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

*Mitchell E. Daniels Jr.*
**Governor**

*Thomas W. Easterly*
**Commissioner**

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

TO: Interested Parties / Applicant

DATE: June 16, 2009

RE: ALCOA-- Warrick Operations / 173-27454-00007

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

# Notice of Decision: Approval – Effective Immediately

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to IC 13-17-3-4 and 326 IAC 2, this permit modification is effective immediately, unless a petition for stay of effectiveness is filed and granted, and may be revoked or modified in accordance with the provisions of IC 13-15-7-1.

If you wish to challenge this decision, IC 4-21.5-3-7 and IC 13-15-7-3 require that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office Environmental Adjudication, 100 North Senate Avenue, Government Center North, Suite N 501E, Indianapolis, IN 46204, **within eighteen (18) 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.



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Pursuant to 326 IAC 2-7-18(d), any person may petition the U.S. EPA to object to the issuance of a Title V operating permit or modification within sixty (60) days of the end of the forty-five (45) day EPA review period. Such an objection must be based only on issues that were raised with reasonable specificity during the public comment period, unless the petitioner demonstrates that it was impractible to raise such issues, or if the grounds for such objection arose after the comment period.

To petition the U.S. EPA to object to the issuance of a Title V operating permit, contact:

U.S. Environmental Protection Agency
401 M Street
Washington, D.C. 20406

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
FNTV-PMOD.doc 3/27/08

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Mr. Samuel Bruntz
Alcoa Inc. - Warrick Operations
Building 860E, P.O. Box 10
Newburgh, Indiana 47629-0010

June 16, 2009

Re: 173-27454-00007
Significant Permit Modification to
Part 70 No.: T 173-6627-00007

Dear Mr. Bruntz:

Alcoa, Inc.-Warrick Operations was issued a Part 70 Operating Permit on January 5, 2007, for a aluminum production plant, which produces aluminum ingot, aluminum coils and coated aluminum coils. A letter requesting changes to this permit was received on November 26, 2008. Pursuant to the provisions of 326 IAC 2-7-12 a significant permit modification to this permit is hereby approved as described in the attached Technical Support Document.

The modification consists of enlarging the #8 EMC Complex Melter 8M3 and the #8 EMC Complex West Holder 8WH.

This decision is subject to the Indiana Administrative Orders and Procedures Act – IC 4-21.5-3-5. If you have any questions on this matter, please contact David J. Matousek, OAQ, 100 North Senate Avenue, MC 61-53, Room 1003, Indianapolis, Indiana, 46204-2251, or call at (800) 451-6027, and ask for David J. Matousek or extension 4-5300, or dial (317) 232-8253.

Sincerely,

Tripurari Sinha

Tripurari P. Sinha, Ph. D., Section Chief
Permits Branch
Office of Air Quality

Attachments:
Updated Permit
Technical Support Document
PTE Calculations

TS/djm

cc: File – Warrick County
Warrick County Health Department
U.S. EPA, Region V
Southwest Regional Office
Compliance and Enforcement Branch

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# PART 70 OPERATING PERMIT
# OFFICE OF AIR QUALITY

## Alcoa, Inc. – Warrick Operations
## Jct. IN Hwys. 66 & 61
## Newburgh, Indiana 47629-0010

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

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

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

This permit also addresses certain new source review requirements for existing equipment and is intended to fulfill the new source review procedures, pursuant to 326 IAC 2-2 and 326 IAC 2-7-10.5, applicable to those conditions.

| Operation Permit No.: T 173-6627-00007 | |
|---|---|
| Issued by: Original Signed By:<br>Nisha Sizemore, Chief<br>Permits Branch<br>Office of Air Quality | Issuance Date: January 5, 2007<br><br>Expiration Date: January 5, 2012 |

First Significant Permit Modification No.: 173-24585-00007, issued on October 30, 2007;
Exemption No.: 173-25797-00007, issued on January 11, 2008; and
Second Significant Permit Modification No.: 173-26037-00007, issued on July 25, 2008.
Third Significant Permit Modification No.: 173-27019-00007, issued on December 30, 2008.

| Fourth Significant Permit Modification No.: 173-27454-00007 | |
|---|---|
| Issued by:<br>Tripurari Sinha<br>Tripurari P. Sinha, Ph.D., Section Chief<br>Permits Branch<br>Office of Air Quality | Issuance Date: JUne 16, 2009<br><br>Expiration Date: January 5, 2012 |

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**Quarterly Reporting Forms**

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D.6.18 Bag Leak Detection Systems for Dross Cooling Baghouses and Rotary Group 1 Furnace Baghouse [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.6.19 Bag Leak Detection Alarm Activation [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]
D.6.20 Visible Emissions Notations for Flux Salt Storage Silo Bin Vent Filter [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]
D.6.21 Water Level Monitoring [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

**Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19] [326 IAC 20-1] [40 CFR 63, Subpart A] [326 IAC 20-70] [40 CFR 63.1516] [40 CFR 63.1517]**
D.6.22 NESHAP Record Keeping Requirements [326 IAC 20-1] [40 CFR 63, Subpart A] [326 IAC 20-70] [40 CFR 63.1517]
D.6.23 Record Keeping Requirements
D.6.24 NESHAP Reporting Requirements [326 IAC 20-1] [40 CFR 63, Subpart A] [326 IAC 20-70] [40 CFR 63.1516]
D.6.25 Reporting Requirements

**Quarterly Reporting Forms**

**D.7 FACILITY OPERATION CONDITIONS - Rolling Mills Plant**

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**
D.7.1 Particulate Emissions Limitations for Manufacturing Processes [326 IAC 6-3-2]
D.7.2 General Provisions Relating to NSPS, Subpart Dc [326 IAC 12] [40 CFR Part 60, Subpart A]
D.7.3 Particulate Emissions Limitations for Sources of Indirect Heating [326 IAC 6-2-3] [326 IAC 6-2-4]

**Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19] [326 IAC 12] [40 CFR 60, Subpart Dc]**
D.7.4 New Source Performance Standard (NSPS) Record Keeping Requirements [326 IAC 12] [40 CFR 60, Subpart Dc]

**D.8 FACILITY OPERATION CONDITIONS - Coating Plant**

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**
D.8.1 Particulate Emissions Limitations for Manufacturing Processes [326 IAC 6-3-2]
D.8.2 PSD Minor Limit [326 IAC 2-2]
D.8.3 PSD Emission Limit [326 IAC 2-2]
D.8.4 General Provisions Relating to NESHAP [326 IAC 20-1] [40 CFR Part 63, Subpart A] [326 IAC 20-64] [40 CFR 63.5140]
D.8.5 Coil Coating Lines Emission Limits [326 IAC 12] [326 IAC 20-64] [40 CFR 63.5120] [40 CFR 63.5140] [40 CFR 60.462] [326 IAC 8-2-4]
D.8.6 Operating Requirements for Coil Coating Lines CCL2 and CCL3 [326 IAC 12] [326 IAC 20-64] [40 CFR Part 63.5121] [40 CFR 60.463]
D.8.7 General Provisions Relating to Hazardous Air Pollutants [326 IAC 20-1] [40 CFR Part 63, Subpart A]
D.8.8 National Emission Standards for Hazardous Air Pollutants: Organic Liquids Distribution, Non-Gasoline [326 IAC 20-83] [40 CFR Part 63, Subpart EEEE]
D.8.9 Organic Liquid Distribution Operations – Affected Sources [326 IAC 20-83] [40 CFR 63.2338]

**Compliance Determination Requirements**
D.8.10 Compliance Determination Requirements
D.8.11 Compliance Demonstration Requirements [326 IAC 12] [326 IAC 20-64] [40 CFR63.5170] [40 CFR 60.463] [326 IAC 8-2-4]
D.8.12 Testing Requirements [326 IAC 2-7-6(1), (6)] [326 IAC 2-1.1-11] [326 IAC 12] [326 IAC 20-1] [40 CFR 63, Subpart A] [326 IAC 20-64] [40 CFR 5160] [40 CFR 60.463]

**Compliance Monitoring Requirements [326 IAC 2-7-6 (1)] [326 IAC 2-7-5 (1)] [326 IAC 12] [326 IAC 20-1] [40 CFR 63, Subpart A] [326 IAC 20-64] [40 CFR 63.5150] [40 CFR 60.464]**
D.8.13 Thermal Oxidizer and Capture System Operating Parameters Monitoring

**Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19] [326 IAC 12] [326 IAC 20-1] [40 CFR 63, Subpart A] [326 IAC 20-64] [326 IAC 20-83] [40 CFR 60.465] [40 CFR 63.5180] [40 CFR 63.5190]**
D.8.14 Record Keeping Requirements
D.8.15 Reporting Requirements [326 IAC 20-1] [40 CFR 63, Subpart A] [326 IAC 12] [326 IAC 20-64] [40 CFR 63.5180] [40 CFR 60, Subpart TT]
D.8.16 Notifications Requirements [326 IAC 12] [326 IAC 20-1] [40 CFR 63, Subpart A] [326 IAC 20-64] [326 IAC 20-83] [40 CFR 63.5180] [40 CFR 63.2382]

**Quarterly Reporting Forms**

**Certification**
**Emergency Occurrence Report**
**Quarterly Deviation and Compliance Monitoring Report**

**Attachment A: National Emission Standards for Hazardous Air Pollutants (NESHAP): Organic Liquids Distribution (Non-Gasoline) [40 CFR Part 63, Subpart EEEE] [326 IAC 20-83]**

## SECTION A SOURCE SUMMARY

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

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

The Permittee owns and operates an aluminum production plant, which produces aluminum ingot, aluminum coils and coated aluminum coils.

| | |
|---|---|
| Source Address: | Jct. IN Highways 66 and 61, Newburgh, Indiana 47629-0010 |
| Mailing Address: | Bldg. 860 E, P.O. Box 10, Newburgh, Indiana 47629 |
| General Source Phone Number: | 812-853-6111 |
| SIC Code: | 3334 and 3352 |
| County Location: | Warrick |
| Source Location Status: | Attainment for ozone under the 8-hour standard<br>Nonattainment for $PM_{2.5}$<br>Attainment for all other criteria pollutants |
| Source Status: | Part 70 Permit Program<br>Major Source, under PSD and Nonattainment New Source Review Rules<br>Major Source, Section 112 of the Clean Air Act<br>1 of 28 Source Categories |

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

This company consists of two (2) plants:

(a) Alcoa aluminum production plant, the primary operation, is located at Jct. IN Hwys. 66 & 61, Newburgh, Indiana.

(b) Alcoa power plant, the supporting operation, is located at 4700 Darlington Road, Newburgh, Indiana.

Since the two (2) plants are located on contiguous properties, and are owned by one (1) company, they will be considered one (1) source.

Separate Part 70 permits will be issued to Alcoa Inc.- Warrick Operations and Alcoa Warrick Power Plant solely for administrative purposes.

These two plants have different plant identification numbers.

Alcoa Inc. – Warrick Operations ID - 173-00007
Alcoa Warrick Power Plant ID - 173-00002

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

The source consists of the following operating areas that are made up of various types of emissions units and pollution control devices. These operating areas correspond to the various “D” sections of the Part 70 permit and are described in more detail in Appendix A of this TSD.

(a) D.1 Alumina and aluminum fluoride handling Plant: The alumina and aluminum fluoride handling plant consists of the barge alumina unloading, truck unloading, and rail unloading. There are various conveyors, and tanks associated with this operation. The alumina is finally

fed to Potlines 1 to 6. The emissions are controlled by several baghouses. The detailed equipment list is located in Section D.1 of this permit.

(b) D.2 Center-worked Pre-Bake One Potlines and Potlines Support: The Potlines and Potlines Support plant consists of the six center-worked prebake one potline controlled by fluidized bed scrubbers (for potlines 2, 5, and 6), alumina injection and fabric filtration systems (for potlines 3 and 4, identified as the gas treatment center (GTC) systems), and baghouses. It includes a hydraulic hammer, auger, crusher, each controlled by a baghouse, and alumina/butt bath/cake storage tanks. The detailed equipment list is located in Section D.2 of this permit.

(c) D.3 Green Anode Plant: The Green Anode Plant consists of the green petroleum coke storage silos, green petroleum coke and anode butt shaker screens, coke storage tanks, hammer mill, anode butts and scrap green anode hammer mill, green petroleum coke intermediate classifier, ball mill, weighting facility, anode forming consisting of mixers, associated conveying, and hydraulic presses, with emissions controlled by the pitch fume treatment system, and fixed roof coal tar pitch tanks. The detailed equipment list is located in Section D.3 of this permit.

(d) D.4 Anode Baking Plant: The Anode Baking Plant consists of anode baking ring furnace, a diesel fired emergency bypass engine, reacted alumina storage tank, reacted alumina truck loadout, baked anode vacuum system, and un-reacted alumina storage tank/truck unloading. The detailed equipment list is located in Section D.4 of this permit.

(e) D.5 Anode Assembly & Spent Anode Plant: The Anode Assembly & Spent Anode Plant consists of anode butt blast machine, tumbleblast, impactor, rod cleaning machine, butt storage tank, iron casting station, induction furnaces, spent anode storage pad, and several baghouses. The detailed equipment list is located in Section D.5 of this permit.

(f) D.6 Ingot Plant and Support: The Ingot Plant and Support consists of group 1 furnaces, in-line fluxers, group 2 furnaces, aluminum pneumatic transport systems, a coated scrap shredder, dross cooling and handling, and emergency intermittent duty-cycled, diesel fired, reciprocating internal combustion engines. The detailed equipment list is located in Section D.6 of this permit.

(g) D.7 Rolling Mills Plant: The Rolling Mills Plant consists of scalper step cutter, hot ingot oxide brushing system, silos, hot reversing mill, continuous hot mill, cold mills, mist eliminator, annealing furnaces, preheat furnaces, and natural gas fired boilers. The detailed equipment list is located in Section D.7 of this permit.

(h) D.8 Coating Plant: The Coating Plant consists of electro coil prep coating line, coil coating lines, coating mixing room and mix stations, and coatings and solvents tanks. The detailed equipment list is located in Section D.8 of this permit.

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

The detailed regulated insignificant activities are located in individual D sections of this permit.

A.5 Part 70 Permit Applicability [326 IAC 2-7-2]

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); and

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

## SECTION B GENERAL CONDITIONS

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

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

### B.2 Permit Term [326 IAC 2-7-5(2)] [326 IAC 2-1.1-9.5] [326 IAC 2-7-4(a)(1)(D)] [IC 13-15-3-6(a)]

(a) This permit, T 173-6627-00007, is issued for a fixed term of five (5) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date of this permit or of permits issued pursuant to Title IV of the Clean Air Act and 326 IAC 21 (Acid Deposition Control).

(b) If IDEM, OAQ, upon receiving a timely and complete renewal permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect, including any permit shield provided in 326 IAC 2-7-15, until the renewal permit has been issued or denied.

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

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

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

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

### B.4 Enforceability [326 IAC 2-7-7]

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

### B.5 Severability [326 IAC 2-7-5(5)]

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

### B.6 Property Rights or Exclusive Privilege [326 IAC 2-7-5(6)(D)]

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

### B.7 Duty to Provide Information [326 IAC 2-7-5(6)(E)]

(a) The Permittee shall furnish to IDEM, OAQ, within a reasonable time, any information that IDEM, OAQ may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The submittal by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34). Upon request, the Permittee shall also furnish to IDEM, OAQ copies of records required to be kept by this permit.

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

B.8 Certification [326 IAC 2-7-4(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 the "responsible official" of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

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

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

B.9 Annual Compliance Certification [326 IAC 2-7-6(5)]

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

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

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Air Enforcement Branch - Indiana (AE-17J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

(b) The annual compliance certification report required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.

(c) The annual compliance certification report shall include the following:

(1) The appropriate identification of each term or condition of this permit that is the basis of the certification;

(2) The compliance status;

(3) Whether compliance was continuous or intermittent;

(4) The methods used for determining the compliance status of the source, currently and over the reporting period consistent with 326 IAC 2-7-5(3); and

(5) Such other facts, as specified in Sections D of this permit, as IDEM, OAQ may require to determine the compliance status of the source.

The submittal by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

B.10 Preventive Maintenance Plan [326 IAC 2-7-5(1),(3) and (13)] [326 IAC 2-7-6(1) and (6)] [326 IAC 1-6-3]

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

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

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

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

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

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

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

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

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

B.11 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 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 and Enforcement Branch), or
Telephone Number: 317-233-0178 (ask for Compliance and Enforcement Branch)
Facsimile Number: 317-233-6865
Southwest Regional Office phone: (812) 380-2305; fax: (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 and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

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

The notice fulfills the requirement of 326 IAC 2-7-5(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) The Permittee seeking to establish the occurrence of an emergency shall make records available upon request to ensure that failure to implement a PMP did not cause or contribute to an exceedance of any limitations on emissions. However, IDEM, OAQ may require that the Preventive Maintenance Plans required under 326 IAC 2-7-4(c)(9) be revised in response to an emergency.

(f) Failure to notify IDEM, OAQ by telephone or facsimile of an emergency lasting more than one (1) hour in accordance with (b)(4) and (5) of this condition shall constitute a violation of 326 IAC 2-7 and any other applicable rules.

(g) If the emergency situation causes a deviation from a technology-based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.

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

B.12 Permit Shield [326 IAC 2-7-15] [326 IAC 2-7-20] [326 IAC 2-7-12]

(a) Pursuant to 326 IAC 2-7-15, the Permittee has been granted a permit shield. The permit shield provides that compliance with the conditions of this permit shall be deemed compliance with any applicable requirements as of the date of permit issuance, provided that either the applicable requirements are included and specifically identified in this permit or the permit contains an explicit determination or concise summary of a determination that other specifically identified requirements are not applicable. The Indiana statutes from IC 13 and rules from 326 IAC, referenced in conditions in this permit, are those applicable at the time the permit was issued. The issuance or possession of this permit shall not alone constitute a defense against an alleged violation of any law, regulation or standard, except for the requirement to obtain a Part 70 permit under 326 IAC 2-7 or for applicable requirements for which a permit shield has been granted.

This permit shield does not extend to applicable requirements which are promulgated after the date of issuance of this permit unless this permit has been modified to reflect such new requirements.

(b) If, after issuance of this permit, it is determined that the permit is in nonconformance with an applicable requirement that applied to the source on the date of permit issuance, IDEM, OAQ, shall immediately take steps to reopen and revise this permit and issue a compliance order to the Permittee to ensure expeditious compliance with the applicable requirement until the permit is reissued. The permit shield shall continue in effect so long as the Permittee is in compliance with the compliance order.

(c) No permit shield shall apply to any permit term or condition that is determined after issuance of this permit to have been based on erroneous information supplied in the permit application. Erroneous information means information that the Permittee knew to be false, or in the exercise of reasonable care should have been known to be false, at the time the information was submitted.

(d) Nothing in 326 IAC 2-7-15 or in this permit shall alter or affect the following:

(1) The provisions of Section 303 of the Clean Air Act (emergency orders), including the authority of the U.S. EPA under Section 303 of the Clean Air Act;

(2) The liability of the Permittee for any violation of applicable requirements prior to or at the time of this permit's issuance;

(3) The applicable requirements of the acid rain program, consistent with Section 408(a) of the Clean Air Act; and

(4) The ability of U.S. EPA to obtain information from the Permittee under Section 114 of the Clean Air Act.

(e) This permit shield is not applicable to any change made under 326 IAC 2-7-20(b)(2) (Sections 502(b)(10) of the Clean Air Act changes) and 326 IAC 2-7-20(c)(2) (trading based on State Implementation Plan (SIP) provisions).

(f) This permit shield is not applicable to modifications eligible for group processing until after IDEM, OAQ, has issued the modifications. [326 IAC 2-7-12(c)(7)]

(g) This permit shield is not applicable to minor Part 70 permit modifications until after IDEM, OAQ, has issued the modification. [326 IAC 2-7-12(b)(8)]

B.13 Prior Permits Superseded [326 IAC 2-1.1-9.5] [326 IAC 2-7-10.5]

(a) All terms and conditions of permits established prior to T 173-6627-00007 and issued pursuant to permitting programs approved into the state implementation plan have been either:

(1) incorporated as originally stated,

(2) revised under 326 IAC 2-7-10.5, or

(3) deleted under 326 IAC 2-7-10.5.

(b) Provided that all terms and conditions are accurately reflected in this combined permit, all previous registrations and permits are superseded by this combined new source review and part 70 operating permit, except for permits issued pursuant to Title IV of the Clean Air Act and 326 IAC 21 (Acid Deposition Control)

B.14 Termination of Right to Operate [326 IAC 2-7-10] [326 IAC 2-7-4(a)]

The Permittee's right to operate this source terminates with the expiration of this permit unless a timely and complete renewal application is submitted at least nine (9) months prior to the date of expiration of the source's existing permit, consistent with 326 IAC 2-7-3 and 326 IAC 2-7-4(a).

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

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

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

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

The Quarterly Deviation and Compliance Monitoring Report does require the certification by 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.

B.16 Permit Modification, Reopening, Revocation and Reissuance, or Termination [326 IAC 2-7-5(6)(C)] [326 IAC 2-7-8(a)] [326 IAC 2-7-9]

(a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a Part 70 Operating Permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any condition of this permit. [326 IAC 2-7-5(6)(C)]The notification by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(b) This permit shall be reopened and revised under any of the circumstances listed in IC 13-15-7-2 or if IDEM, OAQ determines any of the following:

(1) That this permit contains a material mistake.

(2) That inaccurate statements were made in establishing the emissions standards or other terms or conditions.

(3) That this permit must be revised or revoked to assure compliance with an applicable requirement. [326 IAC 2-7-9(a)(3)]

(c) Proceedings by IDEM, OAQ to reopen and revise this permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of this permit for which cause to reopen exists. Such reopening and revision shall be made as expeditiously as practicable. [326 IAC 2-7-9(b)]

(d) The reopening and revision of this permit, under 326 IAC 2-7-9(a), shall not be initiated before notice of such intent is provided to the Permittee by IDEM, OAQ at least thirty (30) days in advance of the date this permit is to be reopened, except that IDEM, OAQ may provide a shorter time period in the case of an emergency. [326 IAC 2-7-9(c)]

B.17 Permit Renewal [326 IAC 2-7-3] [326 IAC 2-7-4] [326 IAC 2-7-8(e)]

(a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ and shall include the information specified in 326 IAC 2-7-4. Such information shall be included in the application for each emission unit at this source, except those emission units included on the trivial or insignificant activities list contained in 326 IAC 2-7-1(21) and 326 IAC 2-7-1(40). The renewal application does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

Request for renewal shall be submitted to:

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

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

(1) Submitted at least nine (9) months prior to the date of the expiration of this permit; and

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

(c) If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-7 until IDEM, OAQ takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified in writing by IDEM, OAQ any additional information identified as being needed to process the application.

B.18 Permit Amendment or Modification [326 IAC 2-7-11] [326 IAC 2-7-12] [40 CFR 72]

(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
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
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Any such application shall be certified by the "responsible official" as defined by 326 IAC 2-7-1(34).

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

B.19 Permit Revision Under Economic Incentives and Other Programs [326 IAC 2-7-5(8)] [326 IAC 2-7-12(b)(2)]

(a) No Part 70 permit revision shall be required under any approved economic incentives, marketable Part 70 permits, emissions trading, and other similar programs or processes for changes that are provided for in a Part 70 permit.

(b) Notwithstanding 326 IAC 2-7-12(b)(1) and 326 IAC 2-7-12(c)(1), minor Part 70 permit modification procedures may be used for Part 70 modifications involving the use of economic incentives, marketable Part 70 permits, emissions trading, and other similar approaches to the extent that such minor Part 70 permit modification procedures are explicitly provided for in the applicable State Implementation Plan (SIP) or in applicable requirements promulgated or approved by the U.S. EPA.

B.20 Operational Flexibility [326 IAC 2-7-20] [326 IAC 2-7-10.5]

(a) The Permittee may make any change or changes at the source that are described in 326 IAC 2-7-20(b),(c), or (e) without a prior permit revision, if each of the following conditions is met:

(1) The changes are not modifications under any provision of Title I of the Clean Air Act;

(2) Any preconstruction approval required by 326 IAC 2-7-10.5 has been obtained;

(3) The changes do not result in emissions which exceed the limitations provided in this permit (whether expressed herein as a rate of emissions or in terms of total emissions);

(4) The Permittee notifies the:

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

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Regulation Development Branch - Indiana (AR-18J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

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

(5) The Permittee maintains records on-site, on a rolling five (5) year basis, which document all such changes and emission trades that are subject to 326 IAC 2-7-20(b),(c), or (e). The Permittee shall make such records available, upon reasonable request, for public review.

Such records shall consist of all information required to be submitted to IDEM, OAQ in the notices specified in 326 IAC 2-7-20(b)(1), (c)(1), and (e)(2).

(b) The Permittee may make Section 502(b)(10) of the Clean Air Act changes (this term is defined at 326 IAC 2-7-1(36)) without a permit revision, subject to the constraint of 326 IAC 2-7-20(a). For each such Section 502(b)(10) of the Clean Air Act change, the required written notification shall include the following:

(1) A brief description of the change within the source;

(2) The date on which the change will occur;

(3) Any change in emissions; and

(4) Any permit term or condition that is no longer applicable as a result of the change.

The notification which shall be submitted is not considered an application form, report or compliance certification. Therefore, the notification by the Permittee does not require the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).

(c) Emission Trades [326 IAC 2-7-20(c)]
The Permittee may trade emissions increases and decreases at the source, where the applicable SIP provides for such emission trades without requiring a permit revision, subject to the constraints of Section (a) of this condition and those in 326 IAC 2-7-20(c).

(d) Alternative Operating Scenarios [326 IAC 2-7-20(d)]
The Permittee may make changes at the source within the range of alternative operating scenarios that are described in the terms and conditions of this permit in accordance with 326 IAC 2-7-5(9). No prior notification of IDEM, OAQ, or U.S. EPA is required.

(e) Backup fuel switches specifically addressed in, and limited under, Section D of this permit shall not be considered alternative operating scenarios. Therefore, the notification requirements of part (a) of this condition do not apply.

(f) This condition does not apply to emission trades of $SO_2$ or $NO_X$ under 326 IAC 21 or 326 IAC 10-4.

B.21 Source Modification Requirement [326 IAC 2-7-10.5]

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

B.22 Inspection and Entry [326 IAC 2-7-6] [IC 13-14-2-2] [IC 13-30-3-1] [IC 13-17-3-2]

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

(a) Enter upon the Permittee's premises where a Part 70 source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;

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

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

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

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

B.23 Transfer of Ownership or Operational Control [326 IAC 2-7-11]

(a) The Permittee must comply with the requirements of 326 IAC 2-7-11 whenever the Permittee seeks to change the ownership or operational control of the source and no other change in the permit is necessary.

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

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

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

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

B.24 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-7-5(7)] [326 IAC 2-1.1-7]

(a) The Permittee shall pay annual fees to IDEM, OAQ within thirty (30) calendar days of receipt of a billing. Pursuant to 326 IAC 2-7-19(b), if the Permittee does not receive a bill from IDEM, OAQ the applicable fee is due April 1 of each year.

(b) Except as provided in 326 IAC 2-7-19(e), failure to pay may result in administrative enforcement action or revocation of this permit.

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

B.25 Credible Evidence [326 IAC 2-7-5(3)] [326 IAC 2-7-6] [62 FR 8314] [326 IAC 1-1-6]

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

**SECTION C** **SOURCE OPERATION CONDITIONS**

Entire Source

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

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

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

C.2 Opacity [326 IAC 5-1]

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

(a) Opacity shall not exceed an average of 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.3 Open Burning [326 IAC 4-1] [IC 13-17-9]

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

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

The Permittee shall not operate an incinerator or incinerate any waste or refuse except as provided in 326 IAC 4-2 and 326 IAC 9-1-2. This provision does not apply to incinerators used as pollutant control equipment to control process emissions.

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). 326 IAC 6-4-2(4) is not federally enforceable.

C.6 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. The provisions of 326 IAC 1-7-1(3), 326 IAC 1-7-2, 326 IAC 1-7-3(c) and (d), 326 IAC 1-7-4, and 326 IAC 1-7-5(a), (b), and (d) are not federally enforceable.

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

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

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

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

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

(A) Asbestos removal or demolition start date;

(B) Removal or demolition contractor; or

(C) Waste disposal site.

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

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

All required notifications shall be submitted to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
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The notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project. The notifications do not require a certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

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

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

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

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

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

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

40 CFR 75, or other procedures approved by IDEM, OAQ.

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

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
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no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

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

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

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

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

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

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

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

Unless otherwise specified in this permit, all monitoring and record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance. 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 and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

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

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

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

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

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

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

(a) When required by any condition of this permit, an analog instrument used to measure a parameter related to the operation of an air pollution control device shall have a scale such that the expected maximum reading for the normal range shall be no less than twenty percent (20%) of full scale.

(b) The Permittee may request that the IDEM, OAQ approve the use of an instrument that does not meet the above specifications provided the Permittee can demonstrate that an alternative instrument specification will adequately ensure compliance with permit conditions requiring the measurement of the parameters.

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

C.13 Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]

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

(a) The Permittee prepared and submitted written emergency reduction plans (ERPs) consistent with safe operating procedures on May 20, 1997; and

(b) Upon direct notification by IDEM, OAQ, that a specific air pollution episode level is in effect, the Permittee shall immediately put into effect the actions stipulated in the approved ERP for the appropriate episode level. [326 IAC 1-5-3]

C.14 Risk Management Plan [326 IAC 2-7-5(12)] [40 CFR 68]

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

C.15 Response to Excursions or Exceedances [326 IAC 2-7-5] [326 IAC 2-7-6]

(a) Upon detecting an excursion or exceedance, the Permittee shall restore operation of the emissions unit (including any control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions.

(b) The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Corrective actions may include, but are not limited to, the following:

(1) initial inspection and evaluation;

(2) recording that operations returned to normal without operator action (such as through response by a computerized distribution control system); or

(3) any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.

(c) A determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, the following:

(1) monitoring results;

(2) review of operation and maintenance procedures and records; and/or

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

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

(e) The Permittee shall maintain the following records:

(1) monitoring data;

(2) monitor performance data, if applicable; and

(3) corrective actions taken.

C.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 twenty (120) days is not practicable, IDEM, OAQ may extend the retesting deadline.

(c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

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

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

C.17 Emission Statement [326 IAC 2-7-5(3)(C)(iii)] [326 IAC 2-7-5(7)] [326 IAC 2-7-19(c)] [326 IAC 2-6]

(a) Pursuant to 326 IAC 2-6-3(a)(1), the Permittee shall submit by July 1 of each year an emission statement covering the previous calendar year. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4(c) and shall meet the following requirements:

(1) Indicate estimated actual emissions of all pollutants listed in 326 IAC 2-6-4(a);

(2) Indicate estimated actual emissions of regulated pollutants as defined by 326 IAC 2-7-1 (32) ("Regulated pollutant, which is used only for purposes of Section 19 of this rule") from the source, for purpose of fee assessment.

The statement must be submitted to:

Indiana Department of Environmental Management
Technical Support and Modeling Section, Office of Air Quality
100 North Senate Avenue
MC 61-50 IGCN 1003
Indianapolis, Indiana 46204-2251

The emission statement does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(b) The emission statement 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.18 General Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-6] [326 IAC 2-2] [326 IAC 2-3]

(a) Records of all required monitoring data, reports and support information required by this permit shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

(b) Unless otherwise specified in this permit, all record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance or ninety (90) days of initial start-up, whichever is later.

(c) If there is a reasonable possibility (as defined in 40 CFR 51.165 (a)(6)(vi)(A), 40 CFR 51.165 (a)(6)(vi)(B), 40 CFR 51.166 (r)(6)(vi)(a), and/or 40 CFR 51.166 (r)(6)(vi)(b)) that a "project" (as defined in 326 IAC 2-2-1(qq) and/or 326 IAC 2-3-1(ll)) at an existing emissions unit, other than projects at a source with a Plantwide Applicability Limitation (PAL), which is not part of a "major modification" (as defined in 326 IAC 2-2-1(ee) and/or 326 IAC 2-3-1(z)) may result in significant emissions increase and the Permittee elects to utilize the "projected actual emissions" (as defined in 326 IAC 2-2-1(rr) and/or 326 IAC 2-3-1(mm)), the Permittee shall comply with following:

(1) Before beginning actual construction of the "project" (as defined in 326 IAC 2-2-1(qq) and/or 326 IAC 2-3-1(ll)) at an existing emissions unit, document and maintain the following records:

(A) A description of the project.

(B) Identification of any emissions unit whose emissions of a regulated new source review pollutant could be affected by the project.

(C) A description of the applicability test used to determine that the project is not a major modification for any regulated NSR pollutant, including:

(i) Baseline actual emissions;

(ii) Projected actual emissions;

(iii) Amount of emissions excluded under section 326 IAC 2-2-1(rr)(2)(A)(iii) and/or 326 IAC 2-3-1 (mm)(2)(A)(iii); and

(iv) An explanation for why the amount was excluded, and any netting calculations, if applicable.

(d) If there is a reasonable possibility (as defined in 40 CFR 51.165 (a)(6)(vi)(A) and/or 40 CFR 51.166 (r)(6)(vi)(a)) that a "project" (as defined in 326 IAC 2-2-1(qq) and/or 326 IAC 2-3-1(ll)) at an existing emissions unit, other than projects at a source with a Plantwide Applicability Limitation (PAL), which is not part of a "major modification" (as defined in 326 IAC 2-2-1(ee) and/or 326 IAC 2-3-1(z)) may result in significant emissions increase and the Permittee

elects to utilize the "projected actual emissions" (as defined in 326 IAC 2-2-1(rr) and/or 326 IAC 2-3-1(mm)), the Permittee shall comply with following:

(1) Monitor the emissions of any regulated NSR pollutant that could increase as a result of the project and that is emitted by any existing emissions unit identified in (1)(B) above; and

(2) Calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of five (5) years following resumption of regular operations after the change, or for a period of ten (10) years following resumption of regular operations after the change if the project increases the design capacity of or the potential to emit that regulated NSR pollutant at the emissions unit.

C.19 General Reporting Requirements [326 IAC 2-7-5(3)(C)] [326 IAC 2-1.1-11] [326 IAC 2-2] [326 IAC 2-3]

(a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported. This report shall be submitted within thirty (30) days of the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(b) The report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted to:

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

(c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

(d) Unless otherwise specified in this permit, all reports required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. All reports do require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(e) 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, unless otherwise specified in this permit. For the purpose of this permit "calendar year" means the twelve (12) month period from January 1 to December 31 inclusive.

(f) If the Permittee is required to comply with the recordkeeping provisions of (d) in Section C – General Record Keeping Requirements for any "project" (as defined in 326 IAC 2-2-1(qq) and/or 326 IAC 2-3-1(ll)) at an existing emissions unit, and the project meets the following criteria, then the Permittee shall submit a report to IDEM, OAQ:

(1) The annual emissions, in tons per year, from the project identified in (c)(1) in Section C – General Record Keeping Requirements exceed the baseline actual emissions, as documented and maintained under Section C – General Record Keeping Requirements (c)(1)(C)(i), by a significant amount, as defined in 326 IAC 2-2-1(xx) and/or 326 IAC 2-3-1(qq), for that regulated NSR pollutant, and

(2) The emissions differ from the preconstruction projection as documented and maintained under Section C – General Record Keeping Requirements (c)(1)(C)(ii).

(g) The report for a project at an existing emissions unit other than Electric Utility Steam Generating Unit shall be submitted within sixty (60) days after the end of the year and contain the following:

(1) The name, address, and telephone number of the major stationary source.

(2) The annual emissions calculated in accordance with (d)(1) and (2) in Section C – General Record Keeping Requirements.

(3) The emissions calculated under the actual-to-projected actual test stated in 326 IAC 2-2-2(d)(3) and/or 326 IAC 2-3-2(c)(3.

(4) Any other information that the Permittee deems fit to include in this report,

Reports required in this part shall be submitted to:

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

(h) The Permittee shall make the information required to be documented and maintained in accordance with (c) in Section C- General Record Keeping Requirements available for review upon a request for inspection by IDEM, OAQ. The general public may request this information from the IDEM, OAQ under 326 IAC 17.1.

**Stratospheric Ozone Protection**

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

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

(a) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to 40 CFR 82.156.

(b) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 CFR 82.158.

(c) Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR 82.161.

## SECTION D.1 ALUMINA & ALUMINUM FLUORIDE HANDLING SYSTEM

## 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.)

Central Alumina and Aluminum Fluoride Handling System:

(1) Two (2) barge unloading pneumatic conveyors transferring alumina and aluminum fluoride from barge, identified as Airveyor No. 1 and Airveyor No. 2, constructed in 1968, with a maximum capacity of 200 tons per hour each, controlled by Airveyor No. 1 Baghouse and Airveyor No. 2 Baghouse, respectively, and exhausting at Stacks 60.2 and 60.3, respectively.

Two (2) baghouses, identified as Airveyor No. 1 Baghouse and Airveyor No. 2 Baghouse, with an air flow rate of 8,400 acfm at 120$^{o}$F each, and exhausting at Stacks 60.2 and 60.3, respectively;

(2) One (1) belt conveyor transferring alumina and aluminum fluoride from Airveyor No. 1 and Airveyor No. 2 to Transfer Tower 61A, identified as Airveyors Discharge Conveyor (Section 1), constructed in 1969, with a maximum capacity of 500 tons per hour, controlled by Building 60 Baghouse, and exhausting at Stack 60.8.

One (1) baghouse, identified as Building 60 Baghouse, controlling the Airveyors discharge onto the Airveyors Discharge Conveyor, with an airflow rate of 2,200 acfm at 80$^{o}$F, and exhausting at Stack 60.8;

(3) One (1) Transfer Tower 61A, constructed in 1969, for transferring alumina and aluminum fluoride from the Airveyors Discharge Conveyor to Tank 62 Feed Conveyor (Section 2), with a maximum capacity of 500 tons per hour, controlled by Transfer Tower 61A Baghouse, and exhausting at Stack 61A.1.

One (1) transfer tower baghouse, identified as Transfer Tower 61A Baghouse, with an airflow rate of 3,500 acfm at 80$^{o}$F, and exhausting at Stack 61A.1;

(4) One (1) alumina/aluminum fluoride storage tank, identified as Tank 62, constructed in 1969, with a maximum storage capacity of 1,800 tons and a transfer rate of 500 tons per hour. The Tank 62 Feed Conveyor discharge into Tank 62 is controlled by Tank 62 Baghouse (top of tank), exhausting at Stack 62.1. The Tank 62 discharge to Transfer Tower 61B Feed Conveyor (Section 3) occurs in an enclosed building. This transfer point does not exhaust to a baghouse. The 112A Passageway Conveyor is controlled by BC-24 Baghouse (Tank 62 baghouse, ground level), exhausting at Stack 62.2.

Two (2) alumina/aluminum fluoride Tank 62 baghouses, identified as Tank 62 Baghouse (top of tank) and Baghouse BC-24 (Tank 62 baghouse, ground level), with maximum gas flow rates of 3,000 and 710 acfm at 70$^{0}$F, respectively, and exhausting at Stacks 62.1 and 62.2, respectively;

Potlines 1 and 2 Alumina and Alumina Fluoride Handling System:

(5) One (1) belt conveyor transferring alumina and aluminum fluoride from Tank 62 to Transfer Tower 61B, identified as Transfer Tower 61B Feed Conveyor, constructed in 1969, with a maximum capacity of 275 tons per hour. This transfer point is contained within a building and does not exhaust to a baghouse;

(6) One (1) Transfer Tower 61B transferring alumina and aluminum fluoride from the Transfer Tower 61B Feed Conveyor to 104 passageway Conveyor, constructed in 1969, with a maximum capacity of 275 tons per hour, with the feed and discharge points into/out of Transfer Tower 61B controlled by Transfer Tower 61B Baghouse, and exhausting at Stack 61B.1;

(7) One (1) railcar/truck unloading system transferring alumina and aluminum fluoride to 104 Passageway Conveyor, identified as Building 140 Unloading, constructed in 1958, with a maximum capacity of 275 tons per hour, controlled by Building 140 Baghouse, and exhausting at Stack 140.1.

One (1) baghouse, identified as Building 140 Baghouse, with an airflow rate of 1,000 acfm at $70^0$F, and exhausting at Stack 140.1;

(8) One (1) belt conveyor transferring alumina and aluminum fluoride from either the railcar/truck unloading system or 61B Transfer Tower to Bucket Elevators 141A and/or 141B, identified as 104 Passageway Conveyor, constructed in 1969, with a maximum capacity of 280 tons per hour, controlled by 104A Passageway Baghouse, and exhausting at Stack 104.1.

One (1) baghouse, identified as 104A Passageway Baghouse, with an airflow rate of 10,000 acfm at $70^0$F, and exhausting at Stack 104.1;

(9) Two (2) bucket elevators transferring alumina and aluminum fluoride from 104 Passageway Conveyor to the Tank 144 feed airslide (Airslide 141) or the #8 screw conveyor, identified as Bucket Elevator 141A and Bucket Elevator 141B, each constructed in 1969, with a maximum capacity of 100 tons per hour each, controlled by 104A Passageway Baghouse at their inlet and the 144A Baghouse at their outlet, and exhausting at Stacks 104.1 and 144.1;

(10) One (1) Tank 144 feed airslide (Airslide 141) transferring alumina from Bucket Elevator 141A and Bucket Elevator 141B to Tanks 141BN, 141 BS, 141 CN, 141 CS, 141NE, 141NW, and 144, constructed in 1969, with a capacity of 240 tons per hour. All transfer points except those into tanks 141NE and 141NW are, controlled by 144A Baghouse, and exhausting at Stack 144.1. The transfer point into tank 141NE is controlled by the 141ANE baghouse, and the transfer point into tank 141NW is controlled by the 141ANW baghouse.

One (1) baghouse, identified as 144A Baghouse, with an airflow of 14,800 acfm at $70^0$F, and exhausting at Stack 144A.1.

One (1) baghouse, identified as the Tank 141NE Baghouse, with an airflow of 3,500 acfm at $70^0$F, and exhausting at Stack 141.1NE,

One (1) baghouse, identified as the Tank 141NW Baghouse, with an airflow of 3,500 acfm at $70^0$F, and exhausting at Stack 141.1NW;

(11) One (1) tank transferring alumina to fresh alumina Tanks 160M.1 and 160M.2, identified as Tank 144, constructed in 1956, with a maximum storage capacity of 2,235 tons and a transfer rate of 240 tons per hour, controlled by 144A Baghouse, and exhausting at Stack 144.1;

(12) One (1) tank transferring alumina to reacted alumina Tank 141A(NE), identified as Tank 141BS, constructed in 1969, with a maximum storage capacity of 300 tons and a discharge rate of 5 tons per hour, controlled by 144A Baghouse, and exhausting at Stack 144.1;

(13) One (1) #8 Screw Conveyor transferring aluminum fluoride and alumina from Bucket Elevator 141A and Bucket Elevator 141B to Tanks 141CN, 141CS, 141D, 141E, and 141F, constructed in 1969, with a maximum conveying rate of 200 tons per hour, controlled by 144A Baghouse, and exhausting at Stack 144.1;

(14) Seven (7) tanks, identified as Tanks 141BN, 141BS, 141CN, 141CS, 141D, 141E, and 141F, constructed in 1969, with a maximum capacity of 985 tons each, 144A Baghouse, and exhausting at Stack 144.1;

(15) Tank 160M.2 Feed Convair, pneumatically feeding fresh alumina from Tank 144 to Tank 160M.2, with a capacity of 18 tons per hour, constructed in 1956, controlled by the 160M.2 Bin Vent Baghouse, and exhausting at Stack 160M.2.

One (1) baghouse, identified as 160M.2 Bin Vent Baghouse, with an airflow rate of 3,000 acfm at $70^0$F, and exhausting at Stack 160M.2;

(16) One (1) fresh alumina tank for the supply of alumina to the Potline #1 B2 fluidized bed dry scrubber and baghouse, identified as Tank 160M.2, constructed in 1956, with a maximum capacity of 650 tons, controlled by the 160M.2 Bin Vent Baghouse, and exhausting at Stack 160M.2;

(17) One (1) distribution box and airslide transferring fresh alumina from Tank 160M.2 to fluidized bed scrubber and B2 Baghouse, identified as the Alumina Feed Airslide B2, constructed in 1956, with a maximum capacity of 18 tons per hour, controlled by the Airslide B2 Baghouse, and exhausting at Stack 160B2.16.

One (1) baghouse, identified as Airslide B2 Baghouse, with an airflow rate of 750 acfm at a temperature $70^0$F, and exhausting at Stack 160B2.16;

(18) One (1) Tank 160M.1 pneumatic conveyor feeding fresh alumina from Tank 144 to Tank 160M.1, constructed in 1962, with a capacity of 18 tons per hour, controlled by Potline #2 C1 Pollution Control System, and exhausting at Stacks 160C.1 through 160C.37.

One fluidized bed dry scrubber and baghouse system consisting of twelve (12) fluidized dry scrubbers and baghouses, identified as the Potline #2 C1 Pollution Control System, with a total gas flow rate of 480,000 acfm at $200^0$F, and exhausting at Stacks 160C.1 - 160C.36;

(19) One (1) fresh alumina tank for the supply of alumina to the Potline #2 C1 fluidized bed dry scrubber and baghouse, identified as Tank 160M.1, with a capacity of 650 tons, constructed in 1962, controlled by Potline #2 C1 Pollution Control System, and exhausting at Stacks 160C.1 through 160C.36;

(20) One (1) distribution box, constructed in 1962, and vibratory screen and airslide transferring fresh alumina to fluidized bed scrubber and Baghouse C1, identified as the Alumina Vibratory Screen and C1 East and C1 West Feed Airslide , constructed in 2008 , with a capacity of 18 tons per hour, controlled by the vibratory screen and C1 east and C1 west Airslides vibratory screen and C1 east and C1 west airslide bin vents #1, #2, #3, and #4, and exhausting at Stacks 160C1.37-1, 160C1.37-2, 160C1.37-3, and 160C1.37-4.

4 bin vents, identified as the vibratory screen and C1 east and C1 west Airslide bin vents, each with an airflow rate of 250 acfm at a temperature 120 $^0$F , and exhausting at Stacks 160C.37-1, 160C.37-2, 160C.37-3, and 160C.37-4.

(21) One (1) reacted alumina airslides transporting reacted alumina from the C1 and B2 Pollution Control Systems to Tank 141A(NE), identified as Reacted Alumina Airslide C1, constructed in 1962, with a maximum capacity of 18 tons per hour each, controlled by Tank 141A(NE) Baghouse, and exhausting at Stack 141.1(NE);

(21A) One (1) reacted alumina airslides transporting reacted alumina from the B2 Pollution Control Systems to Tank 141A(NW), identified as Reacted Alumina AirslideB2, constructed in 1956, with a maximum capacity of 18 tons per hour, controlled by the Tank 141A(NW) Baghouse, and exhausting at Stack 141.1(NW).

(22) One (1) reacted alumina eductor transporting reacted alumina from Tank 141BS to Tank 141A(NE), identified as Tank 141 BS Eductor, constructed in 1984, with a maximum capacity of 5 tons per hour, controlled by Tank 141A(NE) Baghouse, and exhausting at Stack 141.1(NE);

(23) One (1) reacted alumina storage tank, identified as Tank 141A(NE), constructed in 1964, with a maximum capacity of 860 tons, controlled by Tank 141A(NE) Baghouse at its inlet and 104A Baghouse at its discharge, and exhausting at Stacks 141.1(NE) and 104.1;

(23A) One (1) reacted alumina storage tank, identified as Tank 141A(NW), constructed in 1964, with a maximum capacity of 860 tons, controlled by Tank 141A(NW) Baghouse at its inlet and 104A Baghouse at its discharge, and exhausting at Stacks 141.1(NW) and 104.1;

<u>Potlines 3, 4, 5, and 6 Alumina and Aluminum Fluoride Handling System</u>:

(24) One (1) belt conveyor transferring alumina and aluminum fluoride from Tank 62 to Airlift 150-FM-AE-01 and Airlift 150-FM-AE-02, identified as 112A Passageway Conveyor, constructed in 1969, with a maximum capacity of 275 tons per hour, controlled by 112A Passageway Baghouse, and exhausting at Stack 112A.1.

One (1) baghouse, identified as Baghouse 112A, with an airflow rate of 26,900 acfm at $70^0$F, and exhausting at Stack 112A.1;

(24A) One (1) belt conveyor transferring alumina and aluminum fluoride from Tank 152 to Airlift 150-FM-AE-01 and Airlift 150-FM-AE-02, identified as BC26 Conveyor, constructed in 1969, with a maximum capacity of 275 tons per hour, controlled by 112A Passageway Baghouse, and exhausting at Stack 112A.1;

(25) Airlift 150-FM-AE-01 and Airlift 150-FM-AE-02, transferring alumina and aluminum fluoride from the 112A Passageway Conveyor or the BC26 conveyor to Airslide151, constructed in 2000, with a maximum capacity of 100 tons per hour each, controlled by 112A Passageway Baghouse, and exhausting at Stack 112A.1;

(26) Airslide 151, transferring alumina from Airlifts 150-FM-AE-01 and 150-FM-AE-02 to Tank 151C, Tank 151J, Tank 152, and Tank 154; and aluminum fluoride from Airlift 150-FM-AE-01 and Airlift 150-FM-AE-02 to Tank 151F and Tank 151G and to atmosphere constructed in 1969, with a maximum capacity of 225 tons per hour, controlled by Baghouse 112A, and exhausting at Stack 112A.1;

(27) One (1) aluminum fluoride tank, identified as Tank 151F, constructed in 1970, with a maximum storage capacity of 850 tons, fed from Airslide 151, and venting to Tank 151G and to atmosphere;

(28) One (1) aluminum fluoride tank, identified as Tank 151G, constructed in 1970, with a maximum storage capacity of 850 tons, fed from Airslide 151, and venting to atmosphere;

(29) One (1) fresh alumina tank, identified as Tank 151C, constructed in 1969, with a capacity of 985 tons, and venting to Tank 152. This tank supplies alumina for the anode baking ring furnace A-446 pollution control system and the bath crusher if needed;

(30) One (1) fresh alumina tank, identified as Tank 151J, fed from Airslide 151, constructed in 1969, with a maximum storage capacity of 113 tons, venting to Tank 151. This tank supplies alumina for the anode baking ring furnace A-446 pollution control system;

(31) One (1) fresh alumina tank, identified as Tank 152, fed from Airslide 151, constructed in 1969, with a maximum storage capacity of 25,000 tons, and venting to the B5 and B6 Pollution control system feed airslide baghouses. This tank serves as an emergency supply point for alumina. Withdrawals from this tank occur via the BC26 Belt Conveyor;

(32) Feed box B5 and Pollution Control System Alumina Feed Airslide B5, transporting alumina from Tank 154 to the B5 Pollution Control System, constructed in 1969, with a maximum capacity of 18 tons per hour, controlled by Airslide B5 Baghouse, and exhausting at Stack 161.B5.37.

One (1) baghouse, identified as Airslide B5 Baghouse, with an airflow rate of 3,500 acfm at a temperature 70$^{o}$F, and exhausting at Stack 161B5.37;

(33) Feed box B6 and Pollution Control System Alumina Feed Airslide B6, transporting alumina from Tank 154 to the B6 Pollution Control System, constructed in 1969, with a capacity of 18 tons per hour, controlled by Airslide B6 Baghouse, and exhausting at Stack 161.B6.37.

One (1) baghouse, identified as Airslide B6 Baghouse, with an airflow rate of 3,500 acfm at a temperature 70$^{o}$F, and exhausting at Stack 161B6.37;

(34) One (1) fresh alumina tank, identified as Tank 154, fed from Airslide 151, feeding to:

(A) Potline #5 pollution control system, Feed Box B5;

(B) Potline #6 pollution control system, Feed Box B6;

(C) Vibratory Screen and GTC Feed Airslide 161-B3-FM-01; and

(D) Vibratory Screen and GTC Feed Airslide 161-B4-FM-01.

Tank 154 was constructed in 1969, and has a capacity of 1,200 tons. It is controlled by Airslide B5 Baghouse and Airslide B6 Baghouse, and exhausts at Stacks 161.B5.37 and 161.B6.37;

(35) Vibratory Screen and GTC Feed Airslide 161-B3-FM-01, and Vibratory Screen and GTC Feed Airslide 161-B4-FM-01, transporting fresh alumina from Tank 154 to Potlines 3 and 4 Gas Treatment Center (GTC) for fluoride control, constructed in 2000, with a maximum capacity of 80 tons per hour each, controlled by Gas Treatment Center (GTC), and exhausting at Stack GTC;

(36) Transfer of reacted alumina from the Potlines 3 and 4 Gas Treatment Center (GTC) for fluoride control to reacted alumina Airslide 166-FM-03 via:

(A) Airslide 161B3-FM-03 to Airlift 161B3-AE-01 or Airlift 161B4-AE-02 to Vibratory Screen 161B3-SC-02 or vibratory screen 161B4-SC-02;

(B) Airslide 166-FM-02.

Maximum capacity for the equipment described by (A.) is 30 tons per hour each, Maximum capacity for Airslide 166-FM-02 and Airslide 166-FM-03 is 60 tons per hour. All of the airslides, airlifts, and vibratory screens described herein, except for airslides 165-FM-02 and 166-FM-03 are controlled by the GTC, exhausting at Stack GTC. Airslides 166-FM-02 and 166-FM-03 are controlled by Baghouse 166, exhausting at Stack 166.1. All of the equipment described herein was constructed in 2000.

One (1) baghouse, identified as Baghouse 166, with an airflow rate of 7,000 standard dry cubic foot at 70$^{0}$F, and exhausting at Stack 166.1;

(37) Transfer of reacted alumina from Potline #6 B6 Pollution Control System for fluoride control to Airslide 166-FM-03 via Airslide 161-B6-FM-01 to Airlift 166-B6-FM-AE-01, thence to Vibratory Screen 166-B6-FM-SC-01, and thence to Airslide 166-FM-03. All of this equipment except for Airslide 166-FM-03 has a maximum capacity of 20 tons per hour, was constructed in 2000, and is controlled by Baghouse 166, exhausting at Stack 166.1;

(38) Transfer of reacted alumina from the Potline #5 B5 pollution control system for fluoride control to reacted alumina Airslide 161-B5-FM-01, thence to Airlift 161-B5-FM-AE-01, thence to Vibratory Screen 61-B5-FM-SC-01, thence to the feedbox for Airslide 166-FM-05 and Airslide 166-FM-06. All of this equipment except for the feedbox for Airslide 166-FM-05 and Airslide 166-FM-06 has a maximum capacity of 20 tons per hour, was constructed in 2000, and is controlled by the Baghouse 166, exhausting at Stack 166.1;

(39) Feedbox for Airslide 166-FM-05 and Airslide 166-FM-06, transferring reacted alumina from the GTC, B5, and B6 pollution control systems to Airslide 166-FM-05 and Airslide 166-FM-06. This feedbox was constructed in 2000, has a maximum capacity of 80 tons per hour, and is controlled by Baghouse 166, exhausting at Stack 166.1;

(40) Airslide 166-FM-05, transferring reacted alumina from the feedbox for Airslide 166-FM-05 and Airslide 166-FM-06 to Airlift 166-AE-01, constructed in 2000, with a maximum capacity of 80 tons per hour, and controlled by Baghouse 166, exhausting at Stack 166.1;

(41) Airslide 166-FM-06, transferring reacted alumina from the feedbox for Airslide 166-FM-05 and Airslide 166-FM-06 to Airlift 166-AE-02, constructed in 2000, with a maximum capacity of 80 tons per hour, and controlled by Baghouse 166, exhausting at Stack 166.1;

(42) Airlift 166-AE-02, transferring reacted alumina from Airslide 166-FM-06 to reacted alumina Airslide 166-FM-07, constructed in 2000, with a maximum capacity of 80 tons per hour, and controlled by Baghouse 166, exhausting at Stack 166.1;

(43) Airlift 166-AE-01, transferring reacted alumina from Airslide 166-FM-05 to reacted alumina Airslide 166-FM-07, constructed in 2000, with a maximum capacity of 80 tons per hour, and controlled by Baghouse 166, exhausting at Stack 166.1;

(44) Transfer of reacted alumina from Airlift 166-AE-01 and Airlift 166-AE-02 to Airslide 166-FM-07. Airslide 166-FM-07 has a maximum capacity of 80 tons per hour, was constructed in 2000, and is controlled by Baghouse 166, exhausting at Stack 166.1;

(45) Unloading Station BL-08, accepting reacted alumina that has been trucked from Anode Baking Ring Furnace A-446 Pollution Control System, and transferring it to Tank 151H. Unloading Station BL-08 has a maximum capacity of 40 tons per hour, and is controlled by Baghouse 112A, exhausting at Stack 112A.1;

(46) One (1) reacted alumina storage tank, identified as Tank 151H, fed from Unloading Station BL-08, constructed in 1969,with a maximum capacity of 655 tons, controlled by Baghouse 112A, exhausting at Stack 112A.1;

(47) Dense Phase Transporter VS-01, transporting reacted alumina from Tank 151H to Feed Box 166-FM-08. Dense Phase Transporter VS-01 was constructed in 2000, has a maximum capacity of 7 tons per hour, and is controlled by Baghouse 112A, exhausting at Stack 112A.1;

(48) Feed box 166-FM-08, transferring reacted alumina from Dense Phase Transporter VS-01 and Airslide 166-FM-07, constructed in 2000, with a maximum capacity of 87 tons per hour, controlled by Baghouse 112A, and exhausting at Stack 112A.1;

(49) Airslide 166-FM-09, transferring reacted alumina from Feed Box 166-FM-08 to Tank 151A Distribution Box 151-FM-1A, constructed in 2000, with a capacity of 87 tons per hour, controlled by Baghouse 112A, and exhausting at Stack 112A.1;

(50) Tank 151A Distribution Box 151-FM-1A, transferring reacted alumina from Airslide 166-FM-09 to Tank 151A, constructed in 2000, with a capacity of 87 tons per hour, controlled by Baghouse112A, and exhausting at Stack 112A.1;

(51) Airslide 166-FM-10, transferring reacted alumina from Feed Box 166-FM-08 to Tank 151B Distribution Box 151-FM-1B, constructed in 2000, with a capacity of 87 tons per hour, controlled by Baghouse 112A, and exhausting at Stack 112A.1;

(52) Tank 151B Distribution Box 151-FM-1B, transferring reacted alumina from Airslide 166-FM-10 to Tank 151B, constructed in 2000, with a capacity of 87 tons per hour, controlled by Baghouse 112A, and exhausting at Stack 112A.1; and

(53) Tanks 151A and 151B, transferring reacted alumina to Potlines 3-6, with a storage capacity of 985 tons each, constructed in 1969, the discharge from each tank controlled by Baghouse 112A, and exhausting at Stack 112A.1.

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

D.1.1 Particulate Emissions Limitations for Manufacturing Processes [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3 (Particulate Emissions Limitations for Manufacturing Processes), the allowable PM emission rate from the below listed processes shall be limited as follows:

| Facility | Control Device | Maximum Process Weight Rate (tons/hr) | PM Emission Limit (lbs/hr) |
|---|---|---|---|
| Air Conveyors No. 1 | Airveyor No. 1 Baghouse | 200 | 58.5 |
| Air Conveyors No. 2 | Airveyor No. 2 Baghouse | 200 | 58.5 |
| Airveyor Discharge Conveyor | Building 60 Baghouse | 500 | 69 |
| Transfer Tower 61A | Transfer Tower 61A Baghouse | 500 | 69 |
| Tank 62 loading | Tank 62 Baghouse (Tank 62 baghouse, top of tank) | 500 | 69 |
| Tank 62 unloading | Baghouse BC-24 (Tank 62 baghouse, ground level) | 275 | 62.02 |
| Transfer Tower 61B | Transfer Tower 61B Baghouse | 275 | 62.02 |
| Building 140 Unloading | Building 140 Baghouse | 275 | 62.02 |
| 104 Passageway Conveyor, and Bucket Elevator 141A and Bucket Elevator 141B | 104A Passageway Baghouse | 275 | 62.02 |
| Airslide 141, Tank 144, Tank 141BN, Tank 141BS, Tank 141CN, Tank 141CS, Tank 141D, Tank 141E, Tank 141F, and #8 Screw Conveyor | Tank 144A Baghouse | 240 | 60.5 |
| Tank 160M.1 | Potline #2 C1 Pollution Control System | 18 | 28.4 |
| Tank 160M.1 Feed Pneumatic Conveyor | | 18 | 28.4 |

| Facility | Control Device | Maximum Process Weight Rate (tons/hr) | PM Emission Limit (lbs/hr) |
|---|---|---|---|
| Tank 160M.2 | Tank 160M.2 Bin Vent Baghouse | 18 | 28.4 |
| Tank 160M.2 Pneumatic Conveyor | Tank 160M.2 Bin Vent Baghouse | 18 | 28.4 |
| Alumina Feed Airslide B2 | Airslide B2 Baghouse | 18 | 28.4 |
| Alumina Feed Vibratory Screen and C1 east and C1 west Airslides | Vibratory screen and C1 east and C1 west Airslide Bin Vents #1, #2, #3, and #4 | 18 | 28.4 |
| Reacted Alumina Airslide B2 | Tank 141A(NW) Baghouse | 18 | 28.4 |
| Reacted Alumina Airslide C1 | Tank 141A(NE) Baghouse | 18 | 28.4 |
| Tank 141(NE) System | Tank 141A (NE) Baghouse | 18 | 28.4 |
| Tank 141(NW) System | Tank 141A (NW) Baghouse | 18 | 28.4 |
| Tank 141 BS Eductor | Tank 141A (NE) Baghouse | 5 | 12 |
| **Equipment controlled by Baghouse112A** | | | |
| (1) 112A Passageway Conveyor | Baghouse112A | 402 | 66.37 |
| (2) Airlift 150-FM-AE01 | | | |
| (3) Airlift 150-FM-AE02 | | | |
| (4) Airslide 151 | | | |
| (5) Tank 151H | | | |
| (6) Unloading Station BL-08 | | | |
| (7) Dense Phase Transporter VS-01 | | | |
| (8) Feed Box 166-FM-08 | | | |
| (9) Airslide 166-FM-09 | | | |
| (10) Tank 151A Distribution Box 151-FM-1A | | | |
| (11) Airslide 166-FM-10 | | | |
| (12) Tank 151B Distribution Box 151-FM-1B | | | |
| (13) Tanks 151A and 151B | | | |
| Tank 151F Loading | Uncontrolled | 225 | 59.79 |
| Tank 151G Loading | Uncontrolled | 225 | 59.79 |
| Tank 151C, Tank 151J, Tank 152, Tank 154, Feed Box B5 and Pollution Control System Alumina Feed Airslide B5 | Airslide B5 Baghouse | 243 | 60.54 |
| Tank 151C, Tank 151J, Tank 152, Tank 154, Feed Box B6 and Pollution Control System Alumina Feed Airslide B6 | Airslide B6 Baghouse | 243 | 60.54 |
| **Equipment controlled by the Gas Treatment Center (GTC)** | | | |
| (1) Vibratory Screen and GTC Feed Airslide 161-B3-FM-01 | GTC | 60 | 46.29 |
| (2) Vibratory Screen and GTC Feed Airslide 161-B4-FM-01 | | | |
| (3) GTC Reacted Alumina 161B3-FM-03 Airslide | | | |
| (4) GTC Reacted Alumina 161B3-AE-02 Airlift | | | |
| (5) GTC Reacted Alumina 161B4-AE-02 Airlift | | | |

| Facility | Control Device | Maximum Process Weight Rate (tons/hr) | PM Emission Limit (lbs/hr) |
|---|---|---|---|
| (6) GTC Reacted Alumina 161B4-SC-02 Vibratory Screen | | | |
| (7) GTC Reacted Alumina 161B3-SC-02 Vibratory Screen | | | |
| **Equipment controlled by Baghouse 166** | | | |
| (1) Airslide 166-FM-01 | Baghouse 166 | 100 | 51.3 |
| (2) Airslide 166-FM-02 | | | |
| (3) Airslide 161-B6-FM-01 | | | |
| (4) Airlift 166-B6-FM-AE-01, | | | |
| (5) Vibratory Screen 166-B6-FM-SC-01 | | | |
| (6) Airslide 166-FM-03; | | | |
| (7) Airslide 161-B5-FM-01 | | | |
| (8) Airlift 166-B5-FM-AE-01, | | | |
| (9) Vibratory Screen 166-B5-FM-SC-01 | | | |
| (10) Feedbox for Airslide 165-FM-05 and Airslide 166-FM-06 | | | |
| (11) Airslide 166-FM-05 | | | |
| (12) Airslide 166-FM-06 | | | |
| (13) Airlift 166-AE-02 | | | |
| (14) Airlift 166-AE-01 | | | |
| (15) Airslide 166-FM-07 | | | |

The above particulate emissions rates were determined from the following formulae:

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

$$E = 4.10\ P^{0.67}$$

where: E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour.

or

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

$$E = 55.0\ P^{0.11} - 40$$

where: E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour.

When the process rate exceeds two hundred (200) tons per hour, the allowable emission may exceed the emission limits shown in the above table; provided the concentration of particulate in the discharge gases to the atmosphere is less than one-tenth (0.10) pound per thousand (1,000) pounds of gases.

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

Pursuant to 326 IAC 2-2 and SSM 173-18836-00007, issued on February 25, 2005, the combined PM and $PM_{10}$ emissions from Baghouse 112A and Baghouse 116 shall be less than 5.7 and 3.4 pounds per hour, respectively. Compliance with these emissions limits shall ensure that the potential PM and $PM_{10}$ emissions from the emissions units associated with Baghouse 112A and Baghouse 166 shall be less than 25 and 15 tons per year, respectively, which renders the requirements of PSD rule 326 IAC 2-2 not applicable.

**Compliance Determination Requirements**

D.1.3 Particulate Control [326 IAC 2-7-6(6)]

(a) In order to comply with Condition D.1.1, the PM emissions from the following facilities shall be controlled by the baghouses as indicated in the table below. Each baghouse shall be in operation and control emissions from its associated facility at all times when a facility that the baghouse controls is in operation.

| Facility | Baghouse |
|---|---|
| Airveyor No. 1 | Airveyor No. 1 Baghouse |
| Airveyor No. 2 | Airveyor No. 2 Baghouse |
| Airveyor Discharge Conveyor | Building 60 Baghouse |
| Airveyor Discharge Conveyor discharge to Tank 62 Feed conveyor | Transfer Tower 61A Baghouse |
| Tank 62 Feed conveyor discharge to Tank 62 | Tank 62 Baghouse |
| Tank 62 discharge point to Passageway 112A Feed Conveyor | Baghouse BC-24 |
| Transfer Tower 61B | Transfer Tower 61B Baghouse |
| Building 140 Unloading | Building 140 Baghouse |
| 104 Passageway Conveyor, and Bucket Elevator 141A and Bucket Elevator 141B | 104A Passageway Baghouse |
| Airslide 141,Tank 144, Tank 141BN, Tank141BS, Tank 141CN, Tank 141CS, Tank 141D, Tank 141E, Tank 141F, and #8 Screw Conveyor | 144A Baghouse |
| Tank 160M.2 Feed Pneumatic Conveyor | 160M.2 Bin Vent Baghouse |
| Tank 160M.2 | |
| Alumina Feed Airslide B2 | Airslide B2 Baghouse |
| Tank 160M.1 Feed Pneumatic Conveyor | Potline #2 C1 Pollution Control System |
| Tank 160M.1 | |
| Vibratory Screen and C1 east and C1 west Alumina Feed Airslides | Vibratory screen and C1 east and C1 west Airslide bin vents #1, #2, #3, and #4 |
| Reacted Alumina Airslide B2 | Tank 141A(NW) Baghouse |
| Reacted Alumina Airslide C1 | Tank 141A(NE) Baghouse |
| Tank 141A(NE) | Tank 141A(NE) Baghouse at its inlet and 104A Baghouse at its discharge |
| Tank 141A(NW) | Tank 141A(NW) Baghouse at its inlet and 104A Baghouse at its discharge |
| Tank 141 BN Eductor | Tank 141A(NE) Baghouse |

| Facility | Baghouse |
|---|---|
| Tank 151C, Tank 151J, Tank 152, Tank 154, Feed Box B5 and Pollution Control System Alumina Feed Airslide B5 | Airslide Baghouse B5 |
| Tank 151C, Tank 151J, Tank 152, Tank 154, Feed Box B6 and Pollution Control System Alumina Feed Airslide B6 | Airslide Baghouse B6 |
| Any equipment controlled by Baghouse 112A | Baghouse 112A |
| Any equipment controlled by Baghouse166 | Baghouse 166 |
| Any equipment controlled by the Gas Treatment Center (GTC) | GTC |

(b) Pursuant to SSM 173-18836-00007, issued on February 25, 2005, and in order to comply with Condition D.1.2, except as necessary to supply alumina to control fluoride emissions, the PM and $PM_{10}$ emissions from the following facilities shall be controlled by the baghouses as indicated in the table below. Each baghouse shall be in operation and control emissions from its associated facility at all times when a facility that the baghouse controls is in operation.

| Facility | Baghouse |
|---|---|
| **Equipment controlled by Baghouse 112A** | Baghouse 112A |
| (1) 112A Passageway Conveyor | |
| (2) Airlift 150-FM-AE01 | |
| (3) Airlift 150-FM-AE02 | |
| (4) Airslide 151 | |
| (5) Tank 151H | |
| (6) Unloading Station BL-08 | |
| (7) Dense Phase Transporter VS-01 | |
| (8) Feed Box 166-FM-08 | |
| (9) Airslide 166-FM-09 | |
| (10) Tank 151A Distribution Box 151-FM-1A | |
| (11) Airslide 166-FM-10 | |
| (12) Tank 151B Distribution Box 151-FM-1B | |
| (13) Tanks 151A and 151B | |
| **Equipment controlled by Baghouse 166** | Baghouse 166 |
| (1) Airslide166-FM-01 | |
| (2) Airslide 166-FM-02 | |
| (3) Airslide 161-B6-FM-01 | |
| (4) Airlift 161B6-FM-AE-01, | |
| (5) Vibratory Screen 161B6-FM-SC-01 | |
| (6) Airslide 166-FM-03; | |
| (7) Airslide 161-B5-FM-01 | |
| (8) Airlift 161-B5-FM-AE-01 | |
| (9) Vibratory Screen 161-B5-FM-SC-01 | |
| (10) Feedbox for Airslide 165-FM-05 and Airslide 166-FM-06 | |
| (11) Airslide 166-FM-05 | |
| (12) Airslide 166-FM-06 | |
| (13) Airlift 166-AE-02 | |
| (14) Airlift 166-AE-01 | |
| (15) Airslide 166-FM-05 | |

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

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

In order to comply with Conditions D.1.1 and D.1.2, and no later than January 5, 2010 or within 5 years from the date of the last valid compliance test, whichever is later, the Permittee shall perform PM, and PM10 testing for Baghouse 112A and Baghouse 166, utilizing methods as approved by the Commissioner. These tests shall be repeated at least once every five (5) years from the date of the valid compliance demonstration. PM10 includes filterable and condensable PM10. Testing shall be conducted in accordance with Section C – Performance Testing. During the stack test, the Permittee shall determine the sensitivity of the bag leak detection system and calibrate the particulate concentration readings of the bag leak detector in order to provide an output relative to outlet grain loading levels.

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

D.1.5 Bag Leak Detection System

Pursuant to SSM 173-18836-00007, issued on February 25, 2005, the Permittee shall operate a continuous bag leak detection system for Baghouse 112A and Baghouse166 stack exhaust in the alumina handling system. The bag leak detection system shall meet the following requirements:

(a) Each electrodynamic bag leak detection system shall be calibrated, operated, and maintained in accordance with the manufacturer's specifications;

(b) The Permittee shall establish alarms for both bag leak detection systems such that an initial investigation alarm shall be activated for Baghouse 112A, whenever PM and/or $PM_{10}$ emissions from Stack 112A.1 are greater than or equal to 0.003 grains per dry standard cubic foot, equivalent to greater than or equal to 0.692 pounds of PM and/or $PM_{10}$ per hour; and for Baghouse 166, whenever PM and/or $PM_{10}$ emissions from Stack 166.1 are greater than or equal to 0.0115 grains per dry standard cubic foot, equivalent to greater than or equal to 0.69 pounds of PM and/or $PM_{10}$ per hour.

Failure to comply with the requirements in paragraph (b) of this condition shall be considered a deviation from this permit;

(c) 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) or less;

(d) The bag leak detection system sensor shall provide output of relative or absolute PM loadings;

(e) The bag leak detection system shall be equipped with a device to continuously record the output signal from the sensor;

(f) 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;

(g) The bag leak detector shall be installed downstream of the fabric filter;

(h) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors;

(i) 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;

(j) 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 PMP. 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;

(k) 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 baghouse 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; and

(5) If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C – Response to Excursions and Exceedances. Abnormal emissions alone are not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions and Exceedances, shall be considered a deviation from this permit.

D.1.6 Bag Leak Detection Alarm Activation

In the event that a bag leak detection system alarm is activated for any reason, the Permittee shall take the following response steps:

(a) For Baghouse 112A and Baghouse 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); and

(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 and $PM_{10}$ emission rate recorded by the electrodynamic bag leak detector's data acquisition system until the failed bag is repaired or replaced.

D.1.7 Visible Emissions Notations

(a) Visible emission notations of the exhaust from Stacks 60.2 and 60.3, 60.6, 60.8, 61A.1, 62.1, 62.2, 61B.1, 140.1, 104.1, 144.1, 160M.2, 160B2.16, 141.1(NE), 161.B5.37, 160C1.37 and 161.B6.37, shall be performed once per day during normal daylight operations. When the baghouse exhausting to stack 160C1.37 is permanently idled, visible emission notations of the exhaust from bin vent exhausts 160C1.37-1, 160C1.37-2, 160C1.37-3, and 160C1.37-4, shall be performed once per day during 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 normal operations.

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

(e) If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C – Response to Excursions and Exceedances. Abnormal emissions alone are not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions and Exceedances, shall be considered a deviation from this permit.

D.1.8 Parametric Monitoring

The Permittee shall record the pressure drops across Airveyor No. 1 Baghouse, Airveyor No. 2 Baghouse, Building 60 Aspiration Baghouse, Transfer Tower 61A Baghouse, Tank 62 Baghouse, Baghouse BC-24 (Tank 62 baghouse, ground level), Transfer Tower 61B Baghouse, Building 140 Baghouse, 104A Passageway Baghouse, Baghouse 144A, 160M.2 Bin Vent Baghouse, Airslide B2 Baghouse, Airslide C1 Baghouse, Tank 141A(NE) Baghouse, Airslide B5 Baghouse, Airslide B6 Baghouse, used in conjunction with the facilities at least once per day when the processes are in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 3.0 and 6.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions and Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C – Response to Excursions and Exceedances, shall be considered a deviation from this permit.

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

D.1.9 Broken or Failed Bag Detection except Baghouse 112A and Baghouse 166 [326 IAC 2-7-5(3)]

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

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

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

D.1.10 Record Keeping Requirements

(a) To document compliance with Condition D.1.5 (a), the Permittee shall keep a log of the calibration test results for Baghouse 112A and Baghouse 166 leak detectors.

(b) To document compliance with Condition D.1.5 (k), the Permittee shall maintain records of daily visible emission notations of the stack exhaust for Baghouse 112A and Baghouse 166, when the applicable bag leak detection system malfunctions, fails or otherwise needs repair. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).

(c) To document compliance with Condition D.1.6 (a), the Permittee shall maintain records of each bag leak detection alarm activation for Baghouse 112A and Baghouse 166.

(d) To document compliance with Condition D.1.6(b), when bag failure occurs at either Baghouse 112A or Baghouse 166, the Permittee shall keep a log of the hourly PM and PM10 emission rates recorded by the electrodynamic bag leak detector's data acquisition system.

(e) To document compliance with Condition D.1.7, the Permittee shall maintain records of the visible emission notations. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).

(f) To document compliance with Condition D.1.8, the Permittee shall maintain records of the pressure drop. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of the pressure drop reading (e.g. the process did not operate that day).

(g) The Permittee shall maintain the following as required under Conditions D.1.3, D.1.5, D.1.6, D.1.7, D.1.8, and D.1.9:

(1) Documentation of all response steps implemented per event.

(h) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

## SECTION D.2 POTLINE & POTLINES SUPPORT 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.)

(1) One (1) center-worked prebake one (CWPB1) potline, consisting of 150 pots, identified as Potline No.1, constructed in 1956, with a maximum aluminum production rate of 7.08 tons per hour. Primary emissions are controlled by the Potline No.1 A-398 pollution control system (B2) and exhaust at Stacks 160B2.1-160B2.14. Secondary emissions are uncontrolled and exhaust at roof monitors 101M.1 and 102M.1.

One (1) fluidized bed scrubber and baghouse system, consisting of seven (7) fluidized bed scrubbers and baghouses, identified as Potline No. 1 A-398 pollution control system (B2), with a total gas flow rate of 490,000 acfm at $200^0$F, and exhausting at Stacks 160B2.1-160B2.14;

(2) One (1) center-worked prebake one (CWPB1) potline, consisting of 150 pots, identified as Potline No. 2, constructed in 1962 with a maximum aluminum production rate of 7.99 tons per hour. Primary emissions are controlled by the Potline No.2 A-398 pollution control system (C1) and exhaust at Stacks 160C1.1-160C1.36. Secondary emissions are uncontrolled and exhaust at roof monitors 103M.1 and 104M.1.

One (1) fluidized bed scrubber and baghouse system, consisting of twelve (12) fluidized bed scrubbers and baghouses, identified as Potline No. 2 A-398 pollution control system (C1), with a total gas flow rate of 480,000 acfm at $200^0$F, and exhausting at Stacks 160C1.1-160C1.36;

(3) One (1) center-worked prebake one (CWPB1) potline, consisting of 150 pots, identified as Potline No. 3, constructed in 1965, with a maximum aluminum production rate of 7.99 tons per hour. Primary emissions are controlled by the gas treatment center (GTC) system and exhaust at Stack GTC. Secondary emissions are uncontrolled and exhaust at roof monitors 105M.1 and 106M.1.

One (1) alumina injection and fabric filtration system, identified as GTC system, with a total gas flow rate of 1,000,000 acfm at $170^0$F, and exhausting at Stack GTC;

(4) One (1) center-worked prebake one (CWPB1) potline, consisting of 150 pots, identified as Potline No. 4, constructed in 1965, with a maximum aluminum production rate of 7.99 tons per hour. Primary emissions are controlled by the GTC system and exhaust at Stack GTC. Secondary emissions are uncontrolled and exhaust at roof monitors 107M.1 and 108M.1;

(5) One (1) center-worked prebake one (CWPB1) potline, consisting of 150 pots, identified as Potline No. 5, constructed in 1968, with a maximum aluminum production rate of 7.99 tons per hour. Primary emissions are controlled by the Potline No. 5 A-398 pollution control system (B5) and exhaust at Stacks 161B5.1-161B5.36. Secondary emissions are uncontrolled and exhaust at roof monitors 109M.1 and 110M.1.

One (1) fluidized bed scrubber and baghouse system, consisting of twelve (12) fluidized bed scrubbers and baghouses, identified as Potline No. 5 A-398 pollution control system (B5), with a total gas flow rate of 480,000 acfm at $200^0$F, and exhausting at Stacks 161B5.1-161B5.36;

(6) One (1) center-worked prebake one (CWPB1) potline, consisting of 150 pots, identified as Potline No. 6, constructed in 1968, with a maximum aluminum production rate of 7.99 tons per hour. Primary emissions are controlled by the Potline No.6 A-398 pollution control system (B6) and exhaust at Stacks 161B6.1-161B6.36. Secondary emissions are uncontrolled and exhaust at roof monitors 111M.1 and 112M.1.

One (1) fluidized bed scrubber and baghouse system, consisting of twelve (12) fluidized bed scrubbers and baghouses, identified as Potline No.6 A-398 pollution control system (B6), with a total gas flow rate of 480,000 acfm at 200$^0$F, and exhausting at Stacks 161B6.1-161B6.36;

(7) One (1) hydraulic hammer, identified as Pot Digging, constructed in 1962, with a maximum capacity of 2.85 tons per hour, controlled by the Pot Digging baghouse, and exhausting at Stack 136.4.

One (1) baghouse, identified as Pot Digging Baghouse, with an airflow rate of 70,000 dscfm, and exhausting at Stack 136.4;

(8) One (1) auger, identified as Crucible Digging, constructed in 1988, with a maximum capacity of 0.86 tons per hour, controlled by the Crucible Digging baghouse, and exhausting at Stack 110.1.

One (1) baghouse, identified as Crucible Digging Baghouse, with an airflow rate of 6,560 dscfm, and exhausting to Stack 110.1;

(9) One (1) crusher, identified as Potline Bath Crusher, constructed in 1972, with a maximum capacity of 21 tons per hour, controlled by the Potline Bath Crusher Baghouse, and exhausting at Stack 110.2.

One (1) baghouse, identified as Potline Bath Crusher Baghouse, with an airflow rate of 99,000 dscfm, and exhausting at Stack 110.2; and

(10) Four (4) alumina/butt bath/cake bath storage tanks, constructed in 1972, identified as Tanks 110H-A, 110H-B, 110H-C, and 110H-D with a capacity of 1000 cubic feet each, controlled by the Potline Bath Crusher Baghouse, and exhausting at Stack 110.2.

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

D.2.1 Particulate Emissions Limitations for Manufacturing Processes [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emissions Limitations for Manufacturing Processes), the allowable particulate emission rate from the Potlines Nos.1, 2, 3, 4, 5, and 6, shall be limited as follows:

| Facility | Maximum Process Weight Rate (tons/hr) | PM Emission Limit (lbs/hr) |
|---|---|---|
| Potline No.1 | 75.83 | 48.5 |
| Potline No.2 | 83.38 | 49.5 |
| Potline No.3 | 83.38 | 49.5 |
| Potline No.4 | 83.38 | 49.5 |
| Potline No.5 | 83.38 | 49.5 |
| Potline No.6 | 83.38 | 49.5 |
| Pot Digging | 2.85 | 8.27 |
| Crucible Digging | 0.86 | 3.70 |

| Facility | Maximum Process Weight Rate (tons/hr) | PM Emission Limit (lbs/hr) |
|---|---|---|
| Potline Bath Crusher, Tanks 110H-A, 110H-B, 110H-C, and 110H-D | 21 | 31.5 |

The above particulate emissions rates were determined from the following formulae:

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

$$E = 4.10\ P^{0.67}$$

Where: E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour.

Or

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

$$E = 55.0\ P^{0.11} - 40$$

Where: E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour.

D.2.2 Warrick County Sulfur Dioxide (SO2) Emissions Limitations [326 IAC 7-4-10]

Pursuant to 326 IAC 7-4-10(a)(4), the allowable sulfur dioxide emission from Potlines Nos.1, 2, 3, 4, 5, and 6, shall be limited as follows:

(a)

| Facility | Venting From | $SO_2$ Emission Limit (lbs/hr) |
|---|---|---|
| Potline No.1 | All stacks associated with scrubber | 176.3 |
| Potline No.1 | Roof monitors associated with Potline 1 | 19.6 |
| Potline No.2 | All stacks associated with scrubber | 195.2 |
| Potline No.2 | Roof monitors associated with Potline 2 | 21.7 |
| Pot line No.3 | All stacks associated with scrubber | 195.2 |
| Potline No.3 | Roof monitors associated with Potline 3 | 21.7 |
| Pot line No.4 | All stacks associated with scrubber | 195.2 |
| Potline No.4 | Roof monitors associated with Potline 4 | 21.7 |
| Potline No.5 | All stacks associated with scrubber | 195.2 |

| Facility | Venting From | $SO_2$ Emission Limit (lbs/hr) |
|---|---|---|
| Potline No.5 | Roof monitors associated with Potline 5 | 21.7 |
| Pot line No.6 | All stacks associated with scrubber | 195.2 |
| Potline No.6 | Roof monitors associated with Potline 6 | 21.7 |

(b) The total SO2 emissions from Potlines Nos.1, 2, 3, 4, 5, and 6 shall be less than 5,608 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

D.2.3 General Provisions Relating to NESHAP [326 IAC 12] [40 CFR 60 Subpart S] [326 IAC 20-1] [40 CFR Part 63, Subpart A] [40 CFR 63.852]

The provisions of 40 CFR Part 63, Subpart A- General Provisions, which are incorporated by reference in 326 IAC 20-1 apply to Potlines Nos. 1, 2, 3, 4, 5, and 6 except when otherwise specified in 40 CFR Part 63, Subpart LL, Appendix A of this subpart.

D.2.4 Total Fluoride (TF) Emissions Limitations [326 IAC 12] [40 CFR 60 Subpart S] [326 IAC 20-24] [40 CFR 63.843] [40 CFR 63.847]

Pursuant to 40 CFR 63.843(a)(1) and 40 CFR 63.847(a)(1), the emissions of Total Fluoride (TF) (as defined in 40 CFR 63.842) shall not exceed 1.9 pounds per ton of aluminum produced for each Potlines Nos. 1, 2, 3, 4, 5, and 6.

D.2.5 Plans and Procedures [326 IAC 12] [40 CFR 60 Subpart S] [326 IAC 20-1] [40 CFR 63.6] [326 IAC 20-24] [40 CFR 63.850]

Pursuant to 40 CFR 63.850 (c)], the Permittee shall develop a written startup, shutdown, and malfunction (SSM) plan as described in 40 CFR 63.6(e)(3) that contains specific procedures to be followed for operating the source and maintaining the source during periods of startup, shutdown, and malfunction and a program of corrective action for malfunctioning process and control systems used to comply with the standard. The plan does not have to be submitted with the permit application or included in the Part 70 operating permit. IDEM, OAQ may review the plan upon request. In addition to the information required in 40 CFR 63.6(e)(3), the plan shall include:

(a) Procedures, including corrective actions, to be followed if for any baghouse the fan motor current (amperes) are less than that included in the most recent NESHAP Parametric Plan approved by IDEM, OAQ, if for any dry alumina scrubber the alumina feeder revolution per minute (rpm) is less than that included in the most recent NESHAP Parametric Plan approved by IDEM, OAQ, or if visible emissions indicating abnormal operation are observed from the exhaust stacks of the of the pollution control systems B2, C1, B5, B6; and GTC; and

(b) The SSM plan shall be maintained in the operating record.

**Compliance Determination Requirements**

D.2.6 Particulate Control [326 IAC 2-7-6(6)]

(a) In order to comply with Conditions D.2.1 and D.2.4, the PM and fluoride emissions from the following potlines shall be controlled by the pollution control systems as indicated in the table below. Each pollution control system shall be in operation and control emissions from its associated potline at all times when a potline that the pollution control system controls is in operation.

| Potline | Pollution Control System |
|---|---|
| Potline No.1 | Potline No. 1 A-398 (B2) |
| Potline No.2 | Potline No. 2 A-398 (C1) |
| Potline No.3 | Gas Treatment System (GTC) |
| Potline No.4 | Gas Treatment System (GTC) |
| Potline No.5 | Potline No. 5 A-398 (B5) |
| Potline No.6 | Potline No. 6 A-398 (B6) |

(b) In order to comply with Condition D.2.1, the PM emissions from the following facilities shall be controlled by the baghouses as indicated in the table below. Each baghouse shall be in operation and control emissions from its associated facilities at all times when an emission unit that the baghouse controls is in operation; and

| Facility | Baghouse |
|---|---|
| Pot Digging | Pot Digging Baghouse |
| Crucible Digging | Crucible Digging Baghouse |
| Potline Bath Crushing and Tanks 110H-A, 110H-B, 110H-C, and 110H-D | Potline Bath Crusher Baghouse |

(1) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification. The Permittee shall not operate the failed compartment until the failed bags are repaired or replaced.

D.2.7 SO2 Emissions Determination [326 IAC 7-4-10 (b) and (c)]

(a) Pursuant to 326 IAC 7-4-10(b), compliance with SO2 pounds per hour limitation shall be based on a stack test pursuant to 326 IAC 7-2-1(b).

(b) Pursuant to 326 IAC 7-4-10(c), compliance with the tons per year limitations of SO2 shall be based on a rolling twelve (12) consecutive month emission total. The monthly SO2 emissions shall be determined from calendar month material balances using actual average sulfur content and material throughput.

D.2.8 Testing [326 IAC 7-10-4(b)] [326 IAC 12] [40 CFR 60 Subpart S] [326 IAC 20-1] [40 CFR 63, Subpart A] [326 IAC 20-24] [40 CFR 63.847]

(a) In order to comply with Condition D.2.7, and no later than January 5, 2010 or 5 years from the date of the last valid compliance test, whichever is later, the Permittee shall perform SO2 testing for the Potlines Nos.1, 2, 3, 4, 5, and 6, utilizing methods as approved by the Commissioner or shall obtain approval allowing material balance calculations in lieu of stack testing. These tests shall be repeated at least once every five (5) years from the date of the valid compliance demonstration, unless IDEM determines that material balance calculations are a satisfactory demonstration of compliance. Testing shall be conducted in accordance with Section C - Performance Testing.

(b) Pursuant to 40 CFR 63.847(b), the Permittee shall prepare a site specific test plan prior to the performance test according to the requirements of 40 CFR 67.7(c). The test plan shall include procedures for conducting the performance tests required in 40 CFR 63.848 for emission monitoring. In addition to the information required by 40 CFR 63.7, the test plan shall include:

(1) Procedures to ensure a minimum of three runs are performed annually for the primary control system for each emission unit;

(2) For a source with a single control device exhausted through multiple stacks, procedures to ensure that at least three runs are performed annually by a representative sample of the stacks satisfactory to IDEM, OAQ;

(3) For multiple control devices on a single source, procedures to ensure that at least one run is performed annually for each control device by a representative sample of the stacks satisfactory to IDEM, OAQ; and

(4) Procedures for establishing the frequency of testing to ensure that at least one run is performed before the 15th of the month, at least one run is performed after the 15th of the month, and that there are at least 6 days between two of the runs during the month, or that secondary emissions are measured according to an alternate schedule satisfactory to IDEM, OAQ.

(c) Pursuant to 40 CFR 63.847(d), all performance tests shall be conducted in accordance with the requirements of the general provisions in Subpart A of 40 CFR 63, the approved test plan, and the procedures in this section.

(1) For each potline, the Permittee shall measure and record the emission rate of TF exiting the outlet of the primary control system for each potline and the rate of secondary emissions exiting through each roof monitor. Using the equation in paragraph 40 CFR 63.847(e)(1) given below, the Permittee shall compute and record the average of at least three runs each month for secondary emissions and at least three runs each year for the primary control system to meet the emission limit in condition D.2.4;

Equation to compute the emission rate (Ep) of TF from each potline:

Where:

$$E_p = \frac{\left[(C_{s1} \times Q_{sd})_1 + (C_{s2} \times Q_{sd})_2\right]}{(P \times K)} \qquad \text{(Eq.1)}$$

| | | |
|---|---|---|
| $E_p$ | = | emission rate of TF from a potline, kg/Mg (lb/ton); |
| $C_{s1}$ | = | concentration of TF from the primary control system, mg/dscf; |
| $Q_{sd}$ | = | volumetric flow rate of effluent gas corresponding to the appropriate subscript location, dscf/hr; |
| $C_{s2}$ | = | concentration of TF as measured for roof monitor emissions, mg/dscf; |
| P | = | aluminum production rate, ton/hr; |
| K | = | conversion factor, 453,600 mg/lb; |
| 1 | = | subscript for primary control system effluent gas; and |
| 2 | = | subscript for secondary control system or roof monitor effluent gas. |

(2) If the Permittee has performed more than one test of primary emission control device for a potline during the previous consecutive twelve month, the average of all runs performed in the previous 12-month period shall be used to determine the contribution from the primary emission control system;

(3) Determine the weight of the aluminum tapped from the potline using the monitoring devices as required in Condition D.2.11(c); and

(4) Determine the aluminum production rate (P) by dividing the number of hours in the calendar month into the weight of aluminum tapped from the potline during the calendar month that includes the three runs of a performance test.

D.2.9 Test Methods and Procedures [326 IAC 12] [40 CFR 60 Subpart S] [326 IAC 20-1] [40 CFR 63, Subpart A] [326 IAC 20-24] [40 CFR 63.849]

Pursuant to 40 CFR 63.849, the Permittee shall use the following reference methods to determine compliance with the applicable emission limits for TF:

(a) Method 1 in appendix A to 40 CFR Part 60 for sample and velocity traverses;

(b) Method 2 in appendix A to 40 CFR Part 60 for velocity and volumetric flow rate;

(c) Method 3 in appendix A to 40 CFR Part 60 for gas analysis;

(d) Method 13A or Method 13B in appendix A to 40 CFR Part 60, or an approved alternative, for the concentration of TF where stack or duct emissions are sampled; and

(e) Method 13A or Method 13B and Method 14 or Method 14A in appendix A to part 60 of this chapter or an approved alternative method for the concentration of TF where emissions are sampled from roof monitors not employing wet roof scrubbers.

**Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)] [40 CFR 63.847] [40 CFR 63.848] [326 IAC 20-24]**

D.2.10 Emission Monitoring Requirements [326 IAC 12] [40 CFR 60 Subpart S] [40 CFR 63.848] [326 IAC 20-24]

Pursuant to 40 CFR 63.848(a), using the procedures in 40 CFR 63.847 and in the approved test plan, the Permittee shall monitor emissions of TF from each potline by conducting monthly performance tests. The Permittee shall compute and record the monthly average from at least three runs for secondary emissions and the previous 12-month average of all runs for the primary control system to determine compliance with the emission limit in Condition D.2.4. The Permittee shall include all valid runs in the monthly average. The duration of each run for secondary emissions shall represent a complete operating cycle.

D.2.11 Emission Monitoring Requirements [326 IAC 12] [40 CFR 60 Subpart S] [326 IAC 20-24] [40 CFR 63.847] [40 CFR 63.848]

(a) Pursuant to 40 CFR 63.847(h) and 40 CFR 63.848(f), the Permittee shall operate, calibrate, and maintain continuous parameter monitoring systems for the measurement of fan motor current (amperes) for air flow and alumina feeder revolution per minute (rpm) for alumina flow for the dry alumina scrubbers of the pollution control systems B2, C1, B5, B6; and GTC at rates and frequencies included in the most recent NESHAP Parametric Plan approved by IDEM, OAQ.

(b) Pursuant to 40 CFR 63.848(g), the Permittee shall visually inspect the exhaust stacks of pollution control systems B2, C1, B5, B6; and GTC on a daily basis for evidence of any visible emissions indicating abnormal operation.

(c) Pursuant to 40 CFR 63.848(j), the Permittee shall operate, and maintain a monitoring device to determine the daily weight of aluminum produced.

(d) Pursuant to 40 CFR 63.848 (h), if the monitoring device for any of the pollution control systems B2, C1, B5, B6 or GTC, measures an operating parameter less than the limits stated in the most recent NESHAP Parametric Plan approved by IDEM, OAQ, or if visible emissions indicating abnormal operation are observed from the exhaust stacks of the pollution control systems B2, C1, B5, B6 or GTC during a daily inspection, then the Permittee shall initiate the corrective action procedures identified in the SSM plan within one (1) hour.

Failure to initiate the corrective action procedures within one (1) hour or to take the necessary corrective actions to remedy the problem is a violation.

(e) Pursuant to 40 CFR 63.848(i), if the limit for a given operating parameter associated with monitoring a specific control device is exceeded six times in any semi annual reporting period, then any subsequent exceedance in that reporting period is a violation. For the purpose of determining the number of exceedances, no more than one exceedance shall be attributed in any given 24-hour period.

(f) Pursuant to 40 CFR 63.848(k), the Permittee shall submit recommended accuracy requirements to IDEM, OAQ, for review and approval. All monitoring devices required by this section shall be certified by the Permittee to meet the accuracy requirements and shall be calibrated in accordance with the manufacturer's instructions.

D.2.12 Visible Emissions Notations

(a) Visible emission notations of the stack exhaust of Pot Line Bath Crusher baghouse shall be performed once per day. 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 normal operations.

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

(e) If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C – Response to Excursions and Exceedances. Abnormal emissions alone are not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions and Exceedances, shall be considered a deviation from this permit.

D.2.13 Parametric Monitoring

(a) The Permittee shall record the pressure drop across the Pot Line Bath Crusher baghouse, used in conjunction with the Pot Line Bath Crusher at least once per day when the Pot Line Bath Crusher is in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 3.0 and 6.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C – Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range or set point is not a deviation from this permit. Failure to take response steps in accordance with Section C – Response to Excursions or Exceedances shall be considered a deviation from this permit.

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

D.2.14 Broken or Failed Bag Detection [326 IAC 2-7-5(3)]

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

**Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19] [326 IAC 12] [40 CFR 60 Subpart S] [326 IAC 20-1] [40 CFR 63, Subpart A] [326 IAC 20-24] [40 CFR 63.850]**

D.2.15 Record Keeping Requirements

(a) To document compliance with SO2 in Condition D.2.2, the Permittee shall maintain records in accordance with (1) and (2) below:

(1) The records shall include data and methodology used to calculate the monthly sulfur dioxide emissions; and

(2) Records shall be complete and sufficient to establish compliance with the SO2 limit as required in Condition D.2.2.

(b) The Permittee shall maintain records of daily visible emission notations of each stack exhaust for the baghouses as required by Condition D.2.12. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).

(c) The Permittee shall maintain daily records of the pressure drop during normal operation as required by Condition D.2.13. The Permittee shall include in its daily record when a pressure drop record is not taken and the reason for the lack of a pressure drop record (e.g. the process did not operate that day).

(d) The Permittee shall maintain the following as required under Conditions D.2.12, D.2.13, and D.2.14:

(1) Documentation of all response steps implemented per event.

(e) All records shall be maintained in accordance with Section C – General Record Keeping Requirements, of this permit.

D.2.16 NESHAP and NSPS Record Keeping Requirements [326 IAC 12] [40 CFR 60 Subpart S] [326 IAC 20-1] [40 CFR 63, Subpart A] [326 IAC 20-24] [40 CFR 63.850 (c) and (e)]

(a) Pursuant to 40 CFR 63.850(c)(2), the Permittee shall keep records of each event as required by 40 CFR 63.10(b) and record if an action taken during a startup, shutdown, or malfunction is not consistent with the procedures in the plan as required by Condition D.2.5.

(b) Pursuant to 40 CFR 63.850(e), the Permittee shall maintain files of all information (including all reports and notifications) required by 40 CFR 63.10(b) and 40 CFR 63.850.

(1) The Permittee may retain records on microfilm, on a computer, on computer disks, on magnetic tape, or on microfiche; and

(2) In addition to the general records required by 40 CFR 63.10(b), the Permittee shall maintain records of the following information:

(i) Daily production rate of aluminum as required in Condition D.2.11(c);

(ii) A copy of the startup, shutdown, and malfunction plan as required in Condition D.2.5(a);

(iii) Records supporting a request for reduced sampling of potlines;

(iv) Records, such as a checklist or the equivalent, demonstrating that the daily visual inspection of the exhaust stack for each control device has been performed as required in Condition D.2.11(b), including the results of each inspection; and

(v) Records documenting the corrective actions taken when the limit for an operating parameter established in Condition D.2.11(a) were exceeded, or when visible emissions indicating abnormal operation were observed from a control device stack during a daily inspection required by Condition D.2.11(b).

D.2.17 Reporting Requirements

In order to determine compliance with Condition D.2.2, a quarterly report shall be submitted to the address listed in Section C – General Reporting Requirements, of this permit, using the reporting form located at the end of this section, or its equivalent, containing the calendar month and rolling twelve month sulfur dioxide emissions from the smelter operation (potline scrubber stacks, roof monitors). The report shall include documentation of the data and methodology used to calculate the monthly sulfur dioxide emissions and shall be submitted by the end of the month following the end of the quarter. The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

D.2.18 NESHAP and NSPS Reporting Requirements [326 IAC 12] [40 CFR 60 Subpart S] [326 IAC 20-1] [40 CFR 63, Subpart A] [326 IAC 20-24] [40 CFR 63.850(b), (c), (d), and (e)]

(a) Pursuant to 40 CFR 63.850(b), the Permittee shall submit a summary of all performance tests to IDEM, OAQ on an annual basis.

(b) Pursuant to 40 CFR 63.85(c)(2), the Permittee shall report if an action taken during a startup, shutdown, or malfunction is not consistent with the procedures in the SSM plan as required by 40 CFR 63.6(e)(3)(iv).

(c) Pursuant to 40 CFR 63.850(d), the Permittee shall submit an excess emission report (or a summary report) if measured emissions are in excess of the applicable standard. The report shall contain the information specified in 40 CFR 63.10(e)(3)(v) and be submitted semiannually unless quarterly reports are required as a result of excess emissions.

(d) Pursuant to 40 CFR 63.850(e)(3), the Permittee may report required information on paper or on a labeled computer disc using commonly available and compatible computer software.

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

## Part 70 $SO_2$ Quarterly Report

Source Name: Alcoa Inc. - Warrick Operations
Source Address: Jct. IN Hwys. 66 & 61, Newburgh, Indiana 47629-0010
Mailing Address: Bldg. 860 E, P.O. Box 10, Newburgh, Indiana 47629
Part 70 Permit No.: T173-6627-00007
Facility: Potlines Nos. 1, 2, 3, 4, 5, and 6
Parameter: $SO_2$ Emissions
Limit: Combined $SO_2$ emissions of 5,608 tons per 12 consecutive month period

Quarter _____ Year: _____

| Month | $SO_2$ (tons) | $SO_2$ (tons) | $SO_2$ (tons) |
|---|---|---|---|
| | This Month | Previous 11 Months | 12 Month Total |
| Month 1 | | | |
| Month 2 | | | |
| Month 3 | | | |

☐ No deviation occurred in this month.

☐ Deviation/s occurred in this month.

Deviation has been reported on: _____

Submitted by: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

Attach a signed certification to complete this report.

**SECTION D.3 GREEN ANODE PLANT 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.)

(1) Ten (10) calcined petroleum coke storage silos, identified as Coke Silos, constructed in 1959, with a maximum capacity of 1,286 tons each, with maximum filling and unfilling rates of 138.0 and 18.4 tons/hr, respectively;

(2) Four (4) vibrating screens and size classifying equipment, identified as Shaker Screens, constructed in 1959, with a maximum coke screening capacity of 16.7 tons per hour, controlled by the baghouse DC-218, and exhausting at Stack 254.7.

One (1) baghouse, identified as DC-218, with an air flow rate of 18,000 acfm at 77$^{o}$F, exhausting at Stack 254.7;

(3) One (1) coarse sized coke storage tank, identified as Coarse Coke Tank T-35, constructed in 1959, with a maximum incoming coke of 6.94 tons per hour, controlled by the baghouse DC-218, and exhausting at Stack 254.7;

(4) One (1) hammermill, identified as 45 Hammermill, constructed in 1959, with a maximum capacity of 16.7 tons per hour, controlled by the baghouse DC-218, and exhausting at Stack 254.7;

(5) One (1) intermediate sized coke storage tank, identified as intermediate tank T-101, constructed in 1959, with a maximum of incoming coke of 15.4 tons per hour, controlled by the baghouse DC-218, and exhausting at Stack 254.7; and

(6) One (1) fine sized coke storage tank, identified as Fine Coke Tank T-146, constructed in 1959, with a maximum capacity of 18.0 tons per hour, controlled by the baghouse DC-218, and exhausting at Stack 254.7;

(7) One (1) hammermill, identified as 153 Hammermill, constructed in 1959, with a maximum capacity of 21.0 tons per hour, controlled by the baghouse DC-153, and exhausting at Stack 254.4.

One (1) baghouse, identified as DC-153, with an air flow rate of 8,000 acfm at 77oF, exhausting at Stack 254.4;

(8) One (1) intermediate classifier, identified as Intermediate Classifier CL-82, constructed in 1959, with a maximum capacity of 15.4 tons per hour, controlled by the baghouse DCF-221A, and exhausting at Stack 254.5.

One (1) baghouse, identified as DCF-221A, with an air flow rate of 1,200 acfm at 77$^{o}$F, exhausting at Stack 254.5, and controlling emissions from the following equipment;

(9) One (1) fine calcined petroleum coke and dust (from baghouses 218 and 153) fines ball mill grinding facility, identified as BM-112, constructed in 1959, with a maximum capacity of 18.0 tons per hour, controlled by the baghouse DCF-221B, and exhausting at Stack 254.6.

One (1) ball mill baghouse, identified as DCF-221B, with an air flow rate of 4,500 acfm at 77$^{o}$F, exhausting at Stack 254.6;

(10) One (1) weighting facility, identified as Greenmill Check-Weigh Scale, constructed in 1959, with a maximum throughput of 43.6 tons per hour controlled by Check-Weigh Scale Baghouse, and exhausting at Stack 254.8.

One (1) baghouse, identified as Check-Weigh Scale Baghouse, with an air flow rate of 3,000 acfm at 77 $^{o}$F, exhausting at Stack 254.8;

(11) Ten (10) mixers, identified as Mixer Tanks Nos. 1-10, constructed in 1959, each with a maximum throughput of aggregate material 52.5 tons per hour, controlled by Pitch Fume Treatment System, and exhausting at Stack 254.13.

One (1) pitch fume treatment system (formerly green anode forming operations), consisting of two (2) dry coke scrubbers and two (2) baghouses for PM, $PM_{10}$, and VOC control, identified as Pitch Fume Treatment System, constructed in 1999, with a treatment capacity of 52.5 tons of green anodes per hour, with an airflow rate of 70,000 acfm at 100 $^{o}$F and exhausting at Stack 254.13. The pitch fume treatment system has a minimum feed rate, as specified in the approved parametric monitoring plan, of 3.6 tons per hour of calcined petroleum coke;

(12) Two (2) hydraulic presses, identified as North and South Anode Press, constructed in 1959, with a maximum formation rate of 52.5 tons per hour, controlled by Pitch Fume Treatment System, and exhausting at Stack 254.13;

(13) One (1) carbon Press Feed Conveyor, identified as 618 B, constructed in 1959, with a maximum throughput of 52.5 tons per hour, controlled by Pitch Fume Treatment System, and exhausting at Stack 254.13;

(14) Three (3) cooling belts, identified as fans No. 1-3, constructed in 1959, with a maximum throughput of 52.5 tons per hour, controlled by Pitch Fume Treatment System, and exhausting at Stack 254.13;

(15) One (1) coal tar pitch tank, identified as Pitch Storage Tank, constructed in 1959, with a maximum capacity of 4.65 tons per hour, with no control, and exhausting inside the green anode plant; and

(16) Three (3) fixed roof pitch storage tanks, identified as Pitch Tanks 251A, 251B, and 251C, constructed in 1959, with a combined maximum storage capacity of 666,000 gallons, using natural draft displacement as control, and exhausting to atmosphere.

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

D.3.1 Particulate Emissions Limitations for Manufacturing Processes [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3 (Particulate Emissions Limitations for Manufacturing Processes), the allowable particulate emission rate from the below listed processes shall be limited as follows:

| Facility | Control Equipment | Maximum Process Weight Rate (tons/hr) | PM Emission Limit (lbs/hr) |
|---|---|---|---|
| Coke Silos | None | 138 | 54.6 |
| Size classifying equipment | DC-218 baghouse | 16.7 | 27 |
| 153 Hammermill | DC-153 baghouse | 21 | 31.5 |
| Intermediate Classifier CL-82 | DCF-221A baghouse | 15.4 | 25.6 |

| Facility | Control Equipment | Maximum Process Weight Rate (tons/hr) | PM Emission Limit (lbs/hr) |
|---|---|---|---|
| BM-112 Ball mill grinding operation | DCF-221B baghouse | 18 | 28.4 |
| Weighting facility | Check-Weigh Scale Baghouse | 43.6 | 43.3 |
| Anode Forming | Pitch Fume Treatment System | 52.5 | 45 |

The above particulate emissions rates were determined from the following formulae:

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

$$E = 4.10\ P^{0.67}$$

Where: E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour.

or

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

$$E = 55.0\ P^{0.11} - 40$$

Where: E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour.

D.3.2 PSD Minor Limitations [326 IAC 2-2]

Pursuant to SSM 173-17780-00007, issued on July 21, 2004, the following limits shall apply to the pitch fume treatment system:

(a) The emission rate of PM shall not exceed 0.070 pounds of PM per ton of green anode;

(b) The emission rate of PM10 shall not exceed 0.050 pounds PM10 per ton of green anode; and

(c) The emission rate of VOC shall not exceed 0.030 pounds of VOC per ton of green anode.

Compliance with the throughput limits in Conditions D.4.2(a) and D.6.4(a) and the emission limits specified by Conditions D.3.2(a) through (c), D.4.2(b) through (e), D.5.2(a) and (b), and D.6.4(b) and (c), shall render the requirements of 326 IAC 2-2 not applicable to the green anode plant.

D.3.3 General Provisions Relating to NESHAP [326 IAC 20-1] [40 CFR Part 63, Subpart A] [40 CFR 63.852]

The provisions of 40 CFR Part 63, Subpart A- General Provisions, which are incorporated by reference in 326 IAC 20-1 apply to all operations in the Green Anode plant where coal tar pitch is mixed with calcined petroleum coke and/or spent anode materials except when otherwise specified in 40 CFR Part 63, Subpart LL, Appendix A of this subpart.

D.3.4 POM Emissions Control Requirement [326 IAC 20-24] [40 CFR 63.843] [40 CFR 63.847]

Pursuant to 40 CFR 63.843(b)(1), (2), and (3) for all operations in the Green Anode plant, where coal tar pitch is mixed with calcined petroleum coke and/or spent anode materials, the Permittee shall

(a) operate, and maintain equipment to capture and control POM emissions from the anode forming operations (which encompasses initial mixing through final forming);

(b) operate the emission capture system to meet the generally accepted engineering standards for minimum exhaust rates as published by the American Conference of Governmental Industrial Hygienists in Chapters 3 and 5 of "Industrial Ventilation: A Handbook of Recommended Practice" (incorporated by reference in 40 CFR 63.841; and

(c) route the captured emissions through a closed system to a dry coke scrubber.

D.3.5 Plans and Procedures [326 IAC 20-1] [40 CFR 63.6] [326 IAC 20-24] [40 CFR 63.850]

Pursuant to 40 CFR 63.850 (c), the Permittee shall develop a written startup, shutdown, and malfunction (SSM) plan as described in 40 CFR 63.6(e) (3) that contains specific procedures to be followed for operating the anode forming process (which encompasses initial mixing through final forming) and maintaining the anode forming equipment during periods of startup, shutdown, and malfunction and a program of corrective action for malfunctioning process and control systems used to comply with the standard. The plan does not have to be submitted with the permit application or included in the Part 70 operating permit. IDEM, OAQ may review the plan upon request. In addition to the information required in 40 CFR 63.6(e) (3), the plan shall include:

(a) Procedures, including corrective actions, to be followed if for any baghouse the fan motor amperes are less than that included in the most recent NESHAP Parametric Plan approved by IDEM, OAQ, if for any dry coke scrubber the coke feeder rpm is less than that included in the most recent NESHAP Parametric Plan approved by IDEM, OAQ, if the alarm on any of the bag leak detection systems activates, or if visible emissions indicating abnormal operation are observed from the exhaust stacks of the pitch fume treatment system whenever the bag leak detection systems are not operational; and

(b) The Permittee shall maintain a copy of the SSM plan as required by 40 CFR 63.850(b).

(c) The SSM plan shall be maintained in the operating record.

**Compliance Determination Requirements**

D.3.6 Particulate Control [326 IAC 2-7-6(6)]

(a) In order to comply with Condition D.3.1and D.3.2, the PM (PM and PM10 for Anode forming) emissions from the following facilities shall be controlled by the baghouses as indicated in the table below. Each baghouse shall be in operation and control emissions from its associated facilities at all times when an emission unit that the baghouse controls is in operation; and

| Facility | Baghouse |
|---|---|
| Size classifying equipment | DC-218 baghouse |
| 153 Hammermill | DC-153 baghouse |
| Intermediate Classifier CL-82 | DCF-221A baghouse |
| BM-112 Ball mill grinding operation | DCF-221B baghouse |
| Weighting facility | Check-Weigh Scale Baghouse |
| Anode Forming | Pitch Fume Treatment System |

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

(c) In the event that bag failure is observed in a pitch fume treatment system baghouse, the Permittee shall take corrective action according to Condition D.3.8(c).

D.3.7 Testing Requirements [326 IAC 2-7-6(1), (6)]

In order to comply with Condition D.3.2, and no later than January 5, 2010 or within 5 years from the date of the last valid compliance test, whichever is later, the Permittee shall perform PM, PM10 and VOC testing for the pitch fume treatment system, utilizing methods as approved by the Commissioner. These tests shall be repeated at least once every five (5) years from the date of the valid compliance demonstration. PM10 includes filterable and condensable PM10. Testing shall be conducted in accordance with Section C – Performance Testing. During the stack test, the Permittee shall determine the sensitivity of the bag leak detection system and calibrate the particulate concentration readings of the bag leak detector in order to provide an output relative to outlet grain loading levels.

**Compliance Monitoring Requirements [326 IAC 2-7-6 (1)] [326 IAC 2-7-5 (1)] [326 IAC 20-1] [40 CFR 63, Subpart A] [326 IAC 20-24] [40 CFR 63.847] [40 CFR 63.848]**

D.3.8 Emission Monitoring Requirements [326 IAC 20-1] [40 CFR 63, Subpart A] [326 IAC 20-24] [40 CFR 63.847] [40 CFR 63.848]

(a) Pursuant to 40 CFR 63.848(g), 40 CFR 63.8(f), and Condition D.3.9, the Permittee shall operate the continuous bag leak detection systems installed on the exhaust duct of each baghouse of the pitch fume treatment system until such time that the continuous broken bag detection system for the pitch fume treatment system common exhaust stack has been installed and calibrated. After the continuous broken bag detection system for the pitch fume treatment system common exhaust stack has been installed and calibrated, the Permittee shall comply with the provisions of 40 CFR 63.848(g) and 40 CFR 63.8(f) using the pitch fume treatment system common exhaust stack continuous broken bag detection system. Whenever the bag leak detection systems are not operational, the Permittee shall visually inspect the exhaust stacks of the pitch fume treatment system on a daily basis for evidence of any visible emissions indicating abnormal operation.

(b) Pursuant to 40 CFR 63.847(h) and 40 CFR 63.848(f), the Permittee shall operate, calibrate, and maintain continuous parameter monitoring systems for the measurement of fan motor current (amperes) for air flow and coke feeder revolution per minute (rpm) for coke flow for the dry coke scrubbers of the pitch fume treatment system at rates and frequencies included in the most recent NESHAP Parametric Plan approved by IDEM, OAQ.

(c) Pursuant to 40 CFR 63.848(f), if for any baghouse the fan motor current (amperes) are less than that included in the most recent NESHAP Parametric Plan approved by IDEM, OAQ, if for any dry coke scrubber the coke feeder rpm is less than that included in the most recent NESHAP Parametric Plan approved by IDEM, OAQ, if the alarm on any of the bag leak detection systems activates, or if visible emissions indicating abnormal operation are observed from the exhaust stacks of the pitch fume treatment system during the time the bag leak detection system is malfunctioning, then the Permittee shall initiate the corrective action procedures identified in the SSM plan within one (1) hour. Failure to initiate the corrective action procedures within one (1) hour or to take the necessary corrective actions to remedy the problem is a violation.

(d) Pursuant to 40 CFR 63.848(k), the Permittee shall submit recommended accuracy requirements to IDEM, OAQ, for review and approval. All monitoring devices required by this section must be certified by the Permittee to meet the accuracy requirements and must be calibrated in accordance with the manufacturer's instructions.

(e) Pursuant to 40 CFR 63.848(i), if the limit for a given operating parameter monitoring the pitch fume treatment system is exceeded six times in any semiannual reporting period, then any subsequent exceedance in that reporting period is a violation. For the purpose of determining the number of exceedances, no more than one exceedance shall be attributed in any 24-hour period.

D.3.9 Bag Leak Detection System and Alternative Monitoring Plan (AMP) [SPM 173-21948-00007] [326 IAC 20-24] [40 CFR 63.847] [40 CFR 63.848]

Upon installation and calibration, the Permittee shall operate the continuous bag leak detection system installed on the common exhaust stack of the Pitch Fume Treatment System and the exhaust stack of the DC-218 baghouse. The Permittee shall continue to operate the continuous bag leak detection system installed on the exhaust duct of each baghouse of the pitch fume treatment system until the continuous bag leak detection system for the common exhaust stack has been installed and calibrated. The bag leak detection systems shall meet the following requirements:

(a) Each electrodynamic bag leak detection system shall be calibrated, operated, and maintained according to the manufacturer's recommendations;

(b) The bag leak detection system shall be certified by the manufacturer to be capable of detecting PM emissions at concentrations of ten (10) milligrams per actual cubic meter (0.0044 grains per actual cubic foot) or less;

(c) The bag leak detection system sensor shall provide output of relative or absolute PM loadings;

(d) The bag leak detection system shall be equipped with a device to continuously record the output signal from the sensor;

(e) 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;

(f) The bag leak detector shall be installed downstream of the fabric filter.

(g) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors;

(h) 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;

(i) 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 PMP. 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.

(j) 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 Pitch Fume Treatment System and/or DC-218 stack exhausts associated with that bag leak detection system as follows:

(1) Visible emission notations of the stack exhaust shall be performed once per day 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; and

(5) Pursuant to 40 CFR 63.848(f), if the alarm on the bag leak detection systems probe on the common exhaust stack of the Pitch Fume Treatment System activates, or if visible emissions indicating abnormal operation are observed from the common exhaust stack of the pitch fume treatment system during the time the bag leak detection system is malfunctioning, then the Permittee shall initiate the corrective action procedures identified in the SSM plan within one (1) hour. Failure to initiate the corrective action procedures within one (1) hour or to take the necessary corrective actions to remedy the problem is a violation.

D.3.10 Visible Emissions Notations

(a) Visible emission notations of the stack exhaust for DC-153, DCF-221A, DCF-221B, and Check-Weigh Scale baghouses shall be performed once per day. 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 normal operations.

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

(e) If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C – Response to Excursions and Exceedances. Abnormal emissions alone are not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions and Exceedances, shall be considered a deviation from this permit.

D.3.11 Parametric Monitoring

(a) The Permittee shall record the pressure drop across DC-218, DC-153, DCF-221A, DCF-221B, and Check-Weigh Scale baghouses, used in conjunction with the facilities at least once per day when the processes are in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 3.0 and 6.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C – Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C – Response to Excursions or Exceedances shall be considered a deviation from this permit.

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

D.3.12 Broken or Failed Bag Detection

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

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

**Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19] [326 IAC 20-1] [40 CFR 63, Subpart A] [326 IAC 20-24] [40 CFR 63.850]**

D.3.13 Record Keeping Requirements

(a) To document compliance with Condition D 3.2, the Permittee shall maintain records of the stack tests results as required by Condition D.3.7.

(b) To document compliance with Condition D.3.9(a), the Permittee shall keep a log of the calibration test results for pitch fume treatment system baghouses leak detectors. Upon installation and calibration of the pitch fume treatment system common stack and DC-218 baghouse bag leak detection system, the Permittee shall keep a log of the calibration results for those detectors. Upon installation and calibration of the pitch fume treatment system common exhaust stack bag leak detection system; Permittee will no longer be required to calibrate and operate the bag leak detection system on each baghouse of the pitch fume treatment system in order to comply with the provisions of 40 CFR 63.848(g) and 40 CFR 63.8(f).

(c) To document compliance with Condition D.3.9 (j), the Permittee shall maintain records of daily visible emission notations of the stack exhaust for pitch fume treatment system baghouses, when the applicable bag leak detection system malfunctions, fails or otherwise needs repair. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).

(d) To document compliance with Condition D.3.10, the Permittee shall maintain records of daily visible emission notations for each stack exhaust. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).

(e) To document compliance with Condition D.3.11, the Permittee shall maintain records of the daily pressure drop of the baghouses during normal operation. The Permittee shall include in its daily record when a pressure drop record is not taken and the reason for the lack of a pressure drop record (e.g. the process did not operate that day).

(f) The Permittee shall maintain documentation of all response steps implemented per event as required under Conditions D.3.10, D.3.11, and D.3.12.

(g) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.3.14 NESHAP Record Keeping Requirements [326 IAC 20-1] [40 CFR 63, Subpart A] [326 IAC 20-24] [40 CFR 63.850(c) and (e)]

(a) Pursuant to 40 CFR 63.850(c)(2), the Permittee shall keep records of each event as required by 40 CFR 63.10(b) and record if an action taken during a startup, shutdown, or malfunction is not consistent with the procedures in the plan as required by condition D.3.5.

(b) Pursuant to 40 CFR 63.850(e), the Permittee shall maintain files of all information (including all reports and notifications) required by 40 CFR 63.10(b) and 40 CFR 63.850.

(1) The Permittee may retain records on microfilm, on a computer, on computer disks, on magnetic tape, or on microfiche; and

(2) In addition to the general records required by 40 CFR 63.10(b), the Permittee shall maintain records of the following information:

(i) A copy of the startup, shutdown, and malfunction plan as required in Condition D.3.5;

(ii) Records of design information for pitch fume treatment system capture systems;

(iii) Records, such as a checklist or the equivalent, demonstrating that the daily visual inspection of the exhaust stack for the baghouse of the pitch fume treatment system were performed including the results of each inspection during the time a bag leak detection system was malfunctioning, failed or otherwise needed repair; and

(iv) Records documenting the corrective actions taken when the limit for an operating parameter established in the most recent NESHAP Parametric Plan approved by IDEM, OAQ were exceeded, if the alarm on any of the bag leak detection systems was activated, or if visible emissions indicating abnormal operation were observed from the exhaust stacks of the pitch fume treatment system during the time the bag leak detection system was malfunctioning, failed or otherwise needed repair.

D.3.15 NESHAP Reporting Requirements [326 IAC 20-1] [40 CFR 63, Subpart A] [326 IAC 20-24] [40 CFR 63.850(c), (d), and (e)]

(a) Pursuant to 40 CFR 63.650(c)(2), the Permittee shall report if an action taken during a startup, shutdown, or malfunction is not consistent with the procedures in the SSM plan as required by Condition D.3.5.

(b) Pursuant to 40 CFR 63.850(d), and 40 CFR Part 63.10(e)(3), the Permittee shall submit a report, or summary report, if measured emissions are in excess of the applicable standard. The report shall contain the information specified in 40 CFR Part 63.10(e)(3)(v) and be submitted semiannually unless quarterly reports are required as a result of excess emissions. The report shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or its equivalent, within thirty (30) days after the end of the semi-annual or if necessary after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).

(c) Pursuant to 40 CFR 63.850(e)(3), the Permittee may report required information on paper or on a labeled computer disc using commonly available and compatible computer software.

## SECTION D.4 ANODE BAKING PLANT 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.)

(1) One (1) above-ground, natural gas-fired, green anode baking ring furnace, known as Bldg. 295 Anode Baking Ring Furnace, constructed in 1981 and was restarted in 2003 after it was rebuilt in 2003, with a maximum capacity of 21.42 tons of green anodes per hour, equipped with an A-446 pollution control system consisting of three (3) reactor sections with baghouses for PM and $PM_{10}$ control and dry alumina scrubbers for TF and $SO_2$ control which operate at a minimum of two (2) reactor sections at any one (1) time, exhausting through Stacks 265D.1, 265D.2, 265D.3, 265D.4, 265D.5, 265D.6, 265D.8, and 265J.1 (which is the diesel-fired emergency bypass engine stack used for venting ring furnace exhaust gases during emergency periods of unexpected loss of power to the A-446 dry scrubber fans);

(2) One (1) diesel-fired emergency bypass engine, constructed in 1990, with a maximum output capacity of 200 horsepower, with a bypass duct and an emergency bypass fan, and venting to an emergency bypass Stack 265J.11;

(3) One (1) reacted alumina storage tank, constructed in 1981, with a maximum loading capacity of 7.5 tons/hr, pneumatically loading, controlled by the bin vent filter, and exhausting at Stack 265D.7.

One (1) reacted alumina storage tank baghouse, identified as bin vent filter, constructed in 1981, with an air flow rate of 30 acfm at 77$^{o}$F, and control efficiency of 99%, and exhausting at Stack 265D.7;

(4) One (1) reacted alumina truck loadout, constructed in 1981, with a maximum loading capacity of 21.0 tons/hr, controlled by the reacted alumina truck loadout baghouse, and exhausting at Stack 265D.9.

One (1) reacted alumina truck loadout baghouse, constructed in 1981, with an air flow rate of 1,750 acfm at 77$^{o}$F, maximum outlet grain loading of 0.005 gr/dscf, and control efficiency of 99.5%, and exhausting at Stack 265D.9;

(5) One (1) un-reacted alumina storage tank/truck unloading, constructed in 1981, with a maximum loading capacity of 21.0 tons/hr, controlled by the un-reacted alumina storage tank/truck unloading baghouse, and exhausting at Stack 265D.10.

One (1) un-reacted alumina storage tank/truck unloading baghouse, constructed in 1981, with an air flow rate of 50 acfm at 77$^{o}$F, and control efficiency of 99%, and exhausting at Stack 265D.10;

(6) One (1) Building 265 baked anode vacuum system, constructed in 1981, with a maximum capacity of 20.25 tons of baked anodes per hour, controlled by the baked anode vacuum system baghouse, and exhausting at Stack 265D.11; and

One (1) baked anode vacuum system baghouse, constructed in 1981, with an air flow rate of 4,300 dscfm and maximum grain loading of 0.002 gr/dscf, and exhausting at Stack 265D.11.

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

D.4.1 Particulate Emissions Limitations for Manufacturing Processes [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3 (Particulate Emissions Limitations for Manufacturing Processes), the allowable particulate emission rate from the below listed processes shall be limited as follows:

| Facility | Control Equipment | Maximum Process Weight Rate (tons/hr) | PM Emission Limit (lbs/hr) |
|---|---|---|---|
| Green anode baking ring furnace | A-446 pollution control system | 21.4 | 31.9 |
| Reacted alumina storage tank | Reacted alumina storage tank baghouse | 7.5 | 15.8 |
| Reacted alumina truck loadout | Reacted alumina truck loadout baghouse | 21.00 | 31.5 |
| Unreacted alumina storage tank/truck unloading | Un-reacted alumina storage tank/truck unloading baghouse | 21.00 | 31.5 |
| Baked anode vacuum System | Baked anode vacuum system baghouse | 20.25 | 30.8 |

The above particulate emissions rates were determined from the following formulae:

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

$$E = 4.10\ P^{0.67}$$

Where: E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour.

D.4.2 PSD Minor Limitations [326 IAC 2-2]

Pursuant to SSM 173-17780-00007, issued on July 21, 2004, the following limits shall apply to the green anode baking ring furnace:

(a) The input of green anodes to the green anode baking ring furnace shall be limited to 187,645 tons per twelve (12) consecutive month period with compliance determined at the end of each month;

(b) The emission rate of PM shall not exceed 0.676 pounds of PM per ton of green anode;

(c) The emission rate of PM10 shall not exceed 3.92 pounds of PM10 per ton of green anode;

(d) The emission rate of SO2 shall not exceed 1.11 pounds of SO2 per ton of green anode; and

(e) The emission rate of CO shall not exceed 3.57 pounds of CO per ton of green anode.

Compliance with the throughput limits in Conditions D.4.2(a) and D.6.4(a) and the emission limits specified by Conditions D.3.2(a) through (c), D.4.2(b) through (e), D.5.2(a) and (b), and D.6.4(b) and (c), shall render the requirements of 326 IAC 2-2 not applicable to the green anode baking ring furnace.

D.4.3 PSD Minor Limitations [326 IAC 2-2]

The combined PM and PM10 emissions from the reacted alumina storage tank baghouse, the reacted alumina truck loadout baghouse, the un-reacted alumina storage tank/truck unloading baghouse, and the baked anode vacuum system baghouse shall be less than 5.7 and 3.4 pounds per hour, respectively. Compliance with these emissions limits shall ensure that the combined potential

PM and PM10 emissions from the emissions units associated with these baghouses shall be less than 25 and 15 tons per year, respectively, which renders the requirements of PSD rule 326 IAC 2-2 not applicable.

D.4.4 PSD BACT [326 IAC 2-2-3]

Pursuant to Construction Permit PSD (87) 1766, issued on November 3, 1989;

(a) Sulfur dioxide emissions from the A-446 dry alumina scrubbers shall be limited to 1.13 tons per day, and 35 tons per month, and 412 tons per twelve (12) consecutive month period with compliance determined at the end of each month;

(b) Alcoa shall use the lowest sulfur content pitch commercially available. This shall be limited to a maximum of 0.80% sulfur;

(1) The Permittee shall use the lowest sulfur content pitch commercially available. The sulfur content of coal tar pitch shall not exceed 0.80%;

(2) Should pitch with a sulfur content of 0.80% become unavailable and the monthly average pitch sulfur content exceed this limit, then Alcoa shall have thirty (30) days from the end of the month in violation to provide to the OAQ documentation that lower sulfur pitch is not available and documentation for a new proposed pitch sulfur content BACT limit. The BACT limit in (1) above shall remain in effect until such time as the Commissioner approves a revised pitch sulfur content BACT limit. However, enforcement action will not be taken until such time as Alcoa has been given the opportunity to support, request and obtain approval for a revised BACT limit as described above. Testing to establish a new A-446 inlet SO2 emission rate, similar to that described in (1), will be required as part of any revised BACT limit approval;

(3) If the monthly average sulfur content of the pitch used in the anodes exceeds 0.75% for any calendar month, then the Permittee shall report this to OAQ within thirty (30) days. This notification shall include a discussion of the reason the pitch sulfur content has increased and whether Alcoa has been able, or will be able, to obtain pitch with sulfur content below 0.75%. If pitch with a sulfur content of less than 0.75% is not available, then Alcoa shall submit documentation of this and, within ninety (90) days of the notification, conduct an A-446 dry scrubber SO2 inlet (ring furnace outlet) test to reestablish the SO2 inlet emission rate pursuant to 326 IAC 7-4-10(a)(4)(H), previously established in Condition No. 6 of Construction permit No. PSD (87) 1766, issued November 3, 1989. This test shall be conducted pursuant to 326 IAC 3-6-2 at the current maximum achievable anode production rate and the result will be used to determine compliance; and

(c) The natural gas throughput to the green anode baking ring furnace shall be less than 75 million cubic feet per month and 600 million cubic feet per twelve (12) consecutive month period with compliance determined at the end of each month.

D.4.5 Warrick County Sulfur Dioxide Emission Limitations [326 IAC 7-4-10]

Pursuant to 326 IAC 7-4-10(a)(4)(H), the sulfur dioxide emissions from the green anode baking ring furnace shall not exceed 94.1 pounds per hour and 412 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

D.4.6 General Provisions Relating to NESHAP [326 IAC 12] [40 CFR 60 Subpart S] [326 IAC 20-1] [40 CFR Part 63, Subpart A] [40 CFR 63.852]

The provisions of 40 CFR Part 63, Subpart A- General Provisions, which are incorporated by reference in 326 IAC 20-1 apply to green anode baking ring furnace except when otherwise specified in 40 CFR Part 63, Subpart LL, Appendix A of this subpart.

D.4.7 TF and POM Emissions Limitations [326 IAC 12] [40 CFR 60 Subpart S] [326 IAC 20-24] [40 CFR 63.843] [40 CFR 63.847]

(a) Pursuant to 40 CFR 63.843(c), and 40 CFR 63.847(a)(1), the emissions of total fluoride (TF) (as defined in 40 CFR 63.842), and polycyclic organic matter (POM) from the green anode ring furnace shall not exceed 0.20, and 0.18 pounds per ton of green anode, respectively.

(b) Pursuant to 40 CFR 60.190(c), the emission limits in (a) shall satisfy the requirements of 40 CFR 60 Subpart S.

D.4.8 Plans and Procedures [326 IAC 12] [40 CFR 60 Subpart S] [326 IAC 20-1] [40 CFR 63.6] [326 IAC 20-24] [40 CFR 63.850]

Pursuant to 40 CFR 63.850 (c), the Permittee shall develop a written startup, shutdown, and malfunction (SSM) plan as described in 40 CFR 63.6(e) (3) that contains specific procedures to be followed for operating and maintaining the green anode ring furnace during periods of startup, shutdown, and malfunction and a program of corrective action for malfunctioning process and control systems used to comply with the standard. The plan does not have to be submitted with the permit application or included in the Part 70 operating permit. IDEM, OAQ may review the plan upon request. In addition to the information required in 40 CFR 63.6(e) (3), the plan shall include:

(a) Procedures, including corrective actions, to be followed if for any baghouse the fan motor current (amperes) are less than that included in the most recent NESHAP Parametric Plan, approved by IDEM, OAQ, if dry alumina scrubbers reacted alumina 24-hour cumulative dense phase unit dumps is less than that included in the most recent NESHAP Parametric Plan, approved by IDEM, OAQ, if the alarm on any of the bag leak detection systems activates, or if visible emissions indicating abnormal operation are observed from the exhaust stacks of the green anode ring furnace whenever the bag leak detection systems are not operational; and

(b) The SSM plan shall be maintained in the operating record.

**Compliance Determination Requirements**

D.4.9 TF, POM, and SO2 Control [326 IAC 2-7-6(6)]

In order to comply with Conditions D.4.2(d), D.4.4(a), D.4.5, and D.4.7(a), at least 2 of the 3 A-446 pollution control system reactor sections for TF, POM, and SO2 control shall be in operation at all times when the green anode baking ring furnace is in operation. During periods of readiness testing of the emergency diesel engine driven exhaust fan, emissions from the green anode baking ring furnace shall continue to exhaust through at least 2 of the 3 A-446 pollution control system reactor sections, and shall not exhaust to the emergency diesel engine driven exhaust fan.

D.4.10 Particulate Control [326 IAC 2-7-6(6)]

(a) In order to comply with Condition D.4.1, and D.4.2(b) and (c), the PM and PM10 emissions from the following facilities shall be controlled by the baghouses as indicated in the table below. Each baghouse shall be in operation and control emissions from its associated facilities at all times when an emission unit that the baghouse controls is in operation; and

| Facility | Baghouse |
|---|---|
| Green anode baking ring furnace | A-446 pollution control system |
| Reacted alumina storage tank | Reacted alumina storage tank baghouse |
| Reacted alumina truck loadout | Reacted alumina truck loadout baghouse |
| Unreacted alumina storage tank/truck unloading | Un-reacted alumina storage tank/truck unloading baghouse |

| Facility | Baghouse |
|---|---|
| Baked anode vacuum system | Baked anode vacuum system baghouse |

(b) In the event that bag failure is observed in a multi-compartment baghouse except the A-446 pollution control system baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

(c) In the event that bag failure is observed in the A-446 pollution control system baghouse, the Permittee shall take corrective action according to Condition D.4.16(d).

D.4.11 Testing [326 IAC 7-10-4(b)] [326 IAC 12] [40 CFR 60 Subpart S] [326 IAC 20-1] [40 CFR 63, Subpart A] [326 IAC 20-24] [40 CFR 63.847]

(a) Pursuant to 40 CFR 63.847(b), the Permittee shall prepare a site specific test plan prior to the performance test according to the requirements of 40 CFR 67.7(c). The test plan shall include procedures for conducting the performance tests required in 40 CFR 63.848 for emission monitoring. In addition to the information required by 40 CFR 63.7, the test plan shall include:

(1) Procedures to ensure a minimum of three runs are performed annually for the primary control system for the green anode baking ring furnace;

(2) Procedures to ensure that at least three runs are performed annually by a representative sample of the stacks satisfactory to IDEM, OAQ;

(b) Pursuant to 40 CFR 63.847(d), all performance tests shall be conducted in accordance with the requirements of the general provisions in Subpart A of 40 CFR 63, the approved test plan, and the procedures in this section.

(1) The Permittee shall measure and record the emission rates of TF and POM exiting the exhaust stacks of the A-446 pollution control system. Using the equations in paragraphs 40 CFR 63.847(e)(3) and (4) given below, the Permittee shall compute and record the average of at least three runs each year to meet the emission limits in condition D.4.7(a);

$$Eb = \frac{(Cs \times Qsd)}{(Pb \times K)} \qquad \text{(Equation 2)}$$

Where:

Eb = emission rate of TF, lb/ton of green anodes produced;

Cs = concentration of TF, mg/dscf;

Qsd = volumetric flow rate of effluent gas, dscf/hr;

Pb = quantity of green anode material placed in the furnace, ton/hr; and

K = conversion factor, 453,600 mg/lb.

(2) Compute the emission rate of POM from each anode bake furnace using Equation 2,

Where:

Cs = concentration of POM, mg/dscf.

(3) If the Permittee has performed more than one test for the green anode baking ring furnace during the previous consecutive twelve month, the average of all runs performed in the previous 12-month period shall be used to determine the contribution from the A-446 pollution control system;

(4) Determine the weight of green anode material placed in the anode bake furnace using the monitoring devices required in Condition D.4.16(c); and

(5) Determine the rate of green anode material introduced into the furnace by dividing the number of operating hours in the calendar month into the weight of green anode material used during the calendar month in which the performance test was conducted.

D.4.12 Sulfur Dioxide [326 IAC 2-2-3] [326 IAC 7-4-10(a)(4)]

In order to comply with Conditions D.4.4 and D.4.5, the Permittee shall utilize the following methods and/or calculations:

(a) Compliance with the pounds per hour limitations specified in Condition D.4.5 shall be based on a stack test pursuant to 326 IAC 7-2-1(b);

(b) Compliance with the tons per year limitations specified in Condition D.4.5 shall be based on a rolling twelve (12) consecutive month emission total. Monthly sulfur dioxide emissions shall be determined from calendar month material balances using actual average sulfur content and material throughput;

(c) Pursuant to Construction Permit PSD (87) 1766, issued on November 3, 1989, compliance shall be determined from the tested SO2 evolution (A-446 inlet) emission factor of 3.69 pounds of SO2 per ton of baked carbon and the estimated A-446 dry alumina scrubber SO2 removal efficiency based on the A-446 feed;

(1) Daily records shall be used to calculate the average tons per hour baked carbon production rate and the average pounds per hour per reactor alumina feed rate for each day;

(2) The daily average pounds per reactor alumina feed rate shall be used to determine the daily average percent SO2 removal based on Figure 1 (Feedrate vs. SO2 Percent Removal – as submitted by Alcoa in their February 28, 1989, response letter);

(3) The daily percent removal shall be used, with the SO2 evolution emission factor and the average production rate, to calculate the pounds per hour and pounds per ton of baked carbon daily average SO2 emission rates;

(4) The daily SO2 emission rates shall be calculated by multiplying the daily average pounds of SO2 per ton of baked carbon times the daily baked carbon production to calculate the pounds per day SO2 emission rates; and.

(5) The daily SO2 emission rates shall then be summed to calculate the tons per month and the tons per twelve (12) consecutive month period SO2 emission rates.

D.4.13 Test Methods and Procedures [326 IAC 12] [40 CFR 60 Subpart S] [326 IAC 20-1] [40 CFR 63, Subpart A] [326 IAC 20-24] [40 CFR 63.849]

Pursuant to 40 CFR 63.849, the Permittee shall use the following reference methods to determine compliance with the applicable emission limits for TF:

(a) Method 1 in appendix A to 40 CFR Part 60 for sample and velocity traverses;

(b) Method 2 in appendix A to 40 CFR Part 60 for velocity and volumetric flow rate;

(c) Method 3 in appendix A to 40 CFR Part 60 for gas analysis;

(d) Method 13A or Method 13B in appendix A to 40 CFR Part 60, or an approved alternative, for the concentration of TF; and

(e) Method 315 in appendix A to 40 CFR 63 or an approved alternative method for the concentration of POM.

D.4.14 Testing Requirements [326 IAC 2-7-6(1), (6)] [326 IAC 2-1.1-11]

(a) In order to determine compliance with Condition D.4.2(b), and (c), and no later than January 5, 2010 or within 5 years from the date of the last valid compliance test, whichever is later, the Permittee shall perform PM, and PM10 testing for the green anode baking ring furnace, utilizing methods as approved by the Commissioner. These tests shall be repeated at least once every five (5) years from the date of the valid compliance demonstration. PM10 includes filterable and condensable PM10. Testing shall be conducted in accordance with Section C – Performance Testing. During the stack test, the Permittee shall determine the sensitivity of the bag leak detection system and calibrate the particulate concentration readings of the electrodynamic bag leak detector in order to provide an output relative to outlet grain loading levels.

(b) In order to determine compliance with Condition D.4.2(d) and no later than January 5, 2010 or 5 years from the date of the last valid compliance test, whichever is later, the Permittee shall perform SO2 testing for the green anode baking ring furnace, utilizing methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of the valid compliance demonstration. Testing shall be conducted in accordance with Section C- Performance Testing.

(c) In order to determine compliance with Condition D.4.2(e) and no later than January 5, 2010 or 5 years from the date of the last valid compliance test, whichever is later, the Permittee shall perform CO testing for the green anode baking ring furnace, utilizing methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of the valid compliance demonstration. Testing shall be conducted in accordance with Section C- Performance Testing.

D.4.15 Emergency Bypass Engine Operation

Pursuant to Operation Condition 3 of PC (87) 1840, issued on February 26, 1990, the emergency bypass engine shall be operated in accordance with the manufacturer's specifications.

**Compliance Monitoring Requirements [326 IAC 2-7-6 (1)] [326 IAC 2-7-5 (1)] [326 IAC 12] [40 CFR 60 Subpart S] [326 IAC 20-1] [40 CFR 63, Subpart A] [326 IAC 20-24] [40 CFR 63.847] [40 CFR 63.848]**

D.4.16 Emission Monitoring Requirements [326 IAC 12] [40 CFR 60 Subpart S] [326 IAC 20-24] [40 CFR 63.847] [40 CFR 63.848]

(a) Pursuant to 40 CFR 63.848(g) and (l), 40 CFR 63.8(f), and SSM 173-21948-00007, the Permittee shall operate the bag leak detection system installed on each stack of each baghouse of the A-446 pollution control system. The Permittee shall visually inspect the

exhaust stacks of the A-446 pollution control system on a daily basis for evidence of any visible emissions indicating abnormal operation whenever the bag leak detection systems are not operational.

(b) Pursuant to 40 CFR 63.847(h) and 40 CFR 63.848(f), the Permittee shall operate, calibrate, and maintain continuous parameter monitoring systems for the measurement of fan motor current (amperes) for air flow and reacted alumina cumulative 24-hour dense phase unit dumps for alumina flow for the dry alumina scrubbers of the A-446 pollution control system at rates and frequencies included in the most recent NESHAP Parametric Plan approved by IDEM, OAQ.

(c) Pursuant to 40 CFR 63.848(j), the Permittee shall operate, and maintain a monitoring device to determine the daily weight of the green anode material placed in the green anode baking ring furnace.

(d) Pursuant to 40 CFR 63.848(h), if for any baghouse the fan motor current (amperes) are less than that included in the most recent NESHAP Parametric Plan approved by IDEM, OAQ, if for any dry alumina scrubber the reacted alumina dense phase unit 24-hour cumulative dumps are lower than that included in the most recent NESHAP Parametric Plan approved by IDEM, OAQ, if the alarm on any of the bag leak detection systems activates, or if visible emissions indicating abnormal operation are observed from the exhaust stacks of the A-446 pollution control system during the time the bag leak detection system is malfunctioning, then the Permittee shall initiate the corrective action procedures identified in the SSM plan within one (1) hour. Failure to initiate the corrective action procedures within one (1) hour or to take the necessary corrective actions to remedy the problem is a violation.

(e) Pursuant to 40 CFR 63.848(k), the Permittee shall submit recommended accuracy requirements to IDEM, OAQ, for review and approval. All monitoring devices required by this section must be certified by the Permittee to meet the accuracy requirements and must be calibrated in accordance with the manufacturer's instructions.

(f) Pursuant to 40 CFR 63.848(i), if the limit for a given operating parameter monitoring the A-446 pollution control system is exceeded six times in any semiannual reporting period, then any subsequent exceedance in that reporting period is a violation. For the purpose of determining the number of exceedances, no more than one exceedance shall be attributed in any 24-hour period.

D.4.17 Bag Leak Detection System and Alternative Monitoring Plan (AMP) [SPM 173-21948-00007] [326 IAC 12] [40 CFR 60 Subpart S] [326 IAC 20-24] [40 CFR 63.847] [40 CFR 63.848]

The Permittee shall operate a continuous bag leak detection system for each baghouse of the A-446 pollution control system. The bag leak detection system shall meet the following requirements:

(a) Each electrodynamic bag leak detection system shall be calibrated, operated, and maintained according to the manufacturer's recommendations;

(b) The bag leak detection system shall be certified by the manufacturer to be capable of detecting PM emissions at concentrations of ten (10) milligrams per actual cubic meter (0.0044 grains per actual cubic foot) or less;

(c) The bag leak detection system sensor shall provide output of relative or absolute PM loadings;

(d) The bag leak detection system shall be equipped with a device to continuously record the output signal from the sensor;

(e) 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;

(f) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors;

(g) 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;

(h) 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 PMP. 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 exhaust associated with that bag leak detection system as follows:

(1) Visible emission notations of the stack exhaust shall be performed once per day 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; and

(5) Pursuant to 40 CFR 63.848(f), if the alarm on any of the bag leak detection systems activates, or if visible emissions indicating abnormal operation are observed from the exhaust stacks of the A-446 pollution control system during the time the bag leak detection system is malfunctioning, then the Permittee shall initiate the corrective action procedures identified in the SSM plan within one (1) hour. Failure to initiate the corrective action procedures within one (1) hour or to take the necessary corrective actions to remedy the problem is a violation.

D.4.18 Visible Emissions Notations

(a) Visible emission notations of the stack exhaust for baked anode vacuum system baghouse shall be performed once per day. 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 normal operations

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

(e) If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C – Response to Excursions and Exceedances. Abnormal emissions alone are not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions and Exceedances, shall be considered a deviation from this permit.

D.4.19 Parametric Monitoring

(a) The Permittee shall record the pressure drop across baked anode vacuum system baghouses, used in conjunction with the facilities at least once per day when the processes are in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 3.0 and 6.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C – Response to Excursions or Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C – Response to Excursions or Exceedances shall be considered a deviation from this permit.

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

D.4.20 Broken or Failed Bag Detection [326 IAC 2-7-5(3)]

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

**Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19] [326 IAC 12] [40 CFR 60 Subpart S] [326 IAC 20-1] [40 CFR 63, Subpart A] [326 IAC 20-24] [40 CFR 63.850]**

D.4.21 Record Keeping Requirements

(a) To document compliance with Condition D.4.2(a), the Permittee shall maintain monthly records of the throughput of green anodes to the green anode baking ring furnace.

(b) To document compliance with Condition D.4.4, and D.4.12:

(1) Records of the A-446 outlet SO2 emission rates and of the dry alumina scrubber operations shall be maintained;

Records of the dry alumina scrubber operations shall include the following:

(A) An estimate of the daily average alumina feed rates in pounds per hour per reactor; and

(B) The time periods when any of the reactors are out of service and summary of all maintenance (routine, preventative or malfunction related) performed on the A-446 system.

(2) Records of pitch sulfur content based on vendor analysis shall be maintained for the most recent twenty-four (24) month period.

(c) To document compliance with Condition D.4.4(c), the Permittee shall maintain records of the monthly ring furnace natural gas throughput.

(d) To document compliance with Conditions D 4.2(b), (c), (d), and (e), and D.4.5, the Permittee shall maintain records of the stack tests results as required by Conditions D.4.12(a), and D.4.14.

(e) To document compliance with Condition D.4.17(a), the Permittee shall keep a log of the calibration test results for A-446 pollution control system baghouses leak detectors;

(f) To document compliance with Condition D.4.17(i), the Permittee shall maintain records of daily visible emission notations of the stack exhaust for A-446 pollution control system baghouses, when the applicable bag leak detection system malfunctions, fails or otherwise needs repair. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).

(g) To document compliance with Condition D.4.18, the Permittee shall maintain records of daily visible emission notations for the stack exhaust. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).

(h) To document compliance with Condition D.4.19, the Permittee shall maintain records of the daily pressure drop of the baked anode vacuum system baghouse during normal operation. The Permittee shall include in its daily record when a pressure drop record is not taken and the reason for the lack of a pressure drop record (e.g. the process did not operate that day).

(i) The Permittee shall maintain the following as required under Conditions D.4.10, D.4.18, D.4.19, and D.4.20:

(1) Documentation of all response steps implemented per event.

(j) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.4.22 NESHAP Record Keeping Requirements [326 IAC 12] [40 CFR 60 Subpart S] [326 IAC 20-1] [40 CFR 63, Subpart A] [326 IAC 20-24] [40 CFR 63.850 (c) and (e)]

(a) Pursuant to 40 CFR 63.850(c)(2), the Permittee shall keep records of each event as required by 40 CFR 63.10(b) and record if an action taken during a startup, shutdown, or malfunction is not consistent with the procedures in the plan as required by Condition D.4.8.

(b) Pursuant to 40 CFR 63.850(e), the Permittee shall maintain files of all information (including all reports and notifications) required by 40 CFR 63.10(b) and 40 CFR 63.850.

(1) The Permittee may retain records on microfilm, on a computer, on computer disks, on magnetic tape, or on microfiche; and

(2) In addition to the general records required by 40 CFR 63.10(b), the Permittee shall maintain records of the following information:

(i) A copy of the startup, shutdown, and malfunction plan as required in Condition D.4.8;

(ii) Daily production rate of green anode material placed in the green anode baking ring furnace;

(iii) Records, such as a checklist or the equivalent, demonstrating that the daily visual inspection of the A-446 pollution control exhaust stack were performed including the results of each inspection during the time a bag leak detection system was malfunctioning, failed or otherwise needed repair; and

(iv) Records documenting the corrective actions taken when the limit for an operating parameter established in the most recent NESHAP Parametric Plan approved by IDEM, OAQ were exceeded, if the alarm on any of the bag leak detection systems was activated, or if visible emissions indicating abnormal operation were observed from the exhaust stacks of the A-446 pollution control system during the time the bag leak detection system was malfunctioning, failed or otherwise needed repair.

D.4.23 Reporting Requirements

The Permittee shall report a quarterly summary of the information to document compliance with Conditions D.4.2(a), 4.4(a) and (c), and D.4.5 to the addresses listed in Section C – General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or its equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

D.4.24 NESHAP Reporting Requirements [326 IAC 12] [40 CFR 60 Subpart S] [326 IAC 20-1] [40 CFR 63, Subpart A] [326 IAC 20-24] [40 CFR 63.850(c), (d), and (e)]

(a) Pursuant to 40 CFR 63.650(b), the Permittee shall submit a summary of all performance tests to IDEM, OAQ on an annual basis.

(b) Pursuant to 40 CFR 63.650(c)(2), the Permittee shall report if an action taken during a startup, shutdown, or malfunction is not consistent with the procedures in the SSM plan as required by Condition D.4.8.

(c) Pursuant to 40 CFR 63.850(d), and 40 CFR Part 63.10(e)(3), the Permittee shall submit a report, or summary report, if measured emissions are in excess of the applicable standard. The report shall contain the information specified in 40 CFR Part 63.10(e)(3)(v) and be submitted semiannually unless quarterly reports are required as a result of excess emissions. The report shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the semi-annual or if necessary after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(d) Pursuant to 40 CFR 63.850(e)(3), the Permittee may report required information on paper or on a labeled computer disc using commonly available and compatible computer software.

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

## Part 70 Green Anode Throughput Quarterly Report

Source Name: Alcoa Inc. - Warrick Operations
Source Address: Jct. IN Hwys. 66 & 61, Newburgh, Indiana 47629-0010
Mailing Address: Bldg. 860 E, P.O. Box 10, Newburgh, Indiana 47629
Part 70 Permit No.: T173-6627-0 0007
Facility: Green anode baking ring furnace
Parameter: Throughput of green anodes
Limit: 187,645 tons per twelve (12) consecutive month period

Quarter _____ Year: _____

| Month | Green anodes (tons) | Green anodes (tons) | Green anodes (tons) |
|---|---|---|---|
| | This Month | Previous 11 Months | 12 Month Total |
| | | | |
| | | | |
| | | | |

☐ No deviation occurred in this month.

☐ Deviation/s occurred in this month.

Deviation has been reported on: _____

Submitted by: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

Attach a signed certification to complete this report.

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

## Part 70 Quarterly Report

Source Name: Alcoa Inc. - Warrick Operations
Source Address: Jct. IN Hwys. 66 & 61, Newburgh, Indiana 47629-0010
Mailing Address: Bldg. 860 E, P.O. Box 10, Newburgh, Indiana 47629
Part 70 Permit No.: T173-6627-0 0007
Facility: Green anode baking ring furnace dry scrubber
Parameter: Sulfur Dioxide Emissions
Limit: 35 tons per month and 412 tons per twelve (12) consecutive month. Monthly sulfur dioxide emissions shall be determined from calendar month material balances using actual average sulfur content and material throughput.

Quarter _____ Year: _____

| Month | Sulfur Dioxide Emissions (tons) | Sulfur Dioxide Emissions (tons) | Sulfur Dioxide Emissions (tons) |
|---|---|---|---|
| | This Month | Previous 11 Months | 12 Month Total |
| | | | |
| | | | |
| | | | |

☐ No deviation occurred in this month.

☐ Deviation/s occurred in this month.

Deviation has been reported on: _____

Submitted by: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

Attach a signed certification to complete this report.

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

## Part 70 Anode Baking Furnace Natural Gas Quarterly Report

Source Name: Alcoa Inc. - Warrick Operations
Source Address: Jct. IN Hwys. 66 & 61, Newburgh, Indiana 47629-0010
Mailing Address: Bldg. 860 E, P.O. Box 10, Newburgh, Indiana 47629
Part 70 Permit No.: T173-6627-0 0007
Facility: Green anode baking ring furnace
Parameter: Natural gas throughput
Limit: Less than 75 million cubic feet per month
Less than 600 million cubic feet per twelve (12) consecutive month period

Quarter _____ Year: _____

| Month | Natural Gas Usage (million cubic feet) | Natural Gas Usage (million cubic feet) | Natural Gas Usage (million cubic feet) |
|---|---|---|---|
| | This Month | Previous 11 Months | 12 Month Total |
| | | | |
| | | | |
| | | | |

☐ No deviation occurred in this month.

☐ Deviation/s occurred in this month.

Deviation has been reported on: _____

Submitted by: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

Attach a signed certification to complete this report.

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

## Part 70 Quarterly Report

Source Name: Alcoa Inc. - Warrick Operations
Source Address: Jct. IN Hwys. 66 & 61, Newburgh, Indiana 47629-0010
Mailing Address: Bldg. 860 E, P.O. Box 10, Newburgh, Indiana 47629
Part 70 Permit No.: T173-6627-0 0007
Facility: A-446 Pollution Control System
Parameter: Maximum monthly calculated pounds of $SO_2$ per ton of baked carbon and the monthly average percentage sulfur of pitch used in anodes
Limit: 3.69 pounds of $SO_2$ per ton of baked carbon and 0.80% Sulfur

Quarter _____ Year: _____

| Month | Maximum calculated pounds of $SO_2$ per ton of baked Carbon | Average % S of pitch used in anodes |
|---|---|---|
| | | |
| | | |
| | | |

☐ No deviation occurred in this month.

☐ Deviation/s occurred in this month.

Deviation has been reported on: _____

Submitted by: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

Attach a signed certification to complete this report.

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

## Part 70 Anode Baking Plant $SO_2$ Quarterly Report

Source Name: Alcoa Inc. - Warrick Operations
Source Address: Jct. IN Hwys. 66 & 61, Newburgh, Indiana 47629-0010
Mailing Address: Bldg. 860 E, P.O. Box 10, Newburgh, Indiana 47629
Part 70 Permit No.: T173-6627-00007
Facility: A-446 Pollution Control System
Pollutant and Parameter: Maximum calculated daily average pounds of $SO_2$ per hour, lowest and highest daily average alumina feed rate and the maximum average baked carbon production and associated aluminum feed rate.

Quarter _____ Year: _____

| Parameter | First month of the quarter | Second month of the quarter | Third month of the quarter |
|---|---|---|---|
| Maximum calculated daily average lbs $SO_2$ per hour (lbs/hr) | | | |
| Lowest daily average alumina feed rate (lbs/hr/reactor) | | | |
| Highest daily average alumina feed rate (lbs/hr/reactor) | | | |
| Maximum daily average baked carbon production rate (tons/hr) | | | |
| Daily average alumina feed rate on the day when the maximum daily average carbon production rate was attained(lbs/hr/reactor) | | | |

☐ No deviation occurred in this month.

☐ Deviation/s occurred in this month.

Deviation has been reported on: _____

Submitted by: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

Attach a signed certification to complete this report.

## SECTION D.5 ANODE ASSEMBLY & SPENT ANODE PLANT 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.)

(1) One (1) mechanical blasting operation, identified as Anode Butt Blast Machine, constructed in 2001, with a maximum process weight rate of 181 tons of spent anode assemblies per hour, controlled by Anode Butt Blast Machine Baghouse, and exhausting at Stack 132.9.

One (1) baghouse, identified as Anode Butt Blast Machine Baghouse, with a gas flow rate of 12,000 acfm at 70°F, and exhausting at Stack 132.9;

(2) One (1) mechanical blasting operation, identified as Tumbleblast, constructed in 1979, with a maximum process weight rate of 60 tons of loose butts or cast iron pigs per hour, controlled by Tumbleblast Baghouse, and exhausting at Stack 132.7.

One (1) baghouse, identified as Tumbleblast Baghouse, with a gas flow rate of 27,000 acfm at 70°F, and exhausting at Stack 132.7;

(3) One (1) Impactor, constructed in 1979, with a maximum process weight rate of 176 tons of loose butts per hour, controlled by Impactor Baghouse, and exhausting at Stack 132.7.

One (1) baghouse, identified as Impactor Baghouse, with a gas flow rate of 27,930 acfm at 70° F, and exhausting at Stack 132.7;

(4) One (1) Rod Cleaning Machine, constructed in 1996, with a maximum rod process rate of 200 rods per hour, with a maximum process weight rate of 5.23 tons of rods per hour, controlled by the rod brush cleaning baghouse and exhausting at Stack 132.3;

(5) One (1) Butt Storage Tank, constructed in 1979, with a maximum process weight rate of 174 tons of loose butts per hour, controlled by Tumbleblast baghouse, and exhausting at Stack 132.7;

(6) One (1) iron casting station, identified as In-Line Caster, constructed in 1979, with a maximum process rate of 54 tons of new anodes per hour, 2.28 tons of iron per hour, and 5.23 tons of rods per hour, emissions uncontrolled, and exhausting at Stack 132.8;

(7) Two (2) Induction Furnaces, constructed in 1982, with a maximum process weight rate of 1.14 tons of iron per hour each, controlled by Induction Furnace Baghouse, and exhausting at Stack 132.6.

One (1) baghouse, identified as Induction Furnace Baghouse, with a gas flow rate of 10,200 acfm at 100°F, and exhausting at Stack 132.6; and

(8) One (1) Spent Anode Storage Pad, constructed in 1979, with a maximum process weight rate of 1.32 tons per hour, and emissions uncontrolled.

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

D.5.1 Particulate Emissions Limitations for Manufacturing Processes [26 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the spent anode plant, shall be limited as follows:

| Facility | Maximum Process Weight Rate (tons/hr) | PM Emission Limit (lbs/hr) |
|---|---|---|
| Anode butt blast machine | 142.4 tons (121 tons of steel and 21.4 tons of green anodes) | 54.9 |
| Tumbleblast blasting and butt storage tank operation | 234 | 60.2 |
| Impactor | 176 | 57.1 |
| Rod cleaning machine | 5.23 | 12.4 |
| Iron casting | 61.5 | 46.5 |
| Induction furnaces | 2.28 | 7.12 |

The above particulate emissions rates were determined from the following formulae:

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

$$E = 4.10\ P^{0.67}$$

where: E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour.

or

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

$$E = 55.0\ P^{0.11} - 40$$

where: E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour.

When the process rate exceeds two hundred (200) tons per hour, the allowable emission may exceed the emission limits shown in the above table; provided the concentration of particulate in the discharge gases to the atmosphere is less than one-tenth (0.10) pound per thousand (1,000) pounds of gases.

D.5.2 PSD Minor Limitations [326 IAC 2-2]

Pursuant to SSM 173-17780-00007, issued on July 21, 2004, the following limits shall apply to the anode butt blast machine:

(a) The PM emission rate shall not exceed 1.029 pounds per hour; and

(b) The PM10 emission rate shall not exceed 0.857 pounds per hour.

Compliance with the throughput limits in Conditions D.4.2(a) and D.6.4(a) and the emission limits specified by Conditions D.3.2(a) through (c), D.4.2(b) through (e), D.5.2(a) and (b), and D.6.4(b) and (c), shall render the requirements of 326 IAC 2-2 not applicable to the anode butt blast machine.

**Compliance Determination Requirements**

D.5.3 Testing Requirements [326 IAC 2-7-6(1), (6)] [326 IAC 2-1.1-11]

In order to demonstrate compliance with Conditions D.5.1 and D.5.2 and no later than July 9, 2013 or within 5 years from the date of the last valid compliance test, whichever is later, the Permittee shall perform PM, and PM10 testing for the anode butt blast machine, utilizing methods as approved by the Commissioner. These tests shall be repeated at least once every five (5) years from the date of the valid compliance demonstration. PM10 includes filterable and condensable PM10. Testing shall be conducted in accordance with Section C- Performance Testing. During the stack test, the Permittee shall determine the sensitivity of the bag leak detection system and calibrate the particulate concentration readings of the electrodynamic bag leak detector in order to provide an output relative to outlet grain loading levels.

D.5.4 Particulate Control [326 IAC 2-7-6(6)]

(a) In order to comply with Condition D.5.1, the PM emissions from the following facilities shall be controlled by the baghouses as indicated in the table below. Each baghouse shall be in operation and control emissions from its associated facilities at all times when an emission unit that the baghouse controls is in operation; and

| Facility | Baghouse |
|---|---|
| Anode butt blast machine | Anode butt blast machine baghouse |
| Tumbleblast blasting and Butt Storage Tank operation | Tumbleblast baghouse |
| Impactor | Impactor baghouse |
| Induction Furnaces | Induction furnace baghouse |

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

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

D.5.5 Bag Leak Detection System

The Permittee shall operate the continuous bag leak detection system for the anode butt blast machine. The bag leak detection system shall meet the following requirements:

(a) Each electrodynamic bag leak detection system shall be calibrated, operated, and maintained according to the manufacturer's recommendations;

(b) The bag leak detection system shall be certified by the manufacturer to be capable of detecting PM emissions at concentrations of ten (10) milligrams per actual cubic meter (0.0044 grains per actual cubic foot) or less;

(c) The bag leak detection system sensor shall provide output of relative or absolute PM loadings;

(d) The bag leak detection system shall be equipped with a device to continuously record the output signal from the sensor;

(e) 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;

(f) The bag leak detector shall be installed downstream of the fabric filter;

(g) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors;

(h) 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;

(i) 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 PMP. 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; and

(j) 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) Visible emission notations of the stack exhausts shall be performed once per day 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 and

(5) For the anode butt blast machine operation, if abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C – Response to Excursions and Exceedances. Failure to take response steps in accordance with Section C – Response to Excursions and Exceedances, shall be considered a deviation from this permit.

### D.5.6 Bag Leak Detection Alarm Activation

In the event that a bag leak detection system alarm is activated for any reason, the Permittee shall take corrective actions specified in Section C- Response to Excursions and Exceedances, and the following response steps:

For the anode butt blast machine baghouse which is a single compartment baghouse, if failure is indicated by an opacity violation or a bag leak detection alarm activation that is not a false alarm, or if bag failure is determined by other means, such as daily checks of the particulate concentration readings from electrodynamic bag leak detectors or visible emissions notations, then the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section C - Emergency Provisions).

### D.5.7 Visible Emissions Notations

(a) Visible emission notations of the stack exhaust for Tumbleblast Baghouse, and Impactor Baghouse shall be performed once per day. 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 normal operations.

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

(e) If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C – Response to Excursions and Exceedances. Abnormal emissions alone are not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions and Exceedances, shall be considered a deviation from this permit.

D.5.8 Parametric Monitoring

(a) The Permittee shall record the pressure drops across the Tumbleblast Baghouse, and Impactor Baghouse, used in conjunction with the facilities at least once per day when the processes are in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 2 to 5, and 3 to 6 inches of water, respectively, or the ranges established during the latest stack tests, the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions and Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C – Response to Excursions and Exceedances, and Reports, shall be considered a deviation from this permit.

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

D.5.9 Broken or Failed Bag Detection

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

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

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

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

D.5.10 Record Keeping Requirements

(a) To document compliance with Condition D.5.5(a), the Permittee shall keep a log of the calibration test results for the anode blast machine baghouse leak detector.

(b) To document compliance with Condition D.5.5(j), the Permittee shall maintain records of daily visible emission notations of the stack exhaust for the anode blast machine baghouse, when the applicable bag leak detection system malfunctions, fails or otherwise needs repair. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).

(c) To document compliance with Condition D.5.6, the Permittee shall maintain records of the occurrences of all bag leak detection alarms.

(d) To document compliance with Condition D.5.7, the Permittee shall maintain daily records of visible emission notations of the stacks. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation (e.g. the process did not operate that day).

(e) To document compliance with Condition D.5.8, the Permittee shall maintain daily records of the pressure drop of the baghouses during normal operation. The Permittee shall include in its daily record when a pressure drop record is not taken and the reason for the lack of a pressure drop record (e.g. the process did not operate that day).

(f) The Permittee shall maintain the following as required under Conditions D.5.5, D.5.6, D.5.7, D.5.8, and D.5.9:

(1) Documentation of all response steps implemented per event.

(g) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

## SECTION D.6 INGOT PLANT AND SUPPORT 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.)

Under NESHAP Subpart RRR, the following emissions units are considered an existing secondary aluminum processing unit (SAPU):

#1 Coil Casting Complex

(1) One (1) group 1 furnace, identified as #1 Casting Complex 1M2, constructed in 1973, with a maximum aluminum production rate of 6.85 tons per hour each, when used for producing cast coils and 49 tons per hour, when used as off-line melters, emissions uncontrolled, and exhausting at Stack 134.64;

(2) Two (2) group 1 furnaces, identified as #1 Casting Complex East Holder 1EH and West Holder 1WH, constructed in 1973, with maximum aluminum production rates of 10.27 tons per hour each, when used for producing cast coils and 49 tons per hour each, when used as off-line holders, emissions uncontrolled, and exhausting at Stacks 134.63 and 134.66, respectively;

#5 Furnace Complex

(3) Three (3) group 1 furnaces, identified as Melters 5M1, 5M2 and 5M3, constructed in 1966, with a maximum aluminum production rate of 97.5 tons per hour each, emissions uncontrolled, and exhausting at Stacks 134.33, 134.36, and 134.39, respectively;

(4) Two (2) group 1 furnaces, identified as #5 HDC Complex East Holder 5EH and West Holder 5WH, constructed in 1966, with maximum aluminum production rate of 97.5 tons per hour each, emissions uncontrolled, and exhausting at Stacks 134.35 and 134.38, respectively;

#6 Furnace Complex

(5) Three (3) group 1 furnaces, identified as Melters 6M1, 6M2, and 6M3, constructed in 1966, with a maximum aluminum production rate of 12 tons per hour each, emissions uncontrolled, and exhausting at Stacks 134.40, 134.42, and 134.44, respectively;

(6) Two (2) group 1 furnaces, identified as #6 Furnace Complex East Holder 6EH and West Holder 6WH, constructed in 1966, with maximum aluminum production rate of 16 tons per hour each, emissions uncontrolled, and exhausting at Stacks 134.41 and 134.43, respectively;

#8 EMC Ingot Casting Complex

(7) One (1) group 1 furnace, identified as #8 EMC Complex Melter 8M3, constructed in 1985, with a maximum aluminum production rate of 60.0 tons per hour, approved for modification in 2009 with the addition of low NOx burners, emissions uncontrolled, and exhausting at Stack 134.89;

(8) Two (2) group 1 furnaces, identified as #8 EMC Complex Melters 8M1 and 8M2, constructed in 1985, with a maximum aluminum production rate of 47 tons per hour each, emissions uncontrolled, and exhausting at Stacks 134.84 and 134.80, respectively;

(9) One (1) group 1 furnace, identified as #8 EMC Complex East Holder 8EH, constructed in 1985, with a maximum aluminum production rate of 46.02 tons per hour, emissions uncontrolled, and exhausting at Stack 134.83;

(10) One (1) group 1 furnace, identified as #8 EMC Complex West Holder 8WH, constructed in 1985, with a maximum aluminum production rate of 58.75 tons per hour, approved for modification in 2009 with the addition of low NOx burners, emissions uncontrolled, and exhausting at Stack 134.87.

Upon start-up of the new rotary group 1 furnace, the one (1) group furnace, identified as #8 EMC Complex East Holder 8EH, constructed in 1985, with a maximum aluminum production rate of 46.02 tons per hour, emissions uncontrolled, and exhausting at Stack 134.83, shall be transferred from the existing secondary aluminum processing unit (SAPU) to the new secondary aluminum processing unit (SAPU);

Under NESHAP Subpart RRR, the following emissions units are considered a new secondary aluminum processing unit (SAPU):

(11) Two (2) degassing units, identified as Alcan Compact Degassing (ACD) units, constructed in 2003 in conjunction with #1 east holding furnace and #1 west holding furnace in the #1 casting complex, with a maximum capacity 10 tons of molten aluminum per hour each, emissions uncontrolled, and exhausting at Stacks 134.63 and 134.66, respectively;

(12) One (1) in-line fluxer, identified as 8EMC 8EH 4-rotor A622 in-line degassing unit replacing the one (1) 8EMC 8EH Alcan compact degassing ACD unit, constructed in 2005, with a maximum aluminum production rate of 70.5 tons of molten aluminum per hour, emissions uncontrolled, and exhausting at Stack 134.83;

(13) One (1) in-line fluxer, identified as 8EMC 8WH 4-rotor A622 in-line degassing unit, replacing the one (1) 8EMC 8WH 3-rotor A662 in-line degassing unit, constructed in 2005, with a maximum aluminum production rate of 70.5 tons per hour, emissions uncontrolled, and exhausting at Stack 134.87;

<u>Rotary Group 1</u>

(14) One (1) rotary group 1 furnace, identified as Rotary Group 1 Furnace, approved for construction in 2007, with a maximum coated scrap aluminum input rate of 5.73 tons per hour and 17,809 tons per year, a maximum dross input rate of 5.50 tons per hour and 29,106 tons per year, a flux salt input rate of 0.98 tons per hour and 5434.44 tons per year, with a maximum heat input capacity of 20 MMBtu per hour, emissions controlled by reagent injected baghouse, and exhausting at Stack 134.47;

One (1) multi-compartment reagent injected baghouse, identified as Rotary Group 1 Furnace Baghouse, approved for construction in 2007, controlling the rotary group 1 furnace operations, with an airflow of 60,000 acfm at 200 $^{0}$F, and exhausting at Stack 134.47.

(15) One (1) duct heater, identified as Rotary Group 1 Furnace Duct Heater, approved for construction in 2007, with a maximum heat input capacity of 12 MMBtu per hour, emissions controlled by the Rotary Group 1 Furnace Baghouse, and exhausting at Stack 134.47.

Group 2 Furnaces, not included in the existing SAPU:

#2 Offline Furnace Complex

(16) Two (2) group 2 furnaces, identified as #2 Offline East Melter and West Melter, constructed in 1976, each with a maximum aluminum production rate of 12 tons per hour, emissions uncontrolled, and exhausting at Stacks 134.71 and 134.76, respectively;

(17) Two (2) group 2 furnaces, identified as #2 Offline East Holder and West Holder, constructed in 1976, each with a maximum aluminum production rate of 12 tons per hour, emissions uncontrolled, and exhausting at Stacks 134.73 and 134.75, respectively;

(18) One (1) natural gas fired, group 2 furnace, identified as RSI Furnace #10, constructed in 1991, with a maximum heat input of 41 MMBtu per hour and a maximum capacity of 15 tons per hour, emissions uncontrolled, exhausting at Stack 134.15;

Aluminum Shredder

(19) One (1) aluminum shredder/bailer, identified as Coated Scrap Shredder, constructed in 1999, with a maximum throughput of 25,000 pounds per hour, emissions uncontrolled, and exhausting inside the building. Under NESHAP Subpart RRR this is considered an existing aluminum scrap shredder;

The following emissions units are not regulated under NESHAP Subpart RRR:

(20) One (1) aluminum pneumatic transport system, identified as #2 Offline East Melter Charging, constructed in 1976, with a maximum production rate of 12 tons per hour, controlled by Rotoclone #3, and exhausting at Stack 134.68.

One (1) wet scrubber, identified as Rotoclone #3, with a gas flow rate of 21,000 acfm at 70°F, and exhausting at Stack 134.68;

(21) One (1) aluminum pneumatic transport system, identified as #2 Offline West Melter Charging, constructed in 1976, with a maximum production rate of 12 tons per hour, controlled by Rotoclone #4, and exhausting at Stack 134.77.

One (1) wet scrubber, identified as Rotoclone #4, with a gas flow rate of 12,000 acfm at 70°F, and exhausting at Stack 134.77;

(22) One (1) aluminum pneumatic transport system and silo, identified as #2 Offline East Melter West Chip Silo Input, constructed in 1976, with a maximum production rate of 13.76 tons per hour, controlled by Rotoclone #1, and exhausting at Stack 134.69.

One (1) wet scrubber, identified as Rotoclone #1, with a gas flow rate of 4,500 acfm at 70°F, and exhausting at Stack 134.69;

(23) One (1) aluminum pneumatic transport system and silo input, identified as #2 Offline East Melter East Chip Silo, constructed in 1976, with a maximum production rate of 13.76 tons per hour, controlled by Rotoclone #2, and exhausting at Stack 134.70.

One (1) wet scrubber, identified as Rotoclone #2, with a gas flow rate of 4,500 acfm at 70°F, and exhausting at Stack 134.70;

(24) One (1) skim/dross operation, identified as 133 Skim/Dross Building, with a maximum dross throughput of 66 tons per hour, controlled by the 133 Skim/Dross Building baghouses, and exhausting at Stacks 133D.1, 133D.2, 133D.3, and 133D.4.

One (1) 133 Skim/Dross Building baghouses, consisting of:

(a) Two (2) small baghouses, identified as No.1 and No.2 Skim Cooling Baghouses, each with an air flow rate of 18,000 acfm at 150°F, and exhausting at Stacks 133D.1 and 133D.2, respectively; and

(b) Two (2) big baghouses identified as No.3 and No.4 Skim Cooling Baghouses, each with an air flow rate of 40,000 acfm at 150°F, and exhausting at Stacks 133D.3 and 133D.4;

(25) One (1) hopper, identified as Rotary Group 1 Furnace Baghouse Reagent Hopper, approved for construction in 2007, with emissions controlled by the Rotary Group 1 Furnace Baghouse, and exhausting at Stack 134.47.

(26) One (1) flux salt storage silo, identified as Rotary Group 1 Furnace Flux Salt Silo, approved for construction in 2007, with a storage capacity of 30 tons, with emissions controlled by a bin vent filter, and exhausting at Vent 134.48.

One (1) flux salt storage silo bin vent filter, approved for construction in 2007, controlling loading events to the rotary group 1 furnace flux salt storage silo, with an airflow of 650 - 800 acfm at 100°F, and exhausting at Stack 134.48.

(27) Two (2) Emergency intermittent duty-cycled, diesel-fired, reciprocating internal combustion engines, identified as Water Pump Diesel Engines #1 and #2, constructed in December, 2005, with a maximum capacity of 460 brake horsepower each, exhausting at Stacks 134.E1 and 134.E2.

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

D.6.1 Particulate Emissions Limitations for Manufacturing Processes [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from Ingot Plant and Support, shall be limited as follows:

| Facility | Control Equipment | Maximum Process Weight Rate (tons/hr) | Allowable PM Emissions (lbs/hr) |
|---|---|---|---|
| #2 Offline East Melter | None | 12 | 21.7 |
| #2 Offline West Melter | None | 12 | 21.7 |
| #2 Offline East Holder | None | 12 | 21.7 |
| #2 Offline West Holder | None | 12 | 21.7 |
| #2 Offline East Melter Charging | Rotoclone #3 | 12 | 21.7 |
| #2 Offline West Melter Charging | Rotoclone #4 | 12 | 21.7 |
| #2 Offline East Melter East Chip Silo Input | Rotoclone #2 | 13.76 | 23.8 |
| #2 Offline West Chip Silo Input | Rotoclone #1 | 13.76 | 23.8 |

| Facility | Control Equipment | Maximum Process Weight Rate (tons/hr) | Allowable PM Emissions (lbs/hr) |
|---|---|---|---|
| 133 Skim/Dross Operation | Nos. 1, 2, 3, and 4 Skim Cooling Baghouses | 66 | 47.2 |
| Flux Salt Loading Operations | Flux Salt Storage Silo Bin Vent Filter | 26 | 36.38 |

The above particulate emissions rates were determined from the following formulae:

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

$$E = 4.10\ P^{0.67}$$

Where: E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour.

or

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

$$E = 55.0\ P^{0.11} - 40$$

Where: E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour.

D.6.2 PSD and Nonattainment New Source Review Minor Limitations [326 IAC 2-2] [326 IAC 2-1.1-5]

The Permittee shall comply with the following limits:

8M1, 8M2, and 8M3 Melters

(a) Nitrogen Oxides (NOx)

The total NOx emissions from all Melters 8M1, 8M2, and 8M3 shall not exceed 63.18 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. The following equations shall be utilized to determine compliance:

The following equation shall be utilized to determine NOx emissions:

NOx Emissions = (Z1*A1 + Z2*A2 + Z3*A3)/2000

Where:

Z1 = the natural gas usage (MMCF) at Melter 8M1

Z2 = the natural gas usage (MMCF) at Melters 8M2

Z3 = the natural gas usage (MMCF) at Melter 8M3

A1 = the NOx emission factor, as determined from the most recent stack test performed for the 8M1 melt furnace, pursuant to Condition D.6.12(d).

A2 = the NOx emission factor, as determined from the most recent stack test performed for the 8M2 melt furnace, pursuant to Condition D.6.12(d).

A3 before the modification = the NOx emission factor as determined from the most recent stack test for the 8M3 melt furnace.

A3 after the modification = 110.5 pounds of NOx per MMCF of natural gas or the NOx emission factor as determined from the most recent stack test for the 8M3 melt furnace after modification.

(b) Particulate Matter (PM)

The total PM emissions from all Melters 8M1, 8M2, and 8M3 shall not exceed 49.57 tons per twelve consecutive month period, with compliance determined at the end of each month. The following equation shall be utilized to determine PM emissions:

PM Emissions = (X1*A1 + X2*A2*1 ton/2000 lbs)

Where:

X1 = tons of charges that contain 24,876 pounds or less of purchased oily scrap and utilize salt input rates less than or equal to 1.65 lbs/ton of feed;

A1 = the PM emission factor for the X1 operating condition, as provided in the most recently approved Operating, Monitoring, and Maintenance plan (Per the 12/07 OMM, this factor is 0.0943 lb/ton) or the PM emission factor as determined from the most recent stack test;

X2 = tons of charges that contain no purchased oily scrap, but do contain plastic banded scrap or alloy of less than or equal to 24,633 lbs per charge and utilize salt input rates less than or equal to 1.52 lbs/ton of feed;

A2 = the PM emission factor for the X2 operating condition, as provided in the most recently approved Operating, Monitoring, and Maintenance plan (Per the 12/07 OMM, this factor is 0.158 lb/ton) or the PM emission factor as determined from the most recent stack test;

(c) Particulate Matter with aerodynamic diameter of less than or equal to 10 micrometers (PM10)

The total $PM_{10}$ emissions from Melters 8M1, 8M2, and 8M3 shall not exceed 53.54 tons per twelve consecutive month period, with compliance determined at the end of each month. The following equation shall be utilized to determine $PM_{10}$ emissions:

$PM_{10}$ Emissions = 1.08[(Y1*A1 + Y2*A2)]/2,000

Where:

Y1 = tons of charges that contain 24,876 pounds or less of purchased oily scrap and utilize combined chlorine and salt input rates less than or equal to 1.65 lbs/ton of feed;

A1 = the $PM_{10}$ emission factor for the Y1 operating condition, as provided in the most recently approved Operating, Monitoring, and Maintenance plan (Per the 12/07 OMM, this factor is 0.0943 lb/ton) or the $PM_{10}$ emission factor as determined from the most recent stack test;

Y2 = tons of charges that contain no purchased oily scrap but do contain plastic banded scrap or alloy of less than or equal to 24,633 lbs per charge, and utilize salt input rates less than or equal to 1.52 lbs/ton of feed;

A2 = the PM emission factor for the Y2 operating condition, as provided in the most recently approved Operating, Monitoring, and Maintenance plan (Per the 12/07 OMM, this factor is 0.158 lb/ton) or the $PM_{10}$ emission factor as determined from the most recent stack test;

<u>8EMC East Holding Furnace and 8EMC West Holding Furnace</u>

(d) Nitrogen Oxides (NOx)

The total NOx emissions from both the 8EMC east holding furnace and west holding furnace shall not exceed 15.89 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. The following equations shall be used to determine compliance:

The following equation shall be utilized to determine NOx emissions:

NOx Emissions = (Y1*A1 + Y2*A2)/2000

Where:

Y1 = the natural gas (MMCF) usage at 8EMC east holding furnace

A1 = the NOx emission factor as determined from the most recent stack test for the 8EMC east holding furnace.

Y2 = the natural gas (MMCF) usage at 8EMC west holding furnace

A2 before the modification = the NOx emission factor as determined from the most recent stack test for the 8EMC west holding furnace.

A2 after the modification = 88.3 lbs of NOx per MMCF of natural gas or the NOx emission factor as determined from the most recent stack test for the 8EMC west holding furnace.

(e) Particulate Matter (PM)

(1) The PM emissions from the 8EMC east holding furnace and the 8EMC west holding furnace shall be limited to 0.083 lbs/ton of charge for combined chlorine and flux salt input rates less than or equal to 1.14 lbs/ton of feed/charge;

(2) The PM emissions from the 8EMC east holding furnace and the 8EMC west holding furnace shall be limited to 0.165 lbs/ton of feed/charge for combined chlorine and flux salt input rates greater than 1.14 lbs/ton of feed/charge but less than 1.20 lbs/ton of feed/charge;

(3) The PM emissions from the 8EMC east holding furnace and the 8EMC west holding furnace shall be limited to the allowable PM emission rate of 0.40 lbs/ton of feed/charge, as specified by 40 CFR 63.1505 (k)(1) each, for combined chlorine and flux salt input rates greater than 1.2 lbs/ton of feed/charge, but less than 1.76 lbs/ton of feed/charge;

(4) In no event shall the combined chlorine and flux salt rate exceed a maximum input rate of 1.76 lbs/ton of feed/charge;

(5) The total PM emissions from both holding furnaces (8EMC east holding furnace and the 8EMC west holding furnace) shall be limited to 34.17 tons per twelve consecutive month period with compliance determined at the end of each month. The following equation shall be utilized to determine compliance:

PM Emissions = (X1*A1 + X2*A2 + X3*A3)/2,000

Where:

X1 = tons of charges fluxed with combined chlorine and flux salt input rates less than or equal to 1.14 lbs/ton of feed/charge;

A1 = the PM emission factor for the X1 operating condition, as provided in the most recently approved Operating, Monitoring, and Maintenance plan (Per the 10/05 OMM, this factor is 0.0592 lb/ton);

X2 = tons of charges fluxed with combined chlorine and salt input rates less than or equal to 1.20 lbs/ton of feed/charge and greater than 1.14 lbs/ton of feed/charge;

A2 = the PM emission factor for the X2 operating condition, as provided in the most recently approved Operating, Monitoring, and Maintenance plan (Per the 10/05 OMM, this factor is 0.165 lb/ton);

X3 = tons of charges fluxed with combined chlorine and salt input rates less than or equal to 1.76 lbs/ton of feed/charge and greater than 1.20 lbs/ton of feed/charge; and

A3 = the PM emission factor for the X3 operating condition, as provided in the most recently approved Operating, Monitoring, and Maintenance plan (Per the 10/05 OMM, this factor is 0.228 lb/ton).

(f) Particulate Matter with aerodynamic diameter of less than or equal to 10 micrometers (PM10)

(1) The $PM_{10}$ emissions from the 8EMC east holding furnace and the 8EMC west holding furnace shall be limited to 0.121 lbs/ton of feed/charge for combined chlorine and flux salt input rates less than or equal to 1.14 lbs/ton of aluminum feed/charge;

(2) The $PM_{10}$ emissions from the 8EMC east holding furnace and the 8EMC west holding furnace shall be limited to 0.241 lbs/ton of feed/charge for combined chlorine and flux salt input rates greater than 1.14 lbs/ton of feed/charge but less than or equal to 1.20 lbs/ton of feed/charge;

(3) The $PM_{10}$ emissions from the 8EMC east holding furnace and the 8EMC west holding furnace shall be limited to the allowable PM emission rate of 0.40 lbs/ton of feed/charge, as specified by 40 CFR 63.1505(k)(1), multiplied by 1.46 for combined chlorine and flux salt input rates greater than 1.20 lbs/ton of feed/charge, but less than or equal to 1.76 lbs/ton of feed/charge;

(4) In no event shall combined chlorine and flux salt rate exceed a maximum input rate of 1.76 lbs/ton of feed/charge;

(5) The total $PM_{10}$ emissions from both holding furnaces (8EMC east holding furnace and the 8EMC west holding furnace) shall be limited to 49.89 tons per twelve consecutive month period, with compliance determined at the end of each month. The following equation shall be utilized to determine compliance;

$PM_{10}$ Emissions = 1.46[(Y1*A1 + Y2*A2+ Y3*A3)]/2,000

Where:

Y1 = tons of charges fluxed with combined chlorine and flux salt input rates less than or equal to 1.14 lbs/ton of feed/charge;

A1 = the PM emission factor for the Y1 operating condition, as provided in the most recently approved Operating, Monitoring, and Maintenance plan (Per the 10/05 OMM, this factor is 0.0592 lb/ton);

Y2 = tons of charges fluxed with combined chlorine and flux salt input rates greater than 1.14 lbs/ton of feed/charge but less than or equal to 1.20 lbs/ton of feed/charge;

A2 = the PM emission factor for the Y2 operating condition, as provided in the most recently approved Operating, Monitoring, and Maintenance plan (Per the 10/05 OMM, this factor is 0.165 lb/ton);

Y3 = tons of charges fluxed with combined chlorine and salt input rates greater than 1.20 lbs/ton of feed/charge, but less than or equal to 1.76 lbs/ton of feed/charge; and

A3 = the PM emission factor for the Y3 operating condition, as provided in the most recently approved Operating, Monitoring, and Maintenance plan (Per the 10/05 OMM, this factor is 0.228 lb/ton).

<u>8EMC 8EH A622 and 8EMC 8WH A622 in-line degassing units</u>

(g) The total feed/charge rate to 8EMC 8EHA622 and 8EMC 8WH A622 in-line degassing units shall not exceed 823,440 tons per twelve (12) consecutive month period with compliance determined at the end of each month;

(h) The PM emissions from the 8EMC 8EH A622 and 8EMC 8WH A622 in-line degassing units shall not exceed 0.002 lbs/ton of feed/charge for chlorine input rates of 0.11 lbs/ton of feed/charge or less. Compliance with this limit and the feed/charge limit in Condition D.6.2(g) shall ensure that the total PM emissions from the 8EMC 8EH A622 and 8EMC 8WH A622 in-line degassing units do not exceed 0.824 tons per year;

(i) The PM10 emissions from the 8EMC 8EH A622 and 8EMC 8WH A622 in-line degassing units shall not exceed 0.00208 lbs/ton of feed per/charge for chlorine input rates of 0.11 lbs/ton of feed/charge or less. Compliance with this limit and the feed/charge limit in Condition D.6.2(g) shall ensure that the total PM10 emissions from 8EMC 8EH A622 and 8 EMC 8WH A622 in-line degassing units do not exceed 0.856 tons per year;

<u>#1 Complex Alcan Compact Degassing (ACD) units</u>

(j) The total feed/charge rate to the two (2) #1 complex ACD units shall not exceed 172,000 tons per twelve consecutive month period, with compliance determined at the end of each month;

(k) The PM emissions from the two (2) #1 complex ACD units shall not exceed 0.026 lbs/ton of feed/charge. Compliance with this limit and the feed/charge limit in Condition D.6.2(j) shall ensure that the total PM emissions from the two (2) #1 complex ACD units do not exceed 2.24 tons per year;

(l) The PM10 emissions from the two (2) #1 complex ACD units shall not exceed 0.027 lbs/ton of feed/charge. Compliance with this limit and the feed/charge limit in Condition D.6.2(j) shall ensure that the total PM10 emissions from both #1 complex ACD units do not exceed 2.32 tons per year;

#1 Complex East Holding Furnace and #1 Complex West Holding Furnace

(m) The PM emissions from the #1 complex east holding furnace and #1 complex west holding furnace shall not exceed 0.045 lbs/ton of charge for flux salt input rates less than or equal to 0.85 lbs/ton of feed/charge. The PM emissions from the #1 complex east holding furnace and #1 complex west holding furnace shall not exceed 0.084 lbs/ton of feed/charge for flux salt input rates greater than 0.85 lbs/ton of feed/charge but less than 3.25 lbs/ton of feed/charge. The total PM emissions from these furnaces shall not exceed 3.87 tons per twelve consecutive month period, with compliance determined at the end of each month. The following equation shall be utilized to determine compliance:

PM Emissions = [X1*0.045 + X2*0.084]/2,000

Where:

X1 = tons of charge for flux salt input rates less than or equal to 0.85 lbs/ton of feed/charge; and

X2 = tons of charge for flux salt input rates greater than 0.85 lbs/ ton of feed/charge but less than or equal to 3.25 lbs/ton of feed/charge.

(n) The PM10 emissions from the #1 complex east holding furnace and #1 complex west holding furnace shall not exceed 0.066 lbs/ton of charge for flux salt input rates less than or equal to 0.85 lbs/ton of feed/charge. The PM10 emissions from the #1 complex east holding furnace and #1 complex west holding furnace shall not exceed 0.123 lbs/ton of charge for flux salt input rates greater than 0.85 lbs/ton of feed/charge but less than 3.25 lbs/ton of feed/charge. The total PM10 emissions from these furnaces shall not exceed 5.65 tons per twelve consecutive month period, with compliance determined at the end of each month. The following equation shall be utilized to determine compliance:

$PM_{10}$ Emissions = [Y1*0.066 + Y2*0.123]/2,000

Where:

Y1 = tons of feed/charge for flux salt input rates less than or equal to 0.85 lbs/ton of feed/charge; and

Y2 = tons of feed/charge for flux salt input rates greater than 0.85 lbs/ton of feed/charge but less than 3.25 lbs/ton of feed/charge.

(o) In no event shall flux salt exceed a maximum input rate of 3.25 lbs/ton of feed/charge;

(p) The total feed/charge of the #1 complex east holding furnace and the #1 complex west holding furnace shall not exceed 172,000 tons per twelve consecutive month period, with compliance determined at the end of each month; and

(q) The NOx emissions from the #1 complex east holding furnace and #1 complex west holding furnaces shall not exceed 0.148 lbs per ton of feed/charge and compliance with this limit and the feed/charge limit in Condition D.6.2(p) shall ensure that the total NOx emissions from these furnaces do not exceed 12.58 tons per year.

Compliance with these limits renders the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable to the emissions units covered by this condition.

D.6.3 PSD Minor Limitations [326 IAC 2-2]

(a) Pursuant to SPM 173-20246-00007, and revised by this Part 70 permit, the amount of material charged into the furnace complexes No. 5 and No. 6; and the melting furnaces in casting complex No.1, shall be limited such that:

$$\sum_{i=1}^{n}(\text{OLG1 tons charged X OLG1 PM Ef}/2000) < 202 \text{ tons/year};$$

where:

OLG1 = Off-line Group 1, including all melting and holding furnaces in the #5 and #6 furnace complexes, and the melt furnaces in the #1 casting complex;

Tons charged = Off line group 1 furnace charging rate, individual OLG1 basis, and are on a tons per 12 consecutive month period basis; and

OLG1 PM Ef is the pounds of particulate matter (PM) per ton of material charged emission factor, each individual OLG1 furnace basis, as provided in the most recently approved Operating, Monitoring, and Maintenance plan.

(b) The amount of natural gas usage for the OLG1 furnaces shall be less than 1,847 million cubic feet (MMCF) per twelve (12) consecutive month period, with compliance determined at the end of each month.

D.6.4 PSD Minor Limitations [326 IAC 2-2]

Pursuant to SSM 173-17780-00007, issued on July 21, 2004, the following limits shall apply to the dross cooling operation:

(a) The throughput of dross and salt cake through the dross cooling operation shall be limited to 38,000 tons per twelve (12) consecutive month period with compliance determined at the end of each month;

(b) The emission rate of PM shall not exceed 0.440 pounds of PM per ton of dross and salt cake throughput; and

(c) The emission rate of PM10 shall not exceed 0.454 pounds of PM10 per ton of dross and salt cake throughput.

Compliance with the throughput limits in Conditions D.4.2(a) and D.6.4(a) and the emission limits specified by Conditions D.3.2(a) through (c), D.4.2(b) through (e), D.5.2(a) and (b), and D.6.4(b) and (c), shall render the requirements of 326 IAC 2-2 not applicable to the dross cooling operation.

D.6.5 PSD and Nonattainment New Source Review Minor Limitations [326 IAC 2-2] [326 IAC 2-1.1-5]

The following limits shall apply to the Rotary Group 1 operation:

(a) Particulate Matter (PM)

(1) The PM emissions from the Rotary Group 1 Furnace, the Rotary Group 1 Furnace Duct Heater, and the Rotary Group 1 Furnace Baghouse Reagent Hopper shall be controlled by the Rotary Group 1 Furnace Baghouse.

(2) Total PM emissions when processing dross only shall not exceed 0.673 pound per ton of charge/feed.

(3) Total PM emissions when processing any amount of scrap shall not exceed 0.702 pound per ton of charge/feed.

(4) The total PM emissions from the Rotary Group 1 Furnace Baghouse shall not exceed 24.90 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. The following equation shall be utilized to determine compliance:

PM Emissions = (Z1*0.673 + Z2*0.702)/2000

Where:

Z1 = tons of charge/feed comprised of dross only

Z2 = tons of charge/feed containing any amount of scrap

(5) The PM emissions from the flux salt storage silo shall be controlled by the salt flux storage silo bin vent filter and shall not exceed 0.03 pound per hour during loading events.

(b) Particulate Matter with aerodynamic diameter of less than or equal to 10 micrometers (PM10).

(1) The PM10 emissions from the Rotary Group 1 Furnace, the Rotary Group 1 Furnace Duct Heater, and the Rotary Group 1 Furnace Baghouse Reagent Hopper shall be controlled by the Rotary Group 1 Furnace Baghouse.

(2) Total PM10 emissions when processing dross only shall not exceed 0.558 pound per ton of charge/feed.

(3) Total PM10 emissions when processing any amount of scrap shall not exceed 0.582 pound per ton of charge/feed.

(4) The total PM10 emissions from the Rotary Group 1 Furnace Baghouse shall not exceed 14.90 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. The following equation shall be utilized to determine compliance:

PM Emissions = (Z1*0.558 + Z2*0.582)/2000

Where:

Z1 = tons of charge/feed comprised of dross and not containing scrap

Z2 = tons of charge/feed containing scrap

(5) The PM10 emissions from the flux salt storage silo shall be controlled by the salt flux storage silo bin vent filter and shall not exceed 0.03 pound per hour during loading events.

(c) Nitrous Oxides (NOx)

(1) The NOx emissions from the Rotary Group 1 Furnace when processing dross only shall not exceed 400 pounds per MMCF of natural gas.

(2) The NOx emissions from the Rotary Group 1 Furnace when processing any amount of scrap shall not exceed 451.57 pounds per MMCF of natural gas.

(3) The NOx emissions from the Rotary Group 1 Furnace Duct Heater shall not exceed 140 pounds per MMCF of natural gas.

(4) The total NOx emissions from the Rotary Group 1 Furnace and the Rotary Group 1 Furnace Duct Heater shall not exceed 37.18 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. The following equation shall be utilized to determine compliance:

NOx Emissions = (Z1*400 + Z2*451.57 + Z3*140) /2000

Where:

Z1 = the natural gas usage (MMCF) at Rotary Group 1 Furnace when the charge/feed processed is only dross

Z2 = the natural gas usage (MMCF) at Rotary Group 1 Furnace when the charge/feed processed contains any amount of scrap

Z3 = the natural gas usage (MMCF) at Rotary Group 1 Furnace Duct Heater Burner

Compliance with these limits renders the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) and 326 IAC 2-1.1-5 (Nonattainment New Source Review) not applicable to the emissions units covered by this condition.

D.6.6 General Provisions Relating to NESHAP [326 IAC 20-1] [40 CFR Part 63, Subpart A] [40 CFR 63.1518]

The provisions of 40 CFR Part 63, Subpart A - General Provisions, which are incorporated by reference in 326 IAC 20-1, apply to all the units covered by National Emission Standards for Hazardous Air Pollutants for Secondary Aluminum Production, 40 CFR 63, Subpart RRR. The requirements of the general provisions in 40 CFR 63, Subpart A that are applicable to the source subject to the requirements of this Subpart are shown in appendix A of 40 CFR 63, Subpart RRR.

D.6.7 Emission Limits for Secondary Aluminum Production Sources and Emission Units [326 IAC 20-70] [40 CFR 63.1505]

(a) Pursuant to 40 CFR 63.1505(b) MSM No. 173-12588, issued on October 10, 2000, the particulate matter (PM) emissions from the Coated Scrap Shredder shall not exceed 0.01 grains per dry standard cubic foot.

(b) Pursuant to 40 CFR 63.1505(i), the Permittee shall use the following emission limits for group 1 furnace to determine the emission standards for a secondary aluminum processing unit (SAPU):

(1) 0.40 lb of PM per ton of feed/charge from a group 1 furnace;

(2) 2.1 x 10-4 gr of D/F TEQ per ton of feed/charge from a group 1 furnace; and

(3) 0.40 lb of HCl per ton of feed/charge from a group 1 furnace.

(c) Pursuant to 40 CFR 63.1505(j), the Permittee shall use the following emission limits for in-line fluxers to determine the emission standards for a SAPU:

(1) 0.04 lb of HCl per ton of feed/charge; and

(2) 0.01 lb of PM per ton of feed/charge.

(d) Pursuant to 40 CFR 63.1505(k), the Permittee shall comply with the emission limits calculated using the equations for PM and HCl in paragraph (d)(1) and (d)(2) of this condition for each secondary aluminum processing unit. The Permittee shall comply with the emission limit calculated using the equation for D/F in paragraph (d)(3) of this condition for each secondary aluminum processing unit.

(1) The owner or operator must not discharge or allow to be discharged to the atmosphere any 3-day, 24-hour rolling average emissions of PM in excess of:

$$L_{cPM} = \frac{\sum_{i=1}^{n} (L_{tiPM} \times T_{ti})}{\sum_{i=1}^{n} (T_{ti})} \quad \text{(Eq. 1)}$$

Where,

$L_{tiPM}$ = The PM emission limit for individual emission unit i in paragraph (b)(1) of this condition for a group 1 furnace or in paragraph (c)(2) of this condition for an in-line fluxer;

$T_t$i = The feed/charge rate for individual emission unit I; and

$L_{cPM}$ = The PM emission limit for the secondary aluminum processing unit.

Note:In-line fluxers using no reactive flux materials cannot be included in this calculation since they are not subject to the PM limit.

(2) The owner or operator must not discharge or allow to be discharged to the atmosphere any 3-day, 24-hour rolling average emissions of HCl in excess of:

$$L_{cHCL} = \frac{\sum_{i=1}^{n} (L_{tiHCL} \times T_{ti})}{\sum_{i=1}^{n} (T_{ti})} \quad \text{(Eq. 2)}$$

Where,

LtiHCl = The HCl emission limit for individual emission unit i in paragraph (b)(3) of this condition for a group 1 furnace or in paragraph (c)(1) of this condition for an in-line fluxer; and

LcHCl = The HCl emission limit for the secondary aluminum processing unit.

Note:In-line fluxers using no reactive flux materials cannot be included in this calculation since they are not subject to the HCl limit.

(3) The owner or operator must not discharge or allow to be discharged to the atmosphere any 3-day, 24-hour rolling average emissions of D/F in excess of:

$$L_{cD/F} = \frac{\sum_{i=1}^{n} (L_{tiD/F} \times T_{ti})}{\sum_{i=1}^{n} (T_{ti})} \quad \text{(Eq. 3)}$$

Where,

LtiD/F = The D/F emission limit for individual emission unit i in paragraph (b)(2) of this condition for a group 1 furnace; and

LcD/F = The D/F emission limit for the secondary aluminum processing unit.

Note: Clean charge furnaces cannot be included in this calculation since they are not subject to the D/F limit.

D.6.8 Operating Requirements for Affected NESHAP Emission Units [326 IAC 20-70] [40 CFR 63.1506]

(a) Summary - Pursuant to 40 CFR 63.1506(a), the Permittee shall operate all affected emission units and control equipment according to the requirements in this condition.

(b) Labeling - Pursuant to 40 CFR 63.1506(b), the Permittee shall provide and maintain easily visible labels posted at each group 1 furnace, group 2 furnace, and in-line fluxer that identifies the applicable emission limits and means of compliance, including:

(1) The type of affected source or emission unit (e.g, group 1 furnace, group 2 furnace, and in-line fluxer); and

(2) The applicable operational standard(s) and control method(s) (work practice). This includes, but is not limited to, the type of charge to be used for a furnace, etc.), flux materials and addition practices, and the applicable requirements as incorporated in the OM&M plan.

(c) Capture/collection systems - Pursuant to 40 CFR 63.1506(c), for each affected source or emission unit equipped with an add-on air pollution control device, the Permittee shall:

(1) Design and install a system for the capture and collection of emissions to meet the engineering standards for minimum exhaust rates as published by the American Conference of Governmental Industrial Hygienists in chapters 3 and 5 of “Industrial Ventilation: A Manual of Recommended Practice” (incorporated by reference in §63.1502 of this subpart);

(2) Vent captured emissions through a closed system, except that dilution air may be added to emission streams for the purpose of controlling temperature at the inlet to a fabric filter; and

(3) Operate each capture/collection system according to the procedures and requirements in the OM&M plan.

(d) Feed/charge weight – Pursuant to 40 CFR 63.1506(d), for each affected emission unit subject to an emission limit in lb/ton of feed/charge, the Permittee shall:

(1) Operate a device that measures and records or otherwise determines the weight of feed/charge or throughput for each operating cycle or time period used in the performance test; and

(2) Operate each weight measurement system or other weight determination procedure in accordance with the OM&M plan.

(e) Group 1 Furnaces with Add-on Air Pollution Control Devices - Pursuant to 40 CFR 63.1506(m), for a group 1 furnace with emissions controlled by a lime-injection fabric filter, the Permittee shall:

(1) If a bag leak detection system is used to meet the monitoring requirements in §63.1510, the Permittee shall:

(i) Initiate corrective action within 1 hour of a bag leak detection system alarm.

(ii) Complete the corrective action procedures in accordance with the OM&M plan.

(iii) Operate each fabric filter system such that the bag leak detection system alarm does not sound more than 5 percent of the operating time during a 6-month block reporting period. In calculating this operating time fraction, if inspection of the fabric filter demonstrates that no corrective action is required, no alarm time is counted. If corrective action is required, each alarm shall be counted as a minimum of 1 hour. If the Permittee takes longer than 1 hour to initiate corrective action, the alarm time shall be counted as the actual amount of time taken by the owner or operator to initiate corrective action.

(2) Maintain the 3-hour block average inlet temperature for each fabric filter at or below the average temperature established during the performance test, plus 14 °C (plus 25 °F).

(3) For a continuous lime injection system, maintain free-flowing lime in the hopper to the feed device at all times and maintain the lime feeder setting at the same level established during the performance test.

(4) Maintain the total reactive chlorine flux injection rate for each operating cycle or time period used in the performance test at or below the average rate established during the performance test.

(f) Group 1 Furnaces without Add-on Air Pollution Control Devices - Pursuant to 40 CFR 63.1506(n), the Permittee shall:

(1) Maintain the total reactive chlorine flux injection rate for each operating cycle or time period used in the performance test at or below the average rate established during the performance test; and

(2) Operate each furnace in accordance with the work practice/pollution prevention measures documented in the OM&M plan and within the parameter values or ranges established in the OM&M plan.

(g) Group 2 Furnace - Pursuant to 40 CFR 63.1506(o), the Permittee shall:

(1) Operate each group 2 furnace using only clean charge as the feedstock; and

(2) Operate each group 2 furnace using no reactive flux.

(h) Corrective Action - Pursuant to 40 CFR 63.1506(p), when a process parameter deviates from the value or range established during the performance test and incorporated in the OM&M plan, the Permittee shall initiate corrective action. The corrective action shall restore operation of the emission unit (including the process) to its normal or usual mode of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The corrective actions taken shall include follow-up actions necessary to return the process parameter level(s) to the value or range of values established during the performance test and steps to prevent the likely recurrence of the cause of a deviation.

D.6.9 Alternative Opacity Limitation [326 IAC 5-1-5(b)] [U.S. EPA SIP Revisions Revised Opacity Limits]

Pursuant to 326 IAC 5-1-5(b) and U.S. EPA SIP Revisions Revised Opacity Limits, dated July 5, 2000:

(a) #1 Complex East and West holding furnace

The opacity of emissions may exceed 40 percent during the fluxing portion of the production cycle up to 80 percent from the East and West holding furnace exhaust stacks at the #1 Complex. This opacity shall be allowed for no more than 6 six-minute averaging periods, and only during fluxing. For all other portions of the production cycle, the opacity limit shall remain at 40 percent from the East and West holding furnace exhaust stacks at the #1 Complex;

(b) #8 Complex (EMC)

For the East and West holding furnace exhaust stacks at the #8 Complex (EMC), the opacity of emissions may exceed 40 percent during fluxing portion of the production cycle up to 85 percent for 2 six-minute averaging periods, and up to 80 percent opacity for 4 additional six-minute averaging periods. During all other portions of the production cycle, the opacity of emissions from the EMC shall be limited to 40 percent; and

(c) #5 Complex

For the East and West holding furnace exhaust stacks at the #5 Complex, the opacity of emissions may exceed 40 percent during fluxing portion of the production cycle up to 80 percent for 3 six-minute averaging periods, 75 percent opacity for 1 six-minute averaging period, 65 percent opacity for 1 six-minute averaging period, and 55 percent opacity for 1 six-minute averaging period. During all other portions of the production cycle, the opacity of emissions from the #5 complex East and West holding furnace shall be limited to 40 percent.

**Compliance Determination Requirements**

D.6.10 NESHAP Performance Test/Compliance Demonstration General Requirements [326 IAC 20-1] [40 CFR 63, Subpart A] [326 IAC 20-70] [40 CFR 63.1511]

(a) Site-specific test plan [40 CFR 63.1511(a)] - Prior to conducting any performance test required by 40 CFR 63, Subpart RRR, the Permittee shall prepare a site-specific test plan which satisfies all of the requirements, and shall obtain approval of the plan pursuant to the procedures, set forth in 40 CFR 63.7(c).

(b) Initial performance test [40 CFR 63.1511(b)] - Following approval of the site-specific test plan, the Permittee shall demonstrate initial compliance with each applicable emission, equipment, work practice, or operational standard for each affected source and emission unit, and report the results in the notification of compliance status report as described in 40 CFR 63.1515(b). For any new affected source for which an initial performance test is required, the Permittee shall conduct this initial performance test within 90 days after the date for compliance established by 40 CFR 63.1501(b). Except for the date by which the performance test must be conducted, the Permittee shall conduct each performance test in accordance with the requirements and procedures set forth in 40 CFR 63.7(c).

(1) The Permittee shall conduct each test while the affected source or emission unit is operating at the highest production level with charge materials representative of the range of materials processed by the unit and, if applicable, at the highest reactive fluxing rate.

(2) Each performance test for a continuous process must consist of 3 separate runs; pollutant sampling for each run must be conducted for the time period specified in the applicable method or, in the absence of a specific time period in the test method, for a minimum of 3 hours.

(3) Each performance test for a batch process must consist of three separate runs; pollutant sampling for each run must be conducted over the entire process operating cycle.

(4) Initial compliance with an applicable emission limit or standard is demonstrated if the average of three runs conducted during the performance test is less than or equal to the applicable emission limit or standard.

(c) Test methods [40 CFR 63.1511(c)] - The Permittee shall use the following methods in appendix A to 40 CFR Part 60 to determine compliance with the applicable emission limits:

(1) Method 1 for sample and velocity traverses;

(2) Method 2 for velocity and volumetric flow rate;

(3) Method 3 for gas analysis;

(4) Method 4 for moisture content of the stack gas;

(5) Method 5 for the concentration of PM;

(6) Method 23 for the concentration of D/F; and

(7) Method 26A for the concentration of HCl.

(d) Repeat tests [40 CFR 63.1511(e)] - The Permittee shall conduct a performance test every 5 years following the initial performance test.

(e) Testing of representative emission units [40 CFR 63.1511(f)] - With the prior approval of the IDEM, OAQ, the Permittee shall utilize emission rates obtained by testing a particular type of group 1 furnace, or by testing an in-line flux box, to determine the emission rate for other units of the same type at this source. Such emission test results may only be considered to be representative of other units if all of the following criteria are satisfied:

(1) The tested emission unit shall use feed materials and charge rates which are comparable to the emission units that it represents;

(2) The tested emission unit shall use the same type of flux materials in the same proportions as the emission units it represents;

(3) The tested emission unit shall be operated utilizing the same work practices as the emission units that it represents;

(4) The tested emission unit shall be of the same design as the emission units that it represents; and

(5) The tested emission unit shall be tested under the highest load or capacity reasonably expected to occur for any of the emission units that it represents.

(f) Establishment of monitoring and operating parameter values [40 CFR 63.1511(g)]– The Permittee shall establish a minimum or maximum operating parameter value, or an operating parameter range for each parameter to be monitored as required by 40 CFR 63.1510 (Condition D.6.17) that ensures compliance with the applicable emission limit or standard. To establish the minimum or maximum value or range, the Permittee shall use the appropriate procedures in this section. The Permittee may use existing data in addition to the results of performance tests to establish operating parameter values for compliance monitoring provided each of the following conditions are met to the satisfaction of the IDEM, OAQ:

(1) The complete emission test report(s) used as the basis of the parameter(s) is submitted;

(2) The same test methods and procedures as required by this Subpart were used in the test;

(3) The Permittee certifies that no design or work practice changes have been made to the source, process, or emission control equipment since the time of the report; and

(4) All process operating parameters required to be monitored were monitored as required in 40 CFR 63.1510 and documented in the test report.

D.6.11 NESHAP Performance Test/Compliance Demonstration Requirements and Procedures
[326 IAC 20-1] [40 CFR 63, Subpart A] [326 IAC 20-70] [40 CFR 63.1512] [40 CFR 63.1513]

(a) Aluminum scrap shredders [40 CFR 63.1512(a)] - The Permittee shall conduct performance tests to measure PM emissions at the inlet of baghouse that is available for controlling emissions from the coated scrap shredder/baler in 2010, and at 5-year intervals thereafter, provided however that testing of this shredder/baler will not be required if Alcoa obtains a waiver from testing this unit, pursuant to 40 CFR 63.7(h).

(b) Group 1 furnace with add-on air pollution control devices [40 CFR 63.1512(d)].

(1) For a group 1 furnace that processes scrap other than clean charge materials with emissions controlled by a lime-injected fabric filter, the Permittee shall conduct performance tests to measure emissions of PM and D/F at the outlet of the control device and emissions of HCl at the outlet (for the emission limit).

(c) Group 1 furnaces without add-on air pollution control devices [40 CFR 63.1512(e)] - In the site-specific monitoring plan required by 40 CFR 63.1510(o) (Condition D.6.17(i)), the Permittee shall include data and information demonstrating compliance with the applicable emission limits.

(1) The Permittee shall conduct emission tests to measure emissions of PM, and HCl at the representative Group 1 furnace exhaust outlet.

(2) The Permittee shall conduct emission tests to measure emissions D/F at the furnace exhaust outlet from representative group 1 furnaces that process other than clean charge.

(d) Secondary aluminum processing unit [40 CFR 63.1512(j)] - The Permittee shall conduct performance tests as described in paragraph (1) and (2) of this condition. The results of the performance tests shall be used to establish emission rates in lb/ton of feed/charge for PM and HCl for each group 1 furnace and in-line fluxer and grain of D/F TEQ/ton of feed/charge for D/F emissions from each group 1 furnace. These emission rates are used for compliance monitoring in the calculation of the 3-day, 24-hour rolling average emission rates using the equation in 40 CFR 63.1510(t) (Condition D.6.17(m)(4)). A performance test is required for:

(1) Representative group 1 furnaces to measure emissions of PM, D/F; and HCl;

(2) Representative in-line fluxers to measure emissions of PM and HCl.

(e) Feed/charge weight measurement [40 CFR 63.1512(k)] - During the emission tests conducted to determine compliance with emission limits in a lb/ ton format, the Permittee shall measure (or otherwise determine) and record the total weight of feed/charge to the affected emission unit for each of the three test runs and calculate and record the total weight.

(f) Inlet gas temperature [40 CFR 63.1512(n)] - For a group 1 furnace using a lime-injected fabric filter, the Permittee shall use these procedures to establish an operating parameter value or range for the inlet gas temperature.

(1) Continuously measure and record the temperature at the inlet to the lime-injected fabric filter every 15 minutes during the HCl and D/F performance tests;

(2) Determine and record the 15-minute block average temperatures for the 3 test runs; and

(3) Determine and record the 3-hour block average of the recorded temperature measurements for the 3 test runs.

(g) Flux injection rate [40 CFR 63.1512(o)] - The Permittee must use these procedures to establish an operating parameter value or range for the total reactive chlorine flux injection rate:

(1) Continuously measure and record the weight of gaseous or liquid reactive flux injected for each 15 minute period during the HCl and D/F tests, determine and record the 15-minute block average weights, and calculate and record the total weight of the gaseous or liquid reactive flux for the 3 test runs;

(2) Record the identity, composition, and total weight of each addition of solid reactive flux for the 3 test runs;

(3) Determine the total reactive chlorine flux injection rate by adding the recorded measurement of the total weight of chlorine in the gaseous or liquid reactive flux injected and the total weight of chlorine in the solid reactive flux using Equation 5;

$$W_t = F_1 W_1 + F_2 W_2 \quad (\text{Eq.5})$$

Where:

$W_t$ = Total chlorine usage, by weight;

$F_1$ = Fraction of gaseous or liquid flux that is chlorine;

$W_1$ = Weight of reactive flux gas injected;

$F_2$ = Fraction of solid reactive chloride flux that is chlorine (e.g., F = 0.75 for magnesium chloride); and

$W_2$ = Weight of solid reactive flux.

(4) Divide the weight of total chlorine usage (Wt) for the 3 test runs by the recorded measurement of the total weight of feed for the 3 test runs; and

(5) If a solid reactive flux other than magnesium chloride is used, the Permittee must derive the appropriate proportion factor subject to approval by IDEM, OAQ.

(h) Lime injection [40 CFR 63.1512(p)] - For an affected source or emission unit using a lime-injected fabric filter system, the Permittee shall use these procedures during the HCl and D/F tests to establish an operating parameter value for the feeder setting for each operating cycle or time period used in the performance test.

(1) For continuous lime injection systems, ensure that lime in the feed hopper or silo is free-flowing at all times; and

(2) Record the feeder setting for the 3 test runs. If the feed rate setting varies during the runs, determine and record the average feed rate from the 3 runs.

(i) Secondary aluminum processing unit [40 CFR 63.1513(e)] – The Permittee shall use the following procedures to determine compliance with the emission limits of PM, HCl, and D/F emissions for a secondary aluminum processing unit:

(1) Use Equation 9 to compute the mass-weighted PM emissions for a secondary aluminum processing unit. Compliance is achieved if the mass-weighted emissions for the secondary aluminum processing unit (EcPM) is less than or equal to the emission limit for the secondary aluminum processing unit calculated using Equation 1 in 40 CFR 63.1505(k) (Condition D.6.7(d)(1)).

$$E_{C_{PM}} = \frac{\sum_{i=1}^{n}\left(E_{ti_{PM}} \times T_{ti}\right)}{\sum_{i=1}^{n}\left(T_{ti}\right)} \qquad \text{(Eq. 9)}$$

Where:

$E_{C_{PM}}$ = The mass-weighted PM emissions for the secondary aluminum processing unit;

$E_{ti_{PM}}$ = Measured PM emissions for individual emission unit i;

$T_{ti}$ = The average feed rate for individual emission unit i during the operating cycle or performance test period; and

n = The number of emission units in the secondary aluminum processing unit.

(2) Use Equation 10 to compute the aluminum mass-weighted HCl emissions for the secondary aluminum processing unit. Compliance is achieved if the mass-weighted emissions for the secondary aluminum processing unit (EcHCl) is less than or equal to the emission limit for the secondary aluminum processing unit calculated using Equation 2 in 40 CFR 63.1505(k) (Condition D.6.7(d)(2)).

$$E_{C_{HCl}} = \frac{\sum_{i=1}^{n}\left(E_{ti_{HCl}} \times T_{ti}\right)}{\sum_{i=1}^{n}\left(T_{ti}\right)} \qquad \text{(Eq. 10)}$$

Where:

$E_{C_{HCl}}$ = The mass-weighted HCl emissions for the secondary aluminum processing unit;

$E_{ti_{HCl}}$ = Measured HCl emissions for individual emission unit i;

$T_{ti}$ = The average feed rate for individual emission unit i during the operating cycle or performance test period; and

n = The number of emission units in the secondary aluminum processing unit.

(3) Use Equation 11 to compute the aluminum mass-weighted D/F emissions for the secondary aluminum processing unit. Compliance is achieved if the mass-weighted emissions for the secondary aluminum processing unit is less than or equal to the emission limit for the secondary aluminum processing unit calculated using Equation 3 in 40 CFR 63.1505(k) (Condition D.6.7(d)(3)).

$$E_{C_{D/F}} = \frac{\sum_{i=1}^{n}\left(E_{ti_{D/F}} \times T_{ti}\right)}{\sum_{i=1}^{n}\left(T_{ti}\right)} \qquad \text{(Eq. 11)}$$

Where:

$E_{C_{D/F}}$ = The mass-weighted D/Fl emissions for the secondary aluminum processing unit;

$E_{ti_{D/F}}$ = Measured D/F emissions for individual emission unit i that processes other than clean charge materials;

$T_{ti}$ = The average feed rate for individual emission unit i during the operating cycle or performance test period; and

n = The number of emission units in the secondary aluminum processing unit.

(j) To convert D/F measurements to TEQ units, the Permittee must use the procedures and equations in “Interim Procedures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxins and -Dibenzofurans (CDDs and CDFs) and 1989 Update” (EPA–625/3–89–016), incorporated by reference in 40 CFR 63.1502, available from the National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, Virginia, NTIS no. PB 90–145756. [40 CFR 63.1513(d)]

D.6.12 Non NESHAP Emission Units Testing Requirements [326 IAC 2-7-6(1), (6)] [326 IAC 2-1.1-11]

(a) In order to demonstrate compliance with Condition D.6.4 and no later than August 20, 2013 or within 5 years after the date of the last valid compliance test, whichever is later, the Permittee shall perform PM, and PM10 testing for the dross cooling operation while operating with one (1) large baghouse and one (1) small baghouse, and two (2) small baghouses only in operation, utilizing methods as approved by the Commissioner. These tests shall be repeated at least once every five (5) years from the date of the last valid compliance demonstration. PM10 includes filterable and condensable PM10. Testing shall be conducted in accordance with Section C- Performance Testing. During the stack test, the Permittee shall determine the sensitivity of the bag leak detection system and calibrate the particulate concentration readings of the electrodynamic bag leak detector in order to provide an output relative to outlet grain loading levels.

(b) No later than January 5, 2010 or within 5 years from the date of the last valid compliance test, whichever is later, the Permittee shall perform NOx testing on a representative #1 complex holder (east holding furnace or west holding furnace). These tests shall be repeated at least once every five (5) years from the date of the last valid compliance demonstration. Testing shall be conducted in accordance with Section C- Performance Testing.

(c) In order to demonstrate compliance with D.6.2(a), the Permittee shall perform NOx testing for the 8EMC Melter 8M3, before it is modified no later than January 5, 2010 and not later than one hundred eighty (180) days after initial startup of the modified 8M3 melter, 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. Testing shall be conducted in accordance with Section C - Performance Testing.

(d) No later than January 5, 2010, in order to demonstrate compliance with D.6.2(a), the Permittee shall perform NOx testing for the 8EMC Melter 8M1 and 8EMC Melter 8M2, 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. Testing shall be conducted in accordance with Section C - Performance Testing.

(e) In order to demonstrate compliance with D.6.2(d), the Permittee shall perform NOx testing for the 8EMC west holding furnace (8WH), not later than one hundred eighty (180) days after initial startup of the modified 8EMC west holding furnace (8WH), and for the 8EMC east holding furnace (8EH), not later than January 5, 2010, 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. Testing shall be conducted in accordance with Section C - Performance Testing.

(f) No later than August 19, 2013 and in order to demonstrate compliance with Conditions D.6.5(a)(2) and (3), and D.6.5(b)(2) and (3), the Permittee shall perform PM and PM10 testing for the Rotary Group 1 Furnace Baghouse, utilizing methods as approved by the Commissioner. PM10 includes filterable and condensible PM10. These tests shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C - Performance Testing.

(g) No later than August 19, 2013 and in order to demonstrate compliance with Condition D.6.5(c)(1) and (2), the Permittee shall perform NOx testing for the Rotary Group 1 Furnace, 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. Testing shall be conducted in accordance with Section C - Performance Testing.

(h) No later than August 19, 2013 and in order to demonstrate compliance with Condition D.6.5(c)(1), (2) and (3), the Permittee shall perform NOx testing for the Rotary Group 1 Furnace and Rotary Group 1 Furnace Duct Heater, 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. Testing shall be conducted in accordance with Section C - Performance Testing.

D.6.13 PM and PM10 Control from Dross Cooling Operation [326 IAC 2-7-6(6)]

In order to comply with Condition D.6.4, at least two baghouses controlling PM and PM10 shall be in operation at all times when the dross cooling is in operation, and shall follow the following:

(a) When the dross cooling operation is controlled by one (1) small baghouse and one (1) large baghouse, all roll-up doors in the dross cooling building shall be closed, except when vehicles are entering or exiting the building, and hot dross shall be placed beneath a canopy hood that exhausts to the large baghouse; and

(b) When the dross cooling process is operating and neither large baghouse is operating, all skim room doors shall be closed, except when trucks enter to deliver hot dross, and further provided that loadout to third party dross trucks was suspended until at least one large baghouse is returned to service.

D.6.14 PM Control from Coated Scrap Shredder [326 IAC 2-7-6(6)]

In order to comply with Condition D.6.7(a), the Coated Scrap Shredder shall not operate at a throughput of greater than 25,000 pounds per hour.

D.6.15 Particulate Control from Rotary Group 1 Furnace [326 IAC 2-7-6(6)]

(a) In order to comply with Condition D.6.5(a)(1) and (b)(1), the Rotary Group 1 Furnace Baghouse for particulate control shall be in operation and control emissions from the Rotary Group 1 Furnace, the Rotary Group 1 Furnace Duct Heater, and the Rotary Group 1 Furnace Baghouse Reagent Hopper at times the Rotary Group 1 Furnace , the Rotary Group 1 Furnace Duct Heater, and the Rotary Group 1 Furnace Baghouse Reagent Hopper are in operation.

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

D.6.16 Particulate Control from Flux Salt Storage Bin [326 IAC 2-7-6(6)]

In order to comply with Condition D.6.5(a)(5) and (b)(5), the flux salt storage bin vent filter for particulate control shall be in operation and control emissions from the flux salt storage bin and the salt flux loading operations at times the flux salt storage bin is being loaded from the delivery truck.

**Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)] [326 IAC 20-1] [40 CFR 63, Subpart A] [326 IAC 20-70] [40 CFR 63.1510]**

D.6.17 NESHAP Monitoring Requirements [326 IAC 20-1] [40 CFR 63, Subpart A] [326 IAC 20-70] [40 CFR 63.1510]

The Permittee shall monitor all control equipment and processes according to the requirements in this section. Monitoring requirements for each type of emission unit are summarized in Table 3 to 40 CFR 63, Subpart RRR.

(a) Operation, maintenance, and monitoring (OM&M) plan [40 CFR 63.1510(b)] - The Permittee shall prepare for each affected emission unit regulated by 40 CFR 63, Subpart RRR, a written operation, maintenance, and monitoring (OM&M) plan. The plan shall be accompanied by a written certification by the Permittee that the OM&M plan satisfies all the requirements of 40 CFR 63.1510 and is otherwise consistent with the requirements of 40 CFR 63, Subpart RRR. The Permittee shall comply with all of the provisions of the OM&M plan as submitted to the IDEM, OAQ, unless and until the plan is revised in accordance with the following procedures. If IDEM, OAQ determines at any time after receipt of the OM&M plan that any revisions of the plan are necessary to satisfy the requirements of 40 CFR 63.1510 or Subpart RRR, the Permittee shall promptly make all necessary revisions and resubmit the revised plan.

If the Permittee determines that any other revisions of the OM&M plan are necessary, such revisions will not become effective until the Permittee submits a description of the changes and a revised plan incorporating them to the IDEM, OAQ. Each plan shall contain the following information:

(1) Process and control device parameters to be monitored to determine compliance, along with established operating levels or ranges, as applicable, for each process and control device.

(2) A monitoring schedule for each affected source and emission unit.

(3) Procedures for the proper operation and maintenance of each process unit and add-on control device used to meet the emission limits in 40 CFR 63.1505 (Condition D.6.7).

(4) Procedures for the proper operation and maintenance of monitoring devices or systems used to determine compliance, including:

(i) Calibration and certification of accuracy of each monitoring device, at least once every 6 months or according to the manufacturer's instructions; and

(ii) Procedures for the quality control and quality assurance of continuous emission as required by the general provisions in Subpart A of this 40 CFR 63.

(5) Procedures for monitoring process and control device parameters.

(6) Corrective actions to be taken when process or operating or add-on control device parameters deviate from the value or range established in paragraph (a)(1) of this Condition, including:

(i) Procedures to determine and record the cause of an deviation or excursion, and the time the deviation or excursion began and ended; and

(ii) Procedures for recording the corrective action taken, the time corrective action was initiated, and the time/date corrective action were completed.

(7) A maintenance schedule for each process and control device that is consistent with the manufacturer's instructions and recommendations for routine and long-term maintenance.

(8) Documentation of the work practice and pollution prevention measures used to achieve compliance with the applicable emission limits and a site-specific monitoring plan as required in paragraph (i) of this condition for each group 1 furnace not equipped with an add-on air pollution control device.

(b) Labeling [40 CFR 63.1510(c)] - The Permittee shall inspect the labels for each group 1 furnace, group 2 furnace, and in-line fluxer at least once per calendar month to confirm that posted labels as required by the operational standard in 40 CFR 63.1506(b) (Condition D.6.8(b)) are intact and legible.

(c) Capture/collection system [40 CFR 63.1510(d)] - the Permittee shall:

(1) Install, operate, and maintain a capture/collection system for each affected source and emission unit equipped with an add-on air pollution control device; and

(2) Inspect each capture/collection and closed vent system at least once each calendar year to ensure that each system is operating in accordance with the operating requirements in §63.1506(c) and record the results of each inspection.

(d) Feed/charge weight [40 CFR 63.1510(e)] - For an emission unit regulated by 40 CFR 63, Subpart RRR and subject to an emission limit in lb/ton of feed/charge, the Permittee shall calibrate, operate, and maintain a device to measure and record the total weight of feed/charge to the affected emission unit over the same operating cycle or time period used in the performance test. Feed/charge within SAPUs shall be measured and recorded on an emission unit-by-emission unit basis.

(1) The accuracy of the weight measurement device or procedure shall be +/-1 percent of the weight being measured.

(2) The Permittee shall verify the calibration of the weight measurement device in accordance with the schedule specified by the manufacturer, or if no calibration schedule is specified, at least once every 6 months.

(e) Fabric filters and lime-injected fabric filters [40 CFR 63.1510(f)] - for an affected source or emission unit using a fabric filter or lime-injected fabric filter to comply with the requirements of this subpart, the Permittee shall install, calibrate, maintain, and continuously operate a bag leak detection system as required in paragraph (e)(1) of this condition.

(1) These requirements apply to the owner or operator of a new or existing affected source or existing emission unit using a bag leak detection system.

(i) The owner or operator must install and operate a bag leak detection system for each exhaust stack of a fabric filter.

(ii) Each triboelectric bag leak detection system must be installed, calibrated, operated, and maintained according to the “Fabric Filter Bag Leak Detection Guidance,” (September 1997). This document is available from the U.S. Environmental Protection Agency; Office of Air Quality Planning and Standards; Emissions, Monitoring and Analysis Division; Emission Measurement Center (MD–19), Research Triangle Park, NC 27711. This document also is available on the Technology Transfer Network (TTN) under Emission Measurement Technical Information (EMTIC), Continuous Emission Monitoring. Other bag leak detection systems must be installed, operated, calibrated, and maintained in a manner consistent with the manufacturer's written specifications and recommendations.

(iii) The bag leak detection system must be certified by the manufacturer to be capable of detecting PM emissions at concentrations of 10 milligrams per actual cubic meter (0.0044 grains per actual cubic foot) or less.

(iv) The bag leak detection system sensor must provide output of relative or absolute PM loadings.

(v) The bag leak detection system must be equipped with a device to continuously record the output signal from the sensor.

(vi) The bag leak detection system must 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 must be located where it is easily heard by plant operating personnel.

(vii) For positive pressure fabric filter systems, a bag leak detection system must be installed in each baghouse compartment or cell. For negative pressure or induced air fabric filters, the bag leak detector must be installed downstream of the fabric filter.

(viii) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors.

(ix) The baseline output must be established by adjusting the range and the averaging period of the device and establishing the alarm set points and the alarm delay time.

(x) 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 OM&M plan. In no case may the sensitivity be increased by more than 100 percent or decreased more than 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.

(f) Fabric filter inlet temperature [40 CFR 63.1510(h)] - for a group 1 furnace using a lime-injected fabric filter, in order to comply with the requirements of 40 CFR 63, Subpart RRR, the Permittee shall:

(1) The Permittee shall install, calibrate, maintain, and operate a device to continuously monitor and record the temperature of the fabric filter inlet gases consistent with the requirements for continuous monitoring systems in 40 CFR 60, Subpart A.

(2) The temperature monitoring device must meet each of these performance and equipment specifications:

(i) The monitoring system must record the temperature in 15-minute block averages and calculate and record the average temperature for each 3-hour block period.

(ii) The recorder response range must include zero and 1.5 times the average temperature established according to the requirements in §63.1512(n) (Condition XYZ).

(iii) The reference method must be a National Institute of Standards and Technology calibrated reference thermocouple-potentiometer system or alternate reference, subject to approval by the Administrator.

(g) Lime injection [40 CFR 63.1510(i)] - for an affected source or emission unit using a lime-injected fabric filter to comply with the requirements of 40 CFR 63, Subpart RRR, the Permittee shall.

(1) The Permittee shall verify that the lime of a continuous lime injection system is always free-flowing by:

(i) Subject to the approval of the permitting agency, installing, operating and maintaining a load cell, carrier gas/lime flow indicator, carrier gas pressure drop measurement system or other system to confirm that lime is free-flowing. If lime is found not to be free-flowing, the Permittee shall promptly initiate and complete corrective action. A plan to assure that lime is free-flowing was submitted on July 11, 2007. IDEM, OAQ has reviewed and approved the submitted plan.

(2) For a continuous lime injection system, the Permittee shall record the lime feeder setting once each day of operation.

(h) Total reactive flux injection rate [40 CFR 63.1510(j)] - These requirements apply to a group 1 furnace (with or without add-on air pollution control devices) or in-line fluxer. The Permittee shall:

(1) calibrate, operate, and maintain a device to continuously measure and record the weight of gaseous or liquid reactive flux injected to each affected emission unit;

(i) The monitoring system shall record the weight for each 15-minute block period, during which reactive fluxing occurs, over the same operating cycle or time period used in the performance test;

(ii) The accuracy of the weight measurement device shall be +/- 1 percent of the weight of the reactive component of the flux being measured; and

(iii) The Permittee shall verify the calibration of the weight measurement device in accordance with the schedule specified by the manufacturer, or if no calibration schedule is specified, at least once every 6 months.

(2) Calculate and record the gaseous or liquid reactive flux injection rate (lb/ton) for each operating cycle or time period used in the performance test using the procedure in 40 CFR 63.1512(o) (ConditionD.6.11(g));

(3) Record, for each 15-minute block period during each operating cycle or time period used in the performance test during which reactive fluxing occurs, the time, weight, and type of flux for each addition of:

(i) Gaseous or liquid reactive flux other than chlorine; and

(ii) Solid reactive flux.

(4) Calculate and record the total reactive flux injection rate for each operating cycle or time period used in the performance test using the procedure in 40 CFR 63.1512(o) (Condition D.6.11(g)).

(i) Group 1 furnace without add-on air pollution control devices [40 CFR 63.1510(o)] – The following requirements apply:

(1) The Permittee must develop, in consultation with the IDEM, OAQ, a written site-specific monitoring plan. The site-specific monitoring plan shall be submitted to the IDEM, OAQ as part of the OM&M plan. The site-specific monitoring plan shall contain sufficient procedures to ensure continuing compliance with all applicable emission limits and shall demonstrate, based on documented test results, the relationship between emissions of PM, HCl, and D/F and the proposed monitoring parameters for each pollutant. Test data shall establish the highest level of PM, HCl, and D/ F that will be emitted from the furnace. This may be determined by conducting performance tests and monitoring operating parameters while charging the furnace with feed/charge materials containing the highest anticipated levels of oils and coatings and fluxing at the highest anticipated rate. If IDEM, OAQ determines that any revisions of the site-specific monitoring plan are necessary to meet the requirements of 40 CFR 63.1510 or 40 CFR 63,Subpart RRR, the Permittee shall promptly make all necessary revisions and resubmit the revised plan to the IDEM, OAQ;

(2) Each site-specific monitoring plan shall document each work practice, equipment/design practice, pollution prevention practice, or other measure used to meet the applicable emission standards; and

(3) Each site-specific monitoring plan shall include provisions for unit labeling as required in Condition paragraph (b) of this condition, feed/charge weight measurement as required in paragraph (d) of this condition and flux weight measurement as required in paragraph (h) of this condition.

(j) Monitoring of scrap contamination level by calculation method for group 1 furnace without add-on air pollution control devices [40 CFR 63.1510(q)] - For a group 1 furnace dedicated to processing a distinct type of furnace feed/charge composed of scrap with a uniform composition (such as rejected product from a manufacturing process for which the coating-to-scrap ratio can be documented), the Permittee may include a program in the site-specific monitoring plan for determining, monitoring, and certifying the scrap contaminant level using a calculation method rather than a scrap inspection program. A scrap contaminant monitoring program using a calculation method shall include:

(1) Procedures for the characterization and documentation of the contaminant level of the scrap prior to the performance test;

(2) Limitations on the furnace feed/charge to scrap of the same composition as that used in the performance test - If the performance test was conducted with a mixture of scrap and clean charge, limitations on the proportion of scrap in the furnace feed/charge to no greater than the proportion used during the performance test; and

(3) Operating, monitoring, recordkeeping, and reporting requirements to ensure that no scrap with a contaminant level higher than that used in the performance test is charged to the furnace.

(k) Group 2 furnace [40 CFR 63.1510(r)] - These requirements apply to the group 2 furnace. The Permittee shall:

(1) Record a description of the materials charged to each furnace, including any nonreactive, non-HAP-containing/non-HAP-generating fluxing materials or agents; and

(2) Submit a certification of compliance with the applicable operational standard for charge materials in 40 CFR 63.1506(o) (Condition D.6.8(g)) for each 6-month reporting period. Each certification shall contain the information in 40 CFR 63.1516(b)(2)(v).

(l) Site-specific requirements for secondary aluminum processing units [40 CFR 63.1510(s)]:

(1) The Permittee shall include, within the OM&M plan prepared in accordance with paragraph (a) of this condition, the following information:

(i) The identification of each emission unit in the secondary aluminum processing unit;

(ii) The specific pollution prevention measure to be used for each emission unit in the secondary aluminum processing unit and the date of its installation or application;

(iii) The emission limit calculated for each secondary aluminum processing unit and performance test results with supporting calculations demonstrating initial compliance with each applicable emission limit;

(iv) Information and data demonstrating compliance for each emission unit with all applicable design, equipment, work practice or operational standards of 40 CFR 63 Subpart RRR; and

(v) The monitoring requirements applicable to each emission unit in a secondary aluminum processing unit and the monitoring procedures for daily calculation of the 3-day, 24-hour rolling average using the procedure in paragraph (m) of this condition.

(2) The SAPU compliance procedures within the OM&M plan shall not contain any of the following provisions:

(i) Any averaging among emissions of differing pollutants;

(ii) The inclusion of any affected sources other than emission units in a secondary aluminum processing unit;

(iii) The inclusion of any emission unit while it is shutdown; or

(iv) The inclusion of any periods of startup, shutdown, or malfunction in emission calculations.

(3) To revise the SAPU compliance provisions within the OM&M plan prior to the end of the permit term, the Permittee shall submit a request to the IDEM, OAQ containing the information required by paragraph (l)(1) of this condition and obtain approval of the IDEM, OAQ prior to implementing any revisions.

(m) Secondary aluminum processing unit [40 CFR 63.1510(t)] - The Permittee shall calculate and record the 3-day, 24-hour rolling average emissions of PM, HCl, and D/F for each secondary aluminum processing unit on a daily basis. To calculate the 3-day, 24-hour rolling average, the Permittee shall:

(1) Calculate and record the total weight of material charged to each emission unit in the secondary aluminum processing unit for each 24-hour day of operation using the feed/charge weight information required in paragraph (d) of this condition.

(2) Multiply the total feed/charge weight to the emission unit, for each emission unit for the 24-hour period by the emission rate (in lb/ton of feed/ charge) for that emission unit (as determined during the performance test) to provide emissions for each emission unit for the 24-hour period, in pounds;

(3) Divide the total emissions for each SAPU for the 24-hour period by the total material charged to the SAPU over the 24-hour period to provide the daily emission rate for the SAPU;

(4) Compute the 24-hour daily emission rate using Equation 4:

$$E_{day} = \frac{\sum_{i=1}^{n} (T_i * ER_i)}{\sum_{i=1}^{n} T_i} \qquad \text{(Eq. 4)}$$

Where:

$E_{day}$ = The daily PM, HCl, or D/F emission rate for the secondary aluminum processing unit for the 24-hour period;

$T_i$ = The total amount of feed for emission unit i for the 24-hour period (tons);

$ER_i$ = The measured emission rate for emission unit i as determined in the performance test (lb/ton of feed/charge); and

n = The number of emission units in the secondary aluminum processing unit.

(5) Calculate and record the 3-day, 24-hour rolling average for each pollutant each day by summing the daily emission rates for each pollutant over the 3 most recent consecutive days and dividing by 3.

D.6.18 Bag Leak Detection Systems for Dross Cooling Baghouses and Rotary Group 1 Furnace Baghouse [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

The Permittee shall operate the continuous bag leak detection system for the dross cooling system and for the Rotary Group 1 Furnace Baghouse. The bag leak detection systems shall meet the following requirements:

(a) Each electrodynamic bag leak detection system shall be calibrated, operated, and maintained according to the manufacturer's recommendations;

(b) Each bag leak detection system shall be certified by the manufacturer to be capable of detecting PM emissions at concentrations of ten (10) milligrams per actual cubic meter (0.0044 grains per actual cubic foot) or less;

(c) Each bag leak detection system sensor shall provide output of relative or absolute PM loadings;

(d) Each bag leak detection system shall be equipped with a device to continuously record the output signal from the sensor;

(e) Each 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;

(f) Each bag leak detector shall be installed downstream of the fabric filter;

(g) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors;

(h) The baseline outputs shall be established by adjusting the range and the averaging period of each device and establishing the alarm set points and the alarm delay times;

(i) Following initial adjustment of each system, the Permittee shall not adjust the sensitivity or range, averaging period, alarm set points, or alarm delay time except as detailed in the PMP. 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; and

(j) 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) Visible emission notations of the stack exhausts shall be performed once per day 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 and

(5) For the dross cooling operation, if abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C – Response to Excursions and Exceedances. Failure to take response steps in accordance with Section C – Response to Excursions and Exceedances, shall be considered a deviation from this permit.

D.6.19 Bag Leak Detection Alarm Activation [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)

In the event that a bag leak detection system for the dross cooling system alarm is activated for any reason, the Permittee shall take the corrective action specified in Section C - Response to Excursions or Exceedances, and the following response steps:

The tests performed on December 17, 2004, confirmed that the dross cooling operation can meet the PM limit by operating only two small baghouses. For the four (4) dross cooling operation baghouses, which are single compartment baghouses, when more than two (2) of the four (4) baghouses fail, if failure indicated by an opacity violation or a bag leak detection alarm activation that is not a false alarm, or if bag failure is determined by other means, such as daily checks of the particulate concentration readings from electrodynamic bag leak detectors or visible emissions notations, then the associated process will be shut down immediately. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section C - Emergency Provisions).

D.6.20 Visible Emissions Notations for Flux Salt Storage Silo Bin Vent Filter [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

(a) Visible emission notations of the flux salt storage silo bin vent filter stack exhausts shall be performed once per week 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 and

(e) For the flux salt storage silo operation, if abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C – Response to Excursions and Exceedances. Failure to take response steps in accordance with Section C – Response to Excursions and Exceedances, shall be considered a deviation from this permit.

D.6.21 Water Level Monitoring [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

(a) The Permittee shall track the operation of the solenoid, which controls a water level electrode of automatic water control boxes on the #2 Offline East Melter Charging rotoclone, #2 Offline West Melter Charging rotoclone, #2 Offline East Melter West Chip Silo rotoclone, and #2 Offline East Melter East Chip Silo rotoclones. Whenever the automatic control fails, the Permittee shall fill the rotoclone by hand.

(b) The failure of the automatic control is not a deviation. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

(c) The Permittee shall completely clean out the #2 Offline East Melter Charging rotoclone, #2 Offline West Melter Charging rotoclone, #2 Offline East Melter West Chip Silo rotoclone, and #2 Offline East Melter East Chip Silo rotoclones at least once per month. In the event that a rotoclone and its associated process have been shutdown, its cleaning schedule shall be amended commencing on the date of the shutdown such that it is cleaned within 4 weeks of the shutdown date. It shall be returned to a cleaning schedule of at least once per month commencing on the date it resumes operation.

**Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19] [326 IAC 20-1] [40 CFR 63, Subpart A] [326 IAC 20-70] [40 CFR 63.1516] [40 CFR 63.1517]**

D.6.22 NESHAP Record Keeping Requirements [326 IAC 20-1] [40 CFR 63, Subpart A] [326 IAC 20-70] [40 CFR 63.1517]

(a) Pursuant to 40 CFR 63.10(b), the Permittee shall maintain files of all information (including all reports and notifications) required by the general provisions and Subpart RRR of 40 CFR 63. [40 CFR 63.1617(a)]

(1) The Permittee may retain records on microfilm, computer disks, magnetic tape, or microfiche;

(2) The Permittee shall report required information on paper or on a labeled computer disk using commonly available and EPA-compatible computer software; and

(b) Pursuant to 40 CFR 63.1517(b) - In addition to the general records required by 40 CFR 63.10(b), the Permittee shall maintain records of:

(1) For each affected source and emission unit with emissions controlled by a fabric filter or a lime-injected fabric filter [40 CFR 63.1517(b)(1)]:

(i) If a bag leak detection system is used, the number of total operating hours for the affected source or emission unit during each 6-month reporting period, records of each alarm, the time of the alarm, the time corrective action was initiated and completed, and a brief description of the cause of the alarm and the corrective action(s) taken.

(2) For each group 1 furnace, subject to D/F and HCl emission standards with emissions controlled by a lime-injected fabric filter, records of 15-minute block average inlet temperatures for each lime-injected fabric filter, including any period when the 3-hour block average temperature exceeds the compliant operating parameter value +14 °C (+25 °F), with a brief explanation of the cause of the excursion and the corrective action taken [40 CFR 63.1517(b)(3)].

(3) For each affected source and emission unit with emissions controlled by a lime-injected fabric filter [40 CFR 63.1517(b)(4)]:

(i) Records of inspections at least once every 8-hour period verifying that lime is present in the feeder hopper or silo and flowing, including any inspection where blockage is found, with a brief explanation of the cause of the blockage and the corrective action taken, and records of inspections at least once every 4-hour period for the subsequent 3 days. If flow monitors, pressure drop sensors or load cells are used to verify that lime is present in the hopper and flowing, records of all monitor or sensor output including any event where blockage was found, with a brief explanation of the cause of the blockage and the corrective action taken;

(ii) If lime feeder setting is monitored, records of daily inspections of feeder setting, including records of any deviation of the feeder setting from the setting used in the performance test, with a brief explanation of the cause of the deviation and the corrective action taken.

(4) For each group 1 furnace (with or without add-on air pollution control devices) and each in-line fluxer [40 CFR 63.1517(b)(5)];

(i) Records of 15-minute block average weights of gaseous or liquid reactive flux injection, total reactive flux injection rate and calculations (including records of the identity, composition, and weight of each addition of gaseous, liquid or solid reactive flux), including records of any period the rate exceeds the compliant operating parameter value and corrective action taken.

(5) For each continuous monitoring system, records required by 40 CFR 63.10(c) [40 CFR 63.1517(b)(6)];

(6) For each emission unit subject to an emission standard in lb/ton of feed/charge, records of feed/charge weights for each operating cycle or time period used in the performance test [40 CFR 63.1517(b)(7)];

(7) Approved site-specific monitoring plan for a group 1 furnace with records documenting conformance with the plan [40 CFR 63.1517(b)(8)];

(8) Records of all charge materials and fluxing materials or agents for a group 2 furnace [40 CFR 63.1517(b)(12)];

(9) Records of monthly inspections for proper unit labeling for each affected emission unit subject to labeling requirements [40 CFR 63.1517(b)(13)];

(10) Records of annual inspections of emission capture/collection and closed vent systems [40 CFR 63.1517(b)(14)];.

(11) Records for any approved alternative monitoring or test procedure [40 CFR 63.1517(b)(15)];

(12) Current copy of all required plans, including any revisions, with records documenting conformance with the applicable plan, including [40 CFR 63.1517(b)(16)]:

(i) Startup, shutdown, and malfunction plan;

(ii) OM&M plan; and

(iii) Site-specific secondary aluminum processing unit emission plan.

(13) For each secondary aluminum processing unit, records of total charge weight, for each 24-hour period and calculations of 3-day, 24-hour rolling average emissions [40 CFR 63.1517(b)(17)];

(14) For each group 1 furnace, records of the 3-day, 24-hour rolling average emissions of PM, HCl, and D/F emissions calculations; and

(15) For each in-line degasser, records of the 3-day, 24-hour rolling average emissions of PM, and HCl emissions calculations.

(c) The Permittee shall keep a record of the written startup, shutdown, and malfunction plan and a program of corrective action for malfunctioning process and air pollution control equipment. The Permittee shall also keep records of each event as required by 40 CFR 63.10(b).

(d) The Permittee shall keep records of each event as required by 40 CFR 63.10(b) and record if an action taken during a startup, shutdown, or malfunction is not consistent with the procedures in the plan as described in 40 CFR 63.6(e)(3).

(e) The Permittee shall keep records as required by 40 CFR 63.1510(q) (Condition D.6.17(j)).

D.6.23 Record Keeping Requirements

(a) To document compliance with Condition D.6.2(a)(3), the Permittee shall maintain the following:

(1) Records of the natural gas consumption of Melter 8M1.

(2) Records of the natural gas consumption of Melters 8M2 and 8M3.

(3) Records of NOx emissions from Melters 8M1, 8M2, and 8M3.

(b) To document compliance with Condition D.6.2(b)(4) and (c)(4), the Permittee shall maintain records of the combined chlorine and flux salt input rates to 8M1, 8M2, and 8M3.

(c) To document compliance with Conditions D.6.2(b)(5) and (c)(5), the Permittee shall maintain records of PM and PM10 emissions from 8M1, 8M2, and 8M3.

(d) To document compliance with Condition D.6.2(d), the Permittee shall maintain records of the following:

(1) The natural gas consumption of the 8EMC east holding furnace.

(2) The natural gas consumption of the 8EMC west holding furnace.

(3) NOx emissions from the 8EMC east and west holding furnaces.

(e) To document compliance with Conditions D.6.2(e)(4),and (f)(4), the Permittee shall maintain records of the combined chlorine and flux salt rates to 8 EMC east and 8 EMC west holding furnaces.

(f) To document compliance with Conditions D.6.2(e)(5),and (f)(5), the Permittee shall maintain records of PM and PM10 emissions from the 8 EMC east and west holding furnaces.

(g) To document compliance with Condition D.6.2(g), the Permittee shall maintain records of the feed/charge rates of the 8EMC 8EH A622 and 8EMC 8WH A622 in-line degassing units.

(h) To document compliance with Conditions D.6.2(h), and (i), the Permittee shall maintain records of the chlorine input rates to the 8EMC 8EH A622 and 8EMC 8WH A622 in-line degassing units.

(i) To document compliance with Condition D.6.2(j), the Permittee shall maintain records of the feed/charge rate of the #1 complex ACD units.

(j) To document compliance with Condition D.6.2(m) and (n), the Permittee shall maintain records of PM and PM10 emissions from the #1 complex east holding furnace and the #1 complex west holding furnace.

(k) To document compliance with Condition D.6.2(o), the Permittee shall maintain records of flux salt input rates to the #1 complex east holding furnace and the #1 complex west holding furnace.

(l) To document compliance with Condition D.6.2(p), the Permittee shall maintain records of the feed/charge rate for the #1 complex east holding furnace and the #1 complex west holding furnace.

(m) To document compliance with Condition D.6.3(a), the Permittee shall maintain records of the amount of material charged to OLG1, and the OLG1 PM Ef.

(n) To document compliance with Condition D.6.3(b), the Permittee shall maintain records of the amount of natural gas usage for OLG1 furnaces.

(o) To document compliance with Condition D.6.4(a), the Permittee shall maintain records of the throughput of the dross and salt cake.

(p) To document compliance with Conditions D.6.5(a)(4) and D.6.5(b)(4), the Permittee shall maintain records of the following:

(1) The charge/feed rate when the Rotary group 1 Furnace is processing only dross.

(2) The charge/feed rate when the charge/feed processed at the Rotary group 1 Furnace contains any amount of scrap.

(3) Total PM emissions from the Rotary Group 1 Furnace operations.

(4) Total PM10 emissions from the Rotary Group 1 Furnace operations.

(q) To document compliance with Condition D.6.5(c)(4), the Permittee shall maintain records of the following:

(1) The natural gas consumption of the Rotary Group 1 Furnace when processing only dross.

(2) The natural gas consumption of the Rotary Group 1 Furnace when processing any amount of scrap.

(3) The natural gas consumption of the Rotary Group 1 Furnace Duct Heater.

(4) Total NOx emissions from the Rotary Group 1 Furnace and the Rotary Group 1 Furnace Duct Heater.

(r) To document compliance with Condition D.6.14, the Permittee shall maintain records of the average throughput of the Coated Scrap Shredder.

(s) To document compliance with Condition D.6.18(a), the Permittee shall keep a log of the calibration test results for the dross cooling baghouses leak detectors and the Rotary Group 1 Furnace Baghouse leak detectors.

(t) To document compliance with Condition D.6.18(j), the Permittee shall maintain records of daily visible emission notations of the stack exhaust for the dross cooling baghouses and the Rotary Group 1 Furnace Baghouse, when the applicable bag leak detection system malfunctions, fails or otherwise needs repair.

(u) To document compliance with Condition D.6.19, the Permittee shall maintain records of the occurrences of all bag leak detection alarms.

(v) To document compliance with Condition D.6.20 the Permittee shall maintain a weekly record of visible emission notations of flux salt storage silo bin vent filter stack exhausts.

(w) To document compliance with Condition D.6.21(a), the Permittee shall maintain records of the automatic water level control and the response steps taken.

(x) To document compliance with Condition D.6.22(c), the Permittee shall maintain records of cleanout dates for #2 Offline East Melter Charging rotoclone, #2 Offline West Melter Charging rotoclone, #2 Offline East Melter West Chip Silo rotoclone, and #2 Offline East Melter East Chip Silo rotoclone.

(y) The Permittee shall maintain the following as required under Conditions D.6.18, D.6.19, D.6.20, D.6.21, and D.6.22:

(1) Documentation of all response steps implemented per event.

(z) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.6.24 NESHAP Reporting Requirements [326 IAC 20-1] [40 CFR 63, Subpart A] [326 IAC 20-70] [40 CFR 63.1516]

(a) Startup, shutdown, and malfunction plan/reports [40 CFR 63.1516(a)] - The Permittee shall develop and a written plan as described in 40 CFR 63.6(e)(3) that contains specific procedures to be followed for operating and maintaining the source during periods of startup, shutdown, and malfunction, and a program of corrective action for malfunctioning process and air pollution control equipment used to comply with the standard. In addition to the information required in 40 CFR 63.6(e)(3), the plan shall include:

(1) Procedures to determine and record the cause of the malfunction and the time the malfunction began and ended; and

(2) Corrective actions to be taken in the event of a malfunction of a process or control device, including procedures for recording the actions taken to correct the malfunction or minimize emissions.

(b) Excess emissions/summary report [40 CFR 63.1516(b)] - As required by 40 CFR 63.10(e)(3), the Permittee shall submit semiannual reports within 60 days after the end of each 6-month period. Each report shall contain the information specified in 40 CFR 63.10(c). When no deviations of parameters have occurred, the Permittee shall submit a report stating that no excess emissions occurred during the reporting period.

(1) A report shall be submitted if any of these conditions occur during a 6-month reporting period:

(i) The corrective action specified in the OM&M plan for a bag leak detection system alarm was not initiated within 1 hour.

(ii) An excursion of a compliant process or operating parameter value or range (e.g., screw feeder setting, total reactive chlorine flux injection rate, afterburner operating temperature, definition of acceptable scrap, or other approved operating parameter);

(iii) An action taken during a startup, shutdown, or malfunction was not consistent with the procedures in the plan as described in 40 CFR 63.6(e)(3);

(iv) The emission units (including an emission unit in a secondary aluminum processing unit) was not operated according to the requirements of 40 CFR 63, Subpart RRR; and

(v) A deviation from the 3-day, 24-hour rolling average emission limit for a secondary aluminum processing unit.

(2) Each report shall include each of the following certifications, as applicable:

(i) For each group 2 furnace: Only clean charge materials were processed in any group 2 furnace during this reporting period, and no fluxing was performed or all fluxing performed was conducted using only nonreactive, non-HAP-containing/non-HAP-generating fluxing gases or agents, except for cover fluxes, during this reporting period;

(ii) The Coated Aluminum Shredder did not operate in excess of an hourly aluminum scrap throughput of 25,000 lbs/hr. Compliance with 25,000 lbs/hr aluminum scrap throughput limitation satisfies the PM emissions limitation specified by 40 CFR 63, Subpart RRR, i.e. 0.01 grains / dry standard cubic foot;

(3) The Permittee shall submit the results of any performance test conducted during the reporting period, including one complete report documenting test methods and procedures, process operation, and monitoring parameter ranges or values for each test method used for a particular type of emission point tested.

(c) Annual compliance certifications - For the purpose of annual certifications of compliance required by 40 CFR Part 70, the Permittee shall certify continuing compliance based upon, but not limited to, the following conditions:

(1) Any period of excess emissions, as defined in paragraph (b)(1) of this Condition, that occurred during the year were reported as required by 40 CFR 63 Subpart RRR; and

(2) All monitoring, recordkeeping, and reporting requirements were met during the year.

D.6.25 Reporting Requirements

A monthly summary of the information to document compliance with Conditions D.6.2 (a)(3), (b)(5), (c)(5), (d)(3), (e)(5), (f)(5), (g), (j), (m), (n), and (p), D.6.3(a) and (b), D.6.4(a), and D.6.5(a)(4), (b)(4), and (c)(4) shall be submitted to the addresses listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or its equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).

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

## NOx Emissions Quarterly Report

Source Name: Alcoa Inc.- Warrick Operations
Source Address: Jct. IN Hwys. 66 & 61, Newburgh, Indiana 47629-0010
Mailing Address: Bldg. 860 E, P.O. Box 10, Newburgh, Indiana 47629
Part 70 Permit No.: T173-6627-00007
Facility: Melters 8M1, 8M2, and 8M3
Parameter: NOx Emissions
Limit: Shall not exceed 63.18 tons per twelve (12) consecutive month period.

Quarter _____ Year: _____

| Month | NOx (tons) | NOx (tons) | NOx (tons) |
|---|---|---|---|
| | This Month | Previous 11 Months | 12 Month Total |
| | | | |
| | | | |
| | | | |

☐ No deviation occurred in this month.

☐ Deviation/s occurred in this month.

Deviation has been reported on: _____

Submitted by: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

Attach a signed certification to complete this report.

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

## PM Emissions Quarterly Report

Source Name: Alcoa Inc.- Warrick Operations
Source Address: Jct. IN Hwys. 66 & 61, Newburgh, Indiana 47629-0010
Mailing Address: Bldg. 860 E, P.O. Box 10, Newburgh, Indiana 47629
Part 70 Permit No.: T173-6627-00007
Facility: Melters 8M1, 8M2, and 8M3
Parameter: PM Emissions
Limit: 49.57 tons per twelve (12) consecutive month period

Quarter _____ Year: _____

| Month | PM (tons) | PM (tons) | PM (tons) |
|---|---|---|---|
| | This Month | Previous 11 Months | 12 Month Total |
| | | | |
| | | | |
| | | | |

☐ No deviation occurred in this month.

☐ Deviation/s occurred in this month.

Deviation has been reported on: _____

Submitted by: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

Attach a signed certification to complete this report.

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

## $PM_{10}$ Emissions Quarterly Report

Source Name: Alcoa Inc.- Warrick Operations
Source Address: Jct. IN Hwys. 66 & 61, Newburgh, Indiana 47629-0010
Mailing Address: Bldg. 860 E, P.O. Box 10, Newburgh, Indiana 47629
Part 70 Permit No.: T173-6627-00007
Facility: Melters 8M1, 8M2, and 8M3
Parameter: $PM_{10}$ Emissions
Limit: 53.54 tons per twelve (12) consecutive month period

Quarter _____ Year: _____

| Month | $PM_{10}$ (tons) | $PM_{10}$ (tons) | $PM_{10}$ (tons) |
|---|---|---|---|
| | This Month | Previous 11 Months | 12 Month Total |
| | | | |
| | | | |
| | | | |

☐ No deviation occurred in this month.

☐ Deviation/s occurred in this month.

Deviation has been reported on: _____

Submitted by: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

Attach a signed certification to complete this report.

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

## NOx Emissions Quarterly Report

Source Name: Alcoa Inc.- Warrick Operations
Source Address: Jct. IN Hwys. 66 & 61, Newburgh, Indiana 47629-0010
Mailing Address: Bldg. 860 E, P.O. Box 10, Newburgh, Indiana 47629
Part 70 Permit No.: T173-6627-00007
Facility: 8EMC east and 8EMC west holding furnaces
Parameter: NOx Emissions
Limit: Shall not exceed 15.89 tons per twelve (12) consecutive month period

Quarter _____ Year: _____

| Month | NOx (tons) | NOx (tons) | NOx (tons) |
|---|---|---|---|
| | This Month | Previous 11 Months | 12 Month Total |
| | | | |
| | | | |
| | | | |

☐ No deviation occurred in this month.

☐ Deviation/s occurred in this month.

Deviation has been reported on: _____

Submitted by: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

Attach a signed certification to complete this report.

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

## PM Emissions Quarterly Report

Source Name: Alcoa Inc.- Warrick Operations
Source Address: Jct. IN Hwys. 66 & 61, Newburgh, Indiana 47629-0010
Mailing Address: Bldg. 860 E, P.O. Box 10, Newburgh, Indiana 47629
Part 70 Permit No.: T173-6627-00007
Facility: 8EMC east holding and 8EMC west holding furnace
Parameter: PM
Limit: 34.17 tons per twelve (12) consecutive month period

Quarter _____ Year: _____

| Month | PM (tons) | PM (tons) | PM (tons) |
|---|---|---|---|
| | This Month | Previous 11 Months | 12 Month Total |
| | | | |
| | | | |
| | | | |

☐ No deviation occurred in this month.

☐ Deviation/s occurred in this month.

Deviation has been reported on: _____

Submitted by: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

Attach a signed certification to complete this report.

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

## $PM_{10}$ Emissions Quarterly Report

Source Name: Alcoa Inc.- Warrick Operations
Source Address: Jct. IN Hwys. 66 & 61, Newburgh, Indiana 47629-0010
Mailing Address: Bldg. 860 E, P.O. Box 10, Newburgh, Indiana 47629
Part 70 Permit No.: T173-6627-00007
Facility: 8EMC east holding and 8EMC west holding furnace
Parameter: $PM_{10}$
Limit: 49.89 tons per twelve (12) consecutive month period

Quarter _____ Year: _____

| Month | $PM_{10}$ (tons) | $PM_{10}$ (tons) | $PM_{10}$ (tons) |
|---|---|---|---|
| | This Month | Previous 11 Months | 12 Month Total |
| | | | |
| | | | |
| | | | |

☐ No deviation occurred in this month.

☐ Deviation/s occurred in this month.

Deviation has been reported on: _____

Submitted by: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

Attach a signed certification to complete this report.

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

**Feed/Charge Quarterly Report**

| | |
|---|---|
| Source Name: | Alcoa, Inc. - Warrick Operations |
| Source Address: | Jct. IN Hwys. 66 & 61, Newburgh, Indiana 47629-0010 |
| Mailing Address: | Bldg. 860 E, P.O. Box 10, Newburgh, Indiana 47629 |
| Operation Permit No.: | T173-6627-00007 |
| Facilities: | 8EMC 8EH and 8EMC 8WH A622 in-line degassing units |
| Parameter: | Feed/Charge Rate |
| Limit: | 823,440 tons per twelve (12) consecutive month period |

Quarter _____ Year: _____

| Month | Feed/Charge Rate(tons) | Feed/Charge Rate(tons) | Feed/Charge Rate(tons) |
|---|---|---|---|
| | This Month | Previous 11 Months | 12 Month Total |
| | 8EMC 8EH and8EMC 8WH | 8EMC 8EH and 8EMC 8WH | 8EMC 8EH and8EMC 8WH |
| | | | |
| | | | |
| | | | |

☐ No deviation occurred in this month.

☐ Deviation/s occurred in this month.

Deviation has been reported on: _____

Submitted by: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

Attach a signed certification to complete this report.

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

## Feed/Charge Quarterly Report

Source Name: Alcoa, Inc. - Warrick Operations
Source Address: Jct. IN Hwys. 66 & 61, Newburgh, Indiana 47629-0010
Mailing Address: Bldg. 860 E, P.O. Box 10, Newburgh, Indiana 47629
Operation Permit No.: T173-6627-00007
Facility: #1 complex ACD Units
Parameter: Feed/Charge
Limit: 172,000 tons per twelve (12) consecutive month period

Quarter _____ Year: _____

| Month | Feed/Charge (tons) | Feed/Charge (tons) | Feed/Charge (tons) |
|---|---|---|---|
| | This Month | Previous 11 Months | 12 Month Total |
| | | | |
| | | | |
| | | | |

☐ No deviation occurred in this month.

☐ Deviation/s occurred in this month.

Deviation has been reported on: _____

Submitted by: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

Attach a signed certification to complete this report.

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

## PM Emissions Quarterly Report

Source Name: Alcoa, Inc. - Warrick Operations
Source Address: Jct. IN Hwys. 66 & 61, Newburgh, Indiana 47629-0010
Mailing Address: Bldg. 860 E, P.O. Box 10, Newburgh, Indiana 47629
Operation Permit No.: T173-6627-00007
Facility: #1 complex east holding furnace and #1 complex west holding furnace
Parameter: PM
Limit: 3.87 tons per twelve (12) consecutive month period

Quarter _____ Year: _____

| Month | PM (tons) | PM (tons) | PM (tons) |
|---|---|---|---|
| | This Month | Previous 11 Months | 12 Month Total |
| | | | |
| | | | |
| | | | |

☐ No deviation occurred in this month.

☐ Deviation/s occurred in this month.

Deviation has been reported on: _____

Submitted by: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

Attach a signed certification to complete this report.

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

## $PM_{10}$ Emissions Quarterly Report

Source Name: Alcoa, Inc. - Warrick Operations
Source Address: Jct. IN Hwys. 66 & 61, Newburgh, Indiana 47629-0010
Mailing Address: Bldg. 860 E, P.O. Box 10, Newburgh, Indiana 47629
Operation Permit No.: T173-6627-00007
Facility: #1 complex east holding furnace and #1 complex west holding furnace
Parameter: $PM_{10}$
Limit: 5.65 tons per twelve (12) consecutive month period

Quarter _____ Year: _____

| Month | $PM_{10}$ (tons) | $PM_{10}$ (tons) | $PM_{10}$ (tons) |
|---|---|---|---|
| | This Month | Previous 11 Months | 12 Month Total |
| | | | |
| | | | |
| | | | |

☐ No deviation occurred in this month.

☐ Deviation/s occurred in this month.

Deviation has been reported on: _____

Submitted by: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

Attach a signed certification to complete this report.

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

## Feed/Charge Quarterly Report

Source Name: Alcoa, Inc. - Warrick Operations
Source Address: Jct. IN Hwys. 66 & 61, Newburgh, Indiana 47629-0010
Mailing Address: Bldg. 860 E, P.O. Box 10, Newburgh, Indiana 47629
Operation Permit No.: T173-6627-00007
Facility: #1 complex East and West Holding Furnaces
Parameter: Feed/Charge
Limit: Total 172,000 tons feed/charge per twelve (12) consecutive month period

Quarter _____ Year: _____

| Month | Feed/Charge (tons) | Feed/Charge (tons) | Feed/Charge (tons) |
|---|---|---|---|
| | This Month | Previous 11 Months | 12 Month Total |
| | | | |
| | | | |
| | | | |

☐ No deviation occurred in this month.

☐ Deviation/s occurred in this month.

Deviation has been reported on: _____

Submitted by: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

Attach a signed certification to complete this report.

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

## PM Emissions Quarterly Report

Source Name: Alcoa, Inc. - Warrick Operations
Source Address: Jct. IN Hwys. 66 & 61, Newburgh, Indiana 47629-0010
Mailing Address: Bldg. 860 E, P.O. Box 10, Newburgh, Indiana 47629
Operation Permit No.: T173-6627-00007
Facility: OLG1 Furnaces
Parameter: PM
Limit: Less than 202 tons per twelve (12) consecutive month period

Quarter _____ Year: _____

| Month | PM (tons) | PM (tons) | PM (tons) |
|---|---|---|---|
| | This Month | Previous 11 Months | 12 Month Total |
| | | | |
| | | | |
| | | | |

☐ No deviation occurred in this month.

☐ Deviation/s occurred in this month.

Deviation has been reported on: _____

Submitted by: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

Attach a signed certification to complete this report.

# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
# OFFICE OF AIR QUALITY
# COMPLIANCE AND ENFORCEMENT BRANCH
## Natural Gas Usage Quarterly Report

Source Name: Alcoa, Inc. - Warrick Operations
Source Address: Jct. IN Hwys. 66 & 61, Newburgh, Indiana 47629-0010
Mailing Address: Bldg. 860 E, P.O. Box 10, Newburgh, Indiana 47629
Operation Permit No.: T173-6627-00007
Facility: OLG1 Furnaces
Natural gas usage Limit: 1,847 million cubic feet per twelve (12) consecutive month period

Quarter _____ Year: _____

| Month | Natural Gas (MMCF) | Natural Gas (MMCF) | Natural Gas (MMCF) |
|---|---|---|---|
| | This Month | Previous 11 Months | 12 Month Total |
| | | | |
| | | | |
| | | | |

☐ No deviation occurred in this month.

☐ Deviation/s occurred in this month.

Deviation has been reported on: _____

Submitted by: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

Attach a signed certification to complete this report.

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

## Dross and Salt Cake Throughput Quarterly Report

Source Name: Alcoa, Inc. - Warrick Operations
Source Address: Jct. IN Hwys. 66 & 61, Newburgh, Indiana 47629-0010
Mailing Address: Bldg. 860 E, P.O. Box 10, Newburgh, Indiana 47629
Operation Permit No.: T173-6627-00007
Facility: Dross Cooling Operation
Parameter: Dross and salt cake
Limit: 38,000 tons per twelve (12) consecutive month period

Quarter _____ Year: _____

| Month | Dross (tons) | Dross (tons) | Dross (tons) |
|---|---|---|---|
| | This Month | Previous 11 Months | 12 Month Total |
| | | | |
| | | | |
| | | | |

☐ No deviation occurred in this month.

☐ Deviation/s occurred in this month.

Deviation has been reported on: _____

Submitted by: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

Attach a signed certification to complete this report.

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

## NOx Emissions Quarterly Report

Source Name: Alcoa Inc.- Warrick Operations
Source Address: Jct. IN Hwys. 66 & 61, Newburgh, Indiana 47629-0010
Mailing Address: Bldg. 860 E, P.O. Box 10, Newburgh, Indiana 47629
Part 70 Permit No.: T173-6627-00007
Facility: Rotary Group 1 Furnace
Parameter: NOx Emissions
Limit: Shall not exceed 39.90 tons per twelve (12) consecutive month period

Quarter _____ Year: _____

| Month | NOx (tons) | NOx (tons) | NOx (tons) |
|---|---|---|---|
| | This Month | Previous 11 Months | 12 Month Total |
| | | | |
| | | | |
| | | | |

☐ No deviation occurred in this month.

☐ Deviation/s occurred in this month.

Deviation has been reported on: _____

Submitted by: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

Attach a signed certification to complete this report.

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

## PM Emissions Quarterly Report

Source Name: Alcoa Inc.- Warrick Operations
Source Address: Jct. IN Hwys. 66 & 61, Newburgh, Indiana 47629-0010
Mailing Address: Bldg. 860 E, P.O. Box 10, Newburgh, Indiana 47629
Part 70 Permit No.: T173-6627-00007
Facility: Rotary Group 1 Furnace
Parameter: PM Emissions
Limit: Shall not exceed 24.90 tons per twelve (12) consecutive month period

Quarter _____ Year: _____

| Month | PM (tons) | PM (tons) | PM (tons) |
|---|---|---|---|
| | This Month | Previous 11 Months | 12 Month Total |
| | | | |
| | | | |
| | | | |

☐ No deviation occurred in this month.

☐ Deviation/s occurred in this month.

Deviation has been reported on: _____

Submitted by: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

Attach a signed certification to complete this report.

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

## PM10 Emissions Quarterly Report

Source Name: Alcoa Inc.- Warrick Operations
Source Address: Jct. IN Hwys. 66 & 61, Newburgh, Indiana 47629-0010
Mailing Address: Bldg. 860 E, P.O. Box 10, Newburgh, Indiana 47629
Part 70 Permit No.: T173-6627-00007
Facility: Rotary Group 1 Furnace
Parameter: PM10 Emissions
Limit: Shall not exceed 14.90 tons per twelve (12) consecutive month period

Quarter _____ Year: _____

| Month | PM10 (tons) | PM10 (tons) | PM10 (tons) |
|---|---|---|---|
| | This Month | Previous 11 Months | 12 Month Total |
| | | | |
| | | | |
| | | | |

☐ No deviation occurred in this month.

☐ Deviation/s occurred in this month.

Deviation has been reported on: _____

Submitted by: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

Attach a signed certification to complete this report.

## SECTION D.7 ROLLING MILLS PLANT 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.)

Rolling Mills

(1) One (1) gauge reduction of aluminum facility, identified as hot reversing mill, using mineral spirits as lubricant, constructed in 1964, with a maximum capacity production of aluminum ingot of 225 tons per hour, controlled by a mist eliminator, and exhausting to Stack 811.1;

(2) One (1) gauge reduction of aluminum facility, identified as continuous hot mill, using mineral spirits as lubricant, constructed in 1964, with a maximum capacity production of aluminum ingot of 225 tons per hour, controlled by a mist eliminator, and exhausting to Stack 814.1;

(3) One (1) gauge reduction of aluminum facility, identified as cold mill #2, constructed in 1963, with a maximum capacity production of aluminum sheet of 75 tons per hour, using base oil as a coolant, emissions are uncontrolled, and exhausting to Stack 816.21;

(4) One (1) gauge reduction of aluminum facility, identified as cold mill #4, constructed in 1970, with a maximum capacity production of aluminum sheet of 88.6 tons per hour, using base oil as a coolant, emissions are controlled by a mist eliminator, and exhausting to Stacks 816.23 and 816.24.

One (1) mist eliminator, constructed in 1970, and exhausting to Stacks 816.23 and 816.24;

Annealing furnaces

(5) One (1) annealing furnace, identified as annealing furnace #5, constructed in 1964, using natural gas with a maximum heat input rate of 15 MMBtu/hr, exhausting to Stack 816.4;

(6) One (1) annealing furnace, identified as annealing furnace #6, constructed in 1964, using natural gas with a maximum heat input rate of 15 MMBtu/hr, exhausting to Stack 816.5;

(7) One (1) annealing furnace, identified as annealing furnace #7, constructed in 1964, using natural gas with a maximum heat input rate of 15 MMBtu/hr, exhausting to Stack 816.6;

(8) One (1) annealing furnace, identified as annealing furnace #8, constructed in 1964, using natural gas with a maximum heat input rate of 15 MMBtu/hr, exhausting to Stack 816.7;

(9) One (1) annealing furnace, identified as annealing furnace #9, constructed in 1964, using natural gas with a maximum heat input rate of 15 MMBtu/hr, exhausting to Stack 816.8;

(10) One (1) annealing furnace, identified as annealing furnace #10, constructed in 1967, using natural gas with a maximum heat input rate of 15 MMBtu/hr, exhausting to Stack 816.9;

(11) One (1) annealing furnace, identified as annealing furnace #11, constructed in 1967, using natural gas with a maximum heat input rate of 15 MMBtu/hr, exhausting to Stack 816.10;

(12) One (1) annealing furnace, identified as annealing furnace #12, constructed in 1969, using natural gas with a maximum heat input rate of 15 MMBtu/hr, exhausting to Stack 816.11;

(13) One (1) annealing furnace, identified as annealing furnace #13, constructed in 1969, using natural gas with a maximum heat input rate of 15 MMBtu/hr, exhausting to Stack 816.12;

(14) One (1) annealing furnace, identified as annealing furnace #14, constructed in 1970, using natural gas with a maximum heat input rate of 48 MMBtu/hr, exhausting to Stack 816.13;

(15) One (1) annealing furnace, identified as annealing furnace #15, constructed in 1970, using natural gas with a maximum heat input rate of 48 MMBtu/hr, exhausting to Stack 816.14;

(16) One (1) annealing furnace, identified as annealing furnace #16, constructed in 1970, using natural gas with a maximum heat input rate of 48 MMBtu/hr, exhausting to Stack 816.15;

(17) One (1) annealing furnace, identified as annealing furnace #17, constructed in 1972, using natural gas with a maximum heat input rate of 48 MMBtu/hr, exhausting to Stack 816.16;

Preheat furnaces

(18) Five (5) preheat furnaces, identified as preheat furnace #2 - #6, constructed prior to 1973 and rebuilt in 1975, using natural gas with a maximum heat input rate of 18 MMBtu/hr each, and exhausting to Stacks 811.2 thru 811.6;

(19) Ten (10) preheat furnaces, identified as preheat furnace #7 - #10, #28-#29, #31-#34, constructed in 1966, using natural gas with a maximum heat input rate of 18 MMBtu/hr each, and exhausting to Stacks #811.7- #811.10, #811.28-#811.29, and #811.31-#811.34;

(20) One (1) preheat furnaces, identified as preheat furnace #35, constructed in 1966, using natural gas with a maximum heat input rate of 18 MMBtu/hr, and exhausting to Stack 811.35;

(21) Eight (8) preheat furnaces, identified as preheat furnace #12 - #19, constructed in 1965, using natural gas with a maximum heat input rate of 12 MMBtu/hr each, and exhausting to Stacks #811.12-#811.19, and #811.26;

(21A) Three (3) preheat furnaces, identified as preheat furnace #22, #24, and #26, constructed in 1965, using natural gas with a maximum heat input rate of 18 MMBtu/hr each, and exhausting to Stacks #811.22, #811.24, and #811.26;

(22) Five (5) preheat furnaces, identified as preheat furnace #36 - #40, constructed in 1969 and rebuilt in 1978, using natural gas with a maximum heat input rate of 18 MMBtu/hr each, and exhausting to Stacks #811.36- #811.40;

(23) Three (3) preheat furnaces, identified as preheat furnace #41 - #43, constructed in 1973, using natural gas with a maximum heat input rate of 18 MMBtu/hr each, and exhausting to Stacks #811.41-#811.43;

(24) Seven (7) preheat furnaces, identified as preheat furnace #11, #20, #21, #23, #25, #27, and #30, constructed in 1969 and rebuilt in 1990, using natural gas with a maximum heat input rate of 18 MMBtu/hr each, and exhausting to Stacks #811.11, #811.20, #811.21, #811.23, #811.25, #811.27, and #811.30;

Boilers

(25) One (1) natural gas fired boiler, identified as Castrol reprocessing system boiler #1, constructed in 1998, with a maximum heat input rate of 12 MMBtu/hr, exhausting to Stack 816B1;

(26) One (1) natural gas fired, boiler, identified as Castrol reprocessing system boiler #2, constructed in 1998, with a maximum heat input rate of 12 MMBtu/hr, exhausting to Stack 816B2; and

(27) One (1) natural gas fired, boiler, identified as Castrol reprocessing system boiler #3, constructed in 1998, with a maximum heat input rate of 12 MMBtu/hr, exhausting to Stack 816B3.

Ingot Surface Treatment, consisting of:

(28) One (1) scalper step cutter, with a maximum capacity of scalping 172 tons of aluminum ingots per hour, constructed in 2001, exhausting to West Silo No. 1, which is controlled by the West Silo No.1 Cyclone, which exhausts at stack 379.1.

(29) One (1) Hot Ingot Oxide Brushing System, with a maximum capacity of 225 tons of aluminum ingot per hour, constructed in 2000, exhausts inside the rolling bay building, and does not directly exhaust externally.

(30) One (1) silo, identified as West Silo No. 1, with a maximum scrap throughput of 13.76 tons per hour, constructed in 1965, emissions uncontrolled, and exhausts at stack 379.1.

(31) One (1) silo, identified as East Silo No. 2, with a maximum scrap throughput of 15.00 tons per hour, constructed in 1965, emissions uncontrolled, and exhausts at stack 379.2.

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

D.7.1 Particulate Emissions Limitations for Manufacturing Processes [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the Rolling Mills emission units shall be limited as follows:

| Facility | Maximum Process Weight Rate (tons/hr) | PM Emission Limit (lbs/hr) |
|---|---|---|
| Ingot scalping | 13.76 | 23.75 |
| Ingot preheating operation | 172 | 56.9 |
| Ingot brush | 225 | 59.8 |
| Reversing mills | 172 | 56.9 |
| Continuous hot mills | 172 | 56.9 |
| Annealing furnaces | 172 | 56.9 |
| Ingot cold rolling | 172 | 56.9 |
| East Silo No. 2 | 15 | 25.2 |

The above particulate emissions rates were determined from the following formulae:

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

$$E = 4.10\ P^{0.67}$$

Where: E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour.

or

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

$$E = 55.0\ P^{0.11} - 40$$

Where: E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour.

When the process rate exceeds two hundred (200) tons per hour, the allowable emission may exceed the emission limits shown in the above table; provided the concentration of particulate in the discharge gases to the atmosphere is less than one-tenth (0.10) pound per thousand (1,000) pounds of gases.

D.7.2 General Provisions Relating to NSPS, Subpart Dc [326 IAC 12] [40 CFR Part 60, Subpart A]

The provisions of 40 CFR 60, Subpart A – General Provisions, which are incorporated as 326 IAC 12-1, apply to the boilers described in this section except when otherwise specified in 40 CFR 60, Subpart Dc.

D.7.3 Particulate Emissions Limitations for Sources of Indirect Heating [326 IAC 6-2-3] [326 IAC 6-2-4]

(a) Pursuant to 326 IAC 6-2-4 (Particulate Emissions Limitations for Sources of Indirect Heating), the allowable particulate matter (PM) emissions from boiler #1, boiler #2, and boiler #3 shall be limited to 0.10 lb/MMBtu each. The above particulate emissions rates were determined from the following formula:

$$P_t = \frac{1.09}{Q^{0.26}}$$

Where:

Pt = Pounds of particulate matter emitted per million Btu (lb/MMBtu) heat input; and

Q = Total source maximum operating capacity rating in million Btu per hour (MMBtu/hr) heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used.

(b) Pursuant to 326 IAC 6-2-3(b) (Particulate Emissions Limitations for Sources of Indirect Heating), the allowable particulate matter (PM) emissions from annealing furnaces #5-#16, and preheat furnaces #7 - #40 shall be limited to 0.021 lb/MMBtu each. The above particulate emissions rate was determined from the following formula:

$$Pt = \frac{C * a * h}{76.5 * Q^{0.75} * N^{0.25}}$$

Where:

C = Maximum ground level concentration with respect to distance from the point source at the critical wind speed for level terrain. This shall equal 50 micrograms per cubic meter (μ/m3) for a period not to exceed a sixty (60) minute time period;

Pt = Pounds of particulate matter emitted per million Btu heat input (lb/MMBtu);

Q = Total source maximum operating capacity rating in million Btu per hour (MMBtu/hr) heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's

operation permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used;

N = Number of stacks in fuel burning operation;

a = Plume rise factor which is used to make allowance for less than theoretical plume rise. The value 0.67 shall be used for Q less than or equal to 1,000 MMBtu/hr heat input; and

h = Stack height in feet. If a number of stacks of different heights exist, the average stack height to represent N stacks shall be calculated by weighing each stack height with its particulate matter emission rate as follows:

$$h = \frac{\sum_{i=1}^{N} H_i * pa_i * Q}{\sum_{i=1}^{N} pa_i * Q}$$

Where:

pa = the actual controlled emission rate in lb/MMBtu using the emission factor from AP-42 or stack test data. Stacks constructed after January 1, 1971, shall be credited with GEP stack height only. GEP stack height shall be calculated as specified in 326 IAC 1-7.

Q, N, and h shall include the parameters for all facilities in operation on June 8, 1972. The resulting Pt is the emission limitation for annealing furnaces #5-#16, and preheat furnaces #7 - #40 and will not be affected by the addition of any subsequent facility.

(c) Pursuant to 326 IAC 6-2-3(a) (Particulate Emissions Limitations for Sources of Indirect Heating), the allowable particulate matter (PM) emissions from annealing furnace #17 shall be limited to 0.021 lb/MMBtu. The above particulate emissions rate was determined from the following formula:

$$Pt = \frac{C * a * h}{76.5 * Q^{0.75} * N^{0.25}}$$

Where:

C = Maximum ground level concentration with respect to distance from the point source at the critical wind speed for level terrain. This shall equal 50 micrograms per cubic meter (µ/m3) for a period not to exceed a sixty (60) minute time period;

Pt = Pounds of particulate matter emitted per million Btu heat input (lb/MMBtu);

Q = Total source maximum operating capacity rating in million Btu per hour (MMBtu/hr) heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's operation permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used;

N = Number of stacks in fuel burning operation;

a = Plume rise factor which is used to make allowance for less than theoretical plume rise. The value 0.67 shall be used for Q less than or equal to 1,000 MMBtu/hr heat input; and

h = Stack height in feet. If a number of stacks of different heights exist, the average stack height to represent N stacks shall be calculated by weighing each stack height with its particulate matter emission rate as follows:

$$h = \frac{\sum_{i=1}^{N} H_i * pa_i * Q}{\sum_{i=1}^{N} pa_i * Q}$$

Where:

pa = the actual controlled emission rate in lb/MMBtu using the emission factor from AP-42 or stack test data. Stacks constructed after January 1, 1971, shall be credited with GEP stack height only. GEP stack height shall be calculated as specified in 326 IAC 1-7.

Q, N, and h shall include the parameters for all facilities in operation prior to the installation of annealing furnace #17. The resulting Pt is the emission limitation for annealing furnace #17 and will not be affected by the addition of any subsequent emissions unit.

(d) Pursuant to 326 IAC 6-2-3(a) (Particulate Emissions Limitations for Sources of Indirect Heating), the allowable particulate matter (PM) emissions from preheat furnaces #2 - #6 shall be limited to 0.020 lb/MMBtu each. The above particulate emissions rate was determined from the following formula:

$$Pt = \frac{C * a * h}{76.5 * Q^{0.75} * N^{0.25}}$$

Where:

C = Maximum ground level concentration with respect to distance from the point source at the critical wind speed for level terrain. This shall equal 50 micrograms per cubic meter (µ/m3) for a period not to exceed a sixty (60) minute time period;

Pt = Pounds of particulate matter emitted per million Btu heat input (lb/MMBtu);

Q = Total source maximum operating capacity rating in million Btu per hour (MMBtu/hr) heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's operation permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used;

N = Number of stacks in fuel burning operation;

a = Plume rise factor which is used to make allowance for less than theoretical plume rise. The value 0.67 shall be used for Q less than or equal to 1,000 MMBtu/hr heat input; and

h = Stack height in feet. If a number of stacks of different heights exist, the average stack height to represent N stacks shall be calculated by weighing each stack height with its particulate matter emission rate as follows:

$$h = \frac{\sum_{i=1}^{N} H_i * pa_i * Q}{\sum_{i=1}^{N} pa_i * Q}$$

Where:

pa = the actual controlled emission rate in lb/MMBtu using the emission factor from AP-42 or stack test data. Stacks constructed after January 1, 1971, shall be credited with GEP stack height only. GEP stack height shall be calculated as specified in 326 IAC 1-7.

Q, N, and h shall include the parameters for all facilities in operation prior to the installation of preheat furnaces #2 - #6. The resulting Pt is the emission limitation for preheat furnaces #2 - #6, and will not be affected by the addition of any subsequent emissions unit.

(e) Pursuant to 326 IAC 6-2-3(a) (Particulate Emissions Limitations for Sources of Indirect Heating), the allowable particulate matter (PM) emissions from preheat furnaces #41 - #43 shall be limited to 0.019 lb/MMBtu each. The above particulate emissions rate was determined from the following formula:

$$Pt = \frac{C * a * h}{76.5 * Q^{0.75} * N^{0.25}}$$

Where:

C = Maximum ground level concentration with respect to distance from the point source at the critical wind speed for level terrain. This shall equal 50 micrograms per cubic meter (µ/m3) for a period not to exceed a sixty (60) minute time period;

Pt = Pounds of particulate matter emitted per million Btu heat input (lb/MMBtu);

Q = Total source maximum operating capacity rating in million Btu per hour (MMBtu/hr) heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's operation permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used;

N = Number of stacks in fuel burning operation;

a = Plume rise factor which is used to make allowance for less than theoretical plume rise. The value 0.67 shall be used for Q less than or equal to 1,000 MMBtu/hr heat input; and

h = Stack height in feet. If a number of stacks of different heights exist, the average stack height to represent N stacks shall be calculated by weighing each stack height with its particulate matter emission rate as follows:

$$h = \frac{\sum_{i=1}^{N} H_i * pa_i * Q}{\sum_{i=1}^{N} pa_i * Q}$$

Where:

pa = the actual controlled emission rate in lb/MMBtu using the emission factor from AP-42 or stack test data. Stacks constructed after January 1, 1971, shall be credited with GEP stack height only. GEP stack height shall be calculated as specified in 326 IAC 1-7.

Q, N, and h shall include the parameters for all facilities in operation prior to the installation of preheat furnaces #41 - #43. The resulting Pt is the emission limitation for preheat furnaces #41 - #43 and will not be affected by the addition of any subsequent emissions unit.

**Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19] [326 IAC 12] [40 CFR 60, Subpart Dc]**

D.7.4 New Source Performance Standard (NSPS) Record Keeping Requirements [326 IAC 12] [40 CFR 60, Subpart Dc]

Pursuant to 40 CFR 60.48c(g), the Permittee shall record and maintain records of the amounts of natural gas combusted in each boiler during each calendar month.

## SECTION D.8 COATING PLANT 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.)

(1) One (1) electro coat coil coating line no. 6, identified as CPL6, constructed in 1984, with emissions uncontrolled and exhausting to Stacks 819.7, and 819.13-819.15;

(2) One (1) coil coating line no. 2, identified as CCL2, constructed in 1987, with a temporary total enclosure system surrounding the coating stations. Emissions captured by the temporary total enclosure system and generated within the bake oven are controlled by a thermal oxidizer. Total coating line emissions exhausting to Stacks 826.5 and 826.6.

One (1) thermal oxidizer system exhausting to Stacks 826.5;

(3) One (1) coil coating line no. 3, identified as CCL3, constructed in 1987, with a temporary total enclosure system surrounding the coating stations. Emissions captured by the temporary total enclosure system and generated within the bake oven are controlled by a thermal oxidizer. Total coating line emissions exhausting to Stacks 826.1 and 826.2.

One (1) thermal oxidizer system exhausting to Stacks 826.1;

Mix room

(4) One (1) mixing room of solvents for coil coating lines process vats, installed in 1972, with a maximum of coating and solvents usage of 240,000 tons per year, with no control, and exhausting to Stack 847.2;

(5) Ten (10) coating mix stations, identified as Mix Room Stations #1- #10, with a total of fourteen (14) 400 gallon tanks with flat lids. Each of the fourteen (14) total tanks is vertical fixed roof tank located inside Building 847 with no control devices;

Above ground tank farm

(6) Two (2) fixed roof above ground tanks, identified as tanks, 01 and 02, installed in 1997, with a maximum capacity of coatings or solvents storing 16,000 gallons, with no control, exhausting to Stacks 849.1 and 849.2;

(7) Six (6) fixed roof above ground tanks, identified as tanks, 03, 04, 05, 06, 07, and 08, installed in 1997, with a maximum capacity of coatings or solvents storing of 9,700 gallons, with no control, exhausting to Stacks 849.3 – 849.8;

(8) Four (4) fixed roof above ground tanks, identified as tanks, B, C, D, and E, installed in 1997, with a maximum capacity of coatings or solvents storing of 7,800 gallons, with no control, exhausting to Stacks 849.B – 849.E;

Process Support

(9) One (1) underground storage tank, identified as Hazardous Waste Storage Tank, installed in 1992 with a maximum capacity of 7,500 gallons with no control, exhausting to Stack 847.1. One (1) fixed roof above ground Unload tank, installed in 1996, with a maximum capacity of 8,000 gallons with no control, exhausting to stack 819.20;

(10) Two (2) fixed roof above ground tanks, identified as clear and gold electrocoat coating Dump Tanks, installed in 1996, with a maximum capacity of 20,000 gallons each, with no control, exhausting to Stacks 819.16 and 819.17;

(11) One (1) fixed roof above ground tank, identified as gold electrocoat coating Unload Tank, installed in 1996, with a maximum capacity of 8,000 gallons, with no control, exhausting to Stack 819.18;

(12) One (1) fixed roof above ground tank, identified as clear electrocoat coating Day Tank, installed in 1996, with a maximum capacity of 3,500 gallons, with no control, exhausting to stack 820.01;

(13) One (1) fixed roof above ground tank, identified as experimental electrocoat coating Day Tank, installed in 1996, with a maximum capacity of 3,500 gallons, with no control, exhausting inside the building to stack 820.02;

(14) One (1) fixed roof above ground tank, identified as gold electrocoat coating Day tank, installed in 1996, with a maximum capacity of 3,500 gallons, with no control, exhausting to Stack 819.19; and

(15) One (1) carbon silo, identified as 879 Carbon Silo, installed in 1998 with a maximum capacity of 50,000 pounds and a fill rate of 12.66 tons per hour, with no control, exhausting to Stack 877.4.

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

D.8.1 Particulate Emissions Limitations for Manufacturing Processes [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emissions rates from Carbon Silo shall be limited to 22.5 lbs/hr.

The above particulate emissions rate was determined from the following formula:

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

$$E = 4.10\ P^{0.67}$$

Where: E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour.

D.8.2 PSD Minor Limit [326 IAC 2-2]

(a) Pursuant to CP 173-3276, issued on July 14, 1994, the total amount of volatile organic compounds (VOC) delivered to the coater head of the coil coating line CCL2 shall be less than 7,675 tons per 365 consecutive day period, with compliance demonstrated at the end of each day (the overall control efficiency of the VOC capture and control system shall be no less than 96%). Compliance with these VOC limits and the thermal oxidizer's control efficiency of 96% shall render the requirements of Prevention of Significant Deterioration (PSD) rule, 326 IAC 2-2, not applicable for the coil coating line CCL2.

(b) Pursuant to Amendment A 173-5524 to CP 173-4501 issued on May 6, 1996:

(1) The total amount of volatile organic compounds delivered to the coil coating line CCL3 coater head applicator ("Input") shall be less than the amount determined by equation 1 using parameters from Table 1. In addition, the total amount of volatile organic compounds delivered to the coater head applicator shall be limited such that the calculated volatile organic compound emissions, calculated using equation 2, shall be less than 112 tons per 365 consecutive day period, with compliance

demonstrated at the end of each day.

Equation 1:

$$\text{Input Limit (tons/365 days)} = \sum_{y=1}^{365}\left(\frac{I_y}{365}\right)$$

Where:

I = the VOC input parameter from Table 1 on day y;

y = the day number in the 365-day roll;

Equation 2:

$$\text{Emission (tons/365 days)} = \frac{\sum_{y=1}^{365}(100\% - R)_y * \sum^{j}(L_i D_i W)_y}{(2{,}000 \text{ lbs / ton})}$$

Where:

y = the day number in the 365-day roll;

j = each subsequent coating and solvent consumed per day;

R = the most recently demonstrated overall reduction efficiency (ORE) on day 1;

L = the quantity of the coating/solvent consumed per day (gallons/day);

D = the density of the coating/solvent consumed (lb/gallon); and

W = the weight percent VOC content of the coating/solvent consumed (as a decimal fraction).

The Permittee may select alternate overall reduction efficiency/ VOC input parameter combinations from the following list of compliance options (Table 1):

| Compliance Option | Required ORE (%) | VOC input parameter (tons/365-days) |
|---|---|---|
| 1 | 98.0 | 5,600 |
| 2 | 98.25 | 6,400 |
| 3 | 98.5 | 7,467 |
| 4 | 98.75 | 8,960 |
| 5 | 99.0 | 11,200 |
| 6 | 99.25 | 14,933 |
| 7 | 99.5 | 22,400 |

The Permittee indicated its selection of Option #4, commencing on May 1, 2004. The Permittee may establish an alternate option through written notification to OAQ at least 14 days prior to the calendar month in which an alternate option is to begin being used for compliance purposes. This notification shall include the following:

(i) The compliance option presently being used, and the new option to be used;

(ii) The date on which the new compliance option is to take effect;

(iii) Documentation showing that the required ORE associated with the new compliance option is less than or equal to the most recently demonstrated ORE in testing conducted pursuant to 326 IAC 3-2.1 (Source Sampling Procedures) using test methods acceptable to the Commissioner; and

(iv) Calculated VOC emissions for the 365 – day period ending prior to submission of the notification.

(2) The enclosure room, the capture system, and the capture system fan's measuring and recording devices shall be operating properly at all times during actual coating operations, at an electrical current across one or more of the fans that provide ventilation exhaust from the coating enclosure that has been demonstrated to maintain an average facial velocity of at least 200 feet per minute across all natural draft openings as measured by EPA Method 204, Equation 204-3. All doors and windows not classified as natural draft openings remain closed at all times during actual coating operations except for brief periods to allow personnel entrance to and exit from the enclosure room All doors and windows not classified as natural draft openings remain closed at all times during actual coating operations except for brief periods to allow personnel entrance to and exit from the enclosure room, and to replace empty coating or solvent containers.

Compliance with these limits shall render the requirements of PSD rule 326 IAC 2-2 not applicable for the No. 3 coil coating line.

D.8.3 PSD Emission Limit [326 IAC 2-2]

Pursuant to PSD Permit PSD (87) 1549 issued on May 29, 1984:

(a) The total amount of VOC usage from the electro coat coil coating line CPL6 minus the VOC lost to the wastewater, shall not exceed 404 tons per twelve consecutive month period with compliance demonstrated at the end of each month;

(b) The Permittee shall measure the wastewater flow from the electro coat line (CPL6) continuously and record the flow totalizing meter each week. The Permittee shall procure VOC samples of the wastewater each week and analyze for VOC content in the wastewater. The VOC lost to the wastewater shall be calculated monthly by multiplying the monthly average VOC content of the wastewater by the total monthly metered flow; and

(c) The Permittee shall only use water based coatings in coil coating line CPL6.

D.8.4 General Provisions Relating to NESHAP [326 IAC 20-1] [40 CFR Part 63, Subpart A] [326 IAC 20-64] [40 CFR 63.5140]

The provisions of 40 CFR Part 63, Subpart A - General Provisions, which are incorporated by reference in 326 IAC 20-1, apply to all coating lines except when otherwise specified in 40 CFR Part 63, Subpart SSSS. Table 2 of 40 CFR 63 Subpart SSSS provides cross references to 40 CFR 63, Subpart A, indicating the applicability of the General Provisions requirements to 40 CFR 63, Subpart SSSS.

D.8.5 Coil Coating Lines Emission Limits [326 IAC 12] [326 IAC 20-64] [40 CFR 63.5120] [40 CFR 63.5140] [40 CFR 60.462] [326 IAC 8-2-4]

(a) The Permittee shall limit average equivalent organic HAP emissions from coil coating lines CCL2, CCL3, and CPL6 to the level specified in paragraphs (a)(1) of this condition, and also limit VOC emissions from coating line CPL6 to the level specified in (a)(2) of this condition:

(1) No more than 0.046 kilogram (kg) of organic HAP per liter of solids applied during each 12 - month compliance period; and

(2) No more than 0.28 kilogram (kg) of volatile organic compounds (VOC) per liter of solids applied for each calendar month.

(b) The coil coating lines CCL2 and CCL3 shall be in compliance with the standards in Condition D.8.5(a)(1) and the operating requirements in Condition D.8.6 at all times, except during periods of start-up, shutdown, and malfunction of any capture system and control device used to comply with the standards.

(c) The coil coating line CPL6 shall be in compliance with the standards in Condition D.8.5(a) and (b) at all times, including periods of start-up, shutdown, and malfunction.

D.8.6 Operating Requirements for Coil Coating Lines CCL2 and CCL3 [326 IAC 12] [326 IAC 20-64] [40 CFR Part 63.5121] [40 CFR 60.463]

The Permittee shall establish the operating limits during the performance test according to the requirements in 40 CFR 63.5160(d)(3).The Permittee shall meet the operating limits at all times after the operating limits are established except during periods of start-up, shutdown, and malfunction of any capture system and control device used to comply with the emission limits in Condition D.8.5. The Permittee must meet the applicable operating limits as described below:

(a) The Permittee shall not allow the average combustion temperature of the thermal oxidizer in any 3 – hour period to fall below the combustion temperature limit established according to 40 CFR 63.5160(d)(3)(i). The Permittee shall demonstrate continuous compliance with the operating limit by;

(1) collecting the combustion temperature data according to 40 CFR 63.5150(a)(3);

(2) reducing the data to 3 – hour block averages; and

(3) maintaining the 3 – hour average combustion temperature at or above the temperature limit.

(b) The Permittee shall develop a monitoring plan for the capture system that identifies the operating parameter to be monitored and specifies the operating limits according to 40 CFR 63.5150(a)(4) and conduct monitoring according to 40 CFR 63.5150(a)(4).

D.8.7 General Provisions Relating to Hazardous Air Pollutants [326 IAC 20-1] [40 CFR Part 63, Subpart A]

The provisions of 40 CFR Part 63, Subpart A- General Provisions, which are incorporated by reference as 326 IAC 20-1-1, apply to the affected source, except when otherwise specified by Table 12 to 40 CFR Part 63, Subpart EEEE.

D.8.8 National Emission Standards for Hazardous Air Pollutants: Organic Liquids Distribution, Non-Gasoline [326 IAC 20-83] [40 CFR Part 63, Subpart EEEE]

The Permittee which engages in the organic liquid coating of aluminum coils shall comply with the following provisions of 40 CFR Part 63, Subpart EEEE (included as Attachment A of this permit), with a compliance date of February 5, 2007:

(1) 40 CFR 63.2343(a),
(2) 40 CFR 63.2343(b)(1)(i),
(3) 40 CFR 63.2343(b)(ii)(B),
(4) 40 CFR 63.2343(b)(iii),
(5) 40 CFR 63.2343(b)(2)(i),
(6) 40 CFR 63.2343(b)(3), and
(7) 40 CFR 63.2343(d).

D.8.9 Organic Liquid Distribution Operations – Affected Sources [326 IAC 20-83] [40 CFR 63.2338]

The following emissions units comprise the affected source that is subject to 40 CFR 63, Subpart EEEE:

(a) Two (2) fixed roof above ground tanks, identified as tanks, 01 and 02;

(b) Six (6) fixed roof above ground tanks, identified as tanks, 03, 04, 05, 06, 07, and 08;

(c) Four (4) fixed roof above ground tanks, identified as tanks, B, C, D, and E;

(d) One (1) underground storage tank, identified as Hazardous Waste Storage Tank;

(e) One (1) fixed roof above ground tanks, identified as gold electrocoat coating Dump Tank; and

(f) One (1) fixed roof above ground tank, identified as gold electrocoat coating Unload Tank.

**Compliance Determination Requirements**

D.8.10 Compliance Determination Requirements

Compliance with the PSD Emission Limit in Condition D.8.3 shall be determined by combining the weekly samples and analyzing the composite of the weekly samples once per month.

D.8.11 Compliance Demonstration Requirements [326 IAC 12] [326 IAC 20-64] [40 CFR63.5170] [40 CFR 60.463] [326 IAC 8-2-4]

The Permittee shall include all coating materials (as defined in 40 CFR 63.5110) used in the coating lines when determining compliance with the applicable emission limit in Condition D.8.5.

Table - Compliance Demonstration Requirements Index

| **Coil Coating Lines** | **If the Permittee chooses to demonstrate compliance by:** | **Then the Permittee shall demonstrate that:** |
|---|---|---|
| Coating Lines CCL2, CCL3, and CPL6, in combination. | Use of a combination of “as applied” coatings and control devices and maintaining an acceptable equivalent emission rate. | Average equivalent emission rate does not exceed 0.046 kg HAP per liter solids on a rolling 12-month average as applied basis, determined monthly. [D.8.5(a)(1)]. |

Streamlined Compliance Demonstration for Combination of Coil Coating Lines CCL2, CCL3, and CPL 6

(a) Capture and control to achieve the emission rate limit [40 CFR 63.5170(g)] - Since the Permittee uses two capture systems, two thermal oxidizers, operate one never controlled coating line and limits the organic HAP emission rate to no more than 0.046 kg organic HAP emitted per liter of solids applied on a 12-month average as-applied basis, the Permittee must demonstrate compliance according to the procedures in paragraphs (a), (b), (c), (d), (e), (f), and (g) of this condition.

(b) The Permittee shall use the following procedures to determine the organic HAP emissions from coating lines CCL2 and CCL3:

(1) For each thermal oxidizer, each month of the 12-month compliance period, the Permittee shall:

(i) Monitor combustion temperature of the thermal oxidizers to ensure that the thermal oxidizers's destruction efficiencies are maintained [40 CFR 63.5170(g)(3)(i)];

(ii) Monitor fan motor current (amperes) for each fan specified in the capture monitoring plan as established in 40 CFR 63.5150(a)(4) to ensure capture efficiency [40 CFR 63.5170(g)(3)(ii)]; and

(iii) Determine the organic HAP emissions for coating lines CCL2 and CCL3 in accordance with the following [40 CFR 63.5170(g)(3)(iii)]:

(A) For each oxidizer, determine the oxidizer destruction efficiency, DRE, using the procedure in 40 CFR 63.5160(d) [40 CFR 63.5170(f)(1)(i)];

(B) Whenever a work station is operated, continuously monitor the combustion temperature in accordance with 40 CFR 63.5150(a)(3) [40 CFR 63.5170(f)(1)(ii)];

(C) Determine the capture system capture efficiency, CE, for each coating line in accordance with 40 CFR 63.5160(e) [40 CFR 63.5170(f)(1)(iii)];

(D) Whenever a coating line is operated, continuously monitor the fan motor current (amperes) established in accordance with 40 CFR 63.5150(a)(4) [40 CFR 63.5170(f)(1)(iv)];

(E) Calculate the overall organic HAP control efficiency, R, achieved using equation (7) [40 CFR 63.5170(f)(1)(v)]; and

$$R = 100 * \frac{\sum_{A=1}^{W}\left[\left(DRE_k\, CE_A\right) * \left(\sum_{i=1}^{p} M_{Ai} C_{vi} + \sum_{j=1}^{q} M_{Aj}\right)\right]}{\sum_{i=1}^{p} M_i C_{vi} + \sum_{j=1}^{q} M_j} \quad \text{(Eq. 7)}$$

Where:

$R$ = overall organic HAP control efficiency, percent;

$DRE_k$ = organic volatile matter destruction efficiency of the thermal oxidizer, k, percent;

$CE_A$ = organic volatile matter capture efficiency of the capture system for work station, A, percent;

$M_{Ai}$ = mass of coating material, i, applied on work station, A, in a month, kg;

$C_{vi}$ = volatile matter content of coating material, i, expressed as a weight fraction, kg/kg;

$M_{Aj}$ = mass of solvent, thinner, reducer, diluent, or other non-solids-containing coating material (including $H_2O$), j, applied on work station, A, in a month, kg;

$M_i$ = mass of coating material, i, applied in a month, kg;

$M_j$ = mass of solvent, thinner, reducer, diluent, or other non-solids-containing coating material (excluding $H_2O$), j, applied in a month, kg;

w = number of always-controlled work stations in the facility;

p = number of different coating materials applied in a month; and

q = number of different solvents, thinners, reducers, diluents, or other non-solids-containing coating materials applied in a month.

(F) Calculate the organic HAP emitted during the month, He, for each month for coating lines CCL2 and CCL3 using equation (8) [40 CFR 63.5170(f)(1)(ix)].

$$H_e = \sum_{A=1}^{w}\left[1-\left(DRE_k\,CE_A\right)*\left(\sum_{i=1}^{p}\left(C_{hi}\,M_{Ai}+\sum_{j=1}^{q}C_{hij}\,M_{Aij}\right)\right)\right] \qquad \text{Eq. (8)}$$

Where:

$H_e$ = total monthly organic HAP emitted, kg;

$DRE_k$ = organic volatile matter destruction efficiency of control device, k, percent;

$CE_A$ = organic volatile matter capture efficiency of the capture system for work station, A, percent;

$C_{hi}$ = organic HAP content of coating material, i, expressed as a weight-fraction, kg/kg;

$M_{Ai}$ = mass of coating material, i, applied on work station, A, in a month, kg;

$C_{hij}$ = organic HAP content of solvent, j, added to coating material, i, expressed as a weight fraction, kg/kg;

$M_{Aij}$ = mass of solvent, thinner, reducer, diluent, or other non-solids-containing coating material, j, added to solids-containing coating material, i, applied on work station, A, in a month, kg;

w = number of always-controlled work stations in the facility;

p = number of different coating materials applied in a month; and

q = number of different solvents, thinners, reducers, diluents, or other non-solids-containing coating materials applied in a month.

For periods when the thermal oxidizer has not operated within its established operating limit, the control device efficiency is determined to be zero.

(c) The Permittee shall use the following procedures for coating line CPL6 [40 CFR 63.5170 (g)(5)]:

(1) Each month of the 12-month compliance period the Permittee must determine the organic HAP applied on coating line CPL6 using equation 9. The organic HAP emitted from coating line CPL6 is equal to the organic HAP applied on coating line CPL6:

$$H_m = \sum_{A=1}^{x}\left(\sum_{i=1}^{p} C_{hi} M_{Ai} + \sum_{j=1}^{q} C_{hij} MA_{Aij}\right) \qquad \text{Eq. (9)}$$

Where:

$H_m$ = total monthly organic HAP applied on coating line CPL6, kg;

$C_{hi}$ = organic HAP content of coating material, i, expressed as a weight-fraction, kg/kg;

$M_{Ai}$ = mass of coating material, i, applied on coating line CPL6, A, in a month, kg;

$C_{hij}$ = organic HAP content of solvent, j, added to coating material, i, expressed as a weight fraction, kg/kg;

$M_{Aij}$ = mass of solvent, thinner, reducer, diluent, or other non-solids-containing coating material, j, added to solids-containing coating material, i, applied on coating line CPL6, A, in a month, kg;

x = number of uncontrolled coating line = 1;

p = number of different coating materials applied in a month; and

q = number of different solvents, thinners, reducers, diluents, or other non-solids-containing coating materials applied in a month.

(d) In each month of the 12-month compliance period, the Permittee shall determine the solids content of each coating material applied during the month following the procedure in 40 CFR 63.5160(c) [40 CFR 63.5170(g)(6)].

(e) The Permittee shall determine the organic HAP emissions for all coil coating lines for each 12-month compliance period by summing all monthly organic HAP emissions [40 CFR 63.5170(g)(7)].

(f) Organic HAP emission rate based on solids applied for the 12-month compliance period, $L_{ANNUAL}$. Calculate the organic HAP emission rate based on solids applied for the 12-month compliance period, $L_{ANNUAL}$, using Equation 6 of this section [40 CFR 63.5170(f)(1)(x):

$$L_{ANNUAL} = \frac{\sum_{y=1}^{12} H_e}{\sum_{y=1}^{12}\left[\sum_{i=1}^{p} C_{si} M_i\right]} \qquad \text{Eq. (6)}$$

Where:

$L_{ANNUAL}$ = mass organic HAP emitted per volume of solids applied for the 12-month compliance period, kg/liter;

$H_e$ = total monthly organic HAP emitted, kg;

$C_{si}$ = solids content of coating material, i, expressed as liter of solids/kg of material;

$M_i$ = mass of coating material, i, applied in a month, kg;

y = identifier for months; and

p = number of different coating materials applied in a month.

(g) Compare actual performance to performance required - The coating lines CCL2, CCL3, and CPL6 are in compliance with condition D.8.5(a) for the 12-month compliance period if all the operating parameters required to be monitored under paragraph (b)(1) of this condition were maintained at the values established in 40 CFR 63.5150; and the total mass of organic HAP emitted by the coating lines was not more than 0.046 kg HAP per liter of solids applied for the 12-month compliance period [40 CFR 63.5170(g)(8)].

<u>Coil Coating Line CPL6 (40 CFR 60, Subpart TT)</u>

(h) Calculate the volume-weighted average of the total mass of VOC's per unit volume of coating solids applied (G) during each calendar month for coil coating line CPL6 as follows:

(1) Calculate the volume-weighted average of the total mass of VOC's consumed per unit volume of coating solids applied (G) during each calendar month, except as provided under paragraph 40 CFR 60.463(c)(1)(iv) as follows:

(i) Calculate the mass of VOC's used (Mo+Md) during each calendar month by the following equation:

$$M_o + M_d = \sum_{i=1}^{n} L_{ci} D_{ci} W_{oi} + \sum_{j=1}^{m} L_{dj} D_{dj}$$

Where:

$M_o$ = Mass of VOC's in coatings consumed, as received in kilogram (kg) based on either formulation data supplied by the manufacturer, or by an analysis of each coating as specified by EPA Method 24;

$M_d$ = Mass of VOC-solvent added to the coatings, in kg;

$L_c$ = the volume of each coating consumed, as received in liters;

$L_d$ = the volume of each VOC-solvent added to the coatings in liters (l)

$W_o$ = the proportion of VOC's in each coating, as received (fraction by weight);

$D_d$ = density of each VOC-solvent added to the coatings (kg/l);

$\Sigma L_d j D_{dj}$ = will be 0 if no VOC solvent is added to the coatings, as received;

n = the number of different coatings used during calendar month, and

m = the number of different VOC solvents added to coatings used during the calendar month.

(ii) Calculate the total volume of coating solids used (Ls) in each calendar month by the following equation:

$$L_s = \sum_{i=1}^{n} V_{si} L_{ci}$$

Where:

Vs = the proportion of solids in each coating, as received (fraction by volume);

$L_c$ = the volume of each coating consumed, as received in liters;

$L_s$ = total volume of solids used in a calendar month; and

n = the number of different coatings used during the calendar month.

(iii) Calculate the volume-weighted average mass of VOCs used per unit volume of coating solids applied (G) during the calendar month by the following equation:

$$G = \frac{M_o + M_d}{L_s}$$

(2) If the volume-weighted average mass of VOC's emissions, adjusted for the amount of as-supplied VOC removed in the wastewater and other available material balance data for each calendar month (G) is less than or equal to 0.28 kg/l of coating solids applied, then the coil coating line CPL6 is in compliance with the standard. Each monthly calculation is a performance test.

(3) If each individual coating used in coil coating line CPL6 has a VOC content, as received, that is equal to or less than 0.28 kg/l of coating solids, coil coating line CPL6 is in compliance provided no VOCs are added to the coatings during distribution or application.

D.8.12 Testing Requirements [326 IAC 2-7-6(1), (6)] [326 IAC 2-1.1-11] [326 IAC 12] [326 IAC 20-1] [40 CFR 63, Subpart A] [326 IAC 20-64] [40 CFR 5160] [40 CFR 60.463]

(a) Organic HAP content and solids volume – The Permittee shall determine the organic HAP weight fraction of each coating material applied by following one of the procedures in paragraphs (a)(1) through (2) of this condition:

(1) Method 311 - The Permittee shall test the material in accordance with Method 311 of 40 CFR 63, appendix A. The Method 311 determination may be performed by the manufacturer of the material and the results provided to the Permittee. The organic HAP content must be calculated according to the criteria and procedures in paragraphs (a)(1)(i) through (iii) of this condition:

(i) Count only those organic HAP that are measured to be present at greater than or equal to 0.1 weight percent for Occupational Safety and Health Administration (OSHA)-defined carcinogens as specified in 29 CFR 1910.1200(d)(4) and greater than or equal to 1.0 weight percent for other organic HAP compounds;

(ii) Express the weight fraction of each organic HAP you count according to paragraph (b)(1)(i) of this condition as a value truncated to four places after the decimal point (for example, 0.3791); and

(iii) Calculate the total weight fraction of organic HAP in the tested material by summing the counted individual organic HAP weight fractions and truncating the result to three places after the decimal point (for example, 0.763).

(2) Formulation data - The Permittee may use the formulation data provided that the information represents each organic HAP present at a level equal to or greater than 0.1 percent for OSHA-defined carcinogens as specified in 29 CFR 1910.1200(d)(4) and equal to or greater than 1.0 percent for other organic HAP compounds in any raw material used, weighted by the mass fraction of each raw material used in the material. Formulation data may be provided to the Permittee by the manufacturer of the coating material. In the event of any inconsistency between test data obtained with the test methods specified in paragraphs (a)(1) through (2) of this condition and formulation data, the test data will govern.

(b) Solids content - The Permittee must determine the solids content of each coating material applied. The Permittee may determine the volume solids content using ASTM D2697–86 (Reapproved 1998) or ASTM D6093–97 (incorporated by reference, see §63.14), or an EPA approved alternative method. The ASTM D2697–86 (Reapproved 1998) or ASTM D6093–97 determination may be performed by the manufacturer of the material and the results provided to the Permittee. Alternatively, the Permittee may rely on formulation data provided by material providers to determine the volume solids.

(c) Within 5 years from the date of last compliance stack test or one hundred and eighty (180) days after issuance of this permit, whichever is later, the Permittee must conduct a performance test to establish the overall VOC removal efficiency across coating lines CCL2 and CCL3, according to the methods and procedures in 40 CFR 63.5160(d)(2) and (3)(iii). During the performance test, the Permittee must establish the combustion temperature of each thermal oxidizer, required by 40 CFR 63.5121, according to the methods and procedures in 40 CFR 63.5160(d)(3). This test shall be repeated at least once every five years from the date of the most recent valid compliance demonstration. Testing shall be

conducted in accordance with Section C - Performance Testing.

The Permittee shall use the data collected during the performance test to calculate and record the average combustion temperature maintained during the performance test for each thermal oxidizer. The average combustion temperature determined is the minimum operating limit for the thermal oxidizer.

(d) Within 5 years from the date of last compliance test or one hundred and eighty (180) days after issuance of this permit, whichever is later, the Permittee must conduct a performance test to establish the capture efficiency of each capture system, according to the methods and procedures in 40 CFR 63.5160(e)(2) and (3). During the performance test, the Permittee must establish the fan motor current (ampere) for each fan for each capture system, required by 40 CFR 63.5121, according to the methods and procedures in 40 CFR 63.5160(d)(3). This test shall be repeated at least once every five years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with Section C - Performance Testing.

The Permittee shall use the data collected during the performance test to calculate and record the average value of the fan motor current (ampere) maintained during the performance test for each fan for each capture system. The average ampere values determined for the fans of each capture system are the minimum operating limits for the coater to oven fan and the maximum operating limits for the floor sweeps fan. A fan amps range can be specified in the capture monitoring plan if a demonstration is included in the test report demonstrating the impact of the requested range on VOC emissions capture and removal efficiency.

**Compliance Monitoring Requirements [326 IAC 2-7-6 (1)] [326 IAC 2-7-5 (1)] [326 IAC 12] [326 IAC 20-1] [40 CFR 63, Subpart A] [326 IAC 20-64] [40 CFR 63.5150] [40 CFR 60.464]**

D.8.13 Thermal Oxidizer and Capture System Operating Parameters Monitoring

(a) The Permittee shall calibrate, maintain, and operate temperature monitoring equipment according to the manufacturer's specifications. Each temperature monitoring device shall be equipped with a continuous recorder. The device shall have an accuracy of 0.75 percent of the temperature being monitored in degrees Celsius, or 1 deg. Celsius, whichever is greater. [40 CFR 63.5150(a)(3)(i)] [40 CFR 60.464(c)]

(b) The Permittee shall collect the combustion temperature data according to 40 CFR 3.5150(a)(3); reduce the data to 3-hour block averages; and maintain the 3-hour average combustion temperature at or above the temperature limit.

(c) The records required by 40 CFR 60.7 shall identify each such occurrence and its duration.

(d) The Permittee shall develop a capture system monitoring plan containing the information specified in 40 CFR 63.5150(a)(4)(i) and (ii). The Permittee shall monitor the capture system in accordance with 40 CFR 63.5150 (a)(4)(iii). The monitoring plan shall be available for inspection by IDEM, OAQ upon request.

(1) The monitoring plan shall identify the operating parameter to be monitored to ensure that the capture efficiency measured during the initial compliance test is maintained, explain why this parameter is appropriate for demonstrating ongoing compliance, and identify the specific monitoring procedures.

(2) The plan also must specify operating limits at the capture system operating parameter value, or range of values, that demonstrates compliance with the standards in Condition D.8.5. The operating limits must represent the conditions indicative of proper operation and maintenance of the capture system.

(e) The Permittee has selected to monitor the fan motor current as a capture system operating parameter in the current capture system monitoring plan. The Permittee shall conduct monitoring in accordance with the plan, submitted to IDEM, OAQ.

(f) Any deviation from the required operating parameters, which are monitored in accordance with 40 CFR 63.5150 (a)(3) and (4), unless otherwise excused, will be considered a deviation from the operating limit.

**Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19] [326 IAC 12] [326 IAC 20-1] [40 CFR 63, Subpart A] [326 IAC 20-64] [326 IAC 20-83] [40 CFR 60.465] [40 CFR 63.5180] [40 CFR 63.5190]**

D.8.14 Record Keeping Requirements

(a) To document compliance with Conditions D.8.2, the Permittee shall maintain records as stated below and shall be complete and sufficient to establish compliance with the VOC usage limit established in Condition D.8.2 for coil coating lines CCL2 and CCL3.

The VOC content of each coating material and solvent used less water. Records shall include recorded VOC and HAP application rates and material safety data sheets (MSDS) necessary to verify the type and amount used.

(b) To document compliance with Conditions D.8.3, the Permittee shall maintain records as stated below and shall be complete and sufficient to establish compliance with the VOC usage limit established in condition D.8.3 for electro coat coil coating line CPL6.

The VOC content of each coating material and solvent used less water. Records shall include recorded VOC and HAP application rates and material safety data sheets (MSDS) necessary to verify the type and amount used.

(c) To document compliance with condition D.8.5, the Permittee shall maintain the records in accordance with 40 CFR 63.10(b)(1):

(1) Records specified in 40 CFR 63.10(b)(2) of all measurements needed to demonstrate compliance, including:

(i) Average combustion temperature and average fan motor current (ampere) data in accordance with 40 CFR 63.5150(a)(3), and (4), respectively;

(ii) Organic HAP content data for the purpose of demonstrating compliance in accordance with 40 CFR 63.5160(b);

(iii) Solids content data for the purpose of demonstrating compliance in accordance with 40 CFR 63.5160(c);

(iv) Overall control efficiency determination in accordance with 40 CFR 63.5160(d) and (e), and

(v) Material usage, HAP usage, volatile matter usage, and solids usage and compliance demonstrations using these data in accordance with 40 CFR 63.5170(g).

(2) Records specified in 40 CFR 63.10(b)(3).

(d) To document compliance with Conditions D.8.2, D.8.3, and D.8.5, the Permittee shall maintain records of all data and calculations used to determine the emission rates specified therein.

(e) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.8.15 Reporting Requirements [326 IAC 2-2] [326 IAC 20-1] [40 CFR 63, Subpart A] [326 IAC 12] [326 IAC 20-64] [40 CFR 63.5180] [40 CFR 60, Subpart TT]

(a) The Permittee shall submit the reports specified in paragraphs (a) (1) through (3) of this condition to the U.S. EPA Regional Office 5 and to IDEM, OAQ:

(1) Start-up, shutdown, and malfunction reports as specified in 40 CFR 63.10(d)(5) for coating lines CCL2 and CCL3. Separate start-up, shutdown, or malfunction reports are not required if the information is included in the report specified in the following paragraph (5) of this condition.

(2) Semi-annual compliance reports containing the information specified in 40 CFR 63.5180(g)(i) and (ii).

(3) For each deviation occurring at a coil coating line, the semi-annual compliance report containing the information in paragraphs 40 CFR 63.5180(g)(2)(i) through (iv) and the information in 40 CFR 63.5180 (h)(1) through (3).

(b) The Permittee shall submit the reports specified in paragraphs (b) (1) through (4) of this condition to IDEM, OAQ:

(1) Performance test reports as specified in 40 CFR 63.10(d)(2).

(2) Identify, record and submit a written report every calendar quarter of each instance in which the volume weighted average of the total mass of the VOCs emitted per volume of applied coating solids from coil coating line CPL6 is greater than the limit specified under 40 CFR 60.462. If no such instances have occurred during a particular quarter, a report stating this shall be submitted semiannually.

(3) A monthly summary of the information to document compliance with condition D.8.2, for coil coating lines CCL2 and CCL3 shall be submitted to the addresses listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported.

(4) A monthly summary of the information to document compliance with condition D.8.3 and D.8.10 for coil coating line CPL6 shall be submitted to the addresses listed in Section C - General Reporting Requirements, of this permit, using the reporting form located at the end of this permit, or its equivalent, within thirty (30) days after the end of the quarter being reported.

(c) These reports shall be submitted to the addresses listed in Section C - General Reporting Requirements, of this permit. The reports submitted by the Permittee require the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).

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

## VOC Usage Quarterly Report

Source Name: Alcoa Inc. - Warrick Operations
Source Address: Jct. IN Hwys. 66 & 61, Newburgh, Indiana 47629-0010
Mailing Address: Bldg. 860 E, P.O. Box 10, Newburgh, Indiana 47629
Part 70 Permit No.: T173-6627-0 0007
Facility: Coil Coating line CCL2
Parameter: VOC Usage
Limit: 7,675 tons/365-days of VOC input

Quarter:_____ Month:_____ Year:_____

| Day | This Day (Tons) | Previous 364 Days (Tons) | 365 Days Total (Tons) | Day | This Day (Tons) | Previous 364 Days (Tons) | 365 Days Total (Tons) |
|---|---|---|---|---|---|---|---|
| **1** | | | | **17** | | | |
| **2** | | | | **18** | | | |
| **3** | | | | **19** | | | |
| **4** | | | | **20** | | | |
| **5** | | | | **21** | | | |
| **6** | | | | **22** | | | |
| **7** | | | | **23** | | | |
| **8** | | | | **24** | | | |
| **9** | | | | **25** | | | |
| **10** | | | | **26** | | | |
| **11** | | | | **27** | | | |
| **12** | | | | **28** | | | |
| **13** | | | | **29** | | | |
| **14** | | | | **30** | | | |
| **15** | | | | **31** | | | |
| **16** | | | | | | | |

☐ No deviation occurred in this month.

☐ Deviation/s occurred in this month.

Deviation has been reported on: _____

Submitted by: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

Attach a signed certification to complete this report.

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

## VOC Usage Quarterly Report

Source Name: Alcoa Inc. - Warrick Operations
Source Address: Jct. IN Hwys. 66 & 61, Newburgh, Indiana 47629-0010
Mailing Address: Bldg. 860 E, P.O. Box 10, Newburgh, Indiana 47629
Part 70 Permit No.: T173-6627-00007
Facility: Coil Coating line CCL3
Parameter: VOC Usage
Limit: 112 tons/365-days

Quarter:_____ Month:_____ Year:_____

| Day | This Day (Tons) | Previous 364 Days (Tons) | 365 Days Total (Tons) | Day | This Day (Tons) | Previous 364 Days (Tons) | 365 Days Total (Tons) |
|---|---|---|---|---|---|---|---|
| **1** | | | | **17** | | | |
| **2** | | | | **18** | | | |
| **3** | | | | **19** | | | |
| **4** | | | | **20** | | | |
| **5** | | | | **21** | | | |
| **6** | | | | **22** | | | |
| **7** | | | | **23** | | | |
| **8** | | | | **24** | | | |
| **9** | | | | **25** | | | |
| **10** | | | | **26** | | | |
| **11** | | | | **27** | | | |
| **12** | | | | **28** | | | |
| **13** | | | | **29** | | | |
| **14** | | | | **30** | | | |
| **15** | | | | **31** | | | |
| **16** | | | | | | | |

☐ No deviation occurred in this month.

☐ Deviation/s occurred in this month.

Deviation has been reported on: _____

Submitted by: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

Attach a signed certification to complete this report.

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

## VOC Usage Quarterly Report

Source Name: Alcoa, Inc. - Warrick Operations
Source Address: Jct. IN Hwys. 66 & 61, Newburgh, Indiana 47629-0010
Mailing Address: Bldg. 860 E, P.O. Box 10, Newburgh, Indiana 47629
Operation Permit No.: T173-6627-00007
Facility: Electro Coat Coating Line CPL6
Parameter: VOC Usage
Limit: 404 tons per twelve (12) consecutive month period

**Quarter: _____Year: _____**

| Month | This Month (tons) | Previous 11 Months (tons) | 12 Month Total (tons) |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

☐ No deviation occurred in this month.

☐ Deviation/s occurred in this month.

Deviation has been reported on: _____

Submitted by: _____

Title/Position: _____

Signature: _____

Date: _____

Phone: _____

Attach a signed certification to complete this report.

# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
# OFFICE OF AIR QUALITY

## PART 70 OPERATING PERMIT
## CERTIFICATION

| | |
|---|---|
| Source Name: | Alcoa, Inc. - Warrick Operations |
| Source Address: | Jct. IN Hwys. 66 & 61, Newburgh, Indiana 47629-0010 |
| Mailing Address: | Bldg. 860 E, P.O. Box 10, Newburgh, Indiana 47629 |
| Operation Permit No.: | T173-6627-00007 |

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

Please check what document is being certified:

☐ Annual Compliance Certification Letter

☐ Test Result (specify)

☐ Report (specify)

☐ Notification (specify)

☐ Affidavit (specify)

☐ Other (specify)

| |
|---|
| I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. |
| Signature: |
| Printed Name: |
| Title/Position: |
| Phone: |
| Date: |

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

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

## PART 70 OPERATING PERMIT
## EMERGENCY OCCURRENCE REPORT

| | |
|---|---|
| Source Name: | Alcoa, Inc. - Warrick Operations |
| Source Address: | Jct. IN Hwys. 66 & 61, Newburgh, Indiana 47629-0010 |
| Mailing Address: | Bldg. 860 E, P.O. Box 10, Newburgh, Indiana 47629 |
| Operation Permit No.: | T173-6627-00007 |

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

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

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

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

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

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

| |
|---|
| Date/Time Emergency started: |
| Date/Time Emergency was corrected: |
| Was the facility being properly operated at the time of the emergency? Y N<br>Describe: |
| Type of Pollutants Emitted: TSP, PM-10, SO2, VOC, NOX, 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 AND ENFORCEMENT BRANCH

## PART 70 OPERATING PERMIT
### QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT

Source Name: Alcoa, Inc. - Warrick Operations
Source Address: Jct. IN Hwys. 66 & 61, Newburgh, Indiana 47629-0010
Mailing Address: Bldg. 860 E, P.O. Box 10, Newburgh, Indiana 47629
Operation Permit No.: T173-6627-00007

Months: _____ to _____ Year: _____



| | |
|---|---|
| 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". | |
| ☐ NO DEVIATIONS OCCURRED THIS REPORTING PERIOD. | |
| ☐ THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD | |
| **Permit Requirement** (specify permit condition #) | |
| **Date of Deviation:** | **Duration of Deviation:** |
| **Number of Deviations:** | |
| **Probable Cause of Deviation:** | |
| **Response Steps Taken:** | |
| **Permit Requirement** (specify permit condition #) | |
| **Date of Deviation:** | **Duration of Deviation:** |
| **Number of Deviations:** | |
| **Probable Cause of Deviation:** | |
| **Response Steps Taken:** | |

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

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

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

Form Completed By: _____

Title/Position: _____

Date: _____

Phone: _____

Attach a signed certification to complete this report.

# Indiana Department of Environmental Management
# Office of Air Quality

## Addendum to the Technical Support Document (TSD)
## for a Part 70
## Minor Source Modification and Significant Permit Modification

### Source Description and Location

| | |
|---|---|
| Source Name: | Alcoa Inc. - Warrick Operations |
| Source Location: | Jct. IN Hwys. 66 & 61, Newburgh, IN 47629 |
| County: | Warrick County |
| SIC Code: | 3334 and 3352 |
| Operation Permit No.: | T 173-6627-00007 |
| Operation Permit Issuance Date: | January 5, 2007 |
| Source Modification No.: | MSM 173-27188-00007 |
| Permit Modification No.: | SPM 173-27454-00007 |
| Permit Reviewer: | Timothy R. Pettifor / David J. Matousek |

### Public Notice Information

On April 9, 2009, the Office of Air Quality (OAQ) had a notice published in the Boonville Standard, in Boonville, Indiana 47601, stating that Alcoa Inc. - Warrick Operations had applied for a significant modification to their Part 70 Operating Permit issued on January 5, 2007. Alcoa Inc. - Warrick Operations applied to enlarge the #8 EMC Complex Melter 8M3 and the #8 EMC Complex West Holder 8WH. The notice also stated that OAQ proposed to issue a permit for this operation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

### Comments Received

OAQ received comments from the following people (and groups of people):

- Aloca, Inc. - Warrick Operations

The comments are summarized in the subsequent pages, with IDEM's corresponding responses.

The IDEM does not amend the Technical Support Document (TSD). The TSD is maintained to document the original review. This addendum to the TSD is used to document comments, responses to comments and changes made from the time the permit was drafted until a final decision is made.

### Alcoa Inc. - Warrick Operations Comments and IDEM's Responses

On May 1, 2009, OAQ received comments from Samuel H. Bruntz, on behalf of Alcoa Inc. - Warrick Operations. The summary of the comments and IDEM, OAQ responses, including changes to the permit (language deleted is shown in ~~strikeout~~ and language added is shown in **bold**) are as follows:

**Company Comment 1:**

Alcoa notes that IDEM has specified an allowable emission rate for NOx for the 8EMC east and west holding furnaces in Condition D.6.2(d) that is dependent on an emission factor from the most recent stack test, multiplied by the natural gas consumption for each furnace. However, Condition D.6.12 does not specify that stack test must be performed every five years for the 8EMC east holding furnace, which is not being modified. The 8EMC east holding furnace was last tested in 2003, and would require a re-test pursuant to Title V permit 6627 before 1/5/2010. Alcoa requests IDEM to clarify that the 2003 stack test derived NOx emission factor is to be used when calculating emissions from the 8EMC east holding furnace as specified by Condition D.6.2(d), or that Condition D.6.12 be amended to include a requirement that the 8EMC east holding furnace undergo stack test at five year intervals, as is the case for all other 8EMC furnaces.

**IDEM Response 1**

IDEM believes NOx testing of the 8EMC east holding furnace, on a repeating five year schedule, is appropriate. Condition D.6.12 has been revised to include this testing. Revisions to Condition D.6.12 are shown below:

D.6.12 Non NESHAP Emission Units Testing Requirements [326 IAC 2-7-6(1), (6)] [326 IAC 2-1.1-11]

...

(e) In order to demonstrate compliance with D.6.2(d), the Permittee shall perform NOx testing for the 8EMC west holding furnace (8WH), not later than one hundred eighty (180) days after initial startup of the modified 8EMC west holding furnace (8WH), **and for the 8EMC east holding furnace (8EH), not later than January 5, 2010,** 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. Testing shall be conducted in accordance with Section C - Performance Testing.

...

**Company Comment 2:**

Alcoa asks IDEM to confirm that the joint agreement and motion for stay of contested permit provisions, filed with the OEA on June 5, 2007, remains in effect. In the event that this modification affects, alters, or re-issues any portion of the Title V operating permit outside the changes identified in the TSD, Alcoa incorporates by reference all comments and issues raised in Alcoa's PETITION FOR ADJUDICATORY HEARING AND ADMINISTRATIVE APPEAL filed on February 6, 2007 with the OEA, which initiated the pending appeal of the Title V operating permit, Cause No. 07-A-J-3869. Alcoa further incorporates by reference any additional issues raised or addressed in the joint agreement and motion for stay of contested permit provisions for the same cause.

**IDEM Response 2**

IDEM confirms that the joint agreement and motion for stay remains in place. When a final negotiated settlement is reached between IDEM and Alcoa Inc. - Warrick Operations, IDEM will incorporate the agreed resolution of the appeal issues into the Part 70 Operating Permit.

## Other Changes

Upon further review, the OAQ has decided to make the following revisions to the permit:

**Change No. 1:**

The header of the draft Part 70 Operating Permit modification has been revised due to staff changes at IDEM. David Matousek is the contact for the permit modification. In addition, the significant permit modification cover letter has been revised to remove references to Timothy R. Pettifor with David J. Matousek.

**Change No. 2:**

Change 4 in the TSD references the renaming of several of IDEM's branches and sections. Not all of the changes were reflected in the draft permit. Specifically, the reporting forms and Condition B.11 were revised to replace references to the Compliance Data Section, Compliance Section and Compliance Branch with the Compliance and Enforcement Branch.

**Change No. 3:**

The source name on the significant permit modification letter was revised to match the title sheet of the draft Part 70 Operating Permit.

## IDEM Contact

Questions regarding this proposed permit can be directed to:

David J. Matousek
Indiana Department Environmental Management
Office of Air Quality
100 North Senate Avenue
MC 61-53, Room 1003
Indianapolis, Indiana 46204-2251
Toll free (within Indiana): 1-800-451-6027 extension 2-8253
Or dial directly: (317) 232-8253
dmatouse@idem.in.gov

Please refer to Minor Source Modification No.: 173-27188-00007 and Significant Permit Modification No.: 173-27454-00007 in all correspondence.

# Indiana Department of Environmental Management
# Office of Air Quality

## Technical Support Document (TSD) for a Part 70 Minor Source and Significant Permit Modification.

### Source Description and Location

| | |
|---|---|
| **Source Name:** | Alcoa Inc. - Warrick Operations |
| **Source Location:** | Jct. IN Hwys. 66 & 61, Newburgh, IN 47629 |
| **County:** | Warrick County |
| **SIC Code:** | 3334 and 3352 |
| **Operation Permit No.:** | T 173-6627-00007 |
| **Operation Permit Issuance Date:** | January 5, 2007 |
| **Source Modification No.:** | MSM 173-27188-00007 |
| **Permit Modification No.:** | SPM 173-27454-00007 |
| **Permit Reviewer:** | Timothy R. Pettifor |

### Source Definition

This company consists of two (2) plants:

(a) Alcoa aluminum production plant, the primary operation, is located at Jct. IN Hwys. 66 & 61, Newburgh, Indiana.

(b) Alcoa power plant, the supporting operation, is located at 4700 Darlington Road, Newburgh, Indiana.

Since the two (2) plants are located on contiguous properties, and are owned by one (1) company, they will be considered one (1) source.

Separate Part 70 permits will be issued to Alcoa Inc.- Warrick Operations and Alcoa Warrick Power Plant solely for administrative purposes.

These two plants have different plant identification numbers.

Alcoa Inc. – Warrick Operations, Plant ID # 173-00007
Alcoa Warrick Power Plant, Plant ID # 173-00002

### Existing Approvals

The source was issued Part 70 Operating Permit No. T173-6627-00007 on January 5, 2007. The source has since received the following approvals:

(a) Significant Source Modification No. 173-24020-00007, issued on September 24, 2007;

(b) Significant Permit Modification No. 173-24585-00007, issued on October 30, 2007;

(c) Exemption No. 173-25795-00007, issued on January 11, 2008;

(d) Significant Source Modification No. 173-26029-00007, issued on July 8, 2008;

(e) Significant Permit Modification No. 173-26037-00007, issued on July 25, 20008;

(f) Significant Source Modification No. 173-26942-00007, issued on December 10, 2008; and

(g) Significant Permit Modification No. 173-27019-00007, issued on December 30, 2008.

## County Attainment Status

The source is located in Warrick County.

| Pollutant | Designation |
|---|---|
| $SO_2$ | Cannot be classified. |
| CO | Unclassifiable or attainment effective November 15, 1990. |
| $O_3$ | Attainment effective January 30, 2006, for the Evansville area, including Warrick County, for the 8-hour ozone standard.[1] |
| $PM_{10}$ | Unclassifiable effective November 15, 1990. |
| $NO_2$ | Cannot be classified or better than national standards. |
| Pb | Not designated. |
| [1]Unclassifiable or attainment effective October 18, 2000, for the 1-hour ozone standard which was revoked effective June 15, 2005. Basic nonattainment designation effective federally April 5, 2005, for PM2.5. | |

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

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

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

(d) Fugitive Emissions
Since this type of operation is in one of the twenty-eight (28) listed source categories under 326 IAC 2-2 or 326 IAC 2-3, fugitive emissions are counted toward the determination of PSD and Emission Offset applicability.

## Source Status

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

| Pollutant | Emissions (tons/year) |
|---|---|
| PM | greater than 100 |
| PM10 | greater than 100 |
| PM2.5 | greater than 100 |
| $SO_2$ | greater than 100 |
| VOC | greater than 100 |
| CO | greater than 100 |
| $NO_x$ | greater than 100 |

(a) This existing source is a major stationary source, under PSD (326 IAC 2-2), because a regulated pollutant is emitted at a rate of 100 tons per year or more, and it is one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(gg)(1).

(b) This existing source is a major stationary source under nonattainment new source review rules (326 IAC 2-1.1-5) for $PM_{2.5}$ since direct $PM_{2.5}$ and $SO_2$, a precursor for $PM_{2.5}$, are emitted at a rate of 100 tons per year or more.

(c) These emissions are based upon Significant Source Modification No. 173-24020-00007, issued on September 24, 2007.

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

| HAPs | Potential To Emit (tons/year) |
|---|---|
| Single HAP | greater than 10 |
| Total HAPs | greater than 25 |

This existing source is a major source of HAPs, as defined in 40 CFR 63.41, because HAP emissions are greater than ten (10) tons per year for a single HAP and greater than twenty-five (25) tons per year for a combination of HAPs. Therefore, this source is a major source under Section 112 of the Clean Air Act (CAA).

## Description of Proposed Modification

The Office of Air Quality (OAQ) has reviewed a modification application, submitted by Alcoa Inc. - Warrick Operations on November 26, 2008, relating to the enlargement of 8M3 melt furnace and 8WH holding furnace. The maximum aluminum production rate of 8M3 will increase from 47 tons per hour to 60 tons per hour. The current maximum aluminum production rates for 8EH and 8WH are actually 46.02 tons/hour, each. The rate for 8WH will increase to 58.75 tons/hour as a part of this modification. Alcoa has proposed changes to permit conditions that regulate NOx, PM and PM10 emissions from the melters and holders in the 8EMC casting complex with respect to the emission factors. Alcoa also proposed that the typographical errors in permit No.173-6627-00007 be corrected. The following is a list of the proposed emission unit(s) and pollution control device(s):

<u>#8 EMC Ingot Casting Complex</u>

(1) One (1) group 1 furnace, identified as #8 EMC Complex Melter 8M3, constructed in 1985, with a maximum aluminum production rate of 60.0 tons per hour, approved for modification in 2009 with the addition of low NOx burners, emissions uncontrolled, and exhausting at Stack 134.89;

(2) One (1) group 1 furnace, identified as #8 EMC Complex West Holder 8WH, constructed in 1985, with a maximum aluminum production rate of 58.75 tons per hour, approved for modification in 2009 with the addition of low NOx burners, emissions uncontrolled, and exhausting at Stack 134.87.

## Enforcement Issues

There are no pending enforcement actions.

## Emission Calculations

See Appendix A of this document for detailed emission calculations.

## Permit Level Determination – Part 70

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

The following table is used to determine the appropriate permit level under 326 IAC 2-7-10.5. This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

| PTE Change of the Modified Process | | | |
|---|---|---|---|
| **Pollutant** | **PTE Before Modification** (ton/yr) | **PTE After Modification** (ton/yr) | **Net Difference** (ton/yr) |
| PM | 62.71 | 79.91 | 17.2 |
| $PM_{10}$ | 87.71 | 111.8 | 24.01 |
| $PM_{2.5}$ | 87.71 | 111.8 | 24.01 |
| $SO_2$ | 4.42 | 5.66 | 1.24 |
| VOC | 31.32 | 39.89 | 8.57 |
| CO | 38.2 | 47.8 | 9.6 |
| $NO_X$ | 47.56 | 37.63 | -9.93 |
| Worst Single HAP | >10 | >10 | >10 |
| Total HAPs | >25 | >25 | <25 |

The PTE of PM, PM10, and PM2.5 is greater than 5 tons per year but less than 25 tons per year. The source's HAP's emissions are limited by 40 CFR 63, Subpart RRR. Pursuant to 326 IAC 2-7-10.5(d)(3)(A) and 326 IAC 2-7-10.5(d)(5), this source modification will be a minor source modification. Additionally, the modification will be incorporated into the Part 70 Operating Permit through a significant permit modification issued pursuant to 326 IAC 2-7-12(d)(1), because this modification requires significant changes in existing Part 70 permit terms or conditions.

## Permit Level Determination – PSD and Nonattainment NSR

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

| **Process / Emission Unit** | **PM** (tpy) | **$PM_{10}$** (tpy) | **$PM_{2.5}$** (tpy) | **$SO_2$** (tpy) | **VOC** (tpy) | **CO** (tpy) | **$NO_X$** (tpy) |
|---|---|---|---|---|---|---|---|
| Emission Limits Before Modification | | | | | | | |
| 8EMC Melters (8M1, 8M2, 8M3) | 49.57 | 53.54 | 53.54 | -- | -- | -- | 63.18 |
| 8EMC Holders (8EH, 8WH) | 34.17 | 49.89 | 49.89 | | | | 15.89 |
| | | | | | | | |
| Emission Limits After Modification | | | | | | | |
| 8EMC Melters (8M1, 8M2, 8M3) | 49.57 | 53.54 | 53.54 | -- | -- | -- | 63.18 |
| 8EMC Holders (8EH, 8WH) | 34.17 | 49.89 | 49.89 | | | | 15.89 |
| **Total for Modification** | **0** | **0** | **0** | **0** | **0** | **0** | **0** |
| Significant Level | 25 | 15 | 10 | 40 | 40 | 100 | 40 |

There is no change in the combined emission limits of 8 EMC Melters and 8EMC Holders due to this modification. There are no increases in PM and $PM_{10}$ , and therefore there will not be a change in $PM_{2.5}$ .

This modification to an existing major stationary source is not major because there is no change in the emission limits under PSD Minor Limits. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

This modification to an existing major stationary source is not major for Nonattainment NSR because there are no increases in $PM_{2.5}$ and $SO_2$ emissions. Therefore, pursuant to 326 IAC 2-3 and 326 IAC 2-1.1-5, Nonattainment NSR requirements do not apply.

## Federal Rule Applicability Determination

(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 changes in the National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) applicable to this proposed modification.

## State Rule Applicability Determination

**326 IAC 2-2 and 2-1.1-5 (PSD and Non-attainment NSR)**
PSD and Non-attainment NSR applicability is discussed under the Permit Level Determination - PSD and Non-attainment NSR section.

## Compliance Determination and Monitoring Requirements

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

Determination Requirements are included in the permit. The Compliance Determination Requirements in Section D of the permit are those conditions that are found directly within state and federal rules and the violation of which serves as grounds for enforcement action.

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

There are no new Compliance Determination and Compliance Monitoring Requirements applicable to this modification at this time.

## Proposed Changes

The changes listed below have been made to Part 70 Operating Permit No. 173-6627-00007. Deleted language appears as ~~strikethroughs~~ and new language appears in **bold**:

Change 1:

SECTION D.6 INGOT PLANT AND SUPPORT 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.)

Under NESHAP Subpart RRR, the following emissions units are considered an existing secondary aluminum processing unit (SAPU):

.....

#8 EMC Ingot Casting Complex

(7) ~~Three (3)~~ **One (1)** group 1 furnace~~s~~, ~~each with a Pyrotek HD-2000 flux gas injector~~, identified as #8 EMC Complex Melter~~s~~ ~~8M1, 8M2 and~~ 8M3, constructed in 1985**,** with a maximum aluminum production rate of **60.0** ~~47~~ tons per hour ~~each~~, **approved for modification in 2009 with the addition of low NOx burners**, emissions uncontrolled, and exhausting at Stack~~s~~ ~~134.80~~, ~~134.84, and~~ 134.89~~, respectively~~;

**(8) Two (2) group 1 furnaces, identified as #8 EMC Complex Melters 8M1 and 8M2, constructed in 1985, with a maximum aluminum production rate of 47 tons per hour each, emissions uncontrolled, and exhausting at Stacks 134.84 and 134.80, respectively;**

~~(8)~~**(9) One (1)** ~~Two (2)~~ group 1 furnace~~s~~, identified as #8 EMC Complex East Holder 8EH ~~and West Holder 8WH~~, constructed in 1985, with a maximum aluminum production rate of ~~70~~ **46.02** tons per hour ~~each~~, emissions uncontrolled, and exhausting at Stack~~s~~ 134.83 ~~and 134.87~~, respectively;

**(10) One (1) group 1 furnace, identified as #8 EMC Complex West Holder 8WH, constructed in 1985, with a maximum aluminum production rate of 58.75 tons per hour, approved for modification in 2009 with the addition of low NOx**

**burners, emissions uncontrolled, and exhausting at Stack 134.87.**

**Upon start-up of the new rotary group 1 furnace, the one (1) group furnace, identified as #8 EMC Complex East Holder 8EH, constructed in 1985, with a maximum aluminum production rate of 46.02 tons per hour, emissions uncontrolled, and exhausting at Stack 134.83, shall be transferred from the existing secondary aluminum processing unit (SAPU) to the new secondary aluminum processing unit (SAPU);**

.....

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

D.6.2 PSD and Nonattainment New Source Review Minor Limitations [326 IAC 2-2] [326 IAC 2-1.1-5]

~~Pursuant to SSM 173-16034-00007 (issued March 28, 2003) and as revised by SPM 173-21817-00007 (issued in May 2006), Part 70 Operating Permit T 173-6627-00007 (issued January 5, 2007), and SPM 173-24585-00007, the following conditions shall apply:~~
**The Permittee shall comply with the following limits:**

8M1, 8M2, and 8M3 Melters

(a) ~~Nitrous~~ **Nitrogen** Oxides (NOx)

~~(1) Upon start-up of the modified Melter 8M1 with low NOx burners, the NOx emissions from Melter 8M1 shall not exceed 110.5 lbs per MMCF of natural gas. Until start-up of the modified Melter 8M1 with low NOx burners, the NOx emissions from Melter 8M1 shall not exceed 138.1 lbs per MMCF of natural gas~~.

~~(2) The NOx emissions from Melters 8M2 and 8M3 shall not exceed 138.1 lbs per MMCF of natural gas.~~

(~~3~~) The total NOx emissions from all Melters 8M1, 8M2, and 8M3 shall not exceed 63.18 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. The following equations shall be utilized to determine compliance:

~~Upon start-up of the modified Melter 8M1~~, ~~t~~ **T**he following equation shall be utilized to determine ~~compliance~~ **NOx emissions** :

NOx Emissions = (Z1*~~110.5~~ **A1** + Z2*~~138.1~~ **A2 + Z3*A3**)/2000

Where:

Z1 = the natural gas usage (MMCF) at Melter 8M1

Z2 = the natural gas usage (MMCF) at Melter~~s~~ 8M2 ~~and 8M3, combined~~

**Z3 = the natural gas usage (MMCF) at Melter 8M3**

**A1 = the N0x emission factor, as determined from the most recent compliance test performed for the 8M1 melt furnace, pursuant to Condition D.6.12(d).**

**A2 = the NOx emission factor, as determined from the most recent compliance test performed for the 8M2 melt furnace, pursuant to Condition D.6.12(d).**

**A3 before the modification = the NOx emission factor as determined from the most recent compliance test for the 8M3 melt furnace.**

**A3 after the modification = 110.5 pounds of NOx per MMCF of natural gas or the NOx emission factor as determined from the most recent compliance test for the 8M3 melt furnace after modification.**

~~Prior to start-up of the modified Melter 8M1 , the following equation shall be utilized to determine compliance:~~

~~NOx Emissions = (Z3* 138.1)/2000~~

~~Where:~~

~~Z3 = the natural gas usage (MMCF) at Melters 8M1, 8M2, and 8M3, combined~~

(b) Particulate Matter (PM)

~~(1) The PM emissions from Melters 8M1, 8M2, and 8M3 shall not exceed 0.12 lbs/ton of feed/charge for combined chlorine and flux salt input rates less than or equal to 1.29 lbs/ton of feed/charge and for charges that contain 12,000 pounds or less of purchased oily scrap;~~

~~(2) The PM emissions from Melters 8M1, 8M2, and 8M3 shall not exceed 0.16 lbs/ton of feed/charge for combined chlorine and flux salt input rates greater than 1.29 lbs/ton of feed/charge, but less than 2.35 lbs/ton of feed/charge, for charges that contain no purchased oily scrap;~~

~~(3) The PM emissions from Melters 8M1, 8M2, and 8M3 shall not exceed the allowable PM emission rate of 0.40 lbs/ton of feed/charge, as specified by 40 CFR 63.1505(k)(1) each, for combined chlorine and flux input rates greater than 1.29 lbs/ton of feed/charge but less than 2.27 lbs/ton of feed/charge that includes purchased oily scrap or for charges that contain greater than 12,000 pounds of purchased oily scrap but less than or equal to 26,667 pounds of purchased oily scrap;~~

~~(4) The combined chlorine and flux salt input rates shall not exceed 2.35 lbs/ton of feed/charge for charges that contain no purchased oily scrap;~~

~~(5)~~ The total PM emissions from all Melters 8M1, 8M2, and 8M3 shall not exceed 49.57 tons per twelve consecutive month period, with compliance determined at the end of each month. The following equation shall be utilized to determine ~~compliance~~ **PM Emissions**:

PM Emissions = (X1*A1 + X2*A2 ~~+ X3*A3~~)/2,000

Where:

X1 = tons of charges that contain ~~12,000~~ **24,876** pounds or less of purchased oily scrap and utilize ~~combined chlorine and~~ salt input rates less than or equal to ~~1.29~~ **1.65** lbs/ton of feed;

A1 = the PM emission factor for the X1 operating condition, as provided in the most recently approved Operating, Monitoring, and Maintenance plan (Per the ~~10/05~~ **12/07** OMM, this factor is 0.0943 lb/ton) **or the PM emission factor as determined from the most recent compliance test**;

X2 = tons of charges that contain no purchased oily scrap, **but do contain plastic banded scrap or alloy of less than or equal to 24,633 lbs per charge** and utilize ~~combined chlorine and~~ salt input rates less than or equal to **1.52** ~~2.35 lbs/ton of feed and greater than 1.29~~ lbs/ton of feed;

A2 = the PM emission factor for the X2 operating condition, as provided in the most recently approved Operating, Monitoring, and Maintenance plan (Per the ~~10/05~~ **12/07** OMM, this factor is ~~0.127~~ **0.158** lb/ton) **or the PM emission factor as determined from the most recent compliance test**;

~~X3 = tons of charges that contain greater than 12,000 pounds of purchased oily scrap but less than 26,667 pounds of purchased oily scrap, or contain purchased oily scrap and utilize combined chlorine and salt input rates less than or equal to 2.27 lbs/ton of feed and greater than 1.29 lbs/ton of feed; and~~

~~A3 = the PM emission factor for the X3 operating condition, as provided in the most recently approved Operating, Monitoring, and Maintenance plan (Per the 10/05 OMM, this factor is 0.297 lb/ton).~~

(c) Particulate Matter with aerodynamic diameter of less than or equal to 10 micrometers (PM10)

~~(1) The $PM_{10}$ emissions from Melters 8M1, 8M2, and 8M3 shall not exceed 0.13 lbs/ton of feed/charge for combined chlorine and flux salt input rates less than or equal to 1.29 lbs/ton of feed/charge;~~

~~(2) The $PM_{10}$ emissions from Melters 8M1, 8M2, and 8M3 shall not exceed 0.17 lbs/ton of feed/charge for combined chlorine and flux salt input rates greater than or equal to 1.29 lbs/ton of feed/charge, but less than 2.35 lbs/ton of feed/charge for charges that contain no purchased oily scrap;~~

~~(3) The $PM_{10}$ emissions from Melters 8M1, 8M2, and 8M3 shall not exceed the allowable PM emission rate of 0.40 lbs/ton of feed/charge, as specified by 40 CFR 63.1505(k)(1), multiplied by 1.08 for combined chlorine and flux input rates greater than 1.29 lbs/ton of feed/charge but less than 2.27 lbs/ton of feed/charge that includes purchased oily scrap, or for charges that contain greater than 12,000 pounds of purchased oily scrap but less than or equal to 26,667 pounds of purchased oily scrap;~~

~~(4) The combined chlorine and flux salt input rates shall not exceed 2.35 lbs/ton of feed/charge for charges that contain no purchased oily scrap;~~

~~(5)~~ The total $PM_{10}$ emissions from Melters 8M1, 8M2, and 8M3 shall not exceed 53.54 tons per twelve consecutive month period, with compliance determined at the end of each month. The following equation shall be utilized to determine ~~compliance~~ **$PM_{10}$ emissions**:

$PM_{10}$ Emissions = 1.08[(Y1*A1 + Y2*A2~~+ Y3*A3~~)]/2,000

Where:

Y1 = tons of charges that contain ~~12,000~~ **24, 876** pounds or less of purchased oily scrap and utilize combined chlorine and salt input rates less than or equal to ~~1.29~~ **1.65** lbs/ton of feed;

A1 = the ~~PM~~ **$PM_{10}$** emission factor for the Y1 operating condition, as provided in

the most recently approved Operating, Monitoring, and Maintenance plan (Per the ~~10/05~~ **12/07** OMM, this factor is 0.0943 lb/ton) **or the $PM_{10}$ emission factor as determined from the most recent compliance test**;

Y2 = tons of charges that contain no purchased oily scrap **but do contain plastic banded scrap or alloy of less than or equal to 24,633 lbs per charge**, and utilize ~~combined chlorine and~~ salt input rates less than or equal to ~~2.35~~ **1.52** lbs/ton ~~of feed and greater than 1.29 lbs/ton~~ of feed;

A2 = the ~~PM~~ **$PM_{10}$** emission factor for the Y2 operating condition, as provided in the most recently approved Operating, Monitoring, and Maintenance plan (Per the ~~10/05~~ **12/07** OMM, this factor is ~~0.127~~ **0.158** lb/ton) **or the $PM_{10}$ emission factor as determined from the most recent compliance test**;

~~Y3 = tons of charges that contain greater than 12,000 pounds of purchased oily scrap but less than 26,667 pounds of purchased oily scrap, or contain purchased oily scrap and utilize combined chlorine and salt input rates less than or equal to 2.27 lbs/ton of feed and greater than 1.29 lbs/ton of feed; and~~

~~A3 = the PM emission factor for the Y3 operating condition, as provided in the most recently approved Operating, Monitoring, and Maintenance plan (Per the 10/05 OMM, this factor is 0.297 lb/ton).~~

<u>8EMC East Holding Furnace and 8EMC West Holding Furnace</u>

(d) ~~Nitrous~~ **Nitrogen** Oxides (NOx)

~~(1) Upon start-up of the modified 8EMC east holding furnace with low NOx burners, the NOx emissions from the 8EMC east holding furnace shall not exceed 88.3 lb per MMCF of natural gas. Until start-up of the modified 8EMC east holding furnace with low NOx burners, the NOx missions from the 8EMC east holding furnace shall not exceed 147.1 lb per MMCF of natural gas.~~

~~(2) The NOx emissions from the 8EMC west holding furnace shall not exceed 147.1 lb per MMCF of natural gas.~~

~~(3)~~ The total NOx emissions from both the 8EMC east holding furnace and west holding furnace shall not exceed 15.89 tons per twelve (12) consecutive month period, with compliance determined at the end of each month. The following equations shall be used to determine compliance:

~~Upon start-up of the modified 8EMC east holding furnace, t~~ **T**he following equation shall be utilized to determine ~~compliance~~ **NOx emissions** :

NOx Emissions = (Y1*~~88.3~~ **A1** + Y2*~~147.1~~ **A2**)/2000

Where:

Y1 = the natural gas (MMCF) usage at 8EMC east holding furnace

**A1 = the NOx emission factor as determined from the most recent compliance test for the 8EMC east holding furnace.**

Y2 = the natural gas (MMCF) usage at 8EMC west holding furnace

**A2 before the modification = the NOx emission factor as determined from the most recent compliance test for the 8EMC west holding furnace.**

**A2 after the modification = 88.3 lbs of NOx per MMCF of natural gas or the NOx emission factor as determined from the most recent compliance test for the 8EMC west holding furnace.**

~~Prior to start-up of the modified 8EMC east holding furnace, the following equation shall be utilized to determine compliance:~~

~~NOx Emissions = (Y3 *147.1)/2000~~

~~Where:~~

~~Y3 = the natural gas usage (MMCF) at the 8EMC east and west holding furnaces, combined~~

.....

D.6.12 Non NESHAP Emission Units Testing Requirements [326 IAC 2-7-6(1), (6)] [326 IAC 2-1.1-11]

.....

(b) No later than January 5, 2010 or within 5 years from the date of the last valid compliance test, whichever is later, the Permittee shall perform NOx testing on a representative ~~8EMC melter (8M2 or 8M3), 8EMC west holding furnace, and~~ #1 complex holder (east holding furnace or west holding furnace). These tests shall be repeated at least once every five (5) years from the date of the last valid compliance demonstration. Testing shall be conducted in accordance with Section C- Performance Testing.

(c) In order to demonstrate compliance with D.6.2(a)~~(1),~~ the Permittee shall perform NOx testing for the 8EMC Melter 8M~~1~~**3**, **before it is modified no later than January 5, 2010 and** ~~within ninety (90) days after achieving the maximum capacity, but~~ not later than one hundred eighty (180) days after initial startup of the modified ~~8M1~~ **8M3** melter, 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. Testing shall be conducted in accordance with Section C - Performance Testing.

**(d) No later than January 5, 2010, in order to demonstrate compliance with D.6.2(a), the Permittee shall perform NOx testing for the 8EMC Melter 8M1 and 8EMC Melter 8M2, 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. Testing shall be conducted in accordance with Section C - Performance Testing.**

~~(d)~~**(e)** In order to demonstrate compliance with D.6.2(d)~~(1)~~, the Permittee shall perform NOx testing for the 8EMC ~~east~~ **west** holding furnace (8~~E~~**W**H), ~~within ninety (90) days after achieving the maximum capacity, but~~ not later than one hundred eighty (180) days after initial startup of the modified 8EMC ~~east~~ **west** holding furnace (8~~E~~**W**H), 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. Testing shall be conducted in accordance with Section C - Performance Testing.

.....

Change 2: Alcoa has also requested the following permit conditions be amended as follows.

D.6.5 PSD and Nonattainment New Source Review Minor Limitations [326 IAC 2-2] [326 IAC 2-1.1-5]

The following limits shall apply to the Rotary Group 1 operation:

(a) Particulate Matter (PM)

.....

(2) Total PM emissions when processing dross only shall not exceed 0.673 pound per ton of charge/feed ~~for salt flux input rates of less than or equal to 356.36 lbs/ton of charge/feed~~.

(3) Total PM emissions when processing any amount of scrap shall not exceed 0.702 pound per ton of charge/feed ~~for salt flux input rates of less than or equal to 356.36 lbs/ton of charge/feed~~.

.....

(b) Particulate Matter with aerodynamic diameter of less than or equal to 10 micrometers (PM10).

.....

(2) Total PM10 emissions when processing dross only shall not exceed 0.558 pound per ton of charge/feed ~~for salt flux input rates of less than or equal to 356.36 lbs/ton of charge/feed~~.

(3) Total PM10 emissions when processing any amount of scrap shall not exceed 0.582 pound per ton of charge/feed ~~for salt flux input rates of less than or equal to 356.36 lbs/ton of charge/feed~~.

.....

Change 3: The typographical errors in the permit have been corrected accordingly.

SECTION D.1 ALUMINA & ALUMINUM FLUORIDE HANDLING SYSTEM

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.)

Central Alumina and Aluminum Fluoride Handling System:

.....

(4) One (1) alumina/aluminum fluoride storage tank, identified as Tank 62, constructed in 1969, with a maximum storage capacity of 1,800 tons and a transfer rate of **500** ~~225~~ tons per hour. The Tank 62 Feed Conveyor discharge into Tank 62 is controlled by Tank 62 Baghouse (top of tank), exhausting at Stack 62.1. The Tank 62 discharge to Transfer Tower 61B Feed Conveyor (Section 3) occurs in an enclosed building. This transfer point does not exhaust to a baghouse. The 112A Passageway Conveyor is controlled by BC-24 Baghouse (Tank 62 baghouse, ground level), exhausting at Stack 62.2.

Two (2) alumina/aluminum fluoride Tank 62 baghouses, identified as Tank 62 Baghouse (top of tank) and Baghouse BC-24 (Tank 62 baghouse, ground level), with maximum gas flow rates of 3,000 and 710 acfm at $70^0$F, respectively, and exhausting at Stacks 62.1 and 62.2, respectively;

.....

Potlines 1 and 2 Alumina and Alumina Fluoride Handling System:

.....

(6) One (1) Transfer Tower 61B transferring alumina and aluminum fluoride from the Transfer Tower 61B Feed Conveyor to 104 passageway Conveyor, constructed in 1969, with a maximum capacity of **275** ~~225~~ tons per hour, with the feed and discharge points into/out of Transfer Tower 61B controlled by Transfer Tower 61B Baghouse, and exhausting at Stack 61B.1;

(7) One (1) railcar/truck unloading system transferring alumina and aluminum fluoride to 104 Passageway Conveyor, identified as Building 140 Unloading, constructed in 1958, with a maximum capacity of **275** ~~225~~ tons per hour, controlled by Building 140 Baghouse, and exhausting at Stack 140.1.

.....

(11) One (1) tank transferring alumina to fresh alumina Tanks 160M.1 and 160M.2, identified as Tank 144, constructed in 1956, with a maximum storage capacity of 2,235 tons and a transfer rate of **240** ~~225~~ tons per hour, controlled by 144A Baghouse, and exhausting at Stack 144.1;

(12) One (1) tank transferring alumina to reacted alumina Tank 141A(NE), identified as Tank **141BS** ~~141BN~~, constructed in 1969, with a maximum storage capacity of **300** ~~985~~ tons and a discharge rate of 5 tons per hour, controlled by 144A Baghouse, and exhausting at Stack 144.1;

(13) One (1) #8 Screw Conveyor transferring aluminum fluoride **and alumina** from Bucket Elevator 141A and Bucket Elevator 141B to Tanks 141CN, 141CS, 141D, 141E, and 141F, constructed in 1969, with a maximum conveying rate of 200 tons per hour, controlled by 144A Baghouse, and exhausting at Stack 144.1;

(14) **Seven (7)** ~~Five (5)~~ tanks, identified as Tanks 141BN, 141BS, 141CN, 141CS, 141D, 141E, and 141F, constructed in 1969, with a maximum capacity of 985 tons each, 144A Baghouse, and exhausting at Stack 144.1;

.....

(19) One (1) fresh alumina tank for the supply of alumina to the Potline #2 C1 fluidized bed dry scrubber and baghouse, identified as Tank 160M.1, with a capacity of 650 tons, constructed in 1962, controlled by Potline #2 C1 Pollution Control System, and exhausting at Stacks 160C.1 through **160C.36** ~~160C.37~~;

Potlines 3, 4, 5, and 6 Alumina and Aluminum **Fluoride** ~~Fluroide~~ Handling System:

.....

(37) Transfer of reacted alumina from Potline #6 B6 Pollution Control System for fluoride control to Airslide 166-FM-03 via Airslide 161-B6-FM-01 to Airlift 166-B6-FM-AE-01, thence to Vibratory Screen 166-B6-FM-SC-01, and thence to Airslide 166-FM-03. All of this equipment except for Airslide 166-FM-03 has a maximum capacity of 20 tons per hour, was constructed in **2000** ~~1969~~, and is controlled by Baghouse 166, exhausting at Stack 166.1;

(38) Transfer of reacted alumina from the Potline #5 B5 pollution control system for fluoride control to reacted alumina Airslide 161-B5-FM-01, thence to Airlift 161-B5-FM-AE-01, thence to Vibratory Screen 61-B5-FM-SC-01, thence to the feedbox for Airslide 166-FM-05 and Airslide 166-FM-06. All of this equipment except for the feedbox for Airslide 166-FM-05 and Airslide 166-FM-06 has a maximum capacity of 20 tons per hour, was constructed in **2000** ~~1969~~, and is controlled by the Baghouse 166, exhausting at Stack 166.1;

.....

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

D.1.1 Particulate Emissions Limitations for Manufacturing Processes [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3 (Particulate Emissions Limitations for Manufacturing Processes), the allowable PM emission rate from the below listed processes shall be limited as follows:

| Facility | Control Device | Maximum Process Weight Rate (tons/hr) | PM Emission Limit (lbs/hr) |
|---|---|---|---|
| Equipment controlled by Baghouse112A | | | |
| (1) 112A Passageway Conveyor | Baghouse112A | 402 | 66.37 |
| (2) Airlift 150-FM-AE01 | | | |
| (3) Airlift 150-FM-AE02 | | | |
| (4) Airslide 151 | | | |
| (5) Tank 151H | | | |
| (6) Unloading Station B**L**-08 | | | |
| (7) Dense Phase Transporter VS-01 | | | |
| (8) Feed Box 166-FM-08 | | | |
| (9) Airslide 166-FM-09 | | | |
| (10) Tank 151A Distribution Box 151-FM-1A | | | |
| (11) Airslide 166-FM-10 | | | |
| (12) Tank 151B Distribution Box 151-FM-1B | | | |
| (13) Tanks 151A and 151B | | | |

.....

SECTION D.6 INGOT PLANT AND SUPPORT 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.)

Under NESHAP Subpart RRR, the following emissions units are considered an existing secondary aluminum processing unit (SAPU):

#1 Coil Casting Complex

(1) ~~Three (3)~~ **One (1)** group 1 furnace~~s~~, identified as #1 Casting Complex ~~1M1,~~ 1M2 ~~and 1M3~~, constructed in 1973, with a maximum aluminum production rate of 6.85 tons per hour each, when used for producing cast coils and 49 tons per hour, when used as off-line melters, emissions uncontrolled, and exhausting at Stack~~s 134.62,~~ 134.64~~, and 134.67, respectively~~;

.....

Under NESHAP Subpart RRR, the following emissions units are considered a new secondary aluminum processing unit (SAPU):

.....

(13) One (1) in-line fluxer, identified as 8EMC 8WH 4-rotor A622 in-line degassing unit, replacing the one (1) 8EMC 8WH 3-rotor A662 in-line degassing unit, constructed in 2005, with a maximum aluminum production rate of 70**.5** tons per hour, emissions uncontrolled, and exhausting at Stack 134.87;

.....

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

.....

SECTION D.8 COATING PLANT 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.)

.....

(2) One (1) coil coating line no. 2, identified as CCL2, constructed in 1987, with a temporary total enclosure system surrounding the coating stations. Emissions captured by the temporary total enclosure system and generated within the bake oven are controlled by a thermal oxidizer. Total coating line emissions exhausting to Stacks **826.5 and** 826.6.

One (1) thermal oxidizer system exhausting to Stacks 826.5 ~~and 826.6~~;

.....

Process Support

(9) One (1) underground storage tank, identified as Hazardous Waste Storage Tank, installed in 1992 with a maximum capacity of 7,500 gallons with no control, exhausting to Stack 847.1**. One (1) fixed roof above ground Unload tank, istalled in 1996, with a maximum capacity of 8,000 gallons with no control, exhausting to stack 819.20**;

.....

(13) One (1) fixed roof above ground tank, identified as experimental electrocoat coating Day Tank, installed in 1996, with a maximum capacity of 3,500 gallons, with no control, exhausting inside the building **to stack 820.02**;

.....

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

.....

D.8.9 Organic Liquid Distribution Operations – Affected Sources [326 IAC 20-83] [40 CFR 63.2338]

The following emissions units comprise the affected source that is subject to 40 CFR 63, Subpart EEEE:

.....

(b) Six (6) fixed roof above ground tanks, identified as tanks, **03, 04,** 05, 06, 07, **and 08** ~~A~~;

.....

Change 4: Several of IDEM's Branches and sections have been renamed. Therefore, IDEM has updated the addresses listed in the permit. References to Permit Administration and Development Section and the Permits Branch have been changed to Permit Administration and Support Section. References to Asbestos Section, Compliance Data Section, Air Compliance Section, and Compliance Branch have been changed to Compliance and Enforcement Branch.

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

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

Change 5: Conditions B.21 and C.19 have been updated.

B.21 Source Modification Requirement [326 IAC 2-7-10.5]

~~(a)~~ A modification, construction, or reconstruction is governed by the requirements of 326 IAC 2 ~~and 326 IAC 2-7-10.5~~.

~~(b) Any modification at an existing major source is governed by the requirements of 326 IAC 2-2 and/or 326 IAC 2-3 (for sources located in NA areas).~~

...

C.19 General Reporting Requirements [326 IAC 2-7-5(3)(C)] [326 IAC 2-1.1-11] [326 IAC 2-2] [326 IAC 2-3]

(a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported. This report shall be submitted within thirty (30) days of the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(b) The report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted to:

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

(c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

(d) Unless otherwise specified in this permit, all reports required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. All reports do require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(e) 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, unless otherwise specified in this permit. For the purpose of this permit “calendar year” means the twelve (12) month period from January 1 to December 31 inclusive.

~~(f) If the Permittee is required to comply with the recordkeeping provisions of (d) in Section C – General Record Keeping Requirements for any "project" (as defined in 326 IAC 2-2-1(qq) and/or 326 IAC 2-3-1(ll)) at an existing Electric Utility Steam Generating Unit, then for that project the Permittee shall:~~

~~(1) Submit to IDEM, OAQ a copy of the information required by (c)(1) in Section C – General Record Keeping Requirements~~

~~(2) Submit a report to IDEM, OAQ within sixty (60) days after the end of each year during which records are generated in accordance with (d)(1) and (2) in Section C – General Record Keeping Requirements. The report shall contain all information and~~

~~data describing the annual emissions for the emissions units during the calendar year that preceded the submission of report.~~

~~Reports required in this part shall be submitted to:~~

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

~~(g)~~**(f)** If the Permittee is required to comply with the recordkeeping provisions of (d) in Section C – General Record Keeping Requirements for any "project" (as defined in 326 IAC 2-2-1(qq) and/or 326 IAC 2-3-1(ll)) at an existing emissions unit ~~other than an Electric Utility Steam Generating Unit~~, and the project meets the following criteria, then the Permittee shall submit a report to IDEM, OAQ:

(1) The annual emissions, in tons per year, from the project identified in (c)(1) in Section C – General Record Keeping Requirements exceed the baseline actual emissions, as documented and maintained under Section C – General Record Keeping Requirements (c)(1)(C)(i), by a significant amount, as defined in 326 IAC 2-2-1(xx) and/or 326 IAC 2-3-1(qq), for that regulated NSR pollutant, and

(2) The emissions differ from the preconstruction projection as documented and maintained under Section C – General Record Keeping Requirements (c)(1)(C)(ii).

~~(h)~~**(g)** The report for a project at an existing emissions unit other than Electric Utility Steam Generating Unit shall be submitted within sixty (60) days after the end of the year and contain the following:

(1) The name, address, and telephone number of the major stationary source.

(2) The annual emissions calculated in accordance with (d)(1) and (2) in Section C – General Record Keeping Requirements.

(3) The emissions calculated under the actual-to-projected actual test stated in 326 IAC 2-2-2(d)(3) and/or 326 IAC 2-3-2(c)(3.

(4) Any other information that the Permittee deems fit to include in this report,

Reports required in this part shall be submitted to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality

100 North Senate Avenue
MC 61-53, IGCN 1003
Indianapolis, Indiana 46204-2251

~~(i)~~**(h)** The Permittee shall make the information required to be documented and maintained in accordance with (c) in Section C- General Record Keeping Requirements available for review upon a request for inspection by IDEM, OAQ. The general public may request this information from the IDEM, OAQ under 326 IAC 17.1.

## Conclusion and Recommendation

The construction of this proposed modification shall be subject to the conditions of the attached proposed Part 70 Minor Source Modification No. 173-27188-00007 and Significant Permit Modification No. 173-27454-00007. The staff recommends to the Commissioner that this Part 70 Minor Source and Significant Permit Modification be approved.

Appendix A: Emission Summary

Company Name: Alcoa, Inc.-Warrick Operations

Address: Jct. IN Hwys. 66 & 61, Newburgh, Indiana 47629-0010

Source Modification #: 173-27188-00007

Permit Modification #: 173-27454-00007

Reviewer: Timothy R. Pettifor

Date: March 25, 2009

**Before Modification**

| Uncontrolled Potential to Emit (tons/year) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Process/ Emission Unit** | **PM** | **PM10/ PM2.5** | **SO2** | **NOx** | **VOC** | **CO** | **Single HAP** | **Total HAPs** |
| 8M3 | 15.85 | 17.09 | 4.12 | 2.06 | 28.82 | _ | _ | _ |
| 8M3-Combustion | 0.7 | 2.7 | 0.2 | 35 | 1.9 | 29.4 | <1 | <1 |
| Fluxing | 45.96 | 67.12 | _ | _ | _ | _ | 41.93 (HCL) | 41.93 |
| Holding Furnace | 0.2 | 0.8 | 0.1 | 10.5 | 0.6 | 8.8 | <1 | <1 |
| Total | 62.71 | 87.71 | 4.42 | 47.56 | 31.32 | 38.2 | <1 | <1 |

**After Modification**

| Uncontrolled Potential to Emit (tons/year) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Process/ Emission Unit** | **PM** | **PM10/ PM2.5** | **SO2** | **NOx** | **VOC** | **CO** | **Single HAP** | **Total HAPs** |
| 8M3 | 20.24 | 21.81 | 5.26 | 2.63 | 36.79 | _ | _ | _ |
| 8M3-Combustion | 0.8 | 3.3 | 0.3 | 21.9 | 2.4 | 36.8 | <1 | <1 |
| Fluxing | 58.67 | 85.69 | _ | _ | _ | _ | 53.52 | 52.53 |
| Holding Furnace | 0.2 | 1 | 0.1 | 13.1 | 0.7 | 11 | <1 | <1 |
| Total | 79.91 | 111.8 | 5.66 | 37.63 | 39.89 | 47.8 | <1 | <1 |

**Net Difference**

| Uncontrolled Potential to Emit (tons/year) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Process/ Emission Unit** | **PM** | **PM10/ PM2.5** | **SO2** | **NOx** | **VOC** | **CO** | **Single HAP** | **Total HAPs** |
| Total | 17.2 | 24.09 | 1.24 | -9.93 | 8.57 | 9.6 | >10 | <25 |

**Appendix A: Secondary Metal Production**
**Aluminum**

**Company Name:** Alcoa, Inc.-Warrick Operations
**Address City IN Zip:** Jct. IN Hwys. 66 & 61, Newburgh, Indiana 47629-001
**Source Modification Number:** 173-27188-00007
**Permit Modification Number:** 173-27454-00007
**Reviewer:** Timothy R. Pettifor
**Date:** 25-Mar-2009

**Potential 8M3 Emissions Before Modification**

SCC# 3-04-001-14
Pouring/Casting

| TYPE OF MATERIAL | Throughput TON/HR |
|---|---|
| Aluminum | 47 |

| | **PM lbs/ton metal charged | **PM10/PM2.5 lbs/ton metal charged | SOx * lbs/ton metal charged | lbs/ton metal charged | VOC * lbs/ton metal charged | CO lbs/tons metal charged |
|---|---|---|---|---|---|---|
| | 0.077 | 0.083 | 0.02 | 0.01 | 0.14 | -- |
| Potential Emissions lbs/hr | 3.619 | 3.901 | 0.94 | 0.470 | 6.580 | -- |
| Potential Emissions lbs/day | 86.856 | 93.624 | 22.56 | 11.280 | 157.920 | -- |
| Potential Emissions tons/year | 15.85 | 17.09 | 4.12 | 2.06 | 28.82 | -- |

** Emission factors are from Alcoa's Operating, Monitoring, and Maintenance plan. * Note: Emission factor is from FIRE version 6.01.
Emission factors which are not denoted by a "*" are from older versions of FIRE and were not included in FIRE version 6.01 for various reasons.

**Appendix A: Secondary Metal Production**
**Aluminum**

**Company Name:** Alcoa, Inc.-Warrick Operations
**Address City IN Zip:** Jct. IN Hwys. 66 & 61, Newburgh, Indiana 47629-0010
**Source Modification Number:** 173-27188-00007
**Permit Modification Number:** 173-27454-00007
**Reviewer:** Timothy R. Pettifor
**Date:** 16-Mar-2009

**Potential 8M3 Emissions After Modification**

SCC# 3-04-001-14
Pouring/Casting

| TYPE OF MATERIAL | Throughput TON/HR |
|---|---|
| Aluminum | 60 |

| | **PM lbs/ton metal charged | **PM10/PM2.5 lbs/ton metal charged | SOx * lbs/ton metal charged | NOx * lbs/ton metal charged | VOC * lbs/ton metal charged | CO lbs/tons metal charged |
|---|---|---|---|---|---|---|
| | 0.077 | 0.083 | 0.02 | 0.01 | 0.14 | -- |
| Potential Emissions lbs/hr | 4.62 | 4.98 | 1.2 | 0.600 | 8.400 | -- |
| Potential Emissions lbs/day | 110.88 | 119.52 | 28.8 | 14.400 | 201.600 | -- |
| Potential Emissions tons/year | 20.24 | 21.81 | 5.26 | 2.63 | 36.79 | -- |

** Emission factors are from Alcoa's Operating, Monitoring, and Maintenance plan. * Note: Emission factor is from FIRE version 6.01.
Emission factors which are not denoted by a "*" are from older versions of FIRE and were not included in FIRE version 6.01 for various reasons.

**Appendix A: Emissions Calculations**
**8M3 Emissions Before Modification-Combustion**

**Company Name:** Alcoa, Inc.-Warrick Operations
**Address City IN Zip:** Jct. IN Hwys. 66 & 61, Newburgh, Indi Jct. IN Hwys. 66 & 61, Newburgh, Ind
**Source Modification Number:** 173-27188-00007
**Permit Modification Number:** 173-27454-00007
**Reviewer:** Timothy R. Pettifor
**Date:** 3/25/2009

| Heat Input Capacity MMBtu/hr | Potential Throughput MMCF/yr |
|---|---|
| 80.0 | 700.8 |

| | Pollutant | | | | | |
|---|---|---|---|---|---|---|
| | PM* | PM10* | SO2 | NOx | VOC | CO |
| Emission Factor in lb/MMCF | 1.9 | 7.6 | 0.6 | 100 **see below | 5.5 | 84 |
| Potential Emission in tons/yr | 0.7 | 2.7 | 0.2 | 35.0 | 1.9 | 29.4 |

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

**Methodology**

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

See page 5 for HAPs emissions calculations.

**Appendix A: Emissions Calculations**
**8M3 Emissions Before Modification-Combustion**
**MM BTU/HR <100**
**HAPs Emissions**

**Company Name:** Alcoa, Inc.-Warrick Operations
**Address City IN Zip:** Jct. IN Hwys. 66 & 61, Newburgh, Indiana 47629-0010
**Source Modification Number:** 173-27188-00007
**Permit Modification Number:** 173-27454-00007
**Reviewer:** Timothy R. Pettifor
**Date:** 3/25/2009

| | HAPs - Organics | | | | |
|---|---|---|---|---|---|
| | Benzene | Dichlorobenzene | Formaldehyde | Hexane | Toluene |
| Emission Factor in lb/MMcf | 2.1E-03 | 1.2E-03 | 7.5E-02 | 1.8E+00 | 3.4E-03 |
| Potential Emission in tons/yr | 7.358E-04 | 4.205E-04 | 2.628E-02 | 6.307E-01 | 1.191E-03 |

| | HAPs - Metals | | | | |
|---|---|---|---|---|---|
| | Lead | Cadmium | Chromium | Manganese | Nickel |
| Emission Factor in lb/MMcf | 5.0E-04 | 1.1E-03 | 1.4E-03 | 3.8E-04 | 2.1E-03 |
| Potential Emission in tons/yr | 1.752E-04 | 3.854E-04 | 4.906E-04 | 1.332E-04 | 7.358E-04 |

Methodology is the same as page 4.

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

**Appendix A: Emission Calculations**

**8M3 Emissions After Modification-Combustion**

**Company Name:** Alcoa, Inc.-Warrick Operations
**Address City IN Zip:** Jct. IN Hwys. 66 & 61, Newburgh, Indiana Jct. IN Hwys. 66 & 61, Newburgh, Ind
**Source Modification Number:** 173-27188-00007
**Permit Modification Number:** 173-27454-00007
**Reviewer:** Timothy R. Pettifor
**Date:** 3/25/2009

| Heat Input Capacity MMBtu/hr | Potential Throughput MMCF/yr |
|---|---|
| 100.0 | 876.0 |

| | Pollutant | | | | | |
|---|---|---|---|---|---|---|
| | PM* | PM10* | SO2 | NOx | VOC | CO |
| Emission Factor in lb/MMCF | 1.9 | 7.6 | 0.6 | 50.0 **see below | 5.5 | 84.0 |
| Potential Emission in tons/yr | 0.8 | 3.3 | 0.3 | 21.9 | 2.4 | 36.8 |

*PM emission factor is filterable PM only. PM10 emission factor is condensable and filterable PM10 combined.

**Emission Factors for NOx: Uncontrolled = 280 (pre-NSPS) or 190 (post-NSPS), Low NOx Burner = 140, Flue gas recirculation = 100 (See Table 1.4-1)

**Methodology**

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Emission Factors from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, and 1.4-3, SCC #1-01-006-01, 1-01-006-04 (AP-42 Supplement D 3/98)
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

See page 7 for HAPs emissions calculations.

**Appendix A: Emission Calculations**
**8M3 Emissions After Modification-Combustion**
**HAPs Emissions**

**Company Name:** Alcoa, Inc.-Warrick Operations
**Address City IN Zip:** Jct. IN Hwys. 66 & 61, Newburgh, Indiana
**Permit Number:** 173-27188-00007
**Plt ID:** 173-27454-00007
**Reviewer:** Timothy R. Pettifor
**Date:** 3/25/2009

| | HAPs - Organics | | | | |
|---|---|---|---|---|---|
| | Benzene | Dichlorobenzene | Formaldehyde | Hexane | Toluene |
| Emission Factor in lb/MMcf | 2.1E-03 | 1.2E-03 | 7.5E-02 | 1.8E+00 | 3.4E-03 |
| Potential Emission in tons/yr | 9.20E-04 | 5.26E-04 | 3.29E-02 | 7.88E-01 | 1.49E-03 |

| | HAPs - Metals | | | | |
|---|---|---|---|---|---|
| | Lead | Cadmium | Chromium | Manganese | Nickel |
| Emission Factor in lb/MMcf | 5.0E-04 | 1.1E-03 | 1.4E-03 | 3.8E-04 | 2.1E-03 |
| Potential Emission in tons/yr | 2.19E-04 | 4.82E-04 | 6.13E-04 | 1.66E-04 | 9.20E-04 |

Methodology is the same as page 6.

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

**Appendix A: Emissions Calculations**
**8WH Emissions Before Modification**

**Company Name:** Alcoa, Inc.-Warrick Operations
**Address City IN Zip:** Jct. IN Hwys. 66 & 61, Newburgh, Indi Jct. IN Hwys. 66 & 61, Newburgh, Ind
**Source Modification Number:** 173-27188-00007
**Permit Modification Number:** 173-27454-00007
**Reviewer:** Timothy R. Pettifor
**Date:** 3/25/2009

| Heat Input Capacity MMBtu/hr | Potential Throughput MMCF/yr |
|---|---|
| 24.0 | 210.2 |

| | Pollutant | | | | | |
|---|---|---|---|---|---|---|
| | PM* | PM10* | SO2 | NOx | VOC | CO |
| Emission Factor in lb/MMCF | 1.9 | 7.6 | 0.6 | 100<br>**see below | 5.5 | 84 |
| Potential Emission in tons/yr | 0.2 | 0.8 | 0.1 | 10.5 | 0.6 | 8.8 |

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

**Methodology**

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

See page 9 for HAPs emissions calculations.

**Appendix A: Emissions Calculations**
**8WH Emissions Before Modification**
**MM BTU/HR <100**
**HAPs Emissions**

**Company Name:** Alcoa, Inc.-Warrick Operations
**Address City IN Zip:** Jct. IN Hwys. 66 & 61, Newburgh, Indiana 47629-0010
**Source Modification Number:** 173-27188-00007
**Permit Modification Number:** 173-27454-00007
**Reviewer:** Timothy R. Pettifor
**Date:** 3/25/2009

| | HAPs - Organics | | | | |
|---|---|---|---|---|---|
| | Benzene | Dichlorobenzene | Formaldehyde | Hexane | Toluene |
| Emission Factor in lb/MMcf | 2.1E-03 | 1.2E-03 | 7.5E-02 | 1.8E+00 | 3.4E-03 |
| Potential Emission in tons/yr | 2.208E-04 | 1.261E-04 | 7.884E-03 | 1.892E-01 | 3.574E-04 |

| | HAPs - Metals | | | | |
|---|---|---|---|---|---|
| | Lead | Cadmium | Chromium | Manganese | Nickel |
| Emission Factor in lb/MMcf | 5.0E-04 | 1.1E-03 | 1.4E-03 | 3.8E-04 | 2.1E-03 |
| Potential Emission in tons/yr | 5.256E-05 | 1.156E-04 | 1.472E-04 | 3.995E-05 | 2.208E-04 |

Methodology is the same as page 8.

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

**Appendix A: Emissions Calculations**
**8WH Emissions After Modification**

**Company Name:** Alcoa, Inc.-Warrick Operations
**Address City IN Zip:** Jct. IN Hwys. 66 & 61, Newburgh, Indiana 47629-0010
**Source Modification Number:** 173-27188-00007
**Permit Modification Number:** 173-27454-00007
**Reviewer:** Timothy R. Pettifor
**Date:** 3/25/2009

| Heat Input Capacity MMBtu/hr | Potential Throughput MMCF/yr |
|---|---|
| 30.0 | 262.8 |

| | Pollutant | | | | | |
|---|---|---|---|---|---|---|
| | PM* | PM10* | SO2 | NOx | VOC | CO |
| Emission Factor in lb/MMCF | 1.9 | 7.6 | 0.6 | 100<br>**see below | 5.5 | 84 |
| Potential Emission in tons/yr | 0.2 | 1.0 | 0.1 | 13.1 | 0.7 | 11.0 |

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

**Methodology**

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

See page 11 for HAPs emissions calculations.

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

**Company Name:** Alcoa, Inc.-Warrick Operations
**Address City IN Zip:** Jct. IN Hwys. 66 & 61, Newburgh, Indiana 47629-0010
**Source Modification Number:** 173-27188-00007
**Permit Modification Number:** 173-27454-00007
**Reviewer:** Timothy R. Pettifor
**Date:** 3/25/2009

| | HAPs - Organics | | | | |
|---|---|---|---|---|---|
| | Benzene | Dichlorobenzene | Formaldehyde | Hexane | Toluene |
| Emission Factor in lb/MMcf | 2.1E-03 | 1.2E-03 | 7.5E-02 | 1.8E+00 | 3.4E-03 |
| Potential Emission in tons/yr | 2.759E-04 | 1.577E-04 | 9.855E-03 | 2.365E-01 | 4.468E-04 |

| | HAPs - Metals | | | | |
|---|---|---|---|---|---|
| | Lead | Cadmium | Chromium | Manganese | Nickel |
| Emission Factor in lb/MMcf | 5.0E-04 | 1.1E-03 | 1.4E-03 | 3.8E-04 | 2.1E-03 |
| Potential Emission in tons/yr | 6.570E-05 | 1.445E-04 | 1.840E-04 | 4.993E-05 | 2.759E-04 |

Methodology is the same as page 1.

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

**Appendix A: Emission Calculations**
**Fluxing**

**Company Name:** Alcoa, Inc.-Warrick Operations
**Plant Location:** Jct. IN Hwys. 66 & 61, Newburgh, Indiana 47629-0010
**Source Modification Number:** 173-27188-00007
**Permit Modification Number** 173-27454-00007
**Permit Reviewer:** Timothy R. Pettifor
**Date** 25-Mar-2009

**Before Modification**

| Process | Rate (ton/hr) | Pollutant | Ef (lb/ton) | Ebc (tons/yr) |
|---|---|---|---|---|
| 8WH | 46.02 | PM | 0.228 | 45.96 |
| | | PM10 | 0.333 | 67.12 |
| | | HCL | 0.208 | 41.93 |
| | | | | |

**After Modification**

| Process | Rate (ton/hr) | Pollutant | Ef (lb/ton ) | Ebc (tons/yr) |
|---|---|---|---|---|
| 8WH | 58.75 | PM | 0.228 | 58.67 |
| | | PM10 | 0.333 | 85.69 |
| | | HCL | 0.208 | 53.52 |

Methodology

Uncontrolled Emissions = Capacity (tons/hr)*Emission Factor (lb/ton)*8760hrs/yr *1ton/2000lb

Emission Factors are from stack tests conducted at source.

# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

*We Protect Hoosiers and Our Environment.*

*Mitchell E. Daniels Jr.*
**Governor**

*Thomas W. Easterly*
**Commissioner**

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


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

TO: Samuel H. Bruntz
ALCOA-- Warrick Operations Bldg 860E
PO Box 10
Newburgh IN 47629-0010

DATE: June 16, 2009

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

SUBJECT: Final Decision
Significant Permit Modification
173-27454-00007

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

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

A copy of the final decision and supporting materials has also been sent via standard mail to:
Ann E. Whitty VP & GM ALCOA-- Warrick Operations Bldg 1
OAQ Permits Branch Interested Parties List

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

Final Applicant Cover letter.dot 11/30/07

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

*Mitchell E. Daniels Jr.*
**Governor**

*Thomas W. Easterly*
**Commissioner**

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

June 16, 2009

TO: Owensville Twp Public Library

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

Subject: **Important Information for Display Regarding a Final Determination**

**Applicant Name: ALCOA-- Warrick Operations**
**Permit Number: 173-27454-00007**

You previously received information to make available to the public during the public comment period of a draft permit. Enclosed is a copy of the final decision and supporting materials for the same project. Please place the enclosed information along with the information you previously received. To ensure that your patrons have ample opportunity to review the enclosed permit, **we ask that you retain this document for at least 60 days.**

The applicant is responsible for placing a copy of the application in your library. If the permit application is not on file, or if you have any questions concerning this public review process, please contact Joanne Smiddie-Brush, OAQ Permits Administration Section at 1-800-451-6027, extension 3-0185.

Enclosures
Final Library.dot 11/30/07

# Mail Code 61-53

| IDEM Staff | BLOCCHET 6/16/2009<br>ALCOA - Warrick Operations 173-27454-00007 (final) | | | AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING |
|---|---|---|---|---|
| Name and address of Sender | ▶ | Indiana Department of Environmental Management<br>Office of Air Quality – Permits Branch<br>100 N. Senate<br>Indianapolis, IN 46204 | Type of Mail:<br>**CERTIFICATE OF MAILING ONLY** | |

| Line | Article Number | Name, Address, Street and Post Office Address | Postage | Handing Charges | Act. Value (If Registered) | Insured Value | Due Send if COD | R.R. Fee | S.D. Fee | S.H. Fee | Rest. Del. Fee<br>Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | Samuel H Bruntz ALCOA - Warrick Operations Bldg 860 E, PO Box 10 Newburgh IN 47629-0010 (Source CAATS) ***Via Confirmed Delivery*** | | | | | | | | | |
| 2 | | Ann E Whitty VP & GM - Warrick Ops ALCOA - Warrick Operations Bldg 1, PO Box 10 Newburgh IN 47629-0010 *(RO CAATS)* | | | | | | | | | |
| 3 | | Warrick County Board of Commissioners 107 W. Locust Street Suite # 301 Boonville IN 47601-0585 *(Local Official)* | | | | | | | | | |
| 4 | | Warrick County Health Department 107 W Locust, Suite 204 Boonville IN 47601-1701 *(Health Department)* | | | | | | | | | |
| 5 | | Mr. Charles L. Berger Berger & Berger, Attorneys at Law 313 Main Street Evansville IN 47700 *(Affected Party)* | | | | | | | | | |
| 6 | | Mr. Randy Brown Plumbers & Steam Fitters Union, Local 136 2300 St. Joe Industrial Park Dr Evansville IN 47720 *(Affected Party)* | | | | | | | | | |
| 7 | | Ohio Twp Public Library PO Box 850 Newburgh IN 47629 *(Library)* | | | | | | | | | |
| 8 | | Dr. Jeff Seyler Univ. of So Ind., 8600 Univ. Blvd. Evansville IN 47712 *(Affected Party)* | | | | | | | | | |
| 9 | | Mr. Don Mottley Save Our Rivers 6222 Yankeetown Hwy Boonville IN 47601 *(Affected Party)* | | | | | | | | | |
| 10 | | Newburgh Town Council and Town Manager P.O Box 6 Newburgh IN 47630 *(Local Official)* | | | | | | | | | |
| 11 | | Kim Sherman 3355 Woodview Drive Newburgh IN 47630 *(Affected Party)* | | | | | | | | | |
| 12 | | Mr. Mark Wilson Evansville Courier Press - News Desk P.O. Box 268 Evansville IN 47702 *(Affected Party)* | | | | | | | | | |
| 13 | | Joanne Alexandrovich Vanderburgh County Health Dept. 420 Mulberry ST. Evansville IN 47713 (Affected Party) | | | | | | | | | |
| 14 | | Carly Watson 8666 Hanover Dr. Newburgh IN 47630 *(Affected Party)* | | | | | | | | | |
| 15 | | Mr. Bill Musgrove PO Box 565 Boonville IN 47601 *(Affected Party)* | | | | | | | | | |

| Total number of pieces Listed by Sender | Total number of Pieces Received at Post Office | Postmaster, Per (Name of Receiving employee) | The full declaration of value is required on all domestic and international registered mail. The maximum indemnity payable for the reconstruction of nonnegotiable documents under Express Mail document reconstructing insurance is $50,000 per piece subject to a limit of $50, 000 per occurrence. The maximum indemnity payable on Express mil merchandise insurance is $500. The maximum indemnity payable is $25,000 for registered mail, sent with optional postal insurance. See ***Domestic Mail Manual*** **R900, S913**, and **S921** for limitations of coverage on inured and COD mail. See ***International Mail Manual*** for limitations o coverage on international mail. Special handling charges apply only to Standard Mail (A) and Standard Mail (B) parcels. |
|---|---|---|---|

FACSIMILIE OF PS Form 3877

# Mail Code 61-53

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|---|---|---|---|---|
| Name and address of Sender | ▶ | Indiana Department of Environmental Management<br>Office of Air Quality – Permits Branch<br>100 N. Senate<br>Indianapolis, IN 46204 | Type of Mail:<br>**CERTIFICATE OF MAILING ONLY** | |

| Line | Article Number | Name, Address, Street and Post Office Address | Postage | Handing Charges | Act. Value (If Registered) | Insured Value | Due Send if COD | R.R. Fee | S.D. Fee | S.H. Fee | Rest. Del. Fee<br>Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | Bil PO Box 520 Chandler IN 47610 (Affected Party) | | | | | | | | | |
| 2 | | Mr. John Blair 800 Adams Ave Evansville IN 47713 *(Affected Party)* | | | | | | | | | |
| 3 | | Elizabeth Joshi 2377 Lakeridge Dr Newburgh IN 47630 *(Affected Party)* | | | | | | | | | |
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