



Joseph E. Kernan
Governor

Lori F. Kaplan
Commissioner

September 24, 2004

100 North Senate Avenue
P.O. Box 6015
Indianapolis, Indiana 46206-6015
(317) 232-8603
(800) 451-6027
www.in.gov/idem

TO: Interested Parties / Applicant

RE: Alcoa, Inc.-Warrick Operations / 173-18905-00007

FROM: Paul Dubenetzky
Chief, Permits Branch
Office of Air Quality

Notice of Decision: Approval – Effective Immediately

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to IC 13-17-3-4 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, Room 1049, 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.

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 impracticable 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.



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

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Mr. Samuel H. Bruntz
Alcoa, Inc. - Warrick Operations
Building 869E, P. O. Box 10
Newburgh, Indiana 47629

September 24, 2004

Re: Permit Modification No: **173-18905-00007**
of SSM 173-16034-00007

Dear Mr. Bruntz:

Alcoa, Inc. - Warrick Operations applied for a permit modification of the Significant Source Modification 173-16034-00007, issued on March 28, 2003. The permit modification is to revise the emission limitations by incorporating the stack tests results and to increase the reactive flux input parameters at the melters, holders, and in line fluxers. There is no construction of new units involved in this proposed modification.

Pursuant to the provisions of 326 IAC 2-2 and IC 13-15-7-1, a permit modification is hereby approved as described in the attached Technical Support Document (TSD) and its Addendum.

Other than the changes detailed in the TSD and its Addendum for this approval, all other conditions of the permit shall remain unchanged and in effect. Please find enclosed the entire modified permit document for final issuance.

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 Ms. Iryn Calilung at the Indiana Department Environmental Management, Office of Air Quality, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana 46206-6015 or by telephone at (317) 233-5692 or toll free at 1-800-451-6027 extension 3-5692 or by e-mail at icalilun@dem.state.in.us.

Sincerely,

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

Attachments - Modified Permit, TSD and TSD Addendum

cc: File - Warrick County
U.S. EPA, Region V
Warrick County Health Department
Air Compliance Section Inspector - RSA
Compliance Branch - KA
Technical Support and Modeling - MB



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PERMIT MODIFICATION OF A PART 70 SIGNIFICANT SOURCE MODIFICATION

OFFICE OF AIR QUALITY

**Alcoa, Inc. - Warrick Operations
Jct. IN Hwys. 66 & 61
Newburgh, Indiana 47639**

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

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

Permit Modification No.: 173-18905-00007 of Significant Source Modification 173-16034-00007, issued on March 28, 2003	
Issued by: Original signed by Paul Dubenetzky, Branch Chief Office of Air Quality	Issuance Date: September 24, 2004



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Certification

Part 70 Source Modification Feed/Charge Quarterly Reports

SECTION A SOURCE SUMMARY

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

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

The Permittee owns and operates a stationary primary aluminum reduction source.

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

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

[326 IAC 2-7-5(15)]

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

- (a) One (1) flux gas injection identified as Pyrotek HD-2000 to be installed on melter 8M1 and two (2) flux gas injection systems identified as Pyrotek HD-2000 installed on melters 8M2, and 8M3 in the 8EMC casting complex exhausting to Stacks 134.80, 134.84, and 134.89 respectively with a capacity of 47.00 tons of molten aluminum, plant return scrap, purchased scrap, and alloy elements per hour each.
- (b) Two (2) degassing units, identified as Alcan Compact Degassing (ACD) units to be installed in conjunction with #1 east holding furnace and #1 west holding furnace in the 1HDC complex. These units will be replacing one (1) A622 in-line degassing unit in the 1HDC and one (1) A622 in-line degassing unit in the 5HDC and will be exhausting to Stacks 134.63 and 134.66 respectively with a capacity of 10.0 tons of molten aluminum per hour each.

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

[326 IAC 2-7-5(15)]

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

A.4 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).
- (b) It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).

SECTION B GENERAL CONSTRUCTION CONDITIONS

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

Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, 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 Effective Date of the Permit [IC13-15-5-3]

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

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

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

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

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

- (a) The attached affidavit of construction shall be submitted to the Office of Air Quality (OAQ), Permit Administration & Development Section, verifying that the emission units were constructed as proposed in the application. The emissions units covered in the Significant Source Modification approval may begin operating on the date the affidavit of construction is postmarked or hand delivered to IDEM if constructed as proposed.
- (b) If actual construction of the emissions units differs from the construction proposed in the application, the source may not begin operation until the source modification has been revised pursuant to 326 IAC 2-7-11 or 326 IAC 2-7-12 and an Operation Permit Validation Letter is issued.
- (c) If construction is completed in phases; i.e., the entire construction is not done continuously, a separate affidavit must be submitted for each phase of construction. Any permit conditions associated with operation start up dates such as stack testing for New Source Performance Standards (NSPS) shall be applicable to each individual phase.
- (d) The Permittee shall receive an Operation Permit Validation Letter from the Chief of the Permit Administration & Development Section and attach it to this document.
- (e) In the event that the Part 70 application is being processed at the same time as this application, the following additional procedures shall be followed for obtaining the right to operate:
 - (1) If the Part 70 draft permit has not gone on public notice, then the change/addition covered by the Significant Source Modification will be included in the Part 70 draft.
 - (2) If the Part 70 permit has gone through final EPA proposal and would be issued ahead of the Significant Source Modification, the Significant Source Modification will go through a concurrent 45 day EPA review. Then the Significant Source

Modification will be incorporated into the final Part 70 permit at the time of issuance.

- (3) If the Part 70 permit has gone through public notice, but has not gone through final EPA review and would be issued after the Significant Source Modification is issued, then the Modification would be added to the proposed Part 70 permit, and the Title V permit will issued after EPA review.

SECTION C GENERAL OPERATION CONDITIONS

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

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

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

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

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

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

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

- (b) The Permittee shall implement the PMPs as necessary to ensure that failure to implement a PMP does not cause or contribute to a violation of any limitation on emissions or potential to emit.
- (c) A copy of the PMPs shall be submitted to IDEM, OAQ upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or contributes to any violation. The PMP does not require the certification by the

“responsible official” as defined by 326 IAC 2-7-1(34).

- (d) Records of preventive maintenance shall be retained for a period of at least five (5) years. These records shall be kept at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.
- (e) To the extent, but only to the extent, Permittee is required by 40 CFR Part 60/63 to have an OM&M Plan, such plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 and the OM&M Plan requirements shall be the applicable requirements for maintenance.

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

- (a) Permit amendments and modifications are governed by the requirements of 326 IAC 2-7-11 or 326 IAC 2-7-12 whenever the Permittee seeks to amend or modify this permit.
- (b) Any application requesting an amendment or modification of this permit shall be submitted to:

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

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)]

C.4 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless alternative opacity limits are established in the D section of this permit:

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

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

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

C.6 Stack Height [326 IAC 1-7]

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

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

C.7 Performance Testing [326 IAC 3-6][326 IAC 2-1.1-11]

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

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

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

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 source 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.8 Compliance Requirements [326 IAC 2-1.1-11]

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

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

C.9 Compliance Monitoring [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

All monitoring and record keeping requirements specified by 40 CFR 63, Subpart RRR shall be implemented by March 24, 2003. Any other monitoring and record keeping requirements required by Section D shall be implemented when operation begins unless otherwise specified in Section D. The Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment.

C.10 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.

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

C.11 Compliance Response Plan - Preparation, Implementation, Records, and Reports[326 IAC 2-7-5] [326 IAC 2-7-6]

- (a) The Permittee is required to prepare a Compliance Response Plan (CRP) for each compliance monitoring condition set forth in Section D of this permit. If a Permittee is required to have a Operation, Maintenance and Monitoring (OM&M) Plan or Parametric Monitoring Plan and Start-up, Shutdown, and Malfunction Plan under 40 CFR 60/63, such plans shall be deemed to satisfy the requirements for a CRP, for those compliance monitoring conditions. A CRP shall be submitted to IDEM, OAQ upon request. The CRP shall be prepared within ninety (90) days after issuance of this permit by the Permittee, supplemented from time to time by the Permittee, maintained on site, and comprised of:
- (1) Reasonable response steps that may be implemented in the event that a response step is needed pursuant to the requirements of Section D of this permit; and an expected time frame for taking reasonable response steps.
 - (2) If, at any time, the Permittee takes reasonable response steps that are not set forth in the Permittee's current Compliance Response Plan or Operation, Maintenance and Monitoring (OM&M) Plan and the Permittee documents such response in accordance with subsection (e) below, the Permittee shall amend its Compliance Response Plan or Operation, Maintenance and Monitoring (OM&M) Plan to include such response steps taken.
- (b) For each compliance monitoring condition of this permit, reasonable response steps shall be taken when indicated by the provisions of that compliance monitoring condition as follows:
- (1) Reasonable response steps shall be taken as set forth in the Permittee's current Compliance Response Plan; or
 - (2) If none of the reasonable response steps listed in the Compliance Response Plan is applicable or responsive to the excursion, the Permittee shall devise and implement additional response steps as expeditiously as practical. Taking such additional response steps shall not be considered a deviation from this permit so long as the Permittee documents such response steps in accordance with this condition.

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

C.12 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 within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

Telephone Number: 1-800-451-6027 (ask for Office of Air Quality,
Compliance Section), or
Telephone Number: 317-233-5674 (ask for Compliance Section)
Facsimile Number: 317-233-5967

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

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

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

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

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

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

- (6) The Permittee immediately took all reasonable steps to correct the emergency.
- (c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.
 - (d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.

- (e) IDEM, OAQ may require that the Preventive Maintenance Plans required under 326 IAC 2-7-4-(c)(10) be revised in response to an emergency.
- (f) Failure to notify IDEM, OAQ by telephone or facsimile of an emergency lasting more than one (1) hour in accordance with (b)(4) and (5) of this condition shall constitute a violation of 326 IAC 2-7 and any other applicable rules.
- (g) If the emergency situation causes a deviation from a technology-based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.

C.13 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5][326 IAC 2-7-6]

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

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

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

C.14 General Record Keeping Requirements [326 IAC 2-7-5(3)][326 IAC 2-7-6]

- (a) Records of all required data, reports and support information shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be kept at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.
- (b) Unless otherwise specified in this permit, all record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance.

C.15 General Reporting Requirements [326 IAC 2-7-5(3)(C)]

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

Indiana Department of Environmental Management

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

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

SECTION D.1 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

- (a) One (1) flux gas injection identified as Pyrotek HD-2000 to be installed on melter 8M1 and two (2) flux gas injection systems identified as Pyrotek HD-2000 installed on melters 8M2, and 8M3 in the 8EMC casting complex exhausting to Stacks 134.80, 134.84, and 134.89 respectively with a capacity of 47.00 tons of molten aluminum, plant return scrap, purchased scrap, and alloy elements per hour each.
- (b) Two (2) degassing units, identified as Alcan Compact Degassing (ACD) units to be installed in conjunction with #1 east holding furnace and #1 west holding furnace in the 1HDC complex. These units will be replacing one (1) A622 in-line degassing unit in the 1HDC and one (1) A622 in-line degassing unit in the 5HDC and will be exhausting to Stacks 134.63 and 134.66 respectively with a capacity of 10.0 tons of molten aluminum per hour each.

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

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

D.1.1 Prevention of Significant Deterioration (PSD) Minor Limitations [326 IAC 2-2]

The following conditions shall apply:

8M1, 8M2, and 8M3 Melters

- (a) The annual feed/charge rate of each of melters 8M1, 8M2, and 8M3 shall not exceed 280,082 tons per year, with compliance demonstrated at the end of each month.
- (b) The total natural gas usage of melters 8M1, 8M2, and 8M3 shall not exceed 915 MMCF per year, with compliance demonstrated at the end of each month.
- (c) Particulate Matter (PM)
 - (1) The PM emissions from melters 8M1, 8M2, and 8M3 shall not exceed 0.118 pounds per ton of charge each for combined chlorine and flux salt input rates less than or equal to 1.29 pounds per ton of aluminum 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 pounds per ton of charge each for combined chlorine and flux salt input rates greater than 1.29 pounds of aluminum, but less than 2.35 pounds per ton of aluminum, for charges that contain no purchased oily scrap.
 - (3) The combined chlorine and flux salt input rates shall not exceed 2.35 pounds per ton of aluminum for charges that contain no purchased oily scrap.
 - (4) The total PM emissions from all the three melters shall not exceed 49.57 tons per year.

- (5) The PM emissions from melters 8M1, 8M2, and 8M3 shall not exceed the allowable emission rate specified by 40 CFR 63.1505(k)(1) each, for combined chlorine and flux input rates greater than 1.29 pounds per ton of aluminum but less than 2.27 pounds per ton of aluminum. 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.
- (d) Particulate Matter with aerodynamic diameter of less than or equal to 10 micrometers (PM₁₀)
- (1) The PM₁₀ emissions from melters 8M1, 8M2, and 8M3 shall not exceed 0.127 pounds per ton of charge each for combined chlorine and flux salt input rates less than or equal to 1.29 pounds per ton of aluminum.
 - (2) The PM₁₀ emissions from melters 8M1, 8M2, and 8M3 shall not exceed 0.17 pounds per ton of charge each for combined chlorine and flux salt input rates greater than or equal to 1.29 pounds per of aluminum, but less than 2.35 pounds per ton of aluminum for charges that contain no purchased oily scrap.
 - (3) The combined chlorine and flux salt input rates shall not exceed 2.35 pounds per ton of aluminum for charges that contain no purchased oily scrap.
 - (4) The total PM₁₀ emissions from all the three melters shall not exceed 53.54 tons per year.
 - (5) The PM₁₀ emissions from melters 8M1, 8M2, and 8M3 shall not exceed the allowable emission rate specified by 40 CFR 63.1505(k)(1), multiplied by 1.08 each for combined chlorine and flux input rates greater than 1.29 pounds per ton of aluminum but less than 2.27 pounds per ton of aluminum, 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.
- (e) The NO_x emissions from melters 8M1, 8M2, and 8M3 shall not exceed 138.1 lbs per MMCF of natural gas each and the total NO_x emissions from all the three melters shall not exceed 63.18 tons per year.

8EMC East Holding Furnace and 8EMC West Holding Furnace

- (f) The annual feed/charge rate of the 8EMC east holding furnace and the 8 EMC west holding furnace shall be limited to 823,440 tons per year, with compliance demonstrated at the end of each month.
- (g) The total natural gas usage of the 8EMC east holding furnace and the 8EMC west holding furnace shall not exceed 216 MMCF per year, with compliance demonstrated at the end of each month.
- (h) 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 chlorine input rates less than or equal to 0.51 lbs/ton of aluminum.

- (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 charge for chlorine input rates greater than 0.51 lbs/ton of aluminum but less than 1.76 lbs/ton of aluminum.
 - (3) In no event shall chlorine exceed a maximum input rate of 1.76 lbs/ton of aluminum.
 - (4) The PM emissions from the 8EMC east holding furnace and the 8EMC west holding furnace shall be limited to the allowable emission rate specified by 40 CFR 63.1505(k)(1) each, for combined chlorine and flux salt input rates greater than 1.2 pounds per ton of aluminum, but less than 1.76 pounds per ton of aluminum.
 - (5) In no event shall the combined chlorine and flux salt rate exceed a maximum input rate of 1.76 pounds per ton of aluminum.
 - (6) 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 year.
- (i) Particulate Matter with aerodynamic diameter of less than or equal to 10 micrometers (PM₁₀)
- (1) The PM₁₀ emissions from the 8EMC east holding furnace and the 8EMC west holding furnace shall be limited to 0.121 lbs/ton of charge for chlorine input rates less than or equal to 0.51 lbs/ton of aluminum.
 - (2) The PM₁₀ emissions from the 8EMC east holding furnace and the 8EMC west holding furnace shall be limited to 0.241 lbs/ton of charge for chlorine input rates greater than 0.51 lbs/ton of aluminum but less than 1.76 lbs/ton of aluminum.
 - (3) In no event shall chlorine exceed a maximum input rate of 1.76 lbs/ton of aluminum.
 - (4) The PM₁₀ emissions from the 8EMC east holding furnace and the 8EMC west holding furnace shall be limited to the allowable emission rate specified by 40 CFR 63.1505(k)(1), multiplied by 1.46 each for combined chlorine and flux salt input rates greater than 1.2 pounds ton of aluminum, but less than 1.76 pounds per ton of aluminum.
 - (5) In no event shall the combined chlorine and flux salt rate exceed a maximum input rate of 1.76 pounds per ton of aluminum.
 - (6) The total PM₁₀ emissions from both holding furnaces (8EMC east holding furnace and the 8EMC west holding furnace) shall be limited to 49.89 tons per year.
- (j) The NO_x emissions from the 8EMC east holding furnace and the 8EMC west holding furnace shall be limited to 147.1 lbs per MMCF of natural gas and the total NO_x emissions from both holding furnaces shall be limited to 15.89 tons per year.

8EMC ACD and 8EMC A622 units

- (k) The annual feed/charge rate of the 8EMC ACD and 8EMC A622 units shall be limited to 411,720 tons per year each, with compliance demonstrated at the end of each month.
- (l) The PM emissions from the 8EMC ACD unit shall be limited to 0.003 lbs/ton of feed/charge and the total PM emissions shall be limited to 0.62 tons per year.
- (m) Particulate Matter (PM)
 - (1) The PM emissions from the 8EMC A622 unit shall be limited to 0.001 lbs/ton of feed/charge for combined chlorine and flux salt input rates less than 0.1 pounds per ton of aluminum.
 - (2) The PM emissions from the 8EMC A622 unit shall be limited to 0.002 pounds per ton of feed/charge for combined chlorine and flux salt input rates greater than or equal to 0.1 pounds per ton of aluminum.
 - (3) The total PM emissions from the 8EMC A622 shall be limited to 0.21 tons per year.
- (n) The PM₁₀ emissions from the 8EMC ACD and 8EMC A622 units shall be limited to 0.00312 lbs/ton of feed/charge and the total PM emissions from the 8EMC ACD and 8EMC A622 units shall be limited to 0.64 tons per year.

#1 Complex ACD Units

- (o) The feed/charge rate of each of the #1 complex ACD units shall not exceed 86,000 tons per year, with compliance demonstrated at the end of each month.
- (p) The PM emissions from the #1 complex ACD units shall not exceed 0.026 lbs per ton of molten metal and the total PM emissions the two (2) #1 complex ACD units shall not exceed 0.94 tons per year.
- (q) The PM₁₀ emissions from the #1 complex ACD units shall not exceed 0.027 lbs per ton of charge each and the total PM₁₀ emissions from both #1 complex ACD units shall not exceed 0.97 tons per year.

#1 Complex East Holding Furnace and #1 Complex West Holding Furnace

- (r) The total feed/charge of the #1 complex east holding furnace and the #1 complex west holding furnaces shall not exceed 172,000 tons per year, with compliance demonstrated at the end of each month.
- (s) The PM emissions from the #1 complex east holding furnace and #1 complex west holding furnaces shall not exceed 0.045 lbs per ton of molten metal and the total PM emissions these furnaces shall not exceed 3.87 tons per year.
- (t) The PM₁₀ emissions from the #1 complex east holding furnace and #1 complex west holding furnaces shall not exceed 0.066 lbs per ton of charge and the total PM₁₀ emissions from these furnaces shall not exceed 5.65 tons per year.

- (u) The NO_x emissions from the #1 complex east holding furnace and #1 complex west holding furnaces shall not exceed 0.148 lbs per ton of charge and the total NO_x emissions from these furnaces shall not exceed 12.58 tons per year.

Compliance with these limits render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) not applicable.

This revised Condition No. D.1.1 supersedes Condition No. D.1.1 of Permit 173-16034-00007, issued on March 28, 2003.

D.1.2 General Provisions Relating to NESHAP [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 in 326 IAC 20-1, apply to melters 8M1, 8M2, 8M3, and the two ACD units except when otherwise specified in 40 CFR Part 63, Subpart RRR.

D.1.3 Secondary Aluminum Smelting Limits [40 CFR Part 63.1500 (Subpart RRR)]

- (a) Pursuant to 40 CFR Part 63.1505, the following conditions shall apply to melters 8M1, 8M2, 8M3, and the two ACD units.

- (1) The Permittee shall be in compliance with the following emission limitations and operating requirements upon startup:

where L_{iPM} = The PM emission limit for individual emission unit I in the secondary aluminum processing unit I in paragraph (i)(1) and (2) of 40 CFR 63.1505.
 T_{ii} = The feed/charge rate for individual emission unit I; and
 L_{cPM} = The PM emission limit for secondary aluminum processing unit I.

The PM emission limit (L_{cPM}) for a Group 1 furnaces (Melters 8M1, 8M2, and 8M3) at a secondary aluminum production facility shall be 0.40 pounds per ton of feed/charge or per ton of aluminum produced. [40 CFR 63.1505(i)][40 CFR 63.1505(k)]

The PM emission limit (L_{cPM}) for the in-line degassers at a secondary aluminum production facility shall be 0.01 pounds per ton of feed/charge or per ton of aluminum produced. [40 CFR 63.1505(j)][40 CFR 63.1505(k)]

- (2) The Permittee shall not discharge or allow to be discharged to the atmosphere any 3-day, 24-hour rolling average emissions of HCl in excess of:

where L_{iHCl} = The HCl emission limit for individual emission unit I in the secondary aluminum processing unit I in paragraph (i)(4) of 40 CFR 63.1505.
 T_{ii} = The feed/charge rate for individual emission unit I; and
 L_{cHCl} = The HCl emission limit for secondary aluminum processing unit I.

The HCl emission limit (L_{cHCl}) for a Group 1 furnaces (Melters 8M1, 8M2, and 8M3) at a secondary aluminum production facility shall be 0.40 pounds per ton of feed/charge or per ton of aluminum produced. [40 CFR 63.1505(i)][40 CFR 63.1505(k)]

The HCl emission limit (L_{cHCl}) for the in-line degassers (ACD units in conjunction with #1 east holding furnace and #1 west holding furnace) at a secondary aluminum production facility shall be 0.04 pounds per ton of feed/charge or per ton of aluminum produced. [40 CFR 63.1505(j)][40 CFR 63.1505(k)]

- (3) The Permittee shall not discharge or allow to be discharged to the atmosphere any 3-day, 24-hour rolling average emissions of total tetra-, penta-, hexa-, and octachlorinated dibenzo dioxins and furans (D/F) in excess of:

where L_{uDF} = The D/F emission limit for individual emission unit in the secondary aluminum processing unit; and
 L_{cDF} = The D/F emission limit for secondary aluminum processing unit.

The D/F emission limit (L_{cDF}) for a Group 1 furnaces (Melting 8M1, 8M2, and 8M3) at a secondary aluminum production facility shall be 2.1×10^{-4} gr of D/F TEQ per ton of feed/charge or per ton of aluminum produced. Where TEQ is the toxicity equivalents for dioxins and furans as defined in Interim Procedures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzop-Dioxins and -Dibenzofurans (CDDs and CDFs) and 1989 Update. [40 CFR 63.1505(i)][40 CFR 63.1505(k)]

- (b) Identification, emission limits and means of compliance shall be posted on melting 8M1, 8M2, 8M3, and the two ACD units.

D.1.4 Labeling [40 CFR Part 63.1506(b)]

The owner or operator shall provide and maintain easily visible labels that shall be posted at the furnaces and the ACD units. Said labels shall identify the applicable emission limits and means of compliance, including:

- (a) the type of affected source or emission unit (e.g., scrap dryer/delacquering kiln/decoating kiln, group 1 furnace, group 2 furnace, in-line fluxer); and
- (b) the applicable operational standard(s) and control method(s) (work practice or control device). This includes, but is not limited to, the type of charge to be used for a furnace (e.g., clean scrap only, all scrap, etc.), flux materials and addition practices, and the applicable operating parameter ranges and requirements as incorporated in the OM&M plan.

D.1.5 Operation, Maintenance, and Monitoring (OM&M) Plan [40 CFR 63.1510(b)]

The owner or operator must prepare and implement for each furnace, scrap shredder and scrap dryer and emission unit, a written operation, maintenance, and monitoring (OM&M) plan. The owner or operator must submit the plan to the applicable permitting authority for review and approval as part of the application for a part 70 or part 71 permit. Any subsequent changes to the plan must be submitted to the applicable permitting authority for review and approval. Pending approval by the applicable permitting authority of an initial or amended plan, the owner or operator must comply with the provisions of the submitted plan. Each plan must contain the following information:

- (a) 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.

- (b) A monitoring schedule for each affected source and emission unit.
- (c) Procedures for the proper operation and maintenance of each process unit and add-on control device used to meet the applicable emission limits or standards in '63.1505.
- (d) Procedures for the proper operation and maintenance of monitoring devices or systems used to determine compliance, including:
 - (1) Calibration and certification of accuracy of each monitoring device, at least once every 6 months, or according to the manufacturer's instructions; and
 - (2) Procedures for the quality control and quality assurance of continuous emission or opacity monitoring systems as required by the general provisions in subpart A of this part.
- (e) Procedures for monitoring process and control device parameters, including procedures for annual inspections of afterburners, and if applicable, the procedure to be used for determining charge/feed (or throughput) weight if a measurement device is not used.
- (f) Corrective actions to be taken when process or operating parameters or add-on control device parameters deviate from the value or range established in 40 CFR 63.1510(b)(1), including:
 - (1) Procedures to determine and record the cause of an deviation or excursion, and the time the deviation or excursion began and ended; and
 - (2) Procedures for recording the corrective action taken, the time corrective action was initiated, and the time/date corrective action was completed.
- (g) 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.

D.1.6 Particulate Matter (PM) [326 IAC 6-3]

Pursuant to 326 IAC 6-3-2 (Process Operations), the following conditions shall apply:

- (a) The particulate matter (PM) from melters 8M1, 8M2, and 8M3 shall be limited by the following:

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

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

- (b) The particulate matter (PM) from the ACD units shall be limited by the following:

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

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

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

D.1.7 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section C - Preventive Maintenance Plan, of this permit, is required for these facilities. To the extent, but only to the extent, the Permittee is required by 40 CFR Part 60 or 40 CFR Part 63 to have an OM&M Plan, such plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 and the OM&M Plan requirements shall be the applicable requirements for maintenance.

D.1.8 Alternative Opacity Limitation [326 IAC 5-1-5(b)]

Pursuant to 326 IAC 5-1-5(b):

- (a) #1 Complex (HDC)
The alternate opacity limit (AOL) applies to the exhaust stacks from the East and West Holding furnaces. This AOL shall take the following form:
- During fluxing, opacity may exceed the applicable opacity limit in 326 IAC 5-1-2 for no more than six (6) nonoverlapping six-minute average opacity readings not to exceed 80% opacity during fluxing only.
- During all other periods of the production cycle (not including the fluxing process), opacity shall not exceed the applicable limit pursuant to 326 IAC 5-1-2
- (b) #8 Complex (EMC)
The alternate opacity limit (AOL) applies to the exhaust stacks from the East Holding Furnace and West Holding furnace. This AOL shall take the following form:
- During fluxing, opacity may exceed the applicable opacity limit in 326 IAC 5-1-2 for no more than six (6) nonoverlapping six-minute average opacity readings; two (2) of these sets of six-minute averages shall not exceed 85% opacity and the remaining four (4) six-minute averages shall not exceed 80% opacity during fluxing only.
- During all other periods of the production cycle (not including the fluxing process), opacity shall not exceed the applicable limit pursuant to 326 IAC 5-1-2.

Compliance Determination Requirements

D.1.9 Testing Requirements [326 IAC 2-7-6(1),(6)] [40 CFR 63 Subpart RRR]

- (a) In order to demonstrate compliance with 40 CFR Part 63 Subpart RRR, 40 CFR 52.21, and 326 IAC 2-2, the Permittee shall, within 180 days after startup, perform PM, HCl, and D/F testing on a representative 8EMC melter (8M1 or 8M3) and PM and HCL testing on a representative #1 complex holder (#1 east holding furnace and #1 west holding furnace) ACD units, using methods as approved by the Commissioner, in accordance with the

requirements in 40 CFR 63, Subpart A and 40 CFR 63, Subpart RRR. The Permittee shall conduct the tests while the affected emission units are operating at the highest production levels with charge materials representative of the range of materials processed by the units and at the highest reactive fluxing rates.

Testing shall be conducted in accordance with Section C- Performance Testing.

These tests shall be repeated every five (5) years.

Recently conducted and approved D/F stack tests shall satisfy the D/F stack testing required by this condition.

- (b) 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 that ensures compliance with the applicable emission limit for D/F. The Permittee may use existing data in addition to the results of the performance test to establish operating parameter values for compliance monitoring provided the requirements of 40 CFR 63.1511(g) are met [63.1511(g)].
- (c) To verify that the NO_x emissions do not exceed PSD significant levels pursuant to 326 IAC 2-2 and 40 CFR 52.21, the Permittee shall, within 180 days after startup, perform NO_x testing on a representative 8EMC melter (8M1 or 8M3), 8EMC holder (east holding furnace or west holding furnace), and #1 complex holder (east holding furnace or west holding furnace).

D.1.10 Feed/Charge Determination [40 CFR 63.1506(d)]

Pursuant to 40 CFR 63.1506, the Permittee shall install and operate a device that measures and records or otherwise determine the weight of feed/charge (or throughput) for each operating cycle or time period used in the performance test. The Permittee shall operate each measurement system or other weight determination procedure in accordance with the Operation, Maintenance, and Monitoring Plan.

Alternatively, the Permittee may choose to measure and record aluminum production weight from an affected emission unit rather than feed/charge weight provided that the aluminum production weight is measured for all emission units within a secondary aluminum processing unit and all calculations to demonstrate compliance with the emission limits for secondary aluminum processing units are based on aluminum production weight rather than feed/charge weight.

D.1.11 Secondary Aluminum Smelting Compliance Determination [40 CFR Part 63, Subpart RRR]

Pursuant to 40 CFR Part 63.1510, the following conditions shall apply to melters 8M1, 8M2, 8M3, #1 east holding furnace ACD unit, and #1 west holding furnace ACD unit:

- (a) Pursuant to 40 CFR 63.1510(j), for all furnaces at this source, the Permittee shall:
 - (1) Install, calibrate, operate, and maintain a device to continuously measure and record the weight of gaseous or reactive liquid flux injected into each furnace and each ACD unit. The monitoring system must record the weight for each fifteen (15) minute period, during which reactive fluxing occurs, over the same operating cycle or time period used in the performance test. The accuracy of the weight measurement device must be +/- 1% of the weight of the reactive component of

the flux being measured. The Permittee may apply to IDEM, OAQ to use a weight measurement device of alternative accuracy in cases where the reactive flux flow rates are so low as to make the use of a weight measurement device of within one (1) percent accuracy impracticable. 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 six (6) months.

- (2) Calculate and record the flux injection rate (kg/Mg or lb/ton) for each operating cycle or time period used in the performance test using the procedure in 40 CFR 63.1512(o).
 - (3) Record, for each fifteen (15) minute time 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 reactive flux.
 - (4) Calculate and record the total reactive flux injection rate for each operating cycle or time period used in the performance test.
- (b) An owner or operator of a secondary aluminum processing unit at a facility must include, within the OM&M plan prepared in accordance with 40 CFR 63.1510(b), the following information [40 CFR 63.1510(s)(1)]:
- (1) The identification of each emission unit in the secondary aluminum processing unit;
 - (2) The specific control technology of pollution prevention measure to be used for each emission unit in the secondary aluminum processing unit and the date of its installation or application;
 - (3) The emission limit calculated for each secondary aluminum processing unit and performance test result with supporting calculations demonstrating initial compliance with each applicable emission limit;
 - (4) Information and data demonstrating compliance for each emission unit with all applicable design equipment work practice or operational standards of Subpart RRR; and
 - (5) 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 40 CFR 63.1510(t).
- (c) The SAPU compliance procedures within the OM&M plan may not contain any of the provisions provided in 40 CFR 63.1510(s)(2)(i) through (iv). [40 CFR 63.1510(s)(2)]

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

D.1.12 Labeling [40 CFR 63.1510(c)]

The owner or operator shall, for each furnace and ACD unit, inspect the labels required in Condition D.1.4 at least once per calendar month to confirm that the posted labels as required by

the operational standard in 40 CFR 63.1506(b) are intact and legible.

D.1.13 Feed/Charge Determination [40 CFR 63.1510(e)]

The owner or operator of the furnaces must install, calibrate, operate, and maintain a device to measure and record the total weight of feed/charge to, or the aluminum production from each furnace emission unit over the same operating cycle or time period used in the performance test. Feed/charge or aluminum production within SAPUs must be measured and recorded on an emission unit-by-emission unit basis. The accuracy of the weight measurement device or procedure must be ± 1 percent of the weight being measured.

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

D.1.14 Record Keeping Requirements

- (a) To document compliance with D.1.1, the Permittee shall maintain records of the feed/charge rate and the natural gas consumption of each of melters 8M1, 8M2, 8M3 for each 12 consecutive month period.
- (b) To document compliance with D.1.1, the Permittee shall maintain records of the total feed/charge rate and the natural gas consumption of the 8 EMC east and west holding furnaces for each 12 consecutive month period.
- (c) To document compliance with D.1.1, the Permittee shall maintain record of the feed/charge rate of the 8EMC ACD and A622 units for each 12 consecutive month period.
- (d) To document compliance with D.1.1, the Permittee shall maintain record of the feed/charge rate of the #1 complex ACD units for each 12 consecutive month period.
- (e) To document compliance with D.1.1, the Permittee shall maintain record of the feed/charge rate of the #1 complex east and the #1 complex west holding furnaces for each 12 consecutive month period.
- (f) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.1.15 Secondary Aluminum Production Record Keeping Requirements [40 CFR Part 63, Subpart RRR]

Pursuant to 40 CFR Part 63.1517, the owner or operator shall:

- (a) As required by 40 CFR 63.10(b), the owner or operator shall maintain files of all information (including all reports and notifications) required by the general provisions and Subpart RRR.
- (b) The owner or operator must retain each record for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. The most recent 2 years of records must be retained at the facility. The remaining 3 years of records may be retained off site.

- (c) The owner or operator may retain records on microfilm, computer disks, magnetic tape, or microfiche; and report required information on paper or on a labeled computer disk using commonly available and EPA -compatible computer software.
- (d) In addition to the general records required by 40 CFR 63.1510(b), the owner or operator must maintain records of:
 - (1) For each group 1 furnace and each in-line fluxer at this source, 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.
 - (2) For each furnace and each in-line fluxer, weights for each operating cycle or time period used in the performance test.
 - (3) Approved site-specific monitoring plan for a group 1 furnace without add-on air pollution control devices with records documenting conformance with the plan.
 - (4) Records of monthly inspections for proper unit labeling for each affected source and emission unit subject to labeling requirements.
 - (5) Records for any approved alternative monitoring or test procedure.
 - (6) Current copy of all required plans, including any revisions, with records documenting conformance with the applicable plan, including:
 - (i) Startup, shutdown, and malfunction plan;
 - (ii) For major sources, OM&M plan; and
 - (7) For each furnace, records of the 3-day, 24-hour rolling average emissions of PM, HCl, and D/F emissions calculations.
 - (8) For each in-line degasser, records of the 3-day, 24-hour rolling average emissions of PM, and HCl emissions calculations.

D.1.16 Secondary Aluminum Production Reporting Requirements [40 CFR Part 63, Subpart RRR]

Pursuant to 40 CFR 63.1510 and 63.1516 the owner or operator shall:

- (a) Submit initial notifications, upon startup, to the applicable permitting authority as described below.

The owner or operator must provide notification of the anticipated date for conducting performance tests and visible emission observations. The owner or operator must notify the Administrator of the intent to conduct a performance test at least 60 days before the performance test is scheduled; notification of opacity or visible emission observations for a performance test must be provided at least 30 days before the observations are scheduled to take place.

- (b) Each owner or operator must submit a notification of compliance status report within 60 days after the compliance dates specified in 40 CFR 63.1501. The notification must be signed by the responsible official who must certify its accuracy. A complete notification of compliance status report must include the information specified in paragraphs (a)(1) through (10) of this section. The required information may be submitted in an operating permit application, in an amendment to an operating permit application, in a separate submittal, or in any combination. In a State with an approved operating permit program where delegation of authority under section 112(l) of the CAA has not been requested or approved, the owner or operator must provide duplicate notification to the applicable Regional Administrator. If an owner or operator submits the information specified in this section at different times or in different submittals, later submittals may refer to earlier submittals instead of duplicating and resubmitting the information previously submitted. A complete notification of compliance status report must include:
- (1) All information required in 40 CFR 63.9(h). The owner or operator must provide a complete performance test report for each affected source and emission unit for which a performance test is required. A complete performance test report includes all data, associated measurements, and calculations (including visible emission and opacity tests).
 - (2) The approved site-specific test plan and performance evaluation test results for each continuous monitoring system.
 - (3) Unit labeling as described in 40 CFR 63.1506(b), including process type or furnace classification and operating requirements.
 - (4) The compliant operating parameter value or range established for each affected source or emission unit with supporting documentation and a description of the procedure used to establish the value (e.g., lime injection rate, total reactive chlorine flux injection rate, afterburner operating temperature, fabric filter inlet temperature), including the operating cycle or time period used in the performance test.
 - (5) Approved OM&M plan.
 - (6) Startup, shutdown, and malfunction plan, with revisions.
- (c) The owner or operator must develop and implement a written plan 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. The owner or operator shall also keep records of each event as required by 40 CFR 63.10(b) and record and report 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). In addition to the information required in 40 CFR 63.6(e)(3), the plan must 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, including procedures for recording the actions taken to correct the malfunction or minimize emissions.
- (d) The owner or operator must submit semiannual reports within 60 days after the end of each 6-month period. Each report must contain the information specified in 40 CFR 63.10(c). When no deviations of parameters have occurred, the owner or operator must submit a report stating that no excess emissions occurred during the reporting period.

A report must be submitted if any of these conditions occur during a 6-month reporting period:

- (1) An excursion of a compliant process or operating parameter value or range (e.g., lime injection rate or screw feeder setting, total reactive chlorine flux injection rate, afterburner operating temperature, fabric filter inlet temperature, definition of acceptable scrap, or other approved operating parameter).
- (2) 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).
- (3) An affected source (including an emission unit in a secondary aluminum processing unit) was not operated according to the requirements of Subpart RRR.
- (4) A deviation from the 3-day, 24-hour rolling average emission limit for a secondary aluminum processing unit.
- (e) The owner or operator must 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.

D.1.17 Reporting Requirements

- (a) A quarterly summary of the information to document compliance with Condition D.1.1 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. The report submitted by the Permittee does require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).
- (b) The quarterly report form of this permit shall satisfy the reporting requirement in the above condition and condition D.1.7 in Minor Source Modification 173-15352-00007 to show compliance with the 411,720 tons of molten aluminum limit for the 8EMC ACD unit in both permits.

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

Part 70 Source Modification Certification

Source Name: Alcoa, Inc. - Warrick Operations
Source Address: Jct. IN Hwys. 66 & 61, Newburgh, Indiana
Mailing Address: Bldg. 860E, P.O. Box 10, Newburgh, Indiana
Source Modification No.: 173-16034-00007

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

Please check what document is being certified:

Test Result (specify)

Report (specify)

Notification (specify)

Affidavit (specify)

Other (specify)

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

Signature:

Printed Name:

Title/Position:

Date:

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

Part 70 Source Modification Feed/Charge Quarterly Report

Source Name: Alcoa, Inc. - Warrick Operations
 Source Address: Jct. IN Hwys. 66 & 61, Newburgh, Indiana
 Mailing Address: Bldg. 860E, P.O. Box 10, Newburgh, Indiana
 Source Modification No.: 173-16034-00007
 Facility: 8M1, 8M2, and 8M3
 Parameter: Feed/Charge (see D.1.1)
 Limit: 280,082 tons per twelve (12) consecutive month period,
 rolled on a monthly basis each

YEAR: _____

Month	Column 1			Column 2			Column 1 + Column 2		
	This Month			Previous 11 Months			12 Month Total		
	8M1	8M2	8M3	8M1	8M2	8M3	8M1	8M2	8M3

No deviation occurred in this quarter.

Deviation/s occurred in this quarter.
 Deviation has been reported on:

Submitted by: _____

Title / Position: _____

Signature: _____

Date: _____

Telephone: _____

Attached a signed certification to complete this report.

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

Part 70 Source Modification Feed/Charge Quarterly Report

Source Name: Alcoa, Inc. - Warrick Operations
 Source Address: Jct. IN Hwys. 66 & 61, Newburgh, Indiana
 Mailing Address: Bldg. 860E, P.O. Box 10, Newburgh, Indiana
 Source Modification No.: 173-16034-00007 and 107-18905-00007
 Facility: 8M1, 8M2, and 8M3
 Parameter: Natural gas usage (see D.1.1)
 Limit: 915 MMCF per twelve (12) consecutive month period,
 rolled on a monthly basis total

YEAR:

Month	Column 1			Column 2			Column 1 + Column 2		
	This Month			Previous 11 Months			12 Month Total		
	8M1	8M2	8M3	8M1	8M2	8M3	8M1	8M2	8M3
Total									

No deviation occurred in this quarter.

Deviation/s occurred in this quarter.
 Deviation has been reported on:

Submitted by: _____

Title / Position: _____

Signature: _____

Date: _____

Telephone: _____

Attached a signed certification to complete this report.

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

Part 70 Source Modification Feed/Charge Quarterly Report

Source Name: Alcoa, Inc. - Warrick Operations
 Source Address: Jct. IN Hwys. 66 & 61, Newburgh, Indiana
 Mailing Address: Bldg. 860E, P.O. Box 10, Newburgh, Indiana
 Source Modification No.: 173-16034-00007
 Facility: 8EMC east holding and 8EMC west holding furnace
 Parameter: Feed/Charge (see D.1.1)
 Limit: 823,440 tons per twelve (12) consecutive month period,
 rolled on a monthly basis (total)

YEAR: _____

Month	Column 1		Column 2		Column 1 + Column 2	
	This Month		Previous 11 Months		12 Month Total	
	East HF	West HF	East HF	West HF	East HF	West HF
Total						

No deviation occurred in this quarter.

Deviation/s occurred in this quarter.
 Deviation has been reported on:

Submitted by: _____

Title / Position: _____

Signature: _____

Date: _____

Telephone: _____

Attached a signed certification to complete this report.

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

Part 70 Source Modification Feed/Charge Quarterly Report

Source Name: Alcoa, Inc. - Warrick Operations
 Source Address: Jct. IN Hwys. 66 & 61, Newburgh, Indiana
 Mailing Address: Bldg. 860E, P.O. Box 10, Newburgh, Indiana
 Source Modification No.: 173-16034-00007 and 173-18905-00007
 Facility: 8EMC east and 8EMC west holding furnaces
 Parameter: Natural gas usage (see D.1.1)
 Limit: 216 MMCF per twelve (12) consecutive month period,
 rolled on a monthly basis total

YEAR:

Month	Column 1		Column 2		Column 1 + Column 2	
	This Month		Previous 11 Months		12 Month Total	
	East HF	West HF	East HF	West HF	East HF	West HF
Total						

No deviation occurred in this quarter.

Deviation/s occurred in this quarter.
 Deviation has been reported on:

Submitted by: _____

Title / Position: _____

Signature: _____

Date: _____

Telephone: _____

Attached a signed certification to complete this report.

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

Part 70 Source Modification Feed/Charge Quarterly Report

Source Name: Alcoa, Inc. - Warrick Operations
 Source Address: Jct. IN Hwys. 66 & 61, Newburgh, Indiana
 Mailing Address: Bldg. 860E, P.O. Box 10, Newburgh, Indiana
 Source Modification No.: 173-16034-00007 and
 D.1.7 of Minor Source Modification 173-15352-00007
 Facility: 8EMC ACD and A622
 Parameter: Feed/Charge (see D.1.1)
 Limit: 411,720 tons per twelve (12) consecutive month period,
 rolled on a monthly basis each

YEAR: _____

Month	Column 1		Column 2		Column 1 + Column 2	
	This Month		Previous 11 Months		12 Month Total	
	8EMC ACD	A622	8EMC ACD	A622	8EMC ACD	A622

This reporting form also satisfies Condition D.1.7 of Minor Source Modification 173-15352-00007.

No deviation occurred in this quarter.

Deviation/s occurred in this quarter.
 Deviation has been reported on:

Submitted by: _____

Title / Position: _____

Signature: _____

Date: _____

Telephone: _____

Attached a signed certification to complete this report.

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

Part 70 Source Modification Feed/Charge Quarterly Report

Source Name: Alcoa, Inc. - Warrick Operations
Source Address: Jct. IN Hwys. 66 & 61, Newburgh, Indiana
Mailing Address: Bldg. 860E, P.O. Box 10, Newburgh, Indiana
Source Modification No.: 173-16034-00007
Facility: #1 complex ACD
Parameter: Feed/Charge (see D.1.1)
Limit: 86,000tons per twelve (12) consecutive month period,
rolled on a monthly basis

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	This Month	Previous 11 Months	12 Month Total

No deviation occurred in this quarter.

Deviation/s occurred in this quarter.
Deviation has been reported on:

Submitted by: _____

Title / Position: _____

Signature: _____

Date: _____

Alcoa, Inc. - Warrick Operations
Newburgh, Indiana
Permit Writer: Iryn Calilung
00007

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Permit Modification 173 -18905-00007
of Significant Source Modification 173-16034-

Telephone: _____

Attached a signed certification to complete this report.

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

Part 70 Source Modification Feed/Charge Quarterly Report

Source Name: Alcoa, Inc. - Warrick Operations
 Source Address: Jct. IN Hwys. 66 & 61, Newburgh, Indiana
 Mailing Address: Bldg. 860E, P.O. Box 10, Newburgh, Indiana
 Source Modification No.: 173-16034-00007
 Facility: #1 complex east holding furnace and #1 complex west holding furnace
 Parameter: Feed/Charge (see D.1.1)
 Limit: 172,000 tons per twelve (12) consecutive month period,
 rolled on a monthly basis (total)

YEAR: _____

Month	Column 1		Column 2		Column 1 + Column 2	
	This Month		Previous 11 Months		12 Month Total	
	East HF	West HF	East HF	West HF	East HF	West HF
Total						

No deviation occurred in this quarter.

Deviation/s occurred in this quarter.
 Deviation has been reported on:

Submitted by: _____

Title / Position: _____

Signature: _____

Date: _____

Telephone: _____

Attached a signed certification to complete this report.

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

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

Source Background and Description
--

Source Name:	Alcoa, Inc. - Warrick Operations
Source Location:	Jct. IN Highways 66 and 61, Newburgh, Indiana 47629
Mailing Address:	Building 869E, P. O. Box, Newburgh, Indiana 47629
County:	Warrick
SIC Code:	3334
Permit Modification No.:	173-18905-00007
Permit Writer:	Iryn Calilung 317/233-5692 icalilun@dem.state.in.us

Permitting History

On March 28, 2003, Alcoa Inc.- Warrick Operations (Alcoa) was issued a Significant Source Modification Permit (173-16034-00007) for the modification and construction of the following units:

- (1) three (3) melters at the 8EMC Casting Complex - - identified as 8M1, 8M2 and 8M3 melters.
- (2) two (2) holding furnaces at the 8EMC Complex -- identified as East Holding Furnace and West Holding Furnace.
- (3) two (2) degassing units at the 8EMC Complex - - identified as Alcan Compact Degassing (ACD) units and A622.
- (4) two (2) degassing units at the #1 Complex - - identified as ACD units.
- (5) two (2) holding furnaces at the #1 Complex - - identified as East Holding Furnace and West Holding Furnace.

This existing approval required Alcoa to perform stack tests to verify compliance with the emissions limitations and confirm the non-applicability of 326 IAC 2-2 Prevention of Significant Deterioration (PSD) requirements.

Proposed Modification

On April 1, 2004, Alcoa submitted an application to revise the existing Significant Source Modification Permit (173-16034-00007) to revise the emission limitations by incorporating the stack tests results and to increase the reactive flux input parameters at the melters, holders, and in line fluxers.

There is no construction of new units involved in this proposed modification.

The tables below show the existing limitations and proposed revisions.

**Melters at the 8EMC Casting Complex
 (8M1, 8M2, and 8M3 Melters)**

Proposed revisions are shown in *italics* fonts for emphasis.

Table 1 - - 8M1, 8M2 and 8M3 Melters at the 8EMC Casting Complex		
	Existing Limitations	Proposed Limitations
Annual Feed/Charge Rate	280,000 tons/year (total)	280,000 tons/year (total)
Natural Gas Usage	515 MMCF/year (each)	<i>915 MMCF/year (total)</i>
NO _x	91.9 lbs/MMCF (each)	<i>138.1 lbs/MMCF (each)</i>
	70.44 tons/year (total)	<i>63.18 tons/year (total)</i>
PM	0.118 lbs/ton (each)	0.118 lbs/ton (each)
		<i>for combined chlorine and flux salt input rates less than or equal to 1.29 lbs/ton of aluminum and for charges that contain 12,000 lbs or less of purchased oily scrap.</i>
	<i>0.16 lbs/ton (each)</i>	
		<i>for combined chlorine and flux salt input rates greater than 1.29 lbs/ton of aluminum but less than 2.35 lbs/ton of aluminum.</i>
	49.57 tons/year (total)	49.57 tons/year (total)
PM ₁₀	0.127 lbs/ton (each)	0.127 lbs/ton (each)
		<i>for combined chlorine and flux salt input rates less than or equal to 1.29 lbs/ton of aluminum.</i>
	<i>0.17 lbs/ton (each)</i>	
		<i>for combined chlorine and flux salt input rates greater than 1.29 lbs/ton of aluminum but less than 2.35 lbs/ton of aluminum.</i>
	53.54 ton/year (total)	53.54 tons/year (total)
Maximum Combined Chlorine and Flux Salt Input Rate	- -	<i>2.35 lbs/ton of aluminum for charges that contain no purchased oily scrap.</i>

- (1) Existing Permit and Limitations
 Conditions D.1.1 (a) to (e) of the Significant Source Modification (SSM) Permit 173-16034-00007, issued on March 28, 2003, specified the above mentioned charge rate, natural gas usage, NO_x, PM and PM₁₀ existing limitations.
- (2) NO_x Limitations and Testing Requirements
 - (a) The allowable NO_x rate was 91.9 lbs/MMCF. This was based on an in house stack test performed by Alcoa. This was also the rate used to determine the 2000 and 2001 NO_x average emissions for the PSD non-applicability determination.
 - (b) Condition D.1.9(c) of Significant Source Modification 173-16034-00007 required Alcoa to perform NO_x compliance tests on a representative 8EMC Casting Complex melters (8M1,

8M2 or 8M3) to verify compliance with the NO_x limitations and confirm that 326 IAC 2-2 Prevention of Significant Deterioration (PSD) requirements do not apply.

- (c) On November 12, 20 and 21, 2003, Alcoa performed NO_x tests at the 8M2. This melter was chosen because it has burners capable of operating in a convention mode and in a low NO_x operating mode.
- (d) The NO_x tests resulted in a NO_x rate of 138.1 lbs/MMCF, which is higher than the previous NO_x emission rate test result (91.9 lbs/MMCF).

- (e) Based on these recent NO_x tests results, Alcoa is seeking a permit modification to revise the NO_x limitations for the three (3) melters at the 8EMC Casting Complex by using the latest NO_x emission rates, provide natural usage flexibility for the 3 melters by removing the individual natural gas usage limits, and decrease the total annual natural gas usage. Since the total natural gas usage for the 3 melters will decrease, the NO_x emissions will also decrease.

- (i) Previous Limitations
NO_x (each) = (515 MMCF/year)*(91.9 lbs/MMCF) = 47,328.5 lbs/year
= (47328.5 lbs/year)*(1 ton/2000 lbs) = 23.66 tons/year
NO_x (total) = (23.66 tons/year)*(3 melters) = 70.99 tons/year

- (ii) Proposed Limitations
NO_x (total) = (915 MMCF/year)*(138.1 lbs/MMCF) = 126361.5 lbs/year
= (126361.5 lbs/year)*(1 ton/2000 tons) = 63.18 tons/year

- (iii) NO_x Decrease = (70.99 tons/year) - (63.18 tons/year) = 7.81 tons/year

- (f) Since there is expected decrease in NO_x emissions due to the proposed revision, the Significant Source Modification (SSM) Permit 173-16034-00007, issued on March 28, 2003 is revised as requested.

(3) PM Limitations and Testing Requirements

- (a) The allowable PM rate was 0.118 lbs/ton. This was based on the secondary aluminum tests performed by Alcoa. This was also the rate used to determine the 2000 and 2001 PM average emissions for the PSD non-applicability determination.
- (b) Condition D.1.9(a) of Significant Source Modification 173-16034-00007 required Alcoa to perform PM compliance tests on a representative 8EMC Casting Complex melters (8M1, 8M2 or 8M3) to verify compliance with the PM limitations. These tests were also required to show compliance with the 40 CFR Part 63, Subpart RRR.
- (c) Based on the stack tests results of the tests performed on November, 2003, Alcoa is seeking a permit modification to revise the PM and PM₁₀ surrogate parameters for the three (3) melters at the 8EMC Casting Complex by using different emission rates at various combined chlorine and flux salt input rates and maintaining the total allowable PM and PM₁₀ emissions.
- (d) Since the PM and PM₁₀ total emissions from these three (3) 8EMC Casting Complex melters will be maintained, the Significant Source Modification (SSM) Permit 173-16034-00007, issued on March 28, 2003 is revised as requested.

**Holding Furnaces at the 8EMC Complex
 (East Holding Furnace and West Holding Furnace)**

Proposed revisions are shown in *italics* fonts for emphasis.

Table 2 - - 8EMC East Holding Furnace and 8EMC West Holding Furnace				
	Existing Limitations		Proposed Limitations	
Annual Feed/Charge Rate	823,440 tons/year	(total)	823,440 tons/year	(total)
Natural Gas Usage	400 MMCF/year	(total)	<i>216 MMCF/year</i>	(total)
NO _x	91.19 lbs/MMCF	(total)	<i>147.1 lbs/MMCF</i>	(total)
	18.24 tons/year	(total)	<i>15.89 tons/year</i>	(total)
PM	34.17 tons/year	(total)	34.17 tons/year	(total)
PM	0.083 lbs/ton	(each)	0.083 lbs/ton	(each)
PM ₁₀	0.121 lbs/ton	(each)	0.121 lbs/ton	(each)
Chlorine Input Rate	Equal to or less than 0.51 lbs/ton of Aluminum		Equal to or less than 0.51 lbs/ton of Aluminum	
PM	0.165 lbs/ton	(each)	0.165 lbs/ton	(each)
PM ₁₀	0.241 lbs/ton	(each)	0.241 lbs/ton	(each)
Maximum Chlorine Input Rate	Greater than 0.51 lbs/ton of aluminum but less than 0.71 lbs/ton of Aluminum (each)		Greater than 0.51 lbs/ton of aluminum but less than <i>1.13 lbs/ton of Aluminum</i> (each)	
PM	- -		<i>0.22 lbs/ton</i>	<i>(each)</i>
PM ₁₀	- -		<i>0.32 lbs/ton</i>	<i>(each)</i>
Combined Chlorine and Flux Salt Input Rate	Greater than 1.2 lbs/ton of Aluminum, but less than 1.45 lbs/ton of Aluminum		Greater than 1.2 lbs/ton of Aluminum, but <i>less than 2.28 lbs/ton of Aluminum</i>	

- (1) Existing Permit and Limitations
 Conditions D.1.1 (f) to (j) of the Significant Source Modification (SSM) Permit 173-16034-00007, issued on March 28, 2003, specified the above mentioned charge rate, natural gas usage, NO_x, PM and PM₁₀ existing limitations at various chlorine input rates.
- (2) NO_x Limitations and Testing Requirements
 - (a) The allowable NO_x rate was 91.9 lbs/MMCF. This was based on an in house stack test performed by Alcoa. This was also the rate used to determine the 2000 and 2001 NO_x average emissions for the PSD non-applicability determination.
 - (b) Condition D.1.9(c) of Significant Source Modification 173-16034-00007 required Alcoa to perform NO_x compliance tests on a representative 8EMC East Holding Furnace or West Holding Furnace to verify compliance with the NO_x limitations and confirm that 326 IAC 2-2 Prevention of Significant Deterioration (PSD) requirements do not apply.

- (c) On November 13, 2003, Alcoa tested the 8EMC West Holding Furnace.
 - (d) On June 28-29, 2004, ALCOA conducted tests for combined chlorine and slat input rates ranging from 1.68 to 2.28 pounds per ton of aluminum.
 - (e) The NO_x tests resulted in a NO_x rate of 147.1 lbs/MMCF, which is higher than the previous NO_x emission rate test result (91.9 lbs/MMCF).
 - (f) Based on the most recent NO_x tests, Alcoa is seeking a permit modification to revise the NO_x limitations for the 8EMC East Holding Furnace and West Holding Furnace by using the latest NO_x emission rates, and decrease the total annual natural gas usage. Since the total natural gas usage for these two (2) 8EMC holding furnaces will decrease, the NO_x emissions will also decrease.
 - (i) Previous Limitations
NO_x (total) = (400 MMCF/year)*(91.9 lbs/MMCF)*(1 ton/2000 lbs)
= 18.38 tons/year
 - (ii) Proposed Limitations
NO_x (total) = (216 MMCF/year)*(147.1 lbs/MMCF)*(1 ton/2000 lbs)
= 15.89 tons/year
 - (iii) NO_x Decrease = (18.38 tons/year) - (15.89 tons/year) = 2.49 tons/year
 - (g) Since there is expected decrease in NO_x emissions due to the proposed revision, the Significant Source Modification (SSM) Permit 173-16034-00007, issued on March 28, 2003 is revised as requested.
- (3) PM Limitations and Testing Requirements
- (a) Condition D.1.9(a) of Significant Source Modification 173-16034-00007 required Alcoa to perform PM compliance tests on a representative 8EMC East Holding Furnace or West Holding Furnace to verify compliance with the PM limitations. These tests were also required to show compliance with the 40 CFR Part 63, Subpart RRR.
 - (b) Based on the stack tests results of the tests performed on November, 2003, Alcoa is seeking a permit modification to revise the PM and PM₁₀ surrogate parameters for the 8EMC East Holding Furnace and West Holding Furnace by using different emission rates at various combined chlorine and flux salt input rates and still maintaining the total allowable PM and PM₁₀ emissions.
 - (c) Since the PM and PM₁₀ total emissions from these two (2) 8EMC holding furnaces will be maintained, the Significant Source Modification (SSM) Permit 173-16034-00007, issued on March 28, 2003 is revised as requested.

Degassing Units at the 8EMC Complex (ACD and A622)
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Proposed revisions are shown in *italics* fonts for emphasis.

Table 3 - - 8EMC ACD and 8EMC A622		
	Existing Limitations	Proposed Limitations
Annual Feed/Charge Rate	411,720 tons/year (each)	411,720 tons/year (each)
PM (8EMC ACD Only)	0.003 lbs/ton	0.003 lbs/ton
	0.62 tons/year	0.62 tons/year
PM (8EMC A622 Only)	0.001 lbs/ton	0.001 lbs/ton
		<i>for combined chlorine and flux salt input rates less than 0.1 lbs/ton of aluminum.</i>
	<i>0.002 lbs/ton</i>	
		<i>for combined chlorine and flux salt input rates greater than or equal to 0.1 lbs/ton of aluminum.</i>
	0.21 tons/year	0.21 tons/year
PM ₁₀	0.00312 lbs/ton (total)	0.00312 lbs/ton (total)
	0.64 tons/year (total)	0.64 tons/year (total)

- (1) Conditions D.1.1 (k) to (n) of the Significant Source Modification (SSM) Permit 173-16034-00007, issued on March 28, 2003, specified the above mentioned charge rate, PM and PM₁₀ existing limitations.
- (2) Based on the stack tests results of the tests performed on November, 2003, Alcoa is seeking a permit modification to revise the PM and PM₁₀ surrogate parameters for the 8EMC ACD and 8EMC A622 units by providing different emission rates at various chlorine and flux salt input rates and still maintaining the individual and total PM and PM₁₀ emissions.
- (3) Since the total allowable PM and PM₁₀ emissions from 8EMC ACD and 8EMC A622 units will be maintained, the Significant Source Modification (SSM) Permit 173-16034-00007, issued on March 28, 2003 is revised as requested.

Degassing Units at the #1 Complex (ACD units)

Proposed revisions are shown in *italics* fonts for emphasis.

Table 4 - - #1 Complex ACD Units				
	Existing Limitations		Proposed Limitations	
Annual Feed/Charge Rate	86,000 tons/year	(each)	86,000 tons/year	(each)
PM	0.10 lbs/ton	(each)	<i>0.026 lbs/ton</i>	(each)
	8.6 tons/year	(total)	<i>0.94 tons/year</i>	(total)
PM ₁₀	0.209 lbs/ton	(each)	<i>0.027 lbs/ton</i>	(each)
	17.97 tons/year	(total)	<i>0.97 tons/year</i>	(total)

- (1) Conditions D.1.1 (o) to (q) of the Significant Source Modification (SSM) Permit 173-16034-00007, issued on March 28, 2003, specified the above mentioned charge rate, PM and PM₁₀ existing limitations.
- (2) Condition D.1.9(a) of Significant Source Modification 173-16034-00007 required Alcoa to perform PM compliance tests on a representative degassing unit ACD to verify compliance with the PM limitations. These tests were also required to show compliance with the 40 CFR Part 63, Subpart RRR.
- (3) Based on the stack tests results of the tests performed on November, 2003, Alcoa is seeking a permit modification to revise the PM and PM₁₀ emission rates for the #1 Complex ACD units by using the stack tests results as limitations.
- (4) The PM and PM₁₀ emissions decrease as follows.

PM Emissions Decrease	=	8.6 tons/year - 0.94 tons/year	=	7.66 tons/year
PM ₁₀ Emissions Decrease	=	17.97 tons/year - 0.97 tons/year	=	17.0 tons/year
- (5) Since the total allowable PM and PM₁₀ emissions from the #1 Complex degassing ACD units will decrease, the Significant Source Modification (SSM) Permit 173-16034-00007, issued on March 28, 2003 is revised as requested.

**Holding Furnaces at the #1 Complex
 (East Holding Furnace and West Holding Furnace)**

Proposed revisions are shown in *italics* fonts for emphasis.

Table 5 - - East Holding Furnace and West Holding Furnace				
	Existing Limitations		Proposed Limitations	
Annual Feed/Charge Rate	172,000 tons/year	(total)	172,000 tons/year	(total)
PM	0.045 lbs/ton		0.045 lbs/ton	
	3.87 tons/year	(total)	3.87 tons/year	(total)
PM ₁₀	0.066 lbs/ton		0.066 lbs/ton	
	5.65 tons/year	(total)	5.65 tons/year	(total)
NO _x	0.037 lbs/ton		<i>0.148 lbs/ton</i>	
	3.182 tons/year	(total)	<i>12.58 tons/year</i>	(total)

- (1) Conditions D.1.1 (r) to (u) of the Significant Source Modification (SSM) Permit 173-16034-00007, issued on March 28, 2003, specified the above mentioned charge rate, NO_x, PM and PM₁₀ existing limitations.
- (2) Condition D.1.9(c) of Significant Source Modification 173-16034-00007 required Alcoa to perform NO_x compliance tests on a representative #1 Complex East Holding Furnace or West Holding Furnace to verify compliance with the NO_x limitations.
- (3) On November 12, 2003, Alcoa tested the East Holding Furnace at the #1 Complex.
- (4) The NO_x tests resulted in a NO_x rate of *0.148 lbs/ton*, which is higher than the allowable emission rate (0.037 lbs/ton).
- (5) Based on the most recent NO_x tests, Alcoa is seeking a permit modification to revise the NO_x limitations for the #1 Complex East Holding Furnace and West Holding Furnace by using the latest NO_x emission rates.
 - (a) Previous Limitations

$$\begin{aligned} \text{NO}_x \text{ (total)} &= (172,000 \text{ tons/year}) * (0.037 \text{ lbs/ton}) * (1 \text{ ton}/2000 \text{ lbs}) \\ &= 3.182 \text{ tons/year} \end{aligned}$$
 - (b) Proposed Limitations

$$\begin{aligned} \text{NO}_x \text{ (total)} &= (172,000 \text{ tons/year}) * (0.148 \text{ lbs/ton}) * (1 \text{ ton}/2000 \text{ lbs}) \\ &= 12.728 \text{ tons/year} \end{aligned}$$
 - (c) NO_x Increase = (12.728 tons/year) - (3.182 tons/year) = 9.546 tons/year
- (6) This NO_x emissions increase is compared to the expected decrease in NO_x emissions from the proposed revisions for the 8EMC melters and 8EMC holding furnaces:

$$\begin{aligned} \text{Total NO}_x \text{ decrease} &= (\text{8EMC melters decrease}) + (\text{8EMC holding furnaces decrease}) \\ &= [\text{see Table 1(2)(e)}] + [\text{see Table 2(2)(e)}] \\ &= (7.81 \text{ tons/year}) + (2.49 \text{ tons/year}) \end{aligned}$$

$$\begin{aligned}
 &= 10.3 \text{ tons/year} \\
 \text{Net NO}_x \text{ Decrease} &= (\text{Total NO}_x \text{ Decrease}) - (\text{NO}_x \text{ Increase}) \\
 &= (10.3 \text{ tons/year}) - (9.546 \text{ tons/year}) \\
 &= 0.754 \text{ tons/year}
 \end{aligned}$$

- (7) Since there is overall decrease in NO_x emissions due to the proposed revision, the Significant Source Modification (SSM) Permit 173-16034-00007, issued on March 28, 2003 is revised as requested.

Justification for Modification

- (1) There are no construction of new units involved in this proposed modification.
- (2) Pursuant to 326 IAC 2-7-12(d), the existing Significant Source Modification Approval 173-16034-00007, issued on March 28, 2003, is revised to incorporate the changes requested by Alcoa.

County Attainment Status

The source is located in Warrick County.

Table 6 - - County Status	
Pollutant	Status
PM ₁₀	attainment
SO ₂	attainment
NO ₂	attainment
1-Hour Ozone	attainment
8-Hour Ozone	nonattainment
CO	attainment
Lead	attainment

- (1) Volatile Organic Compound (VOC) and Nitrogen Oxides (NO_x)
 VOC and NO_x are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining National Ambient Air quality Standards (NAAQS) for ozone. Therefore, VOC and NO_x are considered when evaluating the rule applicability relating to the ozone standards. emissions are considered when evaluating the rule applicability relating to the ozone standards. Warrick County has been designated as nonattainment for 8-hour ozone. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements for nonattainment new source review.
- (2) Criteria Pollutants
 Warrick County has been classified as attainment for all remaining criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

Source Status

This existing source is:

- (1) considered one of the 28 listed source categories (326 IAC 2-2-1(y)).
- (2) a PSD major stationary source because an attainment regulated pollutant is emitted at a rate of one hundred (100) tons per year or more (326 IAC 2-2).
- (3) a Part 70 source (326 IAC 2-7).
- (4) a major source in terms of HAPs emissions (CAA Section 112(j)).

Federal and State Rules Applicability

- (1) There are no changes on the existing applicable federal and state rules due to the proposed permit modification.
- (2) There are no new additional applicable federal and state rules due that apply due to the proposed permit modification.

Compliance Monitoring and Determination

- (1) There are no new additional compliance monitoring requirements that apply due to the proposed permit modification.
- (2) There are no new additional stack testing requirements that apply due to the proposed permit modification.

Proposed Permit Changes

- (1) The first proposed revision to the Significant Source Modification 173-16034-00007 is as follows (new requirements are in **bold** fonts and deleted requirements are shown in ~~strikeout~~ fonts for emphasis)

D.1.1 Prevention of Significant Deterioration (PSD) [326 IAC 2-2] [~~40 CFR 52.21~~]

The following conditions shall apply:

8M1, 8M2, and 8M3 Melters

- (a) The annual feed/charge rate of each of melters 8M1, 8M2, and 8M3 shall not exceed 280,082 tons per year, **with compliance demonstrated at the end of each month.**
- (b) The **total** natural gas usage of ~~each~~ of melters 8M1, 8M2, and 8M3 shall not exceed **545 915** MMCF per year, **with compliance demonstrated at the end of each month.**

(c) **Particulate Matter (PM)**

- (1) **The PM emissions from melters 8M1, 8M2, and 8M3 shall not exceed 0.118 ~~lb~~ pounds per ton of charge each for combined chlorine and flux salt input rates less than or equal to 1.29 pounds per ton of aluminum 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 pounds per ton of charge each for combined chlorine and flux salt input rates greater than 1.29 pounds of aluminum, but less than 2.35 pounds per ton of aluminum, for charges that contain no purchased oily scrap.**
- (3) **The combined chlorine and flux salt input rates shall not exceed 2.35 pounds per ton of aluminum for charges that contain no purchased oily scrap.**
- (4) ~~and~~ **The total PM emissions from all the three melters shall not exceed 49.57 tons per year.**
- (5) **The PM emissions from melters 8M1, 8M2, and 8M3 shall not exceed the allowable emission rate specified by 40 CFR 63.1505(k)(1) each, for combined chlorine and flux input rates greater than 1.29 pounds per ton of aluminum but less than 2.27 pounds per ton of aluminum, 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.**

(d) **Particulate Matter with aerodynamic diameter of less than or equal to 10 micrometers (PM₁₀)**

- (1) **The PM₁₀ emissions from melters 8M1, 8M2, and 8M3 shall not exceed 0.127 ~~lb~~ pounds per ton of charge each for combined chlorine and flux salt input rates less than or equal to 1.29 pounds per ton of aluminum.**
- (2) **The PM₁₀ emissions from melters 8M1, 8M2, and 8M3 shall not exceed 0.17 pounds per ton of charge each for combined chlorine and flux salt input rates greater than or equal to 1.29 pounds per of aluminum, but less than 2.35 pounds per ton of aluminum for charges that contain no purchased oily scrap.**
- (3) **The combined chlorine and flux salt input rates shall not exceed 2.35 pounds per ton of aluminum for charges that contain no purchased oily scrap.**
- (4) ~~and~~ **The total PM₁₀ emissions from all the three melters shall not exceed 53.54 tons per year.**
- (5) **The PM₁₀ emissions from melters 8M1, 8M2, and 8M3 shall not exceed the allowable emission rate specified by 40 CFR 63.1505(k)(1), multiplied by 1.08 each for combined chlorine and flux**

input rates greater than 1.29 pounds per ton of aluminum but less than 2.27 pounds per ton of aluminum, 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.

- (e) **The NO_x emissions from melters 8M1, 8M2, and 8M3 shall not exceed 94.49 138.1 lbs per MMCF of natural gas each and the total NO_x emissions from all the three melters shall not exceed 70.44 63.18 tons per year.**

8EMC East Holding Furnace and 8EMC West Holding Furnace

- (f) The annual feed/charge rate of the 8EMC east holding furnace and the 8 EMC west holding furnace shall be limited to 823,440 tons per year, **with compliance demonstrated at the end of each month.**
- (g) The **total** natural gas usage of the 8EMC east holding furnace and the 8EMC west holding furnace shall not exceed 400 **216** MMCF per year, **with compliance demonstrated at the end of each month.**
- (h) **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 chlorine input rates less than or equal to 0.51 lbs/ton of aluminum.
- (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 charge for chlorine input rates greater than 0.51 lbs/ton of aluminum but less than ~~0.74~~ **1.13** lbs/ton **of aluminum.**
- (3) In no event shall chlorine exceed a maximum input rate of ~~0.74~~ **1.13** lbs/ton **of aluminum** ~~In no event shall chlorine exceed a maximum input rate of 0.74 lb/ton.~~
- (4) **The PM emissions from the 8EMC east holding furnace and the 8EMC west holding furnace shall be limited to the allowable emission rate specified by 40 CFR 63.1505(k)(1) each, for combined chlorine and flux salt input rates greater than 1.2 pounds per ton of aluminum, but less than 2.28 pounds per ton of aluminum.**
- (5) **In no event shall the combined chlorine and flux salt rate exceed a maximum input rate of 2.28 pounds per ton of aluminum.**
- (6) 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 year.
- (i) **Particulate Matter with aerodynamic diameter of less than or equal to 10 micrometers (PM₁₀)**
- (1) The PM₁₀ emissions from the 8EMC east holding furnace and the 8EMC west holding furnace shall be limited to 0.121 lbs/ton of charge for chlorine input rates less than or equal to 0.51 lbs/ton of aluminum.

- (2) The PM₁₀ emissions from the 8EMC east holding furnace and the 8EMC west holding furnace shall be limited to 0.241 lbs/ton of charge for chlorine input rates greater than 0.51 lbs/ton of aluminum but less than ~~0.74~~ **1.13** lbs/ton **of aluminum**.
 - (3) In no event shall chlorine exceed a maximum input rate of ~~0.74~~ **1.13** lbs/ton **of aluminum**.
 - (4) **The PM₁₀ emissions from the 8EMC east holding furnace and the 8EMC west holding furnace shall be limited to the allowable emission rate specified by 40 CFR 63.1505(k)(1), multiplied by 1.46 each for combined chlorine and flux salt input rates greater than 1.2 pounds ton of aluminum, but less than 2.28 pounds per ton of aluminum.**
 - (5) **In no event shall the combined chlorine and flux salt rate exceed a maximum input rate of 2.28 pounds per ton of aluminum.**
 - (6) The total PM₁₀ emissions from both holding furnaces (**8EMC east holding furnace and the 8EMC west holding furnace**) shall be limited to 49.89 tons per year.
- (j) The NO_x emissions from the 8EMC east holding furnace and the 8EMC west holding furnace shall be limited to ~~94.49~~ **147.1** lbs per MMCF of natural gas and the total NO_x emissions from both holding furnaces shall be limited to ~~48.24~~ **15.89** tons per year.

8EMC ACD and 8EMC A622 units

- (k) The annual feed/charge rate of the 8EMC ACD and **8EMC** A622 units shall be limited to 411,720 tons per year each, **with compliance demonstrated at the end of each month**.
- (l) The PM emissions from the 8EMC ACD unit shall be limited to 0.003 lbs/ton of feed/charge and the total PM emissions shall be limited to 0.62 tons per year.
- (m) **Particulate Matter (PM)**
 - (1) The PM emissions from the 8EMC A622 unit shall be limited to 0.001 lbs/ton of feed/charge **for combined chlorine and flux salt input rates less than 0.1 pounds per ton of aluminum**.
 - (2) **The PM emissions from the 8EMC A622 unit shall be limited to 0.002 pounds per ton of feed/charge for combined chlorine and flux salt input rates greater than or equal to 0.1 pounds per ton of aluminum.**
 - (3) ~~and~~ **The total PM emissions from the 8EMC A622** shall be limited to 0.21 tons per year.
- (n) The PM₁₀ emissions from the 8EMC ACD and **8EMC** A622 units shall be limited to 0.00312 lbs/ton of feed/charge and the total PM emissions **from the 8EMC ACD and 8EMC A622 units** shall be limited to 0.64 tons per year.

#1 Complex ACD Units

- (o) The feed/charge rate of each of the #1 complex ACD units shall not exceed 86,000 tons per year, **with compliance demonstrated at the end of each month.**
- (p) **The** PM emissions from the #1 complex ACD units shall not exceed ~~0.40~~ **0.026** lbs per ton of molten metal and the total PM emissions the two (2) **#1 complex** ACD units shall not exceed ~~8.60~~ **0.94** tons per year.
- (q) **The** PM₁₀ emissions from the #1 complex ACD units shall not exceed ~~0.209~~ **0.027** lbs per ton of charge each and the total PM₁₀ emissions from both #1 complex ACD units shall not exceed ~~17.97~~ **0.97** tons per year.

#1 Complex East Holding Furnace and #1 Complex West Holding Furnace

- (r) The total feed/charge of the #1 complex east **holding furnace** and the #1 complex west holding furnaces shall not exceed 172,000 tons per year, **with compliance demonstrated at the end of each month.**
- (s) **The** PM emissions from the #1 complex east **holding furnace** and **#1 complex** west holding furnaces shall not exceed 0.045 lbs per ton of molten metal and the total PM emissions these furnaces shall not exceed 3.87 tons per year.
- (t) **The** PM₁₀ emissions from the #1 complex east **holding furnace** and **#1 complex** west holding furnaces shall not exceed 0.066 lbs per ton of charge and the total PM₁₀ emissions from these furnaces shall not exceed 5.65 tons per year.
- (u) **The** NO_x emissions from the #1 complex east **holding furnace** and **#1 complex** west holding furnaces shall not exceed ~~0.037~~ **0.148** lbs per ton of charge and the total NO_x emissions from these furnaces shall not exceed ~~3.482~~ **12.58** tons per year.

Compliance with these limits render the requirements of 326 IAC 2-2 and 40 CFR 52.21 (Prevention of Significant Deterioration) not applicable.

This condition supersedes Condition No. D.1.1 of Permit 173-16034-00007, issued on March 28, 2003.

- (2) Corresponding reporting forms are also revised accordingly. The revised reporting forms supersede the reporting forms in Permit 173-16034-00007, issued on March 28, 2003.
- (3) The following general information was revised to reflect the change in attainment status of Warrick County.

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

The Permittee owns and operates a stationary primary aluminum reduction source.

Responsible Official:	Melvin W. Lager, Jr.
Source Address:	Jct. IN Hwys. 66 & 61, Newburgh, Indiana 47629
Mailing Address:	Bldg. 860E, P.O. Box 10, Newburgh, Indiana 47629

General Source Phone Number: 812 - 853 - 6111
SIC Code: 3334
County Location: Warrick County
Source Location Status: **Nonattainment for 8-hour ozone**
Attainment for **other** all criteria pollutants
Source Status: Part 70 Permit Program
Major Source, under PSD Rules;
Major Source, Section 112 of the Clean Air Act
1 of 28 Source Categories

- (4) There are no other conditions of Permit 173-16034-00007 that are revised by this proposed modification.

Recommendation and Conclusion

- (1) Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.
- (2) An application for the purposes of this review was received on April 1, 2004, with additional information received on July 1, 2004.
- (3) Based on the facts, conditions and evaluations made, OAQ staff recommends to the IDEM Commissioner that the findings for the Permit Amendment 173-18905-00007 be provided to the public for comment.
- (4) A notice of the preliminary findings will be published in the most circulated newspaper in the area. There will be a 30-day comment period. For additional information about air permits and how the public can participate, see IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: www.IN.gov/idem/guides.
- (5) A copy of the preliminary findings is available on the Internet at: www.IN.gov/idem/air/permits/Air-Permits-Online.

IDEM Contact

Questions regarding this proposed permit modification can be directed to Iryn Calilung at the Indiana Department Environmental Management, Office of Air Quality, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana 46206-6015 or by telephone at (317) 233-5692 or toll free at 1-800-451-6027 extension 3-5692 or at icalilun@dem.state.in.us.

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

Addendum to the Technical Support Document (TSD) for a
Permit Modification of a Part 70 Significant Source Modification

Source Background and Description

Source Name:	Alcoa, Inc. - Warrick Operations
Source Location:	Jct. IN Highways 66 and 61, Newburgh, Indiana 47629
Mailing Address:	Building 869E, P. O. Box 10, Newburgh, Indiana 47629
County:	Warrick
SIC Code:	3334
Permit Modification No.:	173-18905-00007
Permit Writer:	Iryn Calilung 317/233-5692 icalilun@dem.state.in.us

Public Notification and Participation

On July 29, 2004, the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) had a notice published in the Boonville Standard, Boonville, Indiana, stating that Alcoa, Inc. - Warrick Operations had applied for an air approval to revise the emissions limitations of their existing melters, holders and in line fluxers.

The public comment period ended on August 28, 2004.

Proposed Permit Changes After the Public Notification

On August 13, 2004, Alcoa, Inc. - Warrick Operations (Alcoa) provided comments for the draft permit and its supporting documents. The summary of these comments and corresponding OAQ responses are shown below. Any changes to the draft permit after public notification are shown in **bold** or ~~strikeout~~ for emphasis.

Alcoa Comment No. 1: Responsible Official
Please amend the permit to reflect the new responsible official: Michael R. Lucas, Vice President and General Manager.

IDEM Response No. 1:
To minimize amendments to the permit, the responsible official has been revised by indicating the title or position of the responsible official.

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

The Permittee owns and operates a stationary primary aluminum reduction source.	
Responsible Official:	Melvin W. Lager, Jr. Vice President and General Manager
Source Address:	Jct. IN Hwy. 66 & 61, Newburgh, Indiana 47629
Mailing Address:	Bldg. 860E, P.O. Box 10, Newburgh, Indiana 47629
General Source Phone Number:	812 - 853 - 6111
SIC Code:	3334
County Location:	Warrick County

Alcoa Comment No. 2: Particulate Matter

Alcoa, Inc. - Warrick Operations conducted stack testing on June 28 to 29, 2004 for the 8EMC complex at various combined chlorine and salt input rates. Please revise the proposed Conditions D.1.1 (h) and D.1.1 (i) to reflect the results of the stack tests.

IDEM Response No. 2:

IDEM has revised Conditions D.1.1 (h) and D.1.1 (i) by incorporating the stack tests results and providing Alcoa the flexibility of adjusting the mixture of chlorine and flux salt input rates.

8EMC East Holding Furnace and 8EMC West Holding Furnace

D.1.1 (h) 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 chlorine input rates less than or equal to 0.51 lbs/ton of aluminum.
 - (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 charge for chlorine input rates greater than 0.51 lbs/ton of aluminum but less than ~~4.43~~ **1.76** lbs/ton of aluminum.
 - (3) In no event shall chlorine exceed a maximum input rate of ~~4.43~~ **1.76** lbs/ton of aluminum.
 - (4) The PM emissions from the 8EMC east holding furnace and the 8EMC west holding furnace shall be limited to the allowable emission rate specified by 40 CFR 63.1505(k)(1) each, for combined chlorine and flux salt input rates greater than 1.2 pounds per ton of aluminum, but less than ~~2.28~~ **1.76** pounds per ton of aluminum.
 - (5) In no event shall the combined chlorine and flux salt rate exceed a maximum input rate of ~~2.28~~ **1.76** pounds per ton of aluminum.
 - (6) 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 year.
- (i) Particulate Matter with aerodynamic diameter of less than or equal to 10 micrometers (PM₁₀)
- (1) The PM₁₀ emissions from the 8EMC east holding furnace and the 8EMC west holding furnace shall be limited to 0.121 lbs/ton of charge for chlorine input rates less than or equal to 0.51 lbs/ton of aluminum.
 - (2) The PM₁₀ emissions from the 8EMC east holding furnace and the 8EMC west holding furnace shall be limited to 0.241 lbs/ton of charge for chlorine input rates greater than 0.51 lbs/ton of aluminum but less than ~~4.43~~ **1.76** lbs/ton of aluminum.
 - (3) In no event shall chlorine exceed a maximum input rate of ~~4.43~~ **1.76** lbs/ton of aluminum.
 - (4) The PM₁₀ emissions from the 8EMC east holding furnace and the 8EMC west holding furnace shall be limited to the allowable emission rate specified by 40 CFR 63.1505(k)(1), multiplied by 1.46 each for combined chlorine and flux salt input rates greater than 1.2 pounds ton of aluminum, but less than ~~2.28~~ **1.76**

pounds per ton of aluminum.

- (5) In no event shall the combined chlorine and flux salt rate exceed a maximum input rate of ~~2.28~~ **1.76** pounds per ton of aluminum.
- (6) The total PM₁₀ emissions from both holding furnaces (8EMC east holding furnace and the 8EMC west holding furnace) shall be limited to 49.89 tons per year.

Alcoa Comment No. 3: Condition D.1.5 (d) (1)

Alcoa notes that the wording of this proposed condition conflicts with 40 CFR 63.1510(j) (iii) with respect to monitoring of total reactive flux injection rate. Alcoa also notes that 40 CFR 63.1510(j)(iii) conflicts with 40 CFR 63.1510(b)(4)(i), upon which this condition is based. Based on information provided by John Schaeffer of EPA, OAQPS, Alcoa believes that it was the intent of EPA that calibration and certification of accuracy of each monitoring device be performed in accordance with the schedule and instructions specified by the manufacturer, or if no calibration schedule is specified by the manufacturer, at least once every 6 months.

Alcoa thus requests that Condition D.1.5(d)(1) be modified.

IDEM Response No. 3:

Alcoa has appealed Condition D.1.5(d)(1) when the original Significant Source Modification 173-16034-00007 was issued on March 28, 2003. IDEM is currently working with Alcoa to resolve this appealed condition. Since this condition was appealed and not part of the items being modified under this review, Condition D.1.5(d)(1) was not revised as Alcoa requested.

Alcoa Comment No.4: Condition D.1.7

Alcoa requests that Condition D.1.7 (Preventive Maintenance Plan) be modified, because if the Operation, Maintenance, and Monitoring (OM&M) Plan was prepared solely under the provisions of Condition D.1.5- Operation, Maintenance, and Monitoring (OM&M) Plan, it would not meet 40 CFR 63.1510(b) or 326 IAC 1-6.

Condition C.2(e) specifies:

C.2(e) To the extent, but only to the extent, Permittee is required by 40 CFR Part 60/63 to have an OM&M Plan, such plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 and the OM&M Plan requirements shall be the applicable requirements for maintenance.

In addition, 40 CFR 63.1510(b) has been amended requiring Alcoa to resubmit a revised plan if IDEM identified any revision to be made. Thus, Alcoa is no longer required to obtain IDEM's approval before operating in compliance with the OM&M plan, including revisions, but must comply with any revisions requested by IDEM after the plan is submitted.

IDEM Response No. 4:

IDEM has revised Condition D.1.7 to be consistent with C.2(e).

D.1.7 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section C - Preventive Maintenance Plan, of this permit, is required for these facilities. **To the extent, but only to the extent, the Permittee is required by 40 CFR Part 60 or 40 CFR Part 63 to have an OM&M Plan, such plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 and the OM&M Plan requirements shall be the applicable requirements for maintenance.** #

~~the OM&M plan required by condition D.1.5 is developed in accordance with Section C- Preventive Maintenance Plans, then after the OM&M plan has been approved, it shall satisfy the requirements of this condition.~~

Alcoa Comment No.5: SSM173-16034-00007 and OP87-07-91- 0115 and 87-07-91- 0116

Alcoa requests that the draft permit remedy the fact that on March 28, 2003, Alcoa, Inc. – Warrick Operations was issued Significant Source Modification 173-16034-00007, and also that on July 11, 1991, Alcoa, Inc. – Warrick Operations was issued Permit 87-07-91- 0115. Both permits include the melt furnaces and holding furnaces in the 8EMC complex. Alcoa thus finds that it must comply with two different permits for the same equipment. Alcoa thus requests that a condition in the draft permit be included, whereby permit 87-07-91- 0115 be declared null and void.

Alcoa also requests that the draft permit remedy the fact that on March 28, 2003, Alcoa, Inc. – Warrick Operations was issued Significant Source Modification 173-16034-00007, and also that on July 11, 1991, Alcoa, Inc. – Warrick Operations was issued Permit 87-07-91- 0116. Both permits include the holding furnaces in the #1HDC casting complex. Alcoa thus finds that it must comply with two different permits for the same equipment. Alcoa thus requests that a condition in the draft permit be included, whereby permit 87-07-91- 0116 be declared null and void with respect to the No.1 east and No.1 west holding furnaces.

IDEM Response No. 5:

This request was initially brought to IDEM's attention by a letter from Alcoa on April 1, 2004. Since one of the permits involved in this letter was being modified under this permit modification, IDEM decided that the clarification of which permits are in effect, as a response to the letter, be processed and reviewed separately and be finalized after the issuance of this permit modification. The letter was assigned permit number 173-18921-00007.

IDEM Contact

Questions regarding this permit modification can be directed to Iryn Calilung at the Indiana Department Environmental Management, Office of Air Quality, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana 46206-6015 or by telephone at (317) 233-5692 or toll free at 1-800-451-6027 extension 3-5692 or by e-mail at icalilun@dem.state.in.us.

A copy of the preliminary findings is available on the Internet at:
www.IN.gov/idem/air/permits/Air-Permits-Online.

For additional information about air permits, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: www.IN.gov/idem/guides.