B) A time schedule for taking such response steps including a schedule for devising additional response steps for situations that may not have been predicted.~~
- ~~(b) For each compliance monitoring condition of this approval, appropriate response steps shall be taken when indicated by the provisions of that compliance monitoring condition. Failure to perform the actions detailed in the compliance monitoring conditions or failure to take the response steps within the time prescribed in the Compliance Response Plan, shall constitute a violation of the approval unless taking the response steps set forth in the Compliance Response Plan would be unreasonable.~~
- ~~(c) After investigating the reason for the excursion, the Permittee is excused from taking further response steps for any of the following reasons:~~
- ~~(1) The monitoring equipment malfunctioned, giving a false reading. This shall be an excuse from taking further response steps providing that prompt action was taken to correct the monitoring equipment.~~
  - ~~(2) The Permittee has determined that the compliance monitoring parameters established in the approval conditions are technically inappropriate, has previously submitted a request for an administrative amendment to the approval, and such~~

~~request has not been denied or;~~

~~(3) An automatic measurement was taken when the process was not operating; or~~

~~(4) The process has already returned to operating within "normal" parameters and no response steps are required.~~

~~(d) Records shall be kept of all instances in which the compliance related information was not met and of all response steps taken. In the event of an emergency, the provisions of 326 IAC 2-7-16 (Emergency Provisions) requiring prompt corrective action to mitigate emissions shall prevail.~~

**C.13 Compliance Response Plan - Preparation, Implementation, Records, and Reports [326 IAC 2-7-5] [326 IAC 2-7-6]**

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**(a) The Permittee is required to prepare a Compliance Response Plan (CRP) for each compliance monitoring condition of this permit. A CRP shall be submitted to IDEM, OAQ upon request. The CRP shall be prepared within ninety (90) days after issuance of this permit by the Permittee, supplemented from time to time by the Permittee, maintained on site, and comprised of:**

**(1) Reasonable response steps that may be implemented in the event that a response step is needed pursuant to the requirements of Section D of this permit; and an expected timeframe for taking reasonable response steps.**

**(2) If, at any time, the Permittee takes reasonable response steps that are not set forth in the Permittee's current Compliance Response Plan and the Permittee documents such response in accordance with subsection (e) below, the Permittee shall amend its Compliance Response Plan to include such response steps taken.**

**(b) For each compliance monitoring condition of this permit, reasonable response steps shall be taken when indicated by the provisions of that compliance monitoring condition as follows:**

**(1) Reasonable response steps shall be taken as set forth in the Permittee's current Compliance Response Plan; or**

**(2) If none of the reasonable response steps listed in the Compliance Response Plan is applicable or responsive to the excursion, the Permittee shall devise and implement additional response steps as expeditiously as practical. Taking such additional response steps shall not be considered a deviation from this permit so long as the Permittee documents such response steps in accordance with this condition.**

**(3) If the Permittee determines that additional response steps would necessitate that the emissions unit or control device be shut down, and it will be ten (10) days or more until the unit or device will be shut down, then the Permittee shall promptly notify IDEM, OAQ of the expected date of the shut down, the status of the applicable compliance monitoring parameter with respect to normal, and the results of the actions taken up to the time of notification.**

**(4) Failure to take reasonable response steps shall constitute a violation of the permit.**

- (c) **The Permittee is not required to take any further response steps for any of the following reasons:**
  - (1) **A false reading occurs due to the malfunction of the monitoring equipment and prompt action was taken to correct the monitoring equipment.**
  - (2) **The Permittee has determined that the compliance monitoring parameters established in the permit conditions are technically inappropriate, has previously submitted a request for a minor permit modification to the permit, and such request has not been denied.**
  - (3) **An automatic measurement was taken when the process was not operating.**
  - (4) **The process has already returned or is returning to operating within “normal” parameters and no response steps are required.**
- (d) **When implementing reasonable steps in response to a compliance monitoring condition, if the Permittee determines that an exceedance of an emission limitation has occurred, the Permittee shall report such deviations pursuant to Section C - Deviations from Permit Requirements and Conditions.**
- (e) **The Permittee shall record all instances when response steps are taken. In the event of an emergency, the provisions of 326 IAC 2-7-16 (Emergency Provisions) requiring prompt corrective action to mitigate emissions shall prevail.**
- (f) **Except as otherwise provided by a rule or provided specifically in Section D, all monitoring as required in Section D shall be performed when the emission unit is operating, except for time necessary to perform quality assurance and maintenance activities.**

**C.14 Emergency Provisions [326 IAC 2-7-16]**

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

covered or reasonably should have been discovered;

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

Telephone Number: 317-233-5674 (ask for Compliance Section)

Facsimile Number: 317-233-5967

Southwest Regional Office: 812-380-2305, facsimile 812-380-2304

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

Indiana Department of Environmental Management  
Compliance Branch, Office of Air Quality  
100 North Senate Avenue, P. O. Box 6015  
Indianapolis, Indiana 46206-6015

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

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

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

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

- (6) The Permittee immediately took all reasonable steps to correct the emergency.
- (c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.
  - (d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.
  - (e) IDEM, OAQ, may require that the Preventive Maintenance Plans required under 326 IAC 2-7-4-(c)(10) be revised in response to an emergency.
  - (f) Failure to notify IDEM, OAQ, by telephone or facsimile of an emergency lasting more than one (1) hour in accordance with (b)(4) and (5) of this condition shall constitute a violation of 326 IAC 2-7 and any other applicable rules.
  - (g) If the emergency situation causes a deviation from a technology-based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.

**C.15 Deviations from Permit Requirements and Conditions [326 IAC 2-7-5(3)(C)(ii)] [326 IAC 2-7-6]**

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

**Indiana Department of Environmental Management  
Compliance Data Section, Office of Air Quality  
100 North Senate Avenue, P.O. Box 6015  
Indianapolis, Indiana 46206-6015**

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

**The Quarterly Deviation and Compliance Monitoring Report does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).**

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

**C.916 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5] [326 IAC 2-7-6]**

- (a) ~~When the results of a stack test performed in conformance with Section C - Performance Testing, of this approval permit exceed the level specified in any condition of this approval permit, the Permittee shall take appropriate corrective-response actions. The Permittee shall submit a description of these corrective-response actions to IDEM, OAM OAQ, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize excess emissions from the affected facility while the corrective response actions are being implemented. IDEM, OAM shall notify the Permittee within thirty (30) days, if the corrective actions taken are deficient. The Permittee shall submit a description of additional corrective action taken to IDEM, OAM within thirty (30) days of receipt of the notice of deficiency. IDEM, OAM reserves the authority to use enforcement activities to resolve noncompliant stack tests.~~
- (b) ~~A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAQ that retesting in one hundred and twenty (120) days is not practicable, IDEM, OAQ may extend the retesting deadline. Failure of the second test to demonstrate compliance with the appropriate approval conditions may be grounds for immediate revocation of the approval to operate the affected facility.~~
- (c) **IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.**

~~The documents submitted pursuant to this condition do not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).~~

**Record Keeping and Reporting Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(3)]**

**C.10 Monitoring Data Availability [326 IAC 2-7-6(1)] [326 IAC 2-7-5(3)]**

- (a) ~~With the exception of performance tests conducted in accordance with Section C - Performance Testing, all observations, sampling, maintenance procedures, and record keeping, required as a condition of this approval shall be performed at all times the~~

equipment is operating at normal representative conditions:

- (b) ~~As an alternative to the observations, sampling, maintenance procedures, and record keeping of subsection (a) above, when the equipment listed in Section D of this approval is not operating, the Permittee shall either record the fact that the equipment is shut down or perform the observations, sampling, maintenance procedures, and record keeping that would otherwise be required by this approval.~~
- (c) ~~If the equipment is operating but abnormal conditions prevail, additional observations and sampling should be taken with a record made of the nature of the abnormality.~~
- (d) ~~If for reasons beyond its control, the operator fails to make required observations, sampling, maintenance procedures, or record keeping, reasons for this must be recorded.~~
- (e) ~~At its discretion, IDEM may excuse such failure providing adequate justification is documented and such failures do not exceed five percent (5%) of the operating time in any quarter.~~
- (f) ~~Temporary, unscheduled unavailability of staff qualified to perform the required observations, sampling, maintenance procedures, or record keeping shall be considered a valid reason for failure to perform the requirements stated in (a) above.~~

C.4417 General Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-6]

- (a) Records of all required data, reports and support information 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 kept at the source location for a minimum of three (3) years and available upon the request of an IDEM, OAM representative. 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) ~~Records of required monitoring information shall include, where applicable:~~
  - (1) ~~The date, place, and time of sampling or measurements;~~
  - (2) ~~The dates analyses were performed;~~
  - (3) ~~The company or entity performing the analyses;~~
  - (4) ~~The analytic techniques or methods used;~~
  - (5) ~~The results of such analyses; and~~
  - (6) ~~The operating conditions existing at the time of sampling or measurement.~~
- (c) ~~Support information shall include, where applicable:~~
  - (1) ~~Copies of all reports required by this approval;~~
  - (2) ~~All data, electronic or otherwise, for continuous monitoring instrumentation;~~
  - (3) ~~All calibration and maintenance records;~~
  - (4) ~~Records of preventive maintenance shall be sufficient to demonstrate that failure to~~

~~implement the Preventive Maintenance Plan did not cause or contribute to a violation of any limitation on emissions or potential to emit.~~

- ~~(d)~~**(b) Unless otherwise specified in this permit, All** record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance.

**C.1218 General Reporting Requirements [326 IAC 2-7-5(3)(C)]**

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- (a) The reports required by conditions in Section D of this permit shall be submitted to:
- Indiana Department of Environmental Management  
Compliance Data Section, ~~Office of Air Management~~ **Office of Air Quality**  
100 North Senate Avenue, P. O. Box 6015  
Indianapolis, Indiana 46206-6015
- (b) Unless otherwise specified in this ~~approval~~ **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, ~~OAM~~ **OAQ**, on or before the date it is due.
- (c) Unless otherwise specified in this permit, all reports required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. All reports do require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).
- (d) The first report shall cover the period commencing on the date of issuance of this permit and ending on the last day of the reporting period. Reporting periods are based on calendar years.

**Change 5:**

As a result of Change 1 the equipment description box in Section D.1 will also be revised. In addition, since the source as part of their modification has requested to change the existing PM and/or PM<sub>10</sub> limitations on the alumina handling system in Conditions D.1.1 and D.1.2, Section D.1 will be revised as follows:

SECTION D.1

FACILITY OPERATION CONDITIONS

**Facility Description [326 IAC 2-7-5(15)]:** ~~(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions)~~ **Alumina Handling System:**

~~(1)~~ **(a)** The following emission units **in the alumina handling system** ~~exhausting to~~ **are equipped with Dust Collector 112A-4, exhausting to Stack 112A:**

- ~~(a)~~ **(1)** Enriched Alumina Truck Unloading (BL-08), ~~with a maximum capacity: of~~ **60,000 pounds of enriched alumina** per hour;
- ~~(b)~~ **(2)** Enriched Alumina Tank 151A Distribution Box (FM-15), ~~with a maximum capacity: of~~ **200,000 pounds of enriched alumina** per hour;
- ~~(c)~~ **(3)** Enriched Alumina Tank 151B Distribution Box (FM-16), ~~with a maximum capacity: of~~ **200,000 pounds of enriched alumina** per hour;
- ~~(d)~~ **(4)** Enriched Alumina Tank 151A Distribution Airslide (FM-13), ~~with a maximum capacity: of~~ **160,000 pounds of enriched alumina** per hour;
- ~~(e)~~ **(5)** Enriched Alumina Tank 151B Distribution Airslide (FM-14), ~~with a maximum capacity: of~~ **160,000 pounds of enriched alumina** per hour;
- ~~(f)~~ **(6)** Enriched Alumina Central Distribution Box (FM-12), ~~with a maximum capacity: of~~ **160,000 pounds of enriched alumina** per hour;
- ~~(g)~~ **(7)** Enriched Alumina B3/B4/B5/B6 Airslide (FM-11), ~~with a maximum capacity: of~~ **160,000 pounds of enriched alumina** per hour;
- ~~(h)~~ **(8)** Enriched Alumina Dense Phase Transporter (VS-01), ~~with a maximum capacity: of~~ **14,000 pounds of enriched alumina** per hour;
- ~~(i)~~ **(9)** Fresh Alumina Airslide (FM-01), ~~with a maximum capacity: of~~ **200,000 pounds of fresh alumina** per hour;
- ~~(j)~~ **(10)** Fresh Alumina Airslide (FM-02), ~~with a maximum capacity: of~~ **200,000 pounds of fresh alumina** per hour;
- ~~(k)~~ **(11)** Fresh Alumina Airlift (AE-01), ~~with a maximum capacity: of~~ **200,000 pounds of fresh alumina** per hour; **and**
- ~~(l)~~ **(12)** Fresh Alumina Airlift (AE-02), ~~with a maximum capacity: of~~ **200,000 pounds of fresh alumina** per hour.

~~(2)~~ **(b)** The following emission units **in the alumina handling system** ~~exhausting to~~ **are equipped with Dust Collector 154-1166, exhausting to Stack 166:**

- ~~(a)~~ **(1)** B3/B4/B5/B6 Alumina Airlift Feed Box (FM-08), ~~with a maximum capacity: of~~ **160,000 pounds of alumina** per hour;
- ~~(b)~~ **(2)** B3/B4/B5 Alumina Airslide (FM-06), ~~with a maximum capacity: of~~ **120,000 pounds of alumina** per hour;
- ~~(c)~~ **(3)** B3/B4 Alumina Airslide (FM-04), ~~with a maximum capacity: of~~ **80,000 pounds of alumina** per hour;
- ~~(d)~~ **(4)** B3/B4 Alumina Airslide (FM-03), ~~with a maximum capacity: of~~ **80,000 pounds of alumina** per hour;
- ~~(e)~~ **(5)** B5 Alumina Vibrating Screen (SC-01), ~~with a maximum capacity: of~~ **40,000 pounds of alumina** per hour;
- ~~(f)~~ **(6)** B5 Alumina Airlift (AE-04), ~~with a maximum capacity: of~~ **40,000 pounds of alumina** per hour;
- ~~(g)~~ **(7)** B5 Alumina Airslide (FM-07), ~~with a maximum capacity: of~~ **40,000 pounds of alumina** per hour;
- ~~(h)~~ **(8)** B6 Alumina Vibrating Screen (SC-02), ~~with a maximum capacity: of~~ **40,000 pounds of alumina** per hour;
- ~~(i)~~ **(9)** B6 Alumina Airlift (AE-03), ~~with a maximum capacity: of~~ **40,000 pounds of alumina** per hour; **and**
- ~~(j)~~ **(10)** B6 Alumina Airslide (FM-05), ~~with a maximum capacity: of~~ **40,000 pounds of alumina** per hour.

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

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

D.1.1 Particulate Matter (PM) [326 IAC 6-3-2]

**Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate matter (PM) emission rate from for the alumina handling system shall be limited by the following: not exceed a total of 51.3 pounds per hour when operating at a total (system-wide) process weight rate of 100 tons of alumina per hour.**

**The allowable PM emission rate was calculated with the following equation.**

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

$$E = 55.0 P^{0.11} - 40 \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

**The requirements of this condition shall supersede the requirements of Condition D.1.1 of SSM 173-11342-00007, issued on May 23, 2000.**

D.1.2 PSD Minor Limit [326 IAC 2-2] [40 CFR 52.21]

~~The alumina handling system shall be limited to 24.0 tons of PM and 14.0 tons of PM<sub>10</sub>. This limit is required to limit the potential to emit of PM<sub>10</sub> to less than 25.0 tons of PM and 15.0 tons of PM<sub>10</sub> per 12 consecutive month period. Compliance with this limit makes 326 IAC 2-2 (Prevention of Significant Deterioration) and 40 CFR 52.21 not applicable.~~

- (a) **PM and PM<sub>10</sub> emissions from Dust Collector 112A shall each not exceed 0.006 grain per dry standard cubic foot at a flow rate of 26,900 actual cubic feet per minute, equivalent to 1.38 pounds of PM and PM<sub>10</sub> per hour, each.**
- (b) **PM and PM<sub>10</sub> emissions from Dust Collector 166 shall each not exceed 0.023 grain per dry standard cubic foot at a flow rate of 7,000 actual cubic feet per minute, equivalent to 1.38 pounds of PM and PM<sub>10</sub> per hour, each.**
- (c) **Compliance with the limits in paragraphs (a) and (b) of this condition shall ensure that the potential PM emissions from the alumina handling system do not exceed twenty-five (25) tons per year and that the potential PM<sub>10</sub> emissions from the alumina handling system do not exceed fifteen (15) tons per year, which renders the requirements of 326 IAC 2-2 not applicable.**

**The requirements of this condition shall supersede the requirements of Condition D.1.2 of SSM 173-11342-00007, issued on May 23, 2000.**

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

~~A Preventive Maintenance Plan, in accordance with Section B C - Preventive Maintenance Plan, of this permit, is required for this facility the alumina handling system and any its control devices.~~

Compliance Determination Requirements

D.1.4 Testing Requirements [326 IAC 2-7-6(1),(6)] [326 IAC 2-1.1-11]

~~The Permittee is not required to test this facility by this permit. However, IDEM may require compliance testing when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance with the PM limits specified in Conditions D.1.1 and D.1.2 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.~~

**Within 180 days after the issuance of this permit, in order to demonstrate compliance with Conditions D.1.1 and D.1.2, the Permittee shall perform PM and PM<sub>10</sub> testing on Dust Collectors 112A and 166 utilizing methods as approved by the Commissioner. These tests shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. PM<sub>10</sub> includes filterable and condensable PM<sub>10</sub>. Testing shall be conducted in accordance with Section C- Performance Testing.**

**D.1.5 Particulate Matter (PM) Control**

**Pursuant to SSM 173-11342-00007, issued on May 23, 2000, and in order to comply with Conditions D.1.1 and D.1.2, The baghouses Dust Collectors 112A and 166 for PM particulate control shall be in operation and control emissions from the alumina handling system at all times that the alumina handling system is in operation.**

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

**D.1.6. Bag Leak Detection System**

~~The facility must install and operate a bag leak detection system. Upon installation of a triboelectric bag leak detection system, the Permittee must operate the detection system pursuant to U.S. EPA guidance entitled Fabric Filter Bag Leak Detection Guidance (dated 1997 September). This document is available from the US EPA, Office of Air Quality Planning and Standards, Monitoring and Analysis Division, Emissions Measurement Center (MD-18), Research Triangle Park, NC 27711. Other bag leak detection systems must be installed, operated, calibrated and maintained in accordance with the manufacturers written specifications.~~

**The Permittee shall install and operate a continuous bag leak detection system for each dust collector stack exhaust (112A and 166) in the alumina handling system. The bag leak detection system shall meet the following requirements:**

- (a) Each electrodynamic bag leak detection system shall be installed, calibrated, operated, and maintained in accordance with manufacturer's specifications.**
- (b) The Permittee shall calibrate each bag leak detection system such that:
  - (1) For Dust Collector 112A, the bag leak detection alarm shall activate whenever PM and/or PM<sub>10</sub> emissions from Stack 112A are greater than or equal to 0.0030 grains per dry standard cubic foot at a flow rate of 26,900 actual cubic feet per minute, equivalent to greater than or equal to 0.692 pounds of PM and/or PM<sub>10</sub> per hour.**
  - (2) For Dust Collector 166, the bag leak detection alarm shall activate whenever PM and/or PM<sub>10</sub> emissions from Stack 166 are greater than or equal to 0.0115 grains per dry standard cubic foot at a flow rate of 7,000 actual cubic feet per minute, equivalent to greater than or equal to 0.690 pounds of PM and/or PM<sub>10</sub> per hour.****

**Failure to comply with the requirements in paragraphs (b)(1) and (b)(2) of this condition shall be considered a deviation from this permit.**

- (c) In order to ensure compliance with paragraphs (b)(1) and (b)(2) of this condition, the Permittee shall perform annual calibration tests utilizing methods as approved by the Commissioner.**
- (d) The bag leak detection system shall be certified by the manufacturer to be capable of**

**detecting PM emissions at concentrations down to ten (10) milligrams per actual cubic meter (0.0044 grains per actual cubic foot).**

- (e) The bag leak detection system sensor shall provide output of relative or absolute PM loadings.**
- (f) The bag leak detection system shall be equipped with a device to continuously record the output signal from the sensor.**
- (g) The bag leak detection system shall be equipped with an alarm system that will sound automatically when an increase in relative PM emissions over a preset level is detected. The alarm shall be located where it is easily heard by plant operating personnel.**
- (h) For negative pressure or induced air fabric filters, the bag leak detector shall be installed downstream of the fabric filter.**
- (i) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors.**
- (j) The baseline output shall be established by adjusting the range and the averaging period of the device and establishing the alarm set points and the alarm delay time.**
- (k) Following initial adjustment of the system, the Permittee shall not adjust the sensitivity or range, averaging period, alarm set points, or alarm delay time except as detailed in the Compliance Response Plan. In no case may the sensitivity be increased by more than one hundred (100%) percent or decreased more than fifty (50%) percent over a 365-day period unless such adjustment follows a complete fabric filter inspection which demonstrates that the fabric filter is in good operating condition.**
- (l) If the bag leak detection system is inoperable, the facility shall conduct visible emission notations according to the following procedures, until the bag leak detection system is operable: In the event that a bag leak detection system should malfunction, fail or otherwise need repair, the Permittee shall perform visible emissions notations of the stack exhausts associated with that bag leak detection system as follows:**
  - (a)-(1) Daily visible emission notations of the baghouse dust collector stack exhausts shall be performed during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.**
  - (b)-(2) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.**
  - (c)-(3) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.**
  - (4) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.**

- (5) The Compliance Response Plan for the alumina handling system shall contain troubleshooting contingency and response steps for when an abnormal emission is observed. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

~~(d) At startup of the process, an employee shall be considered trained if he has received instruction on the operation of the source and the control equipment. After one month of operation of the process, an employee shall be considered a trained employee if the employee 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.~~

The requirements of this condition shall supersede the requirements of Condition D.1.6 of SSM 173-11342-00007, issued on May 23, 2000.

#### **D.1.7 Bag Leak Detection Alarm Activation**

In the event that a bag leak detection system alarm is activated for any reason, the same corrective actions specified in the Compliance Response Plan for use during periods of startup, shutdown, and malfunction, shall be followed to correct the cause for the alarm, regardless of whether the alarm is caused by a malfunction as defined, the Permittee shall take the following response steps:

- (a) For Dust Collectors 112A and 166 which are single compartment baghouses, if failure is indicated by a bag leak detection alarm activation that is not a false alarm, or if bag failure is determined by other means, such as daily visible emissions notations and/or daily checks of the particulate concentration readings from electrodynamic bag leak detectors, then the associated process will be shut down after four (4) hours of operation following bag failure if the failed units have not been repaired or replaced. Operations may continue after four (4) hours of operation following bag failure only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section C - Emergency Provisions).
- (b) After bag failure, if the alumina handling system continues to operate, until the failed bag is repaired or replaced, in order to demonstrate compliance with Condition D.1.2, the Permittee shall calculate hourly PM and PM<sub>10</sub> emission rates from the alumina handling system as follows:

- (1) PM and PM<sub>10</sub> emissions from Dust Collector 112A in pounds per hour shall be calculated using the following equation:

$$E = 0.0186 * P_{112A} \quad \text{where } E = \text{PM or PM}_{10} \text{ Emission Rate (lbs/hr), and}$$
$$P_{112A} = \text{Alumina Throughput (tons/hr)}$$

- (2) PM and PM<sub>10</sub> emissions from Dust Collector 166 in pounds per hour shall be calculated using the following equation:

$$E = 0.0026 * P_{166} \quad \text{where } E = \text{PM or PM}_{10} \text{ Emission Rate (lbs/hr), and}$$
$$P_{166} = \text{Alumina Throughput (tons/hr)}$$

**D.1.78 Record Keeping Requirements**

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- ~~(a) To document compliance with Condition D.1.6, the Permittee shall maintain records of the bag leak detection system output, or, as appropriate, of the daily visible emission notations of the baghouse stack exhaust.~~
- ~~(b) To document compliance with Condition D.1.6, the Permittee shall maintain the following:
  - ~~(1) Documentation of all response steps implemented, per event; and~~
  - ~~(2) Operator standard operating procedures (SOP).~~~~
- (a) To document compliance with Condition D.1.6(c), the Permittee shall keep a log of the annual calibration test results. These records shall remain onsite for at least two (2) years after each calibration test.**
- (b) To document compliance with Condition D.1.6(l), the Permittee shall maintain records of daily visible emission notations of the dust collector stack exhausts when the applicable bag leak detection system malfunctions, fails or otherwise needs repair.**
- (c) To document compliance with Condition D.1.7(a), the Permittee shall maintain records of each bag leak detection alarm activation and the response steps taken.**
- (d) To document compliance with Condition D.1.7(b), when bag failure occurs at either Dust Collector 112A or 166, the Permittee shall:
  - (1) Keep records of the amount of time taken to repair or replace the failed bag; and**
  - (2) Keep records of hourly alumina throughput at the dust collector with the failed bag until the failed bag at that dust collector is repaired or replaced.****
- (e) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.**

**The requirements of this condition shall supersede the requirements of Condition D.1.7 of SSM 173-11342-00007, issued on May 23, 2000.**

**Change 6:**

There will be a new source modification certification created for this modification. In addition, since the alumina handling system has already been constructed, the affidavit of construction for the alumina handling system will not be included in this modification.

**Change 7:**

Due to the inclusion of Condition C.15, a Quarterly Deviation and Compliance Monitoring Report will be included in this modification as follows:

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
 OFFICE OF AIR QUALITY  
 COMPLIANCE DATA SECTION**

**PART 70 SOURCE MODIFICATION  
 QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT**

**Source Name:** Alcoa, Inc. - Warrick Operations  
**Source Address:** Junction Indiana Highways 66 & 61, Newburgh, Indiana 47629  
**Mailing Address:** Bldg. 860E, P.O. Box 10, Newburgh, Indiana 47629-0010  
**Source Modification No.** SSM 173-18836-00007

Months: \_\_\_\_\_ to \_\_\_\_\_ Year: \_\_\_\_\_

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

|  |                               |
|--|-------------------------------|
| <b>Permit Requirement (specify permit condition #)</b> |                               |
| <b>Date of Deviation:</b>                              | <b>Duration of Deviation:</b> |
| <b>Number of Deviations:</b>                           |                               |
| <b>Probable Cause of Deviation:</b>                    |                               |
| <b>Response Steps Taken:</b>                           |                               |
| <b>Permit Requirement (specify permit condition #)</b> |                               |
| <b>Date of Deviation:</b>                              | <b>Duration of Deviation:</b> |
| <b>Number of Deviations:</b>                           |                               |
| <b>Probable Cause of Deviation:</b>                    |                               |
| <b>Response Steps Taken:</b>                           |                               |
| <b>Permit Requirement (specify permit condition #)</b> |                               |
| <b>Date of Deviation:</b>                              | <b>Duration of Deviation:</b> |
| <b>Number of Deviations:</b>                           |                               |
| <b>Probable Cause of Deviation:</b>                    |                               |
| <b>Response Steps Taken:</b>                           |                               |

**Form Completed By:** \_\_\_\_\_

**Title/Position:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Phone:** \_\_\_\_\_

**Attach a signed certification to complete this report.**

**Conclusion**

The operation of the alumina handling system shall be subject to the conditions of the attached proposed Significant Source Modification No. 173-18836-00007.

**Indiana Department of Environmental Management  
Office of Air Quality**

Addendum to the Technical Support Document for a  
Significant Source Modification to a Part 70 Operating Permit

|   |   |
|---|---|
| <b>Source Name:</b>                         | <b>Alcoa, Inc. - Warrick Operations</b>                   |
| <b>Source Location:</b>                     | <b>Jct. IN Hwys. 66 &amp; 61, Newburgh, Indiana 47629</b> |
| <b>County:</b>                              | <b>Warrick</b>  |
| <b>SIC Code:</b>                            | <b>3334</b>   |
| <b>Operation Permit No.:</b>                | <b>T 173-6627-00007</b>                                   |
| <b>Significant Source Modification No.:</b> | <b>SSM 173-18836-00007</b>                                |
| <b>Permit Reviewer:</b>                     | <b>Michael S. Schaffer</b>                                |

On January 20, 2005, the Office of Air Quality (OAQ) had a notice published in the Booneville Standard, located in Booneville, Indiana, stating that Alcoa, Inc. - Warrick Operations had applied for a Significant Source Modification to a Part 70 Operating Permit to change the existing Emissions Limitations and Standards, Compliance Determination, Compliance Monitoring, and Record Keeping and Reporting Requirements in Section D.1 of SSM 173-11342-00007, issued on May 23, 2000. The notice also stated that OAQ proposed to issue a Significant Source Modification and provided information on how the public could review the proposed Significant Source Modification and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether this Significant Source Modification to a Part 70 Operating Permit should be issued as proposed.

On February 2, 2005, Ms. Heidi Brackmann of Alcoa, Inc. - Warrick Operations submitted comments on the proposed Significant Source Modification to a Part 70 Operating Permit. The comments are as follows: The permit language, if changed, has deleted language as ~~strikeouts~~ and new language **bolded**.

**Comment 1:**

The general source phone number is incorrect. The correct number is (812) 853-6111

**Response 1:**

At the source's request, the general source phone number in Condition A.1 has been revised as follows:

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

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General Source Phone Number: 812 - 853 - 4549 **6111**

**Comment 2:**

Condition D.1.5 (Particulate Control) states, "In order to comply with Conditions D.1.1 and D.1.2, Dust Collectors 112A and 166 for particulate control shall be in operation and control emissions from the alumina handling system at all time that the alumina handling system is in operation." Because these systems control alumina flow to the potline #5 and Potline #6 A-398 fluidized alumina bed scrubbers and the alumina injection gas Gas Treatment Center dry scrubber, all of which control fluoride emissions (which are HAPs), shutting down alumina flow to these additional pollution controls, in order to comply with the condition, as proposed, would significantly increase fluoride emissions. Please amend Condition D.1.5 to also include, "Except as provided by Conditions(b)(1) and (b)(2)."

### Response 2:

Conditions C.14 (Emergency Provisions) and D.1.7 (Bag Leak Detection Alarm Activation) provide allowances for the source to continue to operate the alumina handling system during emergency and abnormal situations. However, IDEM, OAQ does recognize that it is necessary for Alcoa, Inc. - Warrick Operations to continue operating the alumina handling system even when the dust collectors are not fully functional in order to control fluoride emissions. Therefore, as long as the alumina handling system is being used to control fluoride emissions and not just for the purpose of operating the process, Alcoa, Inc. - Warrick Operations can continue to operate the alumina handling system without the use of fully functional dust collectors even in situations that are not emergencies. As a result, Condition D.1.5 has been revised as follows:

#### D.1.5 Particulate Control

Pursuant to SSM 173-11342-00007, issued on May 23, 2000, and in order to comply with Conditions D.1.1 and D.1.2, **except as necessary to supply alumina to control fluoride emissions**, Dust Collectors 112A and 166 for particulate control shall be in operation and control emissions from the alumina handling system at all times that the alumina handling system is in operation.

### Comment 3:

Condition D.1.7(b) states, "After bag failure, if the alumina handling system continues to operate until the failed bag is repaired or replaced, in order to demonstrate compliance with Condition D.1.2, the Permittee shall calculate hourly PM and PM emission rates from the alumina handling system as follows..." The calculation being triggered if a bag failure is noted should be amended to trigger the calculation when the entire baghouse is taken off-line. It is recommended that if this is of concern the broken bag detector be used to estimate PM emissions from the time the bag is discovered until the time the baghouse is taken off-line.

In addition, Conditions D.1.7(b)(1) and (2) are emissions calculations for each dust collector in the event that either one or the other is down. Based on recent stack tests of the inlets to these dust collectors, the following equations were derived. The nomenclature and units remain the same as the previous equations.

$$\text{Dust Collector 112A: } E = 0.0186 * P_{112A}$$

$$\text{Dust Collector 166: } E = 42.4 * P_{166}$$

### Response 3:

It is noted that Alcoa will not be taking the entire baghouse offline if one (1) bag fails. However, Alcoa cannot guarantee that the failure of one (1) bag will not affect the operations of the other bags in the single compartment baghouse. The equations in Conditions D.1.7(b)(1) and (2) were provided to Alcoa because the alarms for each electrodynamic bag leak detection system have been required to be triggered when the PM emission rate exceed fifty percent (50%) of the limits in Conditions D.1.2(a) and (b). Note the PM<sub>10</sub> emission rate has been assumed to be equal to the PM.

Based on the comment above, it is apparent that Dust Collectors 112A and 166 will not be taken offline, unless the situation is an emergency for which Alcoa would be required to comply with Condition C.14 (Emergency Provisions) in order to continue operating the alumina handling system. Since electrodynamic bag leak detection systems are equipped with data acquisition systems that store and record the hourly PM emission rate, Conditions D.1.7(b) and D.1.8(d) will be revised to account for the replacement of bags during non-emergency situations as follows:

#### D.1.7 Bag Leak Detection Alarm Activation

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- (b) After bag failure, if the alumina handling system continues to operate, until the failed bag is repaired or replaced, ~~in order to demonstrate compliance with Condition D.1.2, the Permittee shall calculate hourly~~ **monitor the hourly PM and PM<sub>10</sub> emission rates from the alumina handling system as follows: recorded by the electrodynamic bag leak detector's data acquisition system until the failed bag is repaired or replaced.**

- (1) ~~PM and PM<sub>10</sub> emissions from Dust Collector 112A in pounds per hour shall be calculated using the following equation:~~

$$E = 0.0186 * P_{112A}$$

where E = PM or PM<sub>10</sub> Emission Rate (lbs/hr), and  
P<sub>112A</sub> = Alumina Throughput (tons/hr)

- (2) ~~PM and PM<sub>10</sub> emissions from Dust Collector 166 in pounds per hour shall be calculated using the following equation:~~

$$E = 0.0026 * P_{166}$$

where E = PM or PM<sub>10</sub> Emission Rate (lbs/hr), and  
P<sub>166</sub> = Alumina Throughput (tons/hr)

#### D.1.8 Record Keeping Requirements

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- (d) To document compliance with Condition D.1.7(b), when bag failure occurs at either Dust Collector 112A or 166, the Permittee shall: **keep a log of the hourly PM and PM<sub>10</sub> emission rates recorded by the electrodynamic bag leak detector's data acquisition system.**
- (1) ~~Keep records of the amount of time taken to repair or replace the failed bag; and~~
- (2) ~~Keep records of hourly alumina throughput at the dust collector with the failed bag until the failed bag at that dust collector is repaired or replaced.~~

Upon further review, the OAQ has decided to make the following changes to the Part 70 Operating Permit: The permit language is changed to read as follows (deleted language appears as ~~strikeouts~~, new language is **bolded**):

##### Change 1:

"P.O. Box 6015" was removed from IDEM, OAQ's mailing address and the zip code for IDEM, OAQ was changed from "46206-6205" to "46204" throughout the entire Part 70 Significant Source Modification.

##### Change 2:

In Condition A.1, the term "Nonattainment NSR" has been replaced with "Emission Offset Rules."

##### Change 3:

The word "potential" has been removed from Condition D.1.2(c) as follows:

#### D.1.2 PSD Minor Limit [326 IAC 2-2]

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- (c) Compliance with the limits in paragraphs (a) and (b) of this condition shall ensure that the ~~potential~~ PM emissions from the alumina handling system do not exceed twenty-five (25) tons

per year and that the ~~potential~~  $PM_{10}$  emissions from the alumina handling system do not exceed fifteen (15) tons per year, which renders the requirements of 326 IAC 2-2 not applicable.

**Change 4:**

In Condition D.1.4, the term "this permit" has been replaced with "SSM 173-18836."

**Change 5:**

The Emergency Occurrence Report form that is mentioned in Condition C.14 (Emergency Provisions) has been added to the end of the permit as follows:

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF AIR QUALITY  
COMPLIANCE BRANCH  
100 North Senate Avenue  
Indianapolis, Indiana 46204  
Phone: 317-233-5674  
Fax: 317-233-5967**

**PART 70 SOURCE MODIFICATION  
EMERGENCY OCCURRENCE REPORT**

**Source Name:** Alcoa, Inc. - Warrick Operations  
**Source Address:** Junction Indiana Highways 66 & 61, Newburgh, Indiana 47629  
**Mailing Address:** Bldg. 860E, P.O. Box 10, Newburgh, Indiana 47629-0010  
**Source Modification No.:** SSM 173-18836-00007

This form consists of 2 page

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- 9** This is an emergency as defined in 326 IAC 2-7-1(12)
- C** The Permittee must notify the Office of Air Quality (OAQ), within four (4) business hours (1-800-451-6027 or 317-233-5674, ask for Compliance Section); and
  - C** The Permittee must submit notice in writing or by facsimile within two (2) working days (Facsimile Number: 317-233-5967), and follow the other requirements of 326 IAC 2-7-16.

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

|  |
|--|
| <b>Facility/Equipment/Operation:</b>                       |
| <b>Control Equipment:</b>                                  |
| <b>Permit Condition or Operation Limitation in Permit:</b> |
| <b>Description of the Emergency:</b>                       |
| <b>Describe the cause of the Emergency:</b>                |

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

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

**Form Completed by:** \_\_\_\_\_

**Title / Position:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Phone:** \_\_\_\_\_

A certification is not required for this report.

**Appendix A: Emission Calculations  
Alumina Handling System**

**Company Name:** Alcoa, Inc. - Warrick Operations  
**Address City IN Zip:** Jct. IN Hwys. 66 & 61, Newburgh, Indiana 47629-0010  
**Permit Number:** SSM 173-18836  
**Plt ID:** 173-00007  
**Reviewer:** Michael S. Schaffer  
**Application Date:** April 12, 2004

| Baghouse ID   | Limited Grain Loading per Actual Cubic foot of Outlet Air (grains/cub. ft.) | Gas or Air Flow Rate (acfm.) | Limited PM Emission Rate After Controls (lb/hr) | Limited Emission Rate After Controls (tons/yr) |
|---------------|---|------------------------------|---|--|
| 112A          | 0.0060  | 26900                        | 1.383   | 6.059  |
| 166.2         | 0.0230  | 7000                         | 1.380   | 6.044  |
| <b>Total:</b> |   |                              | <b>2.76</b>                                     | <b>12.1</b>                                    |

**Methodology**

Limited Emission Rate in lbs/hr (after controls) = (limited grains/cub. ft.) (cub. ft./min.) (60 min/hr) (lb/7000 grains)

Limited Emission Rate in tons/yr = (limited lbs/hr) (8760 hr/yr) (ton/2000 lb)

**Allowable Rate of Emissions Pursuant to 326 IAC 6-3-2**

| Facility                | Maximum Process Rate For Any Facility (lbs/hr) | Process Weight Rate (tons/hr) | Allowable Emissions (lbs/hr) |
|-------------------------|--|-------------------------------|------------------------------|
| Alumina Handling System | 200000   | 100.00                        | 51.28                        |

**Methodology**

Allowable Emissions = 55.0 (Process Weight Rate)<sup>0.11</sup> - 40