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

Mitchell E. Daniels, Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204-2251
(317) 232-8603
(800) 451-6027
www.IN.gov/idem

PART 70 OPERATING PERMIT
OFFICE OF AIR QUALITY

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

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

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

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17. This permit also addresses certain new source review requirements for existing equipment and is intended to fulfill the new source review procedures pursuant to 326 IAC 2-7-10.5, applicable to those conditions.

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

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SECTION A SOURCE SUMMARY

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

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

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

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

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

This company consists of two (2) plants:

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

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

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

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

These two plants have different plant identification numbers.

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

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

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

(a) D.1.Alumina and aluminum fluoride handling Plant: The alumina and aluminum fluoride handling plant consists of the barge alumina unloading, truck unloading, and rail unloading. There are various conveyors, and tanks associated with this operation. The alumina is finally fed to Potlines 1 to 6. The emissions are controlled by several baghouses. The detailed equipment list is located in Section D.1 of this permit.

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

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

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

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

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

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

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

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

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

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

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

(a) It is a major source, as defined in 326 IAC 2-7-1(22); and

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

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SECTION B GENERAL CONDITIONS

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

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

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

(a) This permit, T173-6627-00007, is issued for a fixed term of five (5) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date of this permit.

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

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

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

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

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

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

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

B.5 Enforceability [326 IAC 2-7-7]

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

B.6 Severability [326 IAC 2-7-5(5)]

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

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

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

B.8 Duty to Provide Information [326 IAC 2-7-5(6)(E)]

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

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

B.9 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. One (1) certification may cover multiple forms in one (1) submittal.

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

B.10 Annual Compliance Certification [326 IAC 2-7-6(5)]

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

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue
Indianapolis, Indiana 46204-2251

and

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

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

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

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

(2) The compliance status;

(3) Whether compliance was continuous or intermittent;

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

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

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

B.11 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) The Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) within ninety (90) days after issuance of this permit for the source as described in 326 IAC 1-6-3. At a minimum, the PMPs shall include:

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

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

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

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

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

B.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, and the Southwest Regional Office within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

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

Telephone Number: 317-233-0178 (ask for Compliance Section)

Facsimile Number: 317-233-6865

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

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

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue
Indianapolis, Indiana 46204-2251

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

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

(A) A description of the emergency;

(B) Any steps taken to mitigate the emissions; and

(C) Corrective actions taken.

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

(6) The Permittee immediately took all reasonable steps to correct the emergency.

(c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.

(d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.

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

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

B.13 Permit Shield [326 IAC 2-7-15] [326 IAC 2-7-20] [326 IAC 2-7-12]

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

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

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

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

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

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

(2) The liability of the Permittee for any violation of applicable requirements prior to or

at the time of this permit's issuance;

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

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

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

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

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

B.14 Prior Permits Superseded [326 IAC 2-1.1-9.5] [326 IAC 2-7-10.5]

(a) All terms and conditions of permits established prior to T173-6627-00007and issued pursuant to permitting programs approved into the state implementation plan have been either:

(1) incorporated as originally stated,

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

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

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

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

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

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

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

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

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

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

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

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

(1) That this permit contains a material mistake.

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

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

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

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

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

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

Request for renewal shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue
Indianapolis, Indiana 46204-2251

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

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

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

received by IDEM, OAQ on or before the date it is due.

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

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

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

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

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue
Indianapolis, Indiana 46204-2251

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

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

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

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

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

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

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

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

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

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

emissions);

(4) The Permittee notifies the:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue
Indianapolis, Indiana 46204-2251

and

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

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

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

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

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

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

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

(3) Any change in emissions; and

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

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

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

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

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

B.21 Source Modification Requirement [326 IAC 2-7-10.5] [326 IAC 2-2-2] and/or [326 IAC 2-3-2]

(a) A modification, construction, or reconstruction is governed by the requirements of 326 IAC 2 and 326 IAC 2-7-10.5.

(b) Any modification at an existing major source is governed by the requirements of 326 IAC 2-2-2 and/or 326 IAC 2-3.

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

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

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

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

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

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

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

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

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

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

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue
Indianapolis, Indiana 46204-2251

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

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

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

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

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

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

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

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

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

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

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

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

C.2 Opacity [326 IAC 5-1]

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

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

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

C.3 Open Burning [326 IAC 4-1] [IC 13-17-9]

The Permittee shall not open burn any material except as provided in 326 IAC 4-1-3, 326 IAC 4-1-4 or 326 IAC 4-1-6. The previous sentence notwithstanding, the Permittee may open burn in accordance with an open burning approval issued by the Commissioner under 326 IAC 4-1-4.1. 326 IAC 4-1-3 (a)(2)(A) and (B) are not federally enforceable.

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

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

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

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions). 326 IAC 6-4-2(4) is not federally enforceable.

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

The Permittee shall comply with the applicable provisions of 326 IAC 1-7 (Stack Height Provisions), for all exhaust stacks through which a potential (before controls) of twenty-five (25) tons per year or more of particulate matter or sulfur dioxide is emitted. The provisions of 326 IAC 1-7-1(3), 326 IAC 1-7-2, 326 IAC 1-7-3(c) and (d), 326 IAC 1-7-4, and 326 IAC 1-7-5(a), (b), and (d) are not federally enforceable.

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

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

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

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

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

(A) Asbestos removal or demolition starts date;

(B) Removal or demolition contractor; or

(C) Waste disposal site.

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

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

All required notifications shall be submitted to:

Indiana Department of Environmental Management
Asbestos Section, Office of Air Quality
100 North Senate Avenue
Indianapolis, Indiana 46204-2251

The notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project. The notifications do not require a certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

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

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

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

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

C.8 Performance Testing [326 IAC 3-6] [326 IAC 2-7-6(1)]

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

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

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

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

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

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

Compliance Requirements [326 IAC 2-1.1-11]

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

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

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

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

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

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue
Indianapolis, Indiana 46204-5122

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(1) initial inspection and evaluation;

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

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

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

(1) monitoring results;

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

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

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

(e) The Permittee shall maintain the following records:

(1) monitoring data;

(2) monitor performance data, if applicable; and

(3) corrective actions taken.

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

(a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall take appropriate response actions. The Permittee shall submit a description of these response actions to IDEM, OAQ, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize excess emissions from the affected facility while the response actions are being implemented.

(b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAQ that retesting in one-hundred 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 response action documents submitted pursuant to this condition do require the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).

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

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

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

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

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

The statement must be submitted to:

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

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

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

C.18 General Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-6] [326 IAC 2-2] [326 IAC 2-3]

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

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

(c) If there is a reasonable possibility that a “project” (as defined in 326 IAC 2-2-1 (qq) and/or 326 IAC 2-3-1 (ll) at an existing emissions unit, other than projects at a Clean Unit or at a source with Plant-wide Applicability Limitation (PAL), which is not part of a “major modification” (as defined in 326 IAC 2-2-1 (ee) and/or 326 IAC 2-3-1 (z)) may result in significant emissions increase and the Permittee elects to utilize the “projected actual emissions” (as defined in 326 IAC 2-2-1 (rr) and/or 326 IAC 2-3-1 (mm)), the Permittee shall comply with following:

(1) Prior to commencing the construction of the “project” (as defined in 326 IAC 2-2-1 (qq) and/or 326 IAC 2-3-1 (ll)) at an existing emissions unit, document and maintain the following records:

(A) A description of the project.

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

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

(i) Baseline actual emissions;

(ii) Projected actual emissions;

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

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

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

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

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

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

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

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

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

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

(e) The first report shall cover the period commencing on the date of issuance of this permit and ending on the last day of the reporting period. Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit “calendar year” means the twelve (12) month period from January 1 to December 31 inclusive.

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

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

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

(g) The report for project at an existing emissions unit shall be submitted within sixty (60) days after the end of the year and contain the following:

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

(2) The annual emissions calculated in accordance with (c) (2) and (3) in Section C- General Record Keeping Requirements;

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

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

Reports required in this part shall be submitted to:

Indiana Department of Environmental Management
Air Compliance Section, Office of Air Quality
100 North Senate Avenue
Indianapolis, Indiana 46204-2251

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

Stratospheric Ozone Protection

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

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

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

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

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

SECTION D.1 ALUMINA & ALUMINUM FLUORIDE HANDLING SYSTEM

FACILITY OPERATION CONDITIONS

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

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

Central Alumina and Aluminum Fluoride Handling System:

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

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

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

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

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

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

(4) One (1) alumina/aluminum fluoride storage tank, identified as Tank 62, constructed in 1969, with a maximum storage capacity of 1,800 tons and a transfer rate of 225 tons per hour. The Tank 62 Feed Conveyor discharge into Tank 62 is controlled by Tank 62 Baghouse (top of tank), exhausting at Stack 62.1. The Tank 62 discharge to Transfer Tower 61B Feed Conveyor (Section 3) occurs in an enclosed building. This transfer point does not exhaust to a baghouse. The 112A Passageway Conveyor is controlled by BC-24 Baghouse (Tank 62 baghouse, ground level), exhausting at Stack 62.2.

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

Potlines 1 and 2 Alumina and Alumina Fluoride Handling System:

(5) One (1) belt conveyor transferring alumina and aluminum fluoride from Tank 62 to Transfer Tower 61B, identified as Transfer Tower 61B Feed Conveyor, constructed in 1969, with a maximum capacity of 275 tons per hour. This transfer point is contained

within a building and does not exhaust to a baghouse;

(6) One (1) Transfer Tower 61B transferring alumina and aluminum fluoride from the Transfer Tower 61B Feed Conveyor to 104 passageway Conveyor, constructed in 1969, with a maximum capacity of 225 tons per hour, with the feed and discharge points into/out of Transfer Tower 61B controlled by Transfer Tower 61B Baghouse, and exhausting at Stack 61B.1;

(7) One (1) railcar/truck unloading system transferring alumina and aluminum fluoride to 104 Passageway Conveyor, identified as Building 140 Unloading, constructed in 1958, with a maximum capacity of 225 tons per hour, controlled by Building 140 Baghouse, and exhausting at Stack 140.1.

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

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

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

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

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

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

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

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

(11) One (1) tank transferring alumina to fresh alumina Tanks 160M.1 and 160M.2, identified as Tank 144, constructed in 1956, with a maximum storage capacity of 2,235 tons and a transfer rate of 225 tons per hour, controlled by 144A Baghouse, and exhausting at Stack 144.1;

(12) One (1) tank transferring alumina to reacted alumina Tank 141A(NE), identified as Tank 141BN, constructed in 1969, with a maximum storage capacity of 985 tons and a

discharge rate of 5 tons per hour, controlled by 144A Baghouse, and exhausting at Stack 144.1;

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

(14) Five (5) tanks, identified as Tanks 141BN, 141BS, 141CN, 141CS, 141D, 141E, and 141F, constructed in 1969, with a maximum capacity of 985 tons each, 144A Baghouse, and exhausting at Stack 144.1;

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

One (1) baghouse, identified as 160M.2 Bin Vent Baghouse, with an airflow rate of 3,000 ~~100~~ acfm at 70^{0}F, and exhausting at Stack 160M.2;

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

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

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

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

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

(19) One (1) fresh alumina tank for the supply of alumina to the Potline #2 C1 fluidized bed dry scrubber and baghouse, identified as Tank 160M.1, with a capacity of 650 tons, constructed in 1962, controlled by Potline #2 C1 Pollution Control System, and exhausting at Stacks 160C.1 through 160C.37;

(20) One (1) distribution box and airslide transferring fresh alumina to fluidized bed scrubber and Baghouse C1, identified as the Alumina Feed Airslide C1, constructed in 1962, with a capacity of 18 tons per hour, controlled by the Airslide C1 Baghouse, and exhausting at Stack 160C1.37.

One baghouse, identified as the Airslide C1 Baghouse, with an airflow rate of 3,500 acfm at a temperature 70^{0}F, and exhausting at Stack 160C.37;

(21) One (1) reacted alumina airslides transporting reacted alumina from the C1 and B2 Pollution Control Systems to Tank 141A(NE), identified as Reacted Alumina Airslide C1,

constructed in 1962, with a maximum capacity of 18 tons per hour each, controlled by Tank 141A(NE) Baghouse, and exhausting at Stack 141.1(NE);

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

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

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

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

Potlines 3, 4, 5, and 6 Alumina and Aluminum Fluoride Handling System:

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

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

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

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

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

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

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

(29) One (1) fresh alumina tank, identified as Tank 151C, constructed in 1969, with a capacity of 985 tons, and venting to Tank 152. This tank supplies alumina for the anode baking

ring furnace A-446 pollution control system and the bath crusher if needed;

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(B) Airslide 166-FM-02.

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

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

(37) Transfer of reacted alumina from Potline #6 B6 Pollution Control System for fluoride control to Airslide 166-FM-03 via Airslide 161-B6-FM-01 to Airlift 166-B6-FM-AE-01, thence to Vibratory Screen 166-B6-FM-SC-01, and thence to Airslide 166-FM-03. All of this equipment except for Airslide 166-FM-03 has a maximum capacity of 20 tons per hour, was constructed in 1969, and is controlled by Baghouse 166, exhausting at Stack 166.1;

(38) Transfer of reacted alumina from the Potline #5 B5 pollution control system for fluoride control to reacted alumina Airslide 161-B5-FM-01, thence to Airlift 161-B5-FM-AE-01, thence to Vibratory Screen 61-B5-FM-SC-01, thence to the feedbox for Airslide 166-FM-05 and Airslide 166-FM-06. All of this equipment except for the feedbox for Airslide 166-FM-05 and Airslide 166-FM-06 has a maximum capacity of 20 tons per hour, was constructed in 1969, and is controlled by the Baghouse 166, exhausting at Stack 166.1;

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

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

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

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

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

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

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

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

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

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

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

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

(51) Airslide 166-FM-10, transferring reacted alumina from Feed Box 166-FM-08 to Tank 151B Distribution Box 151-FM-1B, constructed in 2000, with a capacity of **87** ~~80~~ tons per hour, controlled by Baghouse 112A, and exhausting at Stack 112A.1;

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

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

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

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

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

Facility	Control Device	Maximum Process Weight Rate (tons/hr)	PM Emission Limit (lbs/hr)
Air Conveyors No. 1	Airveyor No. 1 Baghouse	200	58.5
Air Conveyors No. 2	Airveyor No. 2 Baghouse	200	58.5
Airveyor Discharge Conveyor	Building 60 Baghouse	500	69
Transfer Tower 61A	Transfer Tower 61A Baghouse	500	69
Tank 62 loading	Tank 62 Baghouse (Tank 62 baghouse, top of tank)	500	69
Tank 62 unloading	Baghouse BC-24 (Tank 62 baghouse, ground level)	275	62.02
Transfer Tower 61B	Transfer Tower 61B Baghouse	275	62.02

Facility	Control Device	Maximum Process Weight Rate (tons/hr)	PM Emission Limit (lbs/hr)
Building 140 Unloading	Building 140 Baghouse	275	62.02
104 Passageway Conveyor, and Bucket Elevator 141A and Bucket Elevator 141B	104A Passageway Baghouse	275	62.02
Airslide 141, Tank 144, Tank 141BN, Tank 141CN, Tank 141CS, Tank 141D, Tank 141E, Tank 141F, and #8 Screw Conveyor	Tank 144A Baghouse	240	60.5
Tank 160M.1	Potline #2 C1 Pollution Control System	18	28.4
Tank 160M.1 Feed Airslide		18	28.4
Tank 160M.2	Tank 160M.2 Bin Vent Baghouse	18	28.4
Tank 160M.2 Feed Airslide	Tank 160M.2 Bin Vent Baghouse	18	28.4
Alumina Feed Airslide B2	Airslide B2 Baghouse	18	28.4
Alumina Feed Airslide C1	Airslide C1 Baghouse	18	28.4
Reacted Alumina Airslide B2	Tank 141A(NE) Baghouse	18	28.4
Reacted Alumina Airslide C1	Tank 141A(NE) Baghouse	18	28.4
Tank 141(NE) System	Tank 141A (NE) Baghouse	18	28.4
Tank 141(NW) System	Tank 141A (NW) Baghouse	18	28.4
Tank 141 BS Eductor	Tank 141A (NE) Baghouse	5	12
Equipment controlled by Baghouse112A			
(1) 112A Passageway Conveyor	Baghouse112A	402	66.37
(2) Airlift 150-FM-AE01			
(3) Airlift 150-FM-AE02			
(4) Airslide 151			
(5) Tank 151H			
(6) Unloading Station B-08			
(7) Dense Phase Transporter VS-01			
(8) Feed Box 166-FM-08			
(9) Airslide 166-FM-09			
(10) Tank 151A Distribution Box 151-FM-1A			
(11) Airslide 166-FM-10			
(12) Tank 151B Distribution Box 151-FM-1B			
(13) Tanks 151A and 151B			
Tank 151F Loading	Uncontrolled	225	59.79
Tank 151G Loading	Uncontrolled	225	59.79
Tank 151C, Tank 151J, Tank 152, Tank 154, Feed Box B5 and Pollution Control System Alumina Feed Airslide B5	Airslide B5 Baghouse	243	60.54
Tank 151C, Tank 151J, Tank 152, Tank 154, Feed Box B6 and Pollution Control System Alumina Feed Airslide B6	Airslide B6 Baghouse	243	60.54

<table>
<tr><th>Facility</th><th>Control Device</th><th>Maximum Process Weight Rate (tons/hr)</th><th>PM Emission Limit (lbs/hr)</th></tr>
<tr><td colspan="4">Equipment controlled by the Gas Treatment Center (GTC)</td></tr>
<tr><td>(1) Vibratory Screen and GTC Feed Airslide 161-B3-FM-01</td><td rowspan="7">GTC</td><td rowspan="7">60</td><td rowspan="7">46.29</td></tr>
<tr><td>(2) Vibratory Screen and GTC Feed Airslide 161-B4-FM-01</td></tr>
<tr><td>(3) GTC Reacted Alumina 161B3-FM-03 Airslide</td></tr>
<tr><td>(4) GTC Reacted Alumina 161B3-AE-02 Airlift</td></tr>
<tr><td>(5) GTC Reacted Alumina 161B4-AE-02 Airlift</td></tr>
<tr><td>(6) GTC Reacted Alumina 161B4-SC-02 Vibratory Screen</td></tr>
<tr><td>(7) GTC Reacted Alumina 161B3-SC-02 Vibratory Screen</td></tr>
<tr><td colspan="4">Equipment controlled by Baghouse166</td></tr>
<tr><td>(1) Airslide166-FM-01</td><td rowspan="15">Baghouse166</td><td rowspan="15">100</td><td rowspan="15">51.3</td></tr>
<tr><td>(2) Airslide 166-FM-02</td></tr>
<tr><td>(3) Airslide 161-B6-FM-01</td></tr>
<tr><td>(4) Airlift 166-B6-FM-AE-01,</td></tr>
<tr><td>(5) Vibratory Screen 166-B6-FM-SC-01</td></tr>
<tr><td>(6) Airslide 166-FM-03;</td></tr>
<tr><td>(7) Airslide 161-B5-FM-01</td></tr>
<tr><td>(8) Airlift 166-B5-FM-AE-01,</td></tr>
<tr><td>(9) Vibratory Screen 166-B5-FM-SC-01</td></tr>
<tr><td>(10) ~~(14)~~ Feedbox for Airslide 165-FM-05 and Airslide 166-FM-06</td></tr>
<tr><td>(11) Airslide 165-FM-05</td></tr>
<tr><td>(12) Airslide 166-FM-06</td></tr>
<tr><td>(13) Airlift 166-AE-02</td></tr>
<tr><td>(14) Airlift 166-AE-01</td></tr>
<tr><td>(15) Airslide 166-FM-07</td></tr>
</table>

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

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

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

where:

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

Or

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

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

where:

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

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

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

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

Compliance Determination Requirements

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

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

Facility	Baghouse
Airveyor No. 1	Airveyor No. 1 Baghouse
Airveyor No. 2	Airveyor No. 2 Baghouse
Airveyor Discharge Conveyor	Building 60 Baghouse
Airveyor Discharge Conveyor discharge to Tank 62 Feed conveyor	Transfer Tower 61A Baghouse
Tank 62 Feed conveyor discharge to Tank 62	Tank 62 Baghouse
Tank 62 discharge point to Passageway 112A Feed Conveyor	Baghouse BC-24
Transfer Tower 61B	Transfer Tower 61B Baghouse
Building 140 Unloading	Building 140 Baghouse
104 Passageway Conveyor, and Bucket Elevator 141A and Bucket Elevator 141B	104A Passageway Baghouse
Airslide 141,Tank 144, Tank 141BN, Tank141 BS, Tank 141CN, Tank 141CS, Tank 141D, Tank 141E, Tank 141F, and #8 Screw Conveyor	144A Baghouse

Facility	Baghouse
Tank 160M.2 Feed Pneumatic Conveyor	160M.2 Bin Vent Baghouse
Tank 160M.2	
Alumina Feed Airslide B2	Airslide B2 Baghouse
Tank 160M.1 Feed Airslide	Potline #2 C1 Pollution Control System
Tank 160M.1	
Alumina Feed Airslide C1	Airslide C1 Baghouse
Reacted Alumina Airslide B2	Tank 141A(NE) Baghouse
Reacted Alumina Airslide C1	
Tank 141A(NE)	Tank 141A(NE) Baghouse at its inlet and 104A Baghouse at its discharge
Tank 141A(NW)	Tank 141A(NW) Baghouse at its inlet and 104A Baghouse at its discharge
Tank 141 BN Eductor	Tank 141A(NE) Baghouse
Tank 151C, Tank 141J, Tank 152, Tank 154, Feed Box B5 and Pollution Control System Alumina Feed Airslide B5	Airslide Baghouse B5
Tank 151C, Tank 141J, Tank 152, Tank 154, Feed Box B6 and Pollution Control System Alumina Feed Airslide B6	Airslide Baghouse B6
Any equipment controlled by Baghouse112A	Baghouse 112A
Any equipment controlled by Baghouse166	Baghouse 166
Any equipment controlled by the Gas Treatment Center (GTC)	GTC

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

Facility	Baghouse
Equipment controlled by Baghouse112A	Baghouse 112A
(1) 112A Passageway Conveyor	
(2) Airlift 150-FM-AE01	
(3) Airlift 150-FM-AE02	
(4) Airslide 151	
(5) Tank 151H	
(6) Unloading Station B-08	
(7) Dense Phase Transporter VS-01	
(8) Feed Box 166-FM-08	
(9) Airslide 166-FM-09	
(10) Tank 151A Distribution Box 151-FM-1A	
(11) Airslide 166-FM-10	
(12) Tank 151B Distribution Box 151-FM-1B	
(13) Tanks 151A and 151B	

Facility	Baghouse
Equipment controlled by Baghouse166	Baghouse 166
(1) Airslide166-FM-01	
(2) Airslide 166-FM-02	
(3) Airslide 161-B6-FM-01	
(4) Airlift 161B6-FM-AE-01,	
(5) Vibratory Screen 161B6-FM-SC-01	
(6) Airslide 166-FM-03;	
(7) Airslide 161-B5-FM-01	
(8) Airlift 166-B5-FM-AE-01,	
(9) Vibratory Screen 161B5-FM-SC-01	
(10) Feedbox for Airslide 165-FM-05 and Airslide 166-FM-06	
(11) Airslide 166-FM-05	
(12) Airslide 166-FM-06	
(13) Airlift 166-AE-02	
(14) Airlift 166-AE-01	
(15) Airslide 166-FM-05	

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

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

In order to comply with Conditions D.1.1 and D.1.2, within 36 months after issuance of this Part 70 permit or within 5 years from the date of the last valid compliance test, whichever is later, the Permittee shall perform PM, and PM_{10} testing for the Baghouses 112A and Baghouse 166, utilizing methods as approved by the Commissioner. These tests shall be repeated at least once every five (5) years from the date of the valid compliance demonstration. PM_{10} includes filterable and condensable PM_{10}. Testing shall be conducted in accordance with Section C – Performance Testing. During the stack test, the Permittee shall determine the sensitivity of the bag leak detection system and calibrate the particulate concentration readings of the bag leak detector in order to provide an output relative to outlet grain loading levels.

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

D.1.5 Bag Leak Detection System

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

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

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

166.1 are greater than or equal to 0.0115 grains per dry standard cubic foot, equivalent to greater than or equal to 0.69 pounds of PM and/or PM_{10} per hour.

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

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

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

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

(f) The bag leak detection system shall be equipped with an alarm system that will sound automatically when an increase in relative PM emissions over a preset level is detected. The alarm shall be located where it is easily heard by plant operating personnel;

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

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

(i) The baseline output shall be established by adjusting the range and the averaging period of the device and establishing the alarm set points and the alarm delay time;

(j) Following initial adjustment of the system, the Permittee shall not adjust the sensitivity or range, averaging period, alarm set points, or alarm delay time except as detailed in the PMP. In no case may the sensitivity be increased by more than one hundred (100%) percent or decreased more than fifty (50%) percent over a 365-day period unless such adjustment follows a complete fabric filter inspection which demonstrates that the fabric filter is in good operating condition;

(k) In the event that a bag leak detection system should malfunction, fail or otherwise need repair, the Permittee shall perform visible emissions notations of the stack exhausts associated with that bag leak detection system as follows:

(1) Daily visible emission notations of the baghouse stack exhausts shall be performed during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal;

(2) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time;

(3) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions;

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

(5) If abnormal emissions are observed, the Permittee shall take reasonable

response steps in accordance with Section C – Response to Excursions and Exceedances. Abnormal emissions alone are not a deviation from this permit. Failure to take response steps in accordance with Section C - Response to Excursions and Exceedances, shall be considered a deviation from this permit.

D.1.6 Bag Leak Detection Alarm Activation

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

(a) For Baghouse 112A and Baghouse 166 which are single compartment baghouses, if failure is indicated by a bag leak detection alarm activation that is not a false alarm, or if bag failure is determined by other means, such as daily visible emissions notations and/or daily checks of the particulate concentration readings from electrodynamic bag leak detectors, then the associated process will be shut down after four (4) hours of operation following bag failure if the failed units have not been repaired or replaced. Operations may continue after four (4) hours of operation following bag failure only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section C - Emergency Provisions); and

(b) After bag failure, if the alumina handling system continues to operate, until the failed bag is repaired or replaced, the Permittee shall monitor the hourly PM and PM_{10} emission rate recorded by the electrodynamic bag leak detector’s data acquisition system until the failed bag is repaired or replaced.

D.1.7 Visible Emissions Notations

(a) Visible emission notations of the exhaust from Stacks 60.2 and 60.3, 60.6, 60.8, 61A.1, 62.1, 62.2, 61B.1, 140.1, 104.1, 144.1, 160M.2, 160B2.16, 141.1(NE), 161.B5.37 and 161.B6.37, shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during normal operations.

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

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

D.1.8 Parametric Monitoring

(a) The Permittee shall record the pressure drops across Airveyor No. 1 Baghouse, Airveyor No. 2 Baghouse, Building 60 Aspiration Baghouse, Transfer Tower 61A Baghouse, Tank 62 Baghouse, Baghouse BC-24 (Tank 62 baghouse, ground level), Transfer Tower 61B Baghouse, Building 140 Baghouse, 104A Passageway Baghouse, Baghouse 144A, 160M.2 Bin Vent Baghouse, Airslide B2 Baghouse, Airslide C1 Baghouse, Tank

141A(NE) Baghouse, Airslide B5 Baghouse, Airslide B6 Baghouse, used in conjunction with the facilities at least once per day when the processes are in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 3.0 and 6.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions and Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C – Response to Excursions and Exceedances, shall be considered a deviation from this permit.

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

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

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

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

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

D.1.10 Record Keeping Requirements

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

(b) To document compliance with Condition D.1.5 (k), the Permittee shall maintain records of daily visible emission notations of the stack exhaust for Baghouse 112A and Baghouse 166, when the applicable bag leak detection system malfunctions, fails or otherwise needs repair.

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

(d) To document compliance with Condition D.1.6(b), when bag failure occurs at either Baghouse 112A or Baghouse 166, the Permittee shall keep a log of the hourly PM and PM_{10} emission rates recorded by the electrodynamic bag leak detector's data acquisition system.

(e) To document compliance with Condition D.1.7, the Permittee shall maintain records of the visible emission notations.

(f) To document compliance with Condition D.1.8, the Permittee shall maintain records of the pressure drop.

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

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

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

SECTION D.2 POTLINE & POTLINES SUPPORT FACILITY OPERATION CONDITIONS

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Facility	Maximum Process Weight Rate (tons/hr)	PM Emission Limit (lbs/hr)
Potline No.1	75.83	48.5
Potline No.2	83.38	49.5
Potline No.3	83.38	49.5

Facility	Maximum Process Weight Rate (tons/hr)	PM Emission Limit (lbs/hr)
Potline No.4	83.38	49.5
Potline No.5	83.38	49.5
Potline No.6	83.38	49.5
Pot Digging	2.85	8.27
Crucible Digging	0.86	3.70
Potline Bath Crusher, Tanks 110H-A, 110H-B, 110H-C, and 110H-D	21	31.5

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

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

$E = 4.10\ P^{0.67}$

Where:

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

Or

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

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

Where:

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

D.2.2 Warrick County Sulfur Dioxide (SO_2) Emissions Limitations [326 IAC 7-4-10]

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

(a)

Facility	Venting From	SO_2 Emission Limit (lbs/hr)
Potline No.1	All stacks associated with scrubber	176.3
Potline No.1	Roof monitors associated with Potline 1	19.6

Facility	Venting From	SO_2 Emission Limit (lbs/hr)
Potline No.2	All stacks associated with scrubber	195.2
Potline No.2	Roof monitors associated with Potline 2	21.7
Pot line No.3	All stacks associated with scrubber	195.2
Potline No.3	Roof monitors associated with Potline 3	21.7
Pot line No.4	All stacks associated with scrubber	195.2
Potline No.4	Roof monitors associated with Potline 4	21.7
Potline No.5	All stacks associated with scrubber	195.2
Potline No.5	Roof monitors associated with Potline 5	21.7
Pot line No.6	All stacks associated with scrubber	195.2
Potline No.6	Roof monitors associated with Potline 6	21.7

(b) The total SO_2 emissions from Potlines Nos.1, 2, 3, 4, 5, and 6 shall be less than 5,608 tons per twelve (12) consecutive month period with compliance determined at the end of each month.

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

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

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

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

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

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

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

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

Compliance Determination Requirements

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

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

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

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

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

(1) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly

notify IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification. The Permittee shall not operate the failed compartment until the failed bags are repaired or replaced.

D.2.7 SO_2 Emissions Determination [326 IAC 7-4-10 (b) and (c)]

(a) Pursuant to 326 IAC 7-4-10(b), compliance with SO_2 pounds per hour limitation shall be based on a stack test pursuant to 326 IAC 7-2-1(b).

(b) Pursuant to 326 IAC 7-4-10(c), compliance with the tons per year limitations of SO_2 shall be based on a rolling twelve (12) consecutive month emission total. The monthly SO_2 emissions shall be determined from calendar month material balances using actual average sulfur content and material throughput.

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

(a) In order to comply with Condition D.2.7, within 36 months after issuance of this Part 70 permit or 5 years from the date of the last valid compliance test, whichever is later, the Permittee shall perform SO_2 testing for the Potlines Nos.1, 2, 3, 4, 5, and 6, utilizing methods as approved by the Commissioner or shall obtain approval allowing material balance calculations in lieu of stack testing. These tests shall be repeated at least once every five (5) years from the date of the valid compliance demonstration, unless IDEM determines that material balance calculations are a satisfactory demonstration of compliance. Testing shall be conducted in accordance with Section C - Performance Testing.

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

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

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

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

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

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

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

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

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

Where:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

D.2.12 Visible Emissions Notations

(a) Visible emission notations of the stack exhaust of Pot Line Bath Crusher baghouse shall be performed once per day. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during normal operations.

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

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

D.2.13 Parametric Monitoring

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

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

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

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

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

D.2.15 Record Keeping Requirements

(a) To document compliance with SO_2 in Condition D.2.2, the Permittee shall maintain records in accordance with (1) and (2) below:

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

(2) Records shall be complete and sufficient to establish compliance with the SO_2 limit as required in Condition D.2.2.

(b) The Permittee shall maintain records of daily visible emission notations of each stack exhaust for the baghouses as required by Condition D.2.12.

(c) The Permittee shall maintain daily records of the pressure drop during normal operation as required by Condition D.2.13.

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

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

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

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

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

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

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

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

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

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

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

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

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

D.2.17 Reporting Requirements

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

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

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

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

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

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

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

Part 70 SO_2 Quarterly Report

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

Quarter _______ Year: ______

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

☐ No deviation occurred in this quarter.

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

Submitted by:
Title/Position:
Signature:
Date:
Phone:

Attach a signed certification to complete this report.

SECTION D.3 GREEN ANODE PLANT FACILITY OPERATION CONDITIONS

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Facility	Control Equipment	Maximum Process Weight Rate (tons/hr)	PM Emission Limit (lbs/hr)
Coke Silos	None	138	54.6
Size classifying equipment	DC-218 baghouse	16.7	27
153 Hammermill	DC-153 baghouse	21	31.5

Facility	Control Equipment	Maximum Process Weight Rate (tons/hr)	PM Emission Limit (lbs/hr)
Intermediate Classifier CL-82	DCF-221A baghouse	15.4	25.6
BM-112 Ball mill grinding operation	DCF-221B baghouse	18	28.4
Weighting facility	Check-Weigh Scale Baghouse	43.6	43.3
Anode Forming	Pitch Fume Treatment System	52.5	45

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

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

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

where:

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

Or

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

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

where:

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

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

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

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

(b) The emission rate of PM_{10} shall not exceed 0.050 pounds PM_{10} per ton of green anode; and

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Compliance Determination Requirements

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

(a) In order to comply with Condition D.3.1and D.3.2, the PM (PM and PM_{10} for Anode forming) emissions from the following facilities shall be controlled by the baghouses as indicated in the table below. Each baghouse shall be in operation and control emissions from its associated facilities at all times when an emission unit that the baghouse controls is in operation; and

Facility	Baghouse
Size classifying equipment	DC-218 baghouse

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

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

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

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

In order to comply with Condition D.3.2, within 36 months after issuance of this Part 70 permit or within 5 years from the date of the last valid compliance test, whichever is later, the Permittee shall perform PM, PM_{10} and VOC testing for the pitch fume treatment system, utilizing methods as approved by the Commissioner. These tests shall be repeated at least once every five (5) years from the date of the valid compliance demonstration. PM_{10} includes filterable and condensable PM_{10}. Testing shall be conducted in accordance with Section C – Performance Testing. During the stack test, the Permittee shall determine the sensitivity of the bag leak detection system and calibrate the particulate concentration readings of the bag leak detector in order to provide an output relative to outlet grain loading levels.

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

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

(a) Pursuant to 40 CFR 63.848(g), 40 CFR 63.8(f), and Condition D.3.9, the Permittee shall operate the continuous bag leak detection systems installed on the exhaust duct of each baghouse of the pitch fume treatment system. Whenever the bag leak detection systems are not operational, the Permittee shall visually inspect the exhaust stacks of the pitch fume treatment system on a daily basis for evidence of any visible emissions indicating abnormal operation.

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

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

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

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

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

The Permittee shall operate the continuous bag leak detection system installed on the exhaust duct of each baghouse of the pitch fume treatment system. The bag leak detection system shall meet the following requirements:

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

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

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

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

(e) The bag leak detection system shall be equipped with an alarm system that will sound automatically when an increase in relative PM emissions over a preset level is detected. The alarm shall be located where it is easily heard by plant operating personnel;

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

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

(h) The baseline output shall be established by adjusting the range and the averaging period of the device and establishing the alarm set points and the alarm delay time;

(i) Following initial adjustment of the system, the Permittee shall not adjust the sensitivity or range, averaging period, alarm set points, or alarm delay time except as detailed in the PMP. In no case may the sensitivity be increased by more than one hundred (100%)

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

(i) In the event that a bag leak detection system should malfunction, fail or otherwise need repair, the Permittee shall perform visible emissions notations of the stack exhaust associated with that bag leak detection system as follows:

(1) Visible emission notations of the stack exhaust shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal;

(2) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time;

(3) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions;

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

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

D.3.10 Visible Emissions Notations

(a) Visible emission notations of the stack exhaust for DC-218, DC-153, DCF-221A, DCF-221B, and Check-Weigh Scale baghouses shall be performed once per day. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during normal operations.

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

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

D.3.11 Parametric Monitoring

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

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

D.3.12 Broken or Failed Bag Detection

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

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

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

D.3.13 Record Keeping Requirements

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

(b) To document compliance with Condition D.3.9 (a), the Permittee shall keep a log of the calibration test results for pitch fume treatment system baghouses leak detectors.

(c) To document compliance with Condition D.3.9 (j), the Permittee shall maintain records of daily visible emission notations of the stack exhaust for pitch fume treatment system baghouses, when the applicable bag leak detection system malfunctions, fails or otherwise needs repair.

(d) To document compliance with Condition D.3.10, the Permittee shall maintain records of daily visible emission notations for each stack exhaust.

(e) To document compliance with Condition D.3.11, the Permittee shall maintain records of the daily pressure drop of the baghouses during normal operation.

(f) The Permittee shall maintain the following as required under Conditions D.3.10, D.3.11, and D.3.12:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

SECTION D.4 ANODE BAKING PLANT FACILITY OPERATION CONDITIONS

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

where:

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

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

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

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

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

(c) The emission rate of PM_{10} shall not exceed 3.92 pounds of PM_{10} per ton of green anode;

(d) The emission rate of SO_2 shall not exceed 1.11 pounds of SO_2 per ton of green anode; and

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

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

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

The combined PM and PM_{10} emissions from the reacted alumina storage tank baghouse, the reacted alumina truck loadout baghouse, the un-reacted alumina storage tank/truck unloading baghouse, and the baked anode vacuum system baghouse shall be less than 5.7 and 3.4 pounds per hour, respectively. Compliance with these emissions limits shall ensure that the combined potential PM and PM_{10} emissions from the emissions units associated with these baghouses shall be less than 25 and 15 tons per year, respectively, which renders the requirements of PSD rule 326 IAC 2-2 not applicable.

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

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

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

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

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

(2) Should pitch with a sulfur content of 0.80% become unavailable and the monthly average pitch sulfur content exceed this limit, then Alcoa shall have thirty (30) days from the end of the month in violation to provide to the OAQ documentation that lower sulfur pitch is not available and documentation for a new proposed pitch sulfur content BACT limit. The BACT limit in (1) above shall remain in effect until such time as the Commissioner approves a revised pitch sulfur content BACT limit. However, enforcement action will not be taken until such time as Alcoa has been given the opportunity to support, request and obtain approval for a revised BACT limit as described above. Testing to establish a new A-446 inlet SO_2 emission rate, similar to that described in (1), will be required as part of any revised BACT limit approval;

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

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

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

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

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

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

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

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

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

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

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

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

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

Compliance Determination Requirements

D.4.9 TF, POM, and SO_2 Control [326 IAC 2-7-6(6)]

In order to comply with Conditions D.4.2(d), D.4.4(a), D.4.5, and D.4.7(a), at least 2 of the 3 A-446 pollution control system reactor sections for TF, POM, and SO_2 control shall be in operation at all times when the green anode baking ring furnace is in operation. During periods of readiness testing of the emergency diesel engine driven exhaust fan, emissions from the green anode baking ring furnace shall continue to exhaust through at least 2 of the 3 A-446 pollution control system reactor sections, and shall not exhaust to the emergency diesel engine driven exhaust fan.

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

(a) In order to comply with Condition D.4.1, and D.4.2(b) and (c), the PM and PM_{10} emissions from the following facilities shall be controlled by the baghouses as indicated in the table below. Each baghouse shall be in operation and control emissions from its associated facilities at all times when an emission unit that the baghouse controls is in operation; and

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

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

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

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

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

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

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

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

(1) The Permittee shall measure and record the emission rates of TF and POM

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

$$E_b = \frac{(C_s \times Q_{sd})}{(P_b \times K)} \qquad (Equation\ 2)$$

Where:

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

Cs = concentration of TF, mg/dscf;

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

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

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

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

Where:

C_s = concentration of POM, mg/dscf.

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

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

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

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

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

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

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

(c) Pursuant to Construction Permit PSD (87) 1766, issued on November 3, 1989, compliance shall be determined from the tested SO_2 evolution (A-446 inlet) emission factor of 3.69 pounds of SO_2 per ton of baked carbon and the estimated A-446 dry alumina scrubber SO_2 removal efficiency based on the A-446 feed;

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

(2) The daily average pounds per reactor alumina feed rate shall be used to determine the daily average percent SO_2 removal based on Figure 1 (Feedrate vs. SO_2 Percent Removal – as submitted by Alcoa in their February 28, 1989, response letter);

(3) The daily percent removal shall be used, with the SO_2 evolution emission factor and the average production rate, to calculate the pounds per hour and pounds per ton of baked carbon daily average SO_2 emission rates;

(4) The daily SO_2 emission rates shall be calculated by multiplying the daily average pounds of SO_2 per ton of baked carbon times the daily baked carbon production to calculate the pounds per day SO_2 emission rates; and.

(5) The daily SO_2 emission rates shall then be summed to calculate the tons per month and the tons per twelve (12) consecutive month period SO_2 emission rates.

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

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

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

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

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

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

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

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

(a) In order to determine compliance with Condition D.4.2(b), and (c), within 36 months after issuance of this Part 70 permit or within 5 years from the date of the last valid compliance test, whichever is later, the Permittee shall perform PM, and PM_{10} testing for the green anode baking ring furnace, utilizing methods as approved by the Commissioner. These tests shall be repeated at least once every five (5) years from the date of the valid compliance demonstration. PM_{10} includes filterable and condensable PM_{10}. Testing shall be conducted in accordance with Section C – Performance Testing. During the stack test, the Permittee shall determine the sensitivity of the bag leak detection system and calibrate the particulate concentration readings of the electrodynamic bag leak detector in order to provide an output relative to outlet grain loading levels.

(b) In order to determine compliance with Condition D.4.2(d), within 36 months after issuance of this Part 70 permit or 5 years from the date of the last valid compliance test, whichever is later, the Permittee shall perform SO_2 testing for the green anode baking ring furnace, utilizing methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of the valid compliance demonstration. Testing shall be conducted in accordance with Section C- Performance Testing.

(c) In order to determine compliance with Condition D.4.2(e), within 36 months after issuance of this Part 70 permit or 5 years from the date of the last valid compliance test, whichever is later, the Permittee shall perform CO testing for the green anode baking ring furnace, utilizing methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of the valid compliance demonstration. Testing shall be conducted in accordance with Section C- Performance Testing.

D.4.15 Emergency Bypass Engine Operation

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

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

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

(a) Pursuant to 40 CFR 63.848(g) and (l), 40 CFR 63.8(f), and SSM 173-21948-00007, the Permittee shall operate the bag leak detection system installed on each stack of each baghouse of the A-446 pollution control system. The Permittee shall visually inspect the exhaust stacks of the A-446 pollution control system on a daily basis for evidence of any visible emissions indicating abnormal operation whenever the bag leak detection systems are not operational.

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

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

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

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

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

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

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

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

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

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

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

(e) The bag leak detection system shall be equipped with an alarm system that will sound automatically when an increase in relative PM emissions over a preset level is detected. The alarm shall be located where it is easily heard by plant operating personnel;

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

(g) The baseline output shall be established by adjusting the range and the averaging period of the device and establishing the alarm set points and the alarm delay time;

(h) Following initial adjustment of the system, the Permittee shall not adjust the sensitivity or range, averaging period, alarm set points, or alarm delay time except as detailed in the PMP. In no case may the sensitivity be increased by more than one hundred (100%) percent or decreased more than fifty (50%) percent over a 365-day period unless such adjustment follows a complete fabric filter inspection which demonstrates that the fabric filter is in good operating condition;

(i) In the event that a bag leak detection system should malfunction, fail or otherwise need repair, the Permittee shall perform visible emissions notations of the stack exhaust associated with that bag leak detection system as follows:

  (1) Visible emission notations of the stack exhaust shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal;

(2) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time;

(3) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions;

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

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

D.4.18 Visible Emissions Notations

(a) Visible emission notations of the stack exhaust for baked anode vacuum system baghouse shall be performed once per day. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during normal operations

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

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

D.4.19 Parametric Monitoring

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

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

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

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

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

D.4.21 Record Keeping Requirements

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

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

(1) Records of the A-446 outlet SO_2 emission rates and of the dry alumina scrubber operations shall be maintained;

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

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

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

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

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

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

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

(f) To document compliance with Condition D.4.17(i), the Permittee shall maintain records of daily visible emission notations of the stack exhaust for A-446 pollution control system baghouses, when the applicable bag leak detection system malfunctions, fails or otherwise needs repair.

(g) To document compliance with Condition D.4.18, the Permittee shall maintain records of daily visible emission notations for the stack exhaust.

(h) To document compliance with Condition D.4.19, the Permittee shall maintain records of the daily pressure drop of the baked anode vacuum system baghouse during normal operation.

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

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

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

D.4.22 NESHAP Record Keeping Requirements [326 IAC 12] [40 CFR 60 Subpart S] [326 IAC 20-1] [40 CFR 63, Subpart A] [326 IAC 20-24] [40 CFR 63.850 (c) and (e)]

(a) Pursuant to 40 CFR 63.850(c)(2), the Permittee shall keep records of each event as required by 40 CFR 63.10(b) and record if an action taken during a startup, shutdown, or malfunction is not consistent with the procedures in the plan as required by Condition D.4.8.

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

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

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

(i) A copy of the startup, shutdown, and malfunction plan as required in Condition D.4.8;

(ii) Daily production rate of green anode material placed in the green anode baking ring furnace;

(iii) Records, such as a checklist or the equivalent, demonstrating that the daily visual inspection of the A-446 pollution control exhaust stack were performed including the results of each inspection during the time a bag leak detection system was malfunctioning, failed or otherwise needed repair; and

(iv) Records documenting the corrective actions taken when the limit for an operating parameter established in the most recent NESHAP Parametric Plan approved by IDEM, OAQ were exceeded, if the alarm on any of the bag leak detection systems was activated, or if visible emissions indicating abnormal operation were observed from the exhaust stacks of the A-446 pollution control system during the time the bag leak detection system was malfunctioning, failed or otherwise needed repair.

D.4.23 Reporting Requirements

The Permittee shall report a quarterly summary of the information to document compliance with Conditions D.4.2(a), 4.4(a) and (c), and D.4.5 to the addresses listed in Section C – General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or its equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).

D.4.24 NESHAP Reporting Requirements [326 IAC 12] [40 CFR 60 Subpart S] [326 IAC 20-1] [40 CFR 63, Subpart A] [326 IAC 20-24] [40 CFR 63.850(c), (d), and (e)]

(a) Pursuant to 40 CFR 63.650(b), the Permittee shall submit a summary of all performance tests to IDEM, OAQ on an annual basis.

(b) Pursuant to 40 CFR 63.650(c)(2), the Permittee shall report if an action taken during a startup, shutdown, or malfunction is not consistent with the procedures in the SSM plan as required by Condition D.4.8.

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

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

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAG

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

Part 70 Green Anode Throughput Quarterly Report

Source Name: Alcoa Inc. - Warrick Operations
Source Address: Jct. IN Hwys. 66 & 61, Newburgh, Indiana 47629-0010
Mailing Address: Bldg. 860 E, P.O. Box 10, Newburgh, Indiana 47629
Part 70 Permit No.: T173-6627-0 0007
Facility: Green anode baking ring furnace
Parameter: Throughput of green anodes
Limit: 187,645 tons per twelve (12) consecutive month period

Quarter _______ Year: ______

Month	Green anodes (tons)	Green anodes (tons)	Green anodes (tons)
	This Month	Previous 11 Months	12 Month Total

☐ No deviation occurred in this month.

☐ Deviation/s occurred in this month.
Deviation has been reported on: ___________________________

Submitted by: ____

Title/Position: ____

Signature: ____

Date: ____

Phone: ____

Attach a signed certification to complete this report.

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

Part 70 Quarterly Report

Source Name: Alcoa Inc. - Warrick Operations
Source Address: Jct. IN Hwys. 66 & 61, Newburgh, Indiana 47629-0010
Mailing Address: Bldg. 860 E, P.O. Box 10, Newburgh, Indiana 47629
Part 70 Permit No.: T173-6627-0 0007
Facility: Green anode baking ring furnace dry scrubber
Parameter: Sulfur Dioxide Emissions
Limit: 35 tons per month and 412 tons per twelve (12) consecutive month. Monthly sulfur dioxide emissions shall be determined from calendar month material balances using actual average sulfur content and material throughput.

Quarter _______ Year: ______

Month	Sulfur Dioxide Emissions (tons)	Sulfur Dioxide Emissions (tons)	Sulfur Dioxide Emissions (tons)
	This Month	Previous 11 Months	12 Month Total

☐ No deviation occurred in this month.

☐ Deviation/s occurred in this month.
Deviation has been reported on: ______________________

Submitted by: ______________________

Title/Position: ______________________

Signature: ______________________

Date: ______________________

Phone: ______________________

Attach a signed certification to complete this report

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

Part 70 Anode Baking Furnace Natural Gas Quarterly Report

Source Name: Alcoa Inc. - Warrick Operations
Source Address: Jct. IN Hwys. 66 & 61, Newburgh, Indiana 47629-0010
Mailing Address: Bldg. 860 E, P.O. Box 10, Newburgh, Indiana 47629
Part 70 Permit No.: T173-6627-0 0007
Facility: Green anode baking ring furnace
Parameter: Natural gas throughput
Limit: Less than 75 million cubic feet per month
Less than 600 million cubic feet per twelve (12) consecutive month period

Quarter _______ Year: ______

Month	Natural Gas Usage (million cubic feet)	Natural Gas Usage (million cubic feet)	Natural Gas Usage (million cubic feet)
	This Month	Previous 11 Months	12 Month Total

No deviation occurred in this month.________________________________

Deviation/s occurred in this month. ________________________________

Deviation has been reported on: ________________________________

Submitted by: ________________________________

Title/Position: ________________________________

Signature: ________________________________

Date: ________________________________

Phone: ________________________________

Attach a signed certification to complete this report

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

Part 70 Quarterly Report

Source Name:	Alcoa Inc. - Warrick Operations
Source Address:	Jct. IN Hwys. 66 & 61, Newburgh, Indiana 47629-0010
Mailing Address:	Bldg. 860 E, P.O. Box 10, Newburgh, Indiana 47629
Part 70 Permit No.:	T173-6627-0 0007
Facility:	A-446 Pollution Control System
Parameter:	Maximum monthly calculated pounds of SO_2 per ton of baked carbon and the monthly average percentage sulfur of pitch used in anodes
Limit:	3.69 pounds of SO_2 per ton of baked carbon and 0.80% Sulfur

Quarter _______ Year: ______

Month	Maximum calculated pounds of SO_2 per ton of baked Carbon	Average % S of pitch used in anodes

☐ No deviation occurred in this month.

☐ Deviation/s occurred in this month.

Deviation has been reported on: ___________________________

Submitted by: ____

Title/Position: ____

Signature: ____

Date: ____

Phone: ____

Attach a signed certification to complete this report.

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

Part 70 Anode Baking Plant SO_2 Quarterly Report

Source Name:	Alcoa Inc. - Warrick Operations
Source Address:	Jct. IN Hwys. 66 & 61, Newburgh, Indiana 47629-0010
Mailing Address:	Bldg. 860 E, P.O. Box 10, Newburgh, Indiana 47629
Part 70 Permit No.:	T173-6627-0 0007
Facility:	A-446 Pollution Control System
Pollutant and Parameter:	Maximum calculated daily average pounds of SO_2 per hour, lowest and highest daily average alumina feed rate and the maximum average baked carbon production and associated aluminum feed rate.

Quarter _______ Year: ______

Parameter	First month of the quarter	Second month of the quarter	Third month of the quarter
Maximum calculated daily average lbs SO_2 per hour (lbs/hr)			
Lowest daily average alumina feed rate (lbs/hr/reactor)			
Highest daily average alumina feed rate (lbs/hr/reactor)			
Maximum daily average baked carbon production rate (tons/hr)			
Daily average alumina feed rate on the day when the maximum daily average carbon production rate was attained(lbs/hr/reactor)			

No deviation occurred in this quarter. : ________________________

Deviation/s occurred in this quarter. : ________________________

Deviation has been reported on: ________________________

Submitted by: ________________________

Title/Position: ________________________

Signature: ________________________

Date: ________________________

Phone: ________________________

Attach a signed certification to complete this report.

SECTION D.5 ANODE ASSEMBLY & SPENT ANODE PLANT FACILITY OPERATION CONDITIONS

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

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

(1) One (1) mechanical blasting operation, identified as Anode Butt Blast Machine, constructed in 2001, with a maximum process weight rate of 181 tons of spent anode assemblies per hour, controlled by Anode Butt Blast Machine Baghouse, and exhausting at Stack 132.9.

One (1) baghouse, identified as Anode Butt Blast Machine Baghouse, with a gas flow rate of 12,000 acfm at 70°F, and exhausting at Stack 132.9;

(2) One (1) mechanical blasting operation, identified as Tumbleblast, constructed in 1979, with a maximum process weight rate of 60 tons of loose butts or cast iron pigs per hour, controlled by Tumbleblast Baghouse, and exhausting at Stack 132.7.

One (1) baghouse, identified as Tumbleblast Baghouse, with a gas flow rate of 27,000 acfm at 70°F, and exhausting at Stack 132.7;

(3) One (1) Impactor, constructed in 1979, with a maximum process weight rate of 176 tons of loose butts per hour, controlled by Impactor Baghouse, and exhausting at Stack 132.7.

One (1) baghouse, identified as Impactor Baghouse, with a gas flow rate of 27,930 acfm at 70° F, and exhausting at Stack 132.7;

(4) One (1) Rod Cleaning Machine, constructed in 1996, with a maximum rod process rate of 200 rods per hour, with a maximum process weight rate of 5.23 tons of rods per hour, controlled by the rod brush cleaning baghouse and exhausting at Stack 132.3;

(5) One (1) Butt Storage Tank, constructed in 1979, with a maximum process weight rate of 174 tons of loose butts per hour, controlled by Tumbleblast baghouse, and exhausting at Stack 132.7;

(6) One (1) iron casting station, identified as In-Line Caster, constructed in 1979, with a maximum process rate of 54 tons of new anodes per hour, 2.28 tons of iron per hour, and 5.23 tons of rods per hour, emissions uncontrolled, and exhausting at Stack 132.8;

(7) Two (2) Induction Furnaces, constructed in 1982, with a maximum process weight rate of 1.14 tons of iron per hour each, controlled by Induction Furnace Baghouse, and exhausting at Stack 132.6.

One (1) baghouse, identified as Induction Furnace Baghouse, with a gas flow rate of 10,200 acfm at 100°F, and exhausting at Stack 132.6; and

(8) One (1) Spent Anode Storage Pad, constructed in 1979, with a maximum process weight rate of 1.32 tons per hour, and emissions uncontrolled.

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

D.5.1 Particulate Emissions Limitations for Manufacturing Processes [26 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the spent anode plant, shall be limited as follows:

Facility	Maximum Process Weight Rate (tons/hr)	PM Emission Limit (lbs/hr)
Anode butt blast machine	142.4 tons (121 tons of steel and 21.4 tons of green anodes)	54.9
Tumbleblast blasting and butt storage tank operation	234	60.2
Impactor	176	57.1
Rod cleaning machine	5.23	12.4
Iron casting	61.5	46.5
Induction furnaces	2.28	7.12

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

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

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

Where:

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

Or

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

$$E = 55.0\ P^{0.11} – 40$$

Where:

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

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

D.5.2 PSD Minor Limitations [326 IAC 2-2]

Pursuant to SSM 173-17780-00007, issued on July 21, 2004, the following limits shall apply to the anode butt blast machine:

(a) The PM emission rate shall not exceed 1.029 pounds per hour; and

(b) The PM_{10} emission rate shall not exceed 0.857 pounds per hour.

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

Compliance Determination Requirements

D.5.3 Testing Requirements [326 IAC 2-7-6(1), (6)] [326 IAC 2-1.1-11]

Within 36 months after issuance of this Part 70 permit or within 5 years from the date of the last valid compliance test, whichever is later, the Permittee shall perform PM, and PM_{10} testing for the anode butt blast machine, utilizing methods as approved by the Commissioner. These tests shall be repeated at least once every five (5) years from the date of the valid compliance demonstration. PM_{10} includes filterable and condensable PM_{10}. Testing shall be conducted in accordance with Section C- Performance Testing. During the stack test, the Permittee shall determine the sensitivity of the bag leak detection system and calibrate the particulate concentration readings of the electrodynamic bag leak detector in order to provide an output relative to outlet grain loading levels.

D.5.4 Particulate Control [326 IAC 2-7-6(6)]

(a) In order to comply with Condition D.5.1, the PM emissions from the following facilities shall be controlled by the baghouses as indicated in the table below. Each baghouse shall be in operation and control emissions from its associated facilities at all times when an emission unit that the baghouse controls is in operation; and

Facility	**Baghouse**
Anode butt blast machine	Anode butt blast machine baghouse
Tumbleblast blasting and Butt Storage Tank operation	Tumbleblast baghouse
Impactor	Impactor baghouse
Induction Furnaces	Induction furnace baghouse

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

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

D.5.5 Bag Leak Detection System

The Permittee shall operate the continuous bag leak detection system for the anode butt blast machine. The bag leak detection system shall meet the following requirements:

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

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

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

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

(e) The bag leak detection system shall be equipped with an alarm system that will sound automatically when an increase in relative PM emissions over a preset level is detected. The alarm shall be located where it is easily heard by plant operating personnel;

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

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

(h) The baseline output shall be established by adjusting the range and the averaging period of the device and establishing the alarm set points and the alarm delay time;

(i) Following initial adjustment of the system, the Permittee shall not adjust the sensitivity or range, averaging period, alarm set points, or alarm delay time except as detailed in the PMP. In no case may the sensitivity be increased by more than one hundred (100%) percent or decreased more than fifty (50%) percent over a 365-day period unless such adjustment follows a complete fabric filter inspection which demonstrates that the fabric filter is in good operating condition; and

(j) In the event that a bag leak detection system should malfunction, fail or otherwise need repair, the Permittee shall perform visible emissions notations of the stack exhausts associated with that bag leak detection system as follows:

    (1) Visible emission notations of the stack exhausts shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal;

    (2) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time;

    (3) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions;

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

(5) For the anode butt blast machine operation, if abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C – Response to Excursions and Exceedances. Failure to take response steps in accordance with Section C – Response to Excursions and Exceedances, shall be considered a deviation from this permit.

D.5.6 Bag Leak Detection Alarm Activation

In the event that a bag leak detection system alarm is activated for any reason, the Permittee shall take corrective actions specified in Section C- Response to Excursions and Exceedances, and the following response steps:

For the anode butt blast machine baghouse which is a single compartment baghouse, if failure is indicated by an opacity violation or a bag leak detection alarm activation that is not a false alarm, or if bag failure is determined by other means, such as daily checks of the particulate concentration readings from electrodynamic bag leak detectors or visible emissions notations, then the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section C - Emergency Provisions).

D.5.7 Visible Emissions Notations

(a) Visible emission notations of the stack exhaust for Tumbleblast Baghouse, and Impactor Baghouse shall be performed once per day. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during normal operations.

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

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

D.5.8 Parametric Monitoring

(a) The Permittee shall record the pressure drops across the Tumbleblast Baghouse, and Impactor Baghouse, used in conjunction with the facilities at least once per day when the processes are in operation. When for any one reading, the pressure drop across the baghouse is outside the normal range of 2 to 5, and 3 to 6 inches of water, respectively, or the ranges established during the latest stack tests, the Permittee shall take reasonable response steps in accordance with Section C- Response to Excursions and

Exceedances. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps in accordance with Section C – Response to Excursions and Exceedances, and Reports, shall be considered a deviation from this permit.

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

D.5.9 Broken or Failed Bag Detection

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

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

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

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

D.5.10 Record Keeping Requirements

(a) To document compliance with Condition D.5.5(a), the Permittee shall keep a log of the calibration test results for the anode blast machine baghouse leak detector.

(b) To document compliance with Condition D.5.5(j), the Permittee shall maintain records of daily visible emission notations of the stack exhaust for the anode blast machine baghouse, when the applicable bag leak detection system malfunctions, fails or otherwise needs repair.

(c) To document compliance with Condition D.5.6, the Permittee shall maintain records of the occurrences of all bag leak detection alarms.

(d) To document compliance with Condition D.5.7, the Permittee shall maintain daily records of visible emission notations of the stacks.

(e) To document compliance with Condition D.5.8, the Permittee shall maintain daily records of the pressure drop of the baghouses during normal operation.

(f) The Permittee shall maintain the following as required under Conditions D.5.5, D.5.6, D.5.7, D.5.8, and D.5.9:

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

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

SECTION D.6 INGOT PLANT AND SUPPORT FACILITY OPERATION CONDITIONS

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

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

Under NESHAP Subpart RRR the following emissions units are considered an existing secondary aluminum processing unit (SAPU):

#1 Coil Casting Complex

(1) Three (3) group 1 furnaces, identified as #1 Casting Complex 1M1, 1M2 and 1M3, constructed in 1973, with a maximum aluminum production rate of 6.85 tons per hour each, when used for producing cast coils and 49 tons per hour, when used as off-line melters, emissions uncontrolled, and exhausting at Stacks 134.62, 134.64, and 134.67, respectively;

(2) Two (2) group 1 furnaces, identified as #1 Casting Complex East Holder 1EH and West Holder 1WH, constructed in 1973, with maximum aluminum production rates of 10.27 tons per hour each, when used for producing cast coils and 49 tons per hour each, when used as off-line holders, emissions uncontrolled, and exhausting at Stacks 134.63 and 134.66, respectively;

#5 Furnace Complex

(3) Three (3) group 1 furnaces, identified as Melters 5M1, 5M2 and 5M3, constructed in 1966, with a maximum aluminum production rate of 97.5 tons per hour each, emissions uncontrolled, and exhausting at Stacks 134.33, 134.36, and 134.39, respectively;

(4) Two (2) group 1 furnaces, identified as #5 HDC Complex East Holder 5EH and West Holder 5WH, constructed in 1966, with maximum aluminum production rate of 97.5 tons per hour each, emissions uncontrolled, and exhausting at Stacks 134.35 and 134.38, respectively;

#6 Furnace Complex

(5) Three (3) group 1 furnaces, identified as Melters 6M1, 6M2, and 6M3, constructed in 1966, with a maximum aluminum production rate of 12 tons per hour each, emissions uncontrolled, and exhausting at Stacks 134.40, 134.42, and 134.44, respectively;

(6) Two (2) group 1 furnaces, identified as #6 Furnace Complex East Holder 6EH and West Holder 6WH, constructed in 1966, with maximum aluminum production rate of 16 tons per hour each, emissions uncontrolled, and exhausting at Stacks 134.41 and 134.43, respectively;

#8 EMC Ingot Casting Complex

(7) Three (3) group 1 furnaces, each with a Pyrotek HD-2000 flux gas injector, identified as #8 EMC Complex Melters 8M1, 8M2 and 8M3, constructed in 1985, with a maximum aluminum production rate of 47 tons per hour each, emissions uncontrolled, and exhausting at Stacks 134.80, 134.84, and 134.89, respectively;

(8) Two (2) group 1 furnaces, identified as #8 EMC Complex East Holder 8EH and West Holder 8WH, constructed in 1985, with a maximum aluminum production rate of 70

tons per hour each, emissions uncontrolled, and exhausting at Stacks 134.83 and 134.87, respectively;

#7 Offline Complex

(9) One (1) group 1 furnace, identified as #7 Offline #1 Melter 7M1, constructed in 1991, with a maximum aluminum production rate of 6.03 tons per hour, emissions uncontrolled, and exhausting at Stack 134.45;

(10) One (1) group 1 furnace, identified as #7 Offline East Holder 7EH, constructed in 1991, with a maximum aluminum production rate of 6.03 tons per hour, emissions uncontrolled, and exhausting at Stack 134.46;

Under NESHAP Subpart RRR the following emissions units are considered a new secondary aluminum processing unit (SAPU):

(11) Two (2) degassing units, identified as Alcan Compact Degassing (ACD) units, constructed in 2003 in conjunction with #1 east holding furnace and #1 west holding furnace in the #1 casting complex, with a maximum capacity 10 tons of molten aluminum per hour each, emissions uncontrolled, and exhausting at Stacks 134.63 and 134.66, respectively;

(12) One (1) in-line fluxer, identified as 8EMC 8EH 4-rotor A622 in-line degassing unit replacing the one (1) 8EMC 8EH Alcan compact degassing ACD unit, constructed in 2005, with a maximum aluminum production rate of 70 tons of molten aluminum per hour, emissions uncontrolled, and exhausting at Stack 134.83;

(13) One (1) in-line fluxer, identified as 8EMC 8WH 4-rotor A622 in-line degassing unit, replacing the one (1) 8EMC 8WH 3-rotor A662 in-line degassing unit, constructed in 2005, with a maximum aluminum production rate of 70 tons per hour, emissions uncontrolled, and exhausting at Stack 134.87;

Group 2 Furnaces, not included in the existing SAPU:

#2 Offline Furnace Complex

(14) Two (2) group 2 furnaces, identified as #2 Offline East Melter and West Melter, constructed in 1976, each with a maximum aluminum production rate of 12 tons per hour, emissions uncontrolled, and exhausting at Stacks 134.71 and 134.76, respectively;

(15) Two (2) group 2 furnaces, identified as #2 Offline East Holder and West Holder, constructed in 1976, each with a maximum aluminum production rate of 12 tons per hour, emissions uncontrolled, and exhausting at Stacks 134.73 and 134.75, respectively;

(16) One (1) natural gas fired, group 2 furnace, identified as RSI Furnace #10, constructed in 1991, with a maximum heat input of 41 MMBtu per hour and a maximum capacity of 15 tons per hour, emissions uncontrolled, exhausting at Stack 134.15;

Aluminum Shredder

(17) One (1) aluminum shredder/bailer, identified as Coated Scrap Shredder, constructed in 1999, with a maximum throughput of 25,000 pounds per hour, emissions uncontrolled, and exhausting inside the building. Under NESHAP Subpart RRR this is considered an existing aluminum scrap shredder;

The following emissions units are not regulated under NESHAP Subpart RRR:

(18) One (1) aluminum pneumatic transport system, identified as #2 Offline East Melter Charging, constructed in 1976, with a maximum production rate of 12 tons per hour, controlled by Rotoclone #3, and exhausting at Stack 134.68.

One (1) wet scrubber, identified as Rotoclone #3, with a gas flow rate of 21,000 acfm at 70°F, and exhausting at Stack 134.68;

(19) One (1) aluminum pneumatic transport system, identified as #2 Offline West Melter Charging, constructed in 1976, with a maximum production rate of 12 tons per hour, controlled by Rotoclone #4, and exhausting at Stack 134.77.

One (1) wet scrubber, identified as Rotoclone #4, with a gas flow rate of 12,000 acfm at 70°F, and exhausting at Stack 134.77;

(20) One (1) aluminum pneumatic transport system and silo, identified as #2 Offline East Melter West Chip Silo Input, constructed in 1976, with a maximum production rate of 13.76 tons per hour, controlled by Rotoclone #1, and exhausting at Stack 134.69.

One (1) wet scrubber, identified as Rotoclone #1, with a gas flow rate of 4,500 acfm at 70°F, and exhausting at Stack 134.69;

(21) One (1) aluminum pneumatic transport system and silo Input, identified as #2 Offline East Melter East Chip Silo, constructed in 1976, with a maximum production rate of 13.76 tons per hour, controlled by Rotoclone #2, and exhausting at Stack 134.70.

One (1) wet scrubber, identified as Rotoclone #2, with a gas flow rate of 4,500 acfm at 70°F, and exhausting at Stack 134.70;

(22) One (1) skim/dross operation, identified as 133 Skim/Dross Building, with a maximum dross throughput of 66 tons per hour, controlled by the 133 Skim/Dross Building baghouses, and exhausting at Stacks 133D.1, 133D.2, 133D.3, and 133D.4.

One (1) 133 Skim/Dross Building baghouses, consisting of:

(a) Two (2) small baghouses, identified as No.1 and No.2 Skim Cooling Baghouses, each with an air flow rate of 18,000 acfm at 150°F, and exhausting at Stacks 133D.1 and 133D.2, respectively; and

(b) Two (2) big baghouses identified as No.3 and No.4 Skim Cooling Baghouses, each with an air flow rate of 40,000 acfm at 150°F, and exhausting at Stacks 133D.3 and 133D.4;

(24) Two (2) Emergency intermittent duty-cycled, diesel-fired, reciprocating internal combustion engines, identified as Water Pump Diesel Engines #1 and #2, constructed in December, 2005, with a maximum capacity of 460 brake horsepower each, exhausting at Stacks 134.E1 and 134.E2.

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

D.6.1 Particulate Emissions Limitations for Manufacturing Processes [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from Ingot Plant and Support, shall be limited as follows:

Facility	Control Equipment	Maximum Process Weight Rate (tons/hr)	Allowable PM Enissions (lbs/hr)
#2 Offline East Melter	None	12	21.7
#2 Offline West Melter	None	12	21.7
#2 Offline East Holder	None	12	21.7
#2 Offline West Holder	None	12	21.7
#2 Offline East Melter Charging	Rotoclone #3	12	21.7
#2 Offline West Melter Charging	Rotoclone #4	12	21.7
#2 Offline East Melter East Chip Silo Input	Rotoclone #2	13.76	23.8
#2 Offline West Chip Silo Input	Rotoclone #1	13.76	23.8
133 Skim/Dross Operation	Nos. 1, 2, 3, and 4 Skim Cooling Baghouses	66	47.2

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

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

$E = 4.10\ P^{0.67}$

Where:

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

Or

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

$E = 55.0\ P^{0.11} – 40$

Where:

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

D.6.2 PSD Minor Limitations [326 IAC 2-2]

Pursuant to SPM 173-21817-00007 to SSM 173-16034-00007, issued in May 2006, and revised by this permit, the following conditions shall apply:

<u>8M1, 8M2, and 8M3 Melters</u>

(a) The total natural gas usage of Melters 8M1, 8M2, and 8M3 shall not exceed 915 MMCF per twelve consecutive month period, with compliance demonstrated at the end of each month;

(b) Particulate Matter (PM)

(1) The PM emissions from Melters 8M1, 8M2, and 8M3 shall not exceed 0.118 lbs/ton of feed/charge for combined chlorine and flux salt input rates less than or equal to 1.29 lbs/ton of feed/charge and for charges that contain 12,000 pounds or less of purchased oily scrap;

(2) The PM emissions from Melters 8M1, 8M2, and 8M3 shall not exceed 0.16 lbs/ton of feed/charge for combined chlorine and flux salt input rates greater than 1.29 lbs/ton of feed/charge, but less than 2.35 lbs/ton of feed/charge, for charges that contain no purchased oily scrap;

(3) The PM emissions from Melters 8M1, 8M2, and 8M3 shall not exceed the allowable PM emission rate of 0.40 lbs/ton of feed/charge, as specified by 40 CFR 63.1505(k)(1) each, for combined chlorine and flux input rates greater than 1.29 lbs/ton of feed/charge but less than 2.27 lbs/ton of feed/charge that includes purchased oily scrap or for charges that contain greater than 12,000 pounds of purchased oily scrap but less than or equal to 26,667 pounds of purchased oily scrap;

(4) The combined chlorine and flux salt input rates shall not exceed 2.35 lbs/ton of feed/charge for charges that contain no purchased oily scrap;

(5) The total PM emissions from all Melters 8M1, 8M2, and 8M3 shall not exceed 49.57 tons per twelve consecutive month period, with compliance demonstrated at the end of each month. The following equation shall be utilized to demonstrate compliance:

PM Emissions = (X1*A1 + X2*A2 + X3*A3)/2,000

Where:

X1 = tons of charges that contain 12,000 pounds or less of purchased oily scrap and utilize combined chlorine and salt input rates less than or equal to 1.29 lbs/ton of feed;

A1 = the PM emission factor for the X1 operating condition, as provided in the most recently approved Operating, Monitoring, and Maintenance plan (Per the 10/05 OMM, this factor is 0.0943 lb/ton);

X2 = tons of charges that contain no purchased oily scrap, and utilize combined chlorine and salt input rates less than or equal to 2.35 lbs/ton of feed and greater than 1.29 lbs/ton of feed;

A2 = the PM emission factor for the X2 operating condition, as provided in the most recently approved Operating, Monitoring, and Maintenance plan (Per the 10/05 OMM, this factor is 0.127 lb/ton);

X3 = tons of charges that contain greater than 12,000 pounds of purchased oily scrap but less than 26,667 pounds of purchased oily scrap, or contain purchased oily scrap and utilize combined chlorine and salt input rates less than or equal to 2.27 lbs/ton of feed and greater than 1.29 lbs/ton of feed; and

A3 = the PM emission factor for the X3 operating condition, as provided in the most recently approved Operating, Monitoring, and Maintenance plan (Per the 10/05 OMM, this factor is 0.297 lb/ton).

(c) Particulate Matter with aerodynamic diameter of less than or equal to 10 micrometers (PM_{10})

(1) The PM_{10} emissions from Melters 8M1, 8M2, and 8M3 shall not exceed 0.127 lbs/ton of feed/charge for combined chlorine and flux salt input rates less than or equal to 1.29 lbs/ton of feed/charge;

(2) The PM_{10} emissions from Melters 8M1, 8M2, and 8M3 shall not exceed 0.17 lbs/ton of feed/charge for combined chlorine and flux salt input rates greater than or equal to 1.29 lbs/ton of feed/charge, but less than 2.35 lbs/ton of feed/charge for charges that contain no purchased oily scrap;

(3) The PM_{10} emissions from Melters 8M1, 8M2, and 8M3 shall not exceed the allowable PM emission rate of 0.40 lbs/ton of feed/charge, as specified by 40 CFR 63.1505(k)(1), multiplied by 1.08 for combined chlorine and flux input rates greater than 1.29 lbs/ton of feed/charge but less than 2.27 lbs/ton of feed/charge that includes purchased oily scrap, or for charges that contain greater than 12,000 pounds of purchased oily scrap but less than or equal to 26,667 pounds of purchased oily scrap;

(4) The combined chlorine and flux salt input rates shall not exceed 2.35 lbs/ton of feed/charge for charges that contain no purchased oily scrap;

(5) The total PM_{10} emissions from Melters 8M1, 8M2, and 8M3 shall not exceed 53.54 tons per twelve consecutive month period, with compliance demonstrated at the end of each month. The following equation shall be utilized to demonstrate compliance:

PM_{10} Emissions = 1.08[(Y1*A1 + Y2*A2+ Y3*A3)]/2,000

Where:

Y1 = tons of charges that contain 12,000 pounds or less of purchased oily scrap and utilize combined chlorine and salt input rates less than or equal to 1.29 lbs/ton of feed;

A1 = the PM emission factor for the Y1 operating condition, as provided in the most recently approved Operating, Monitoring, and Maintenance plan (Per the 10/05 OMM, this factor is 0.0943 lb/ton);

Y2 = tons of charges that contain no purchased oily scrap, and utilize combined chlorine and salt input rates less than or equal to 2.35 lbs/ton of feed and greater than 1.29 lbs/ton of feed;

A2 = the PM emission factor for the Y2 operating condition, as provided in the most recently approved Operating, Monitoring, and Maintenance plan (Per the 10/05 OMM, this factor is 0.127 lb/ton);

Y3 = tons of charges that contain greater than 12,000 pounds of purchased oily scrap but less than 26,667 pounds of purchased oily scrap, or contain purchased oily scrap and utilize combined chlorine and salt input rates less than or equal to 2.27 lbs/ton of feed and greater than 1.29 lbs/ton of feed; and

A3 = the PM emission factor for the Y3 operating condition, as provided in the most recently approved Operating, Monitoring, and Maintenance plan (Per the 10/05 OMM, this factor is 0.297 lb/ton).

(d) The NOx emissions from Melters 8M1, 8M2, and 8M3 shall not exceed 138.1 lbs per MMCF of natural gas. Compliance with this limit and the limit on the total amount of natural gas in Condition D.6.2(a) shall ensure that the total NOx emissions from all three melters do not exceed 63.18 tons per year;

<u>8EMC East Holding Furnace and 8EMC West Holding Furnace</u>

(e) The total natural gas usage of the 8EMC east holding furnace and the 8EMC west holding furnace shall not exceed 216 MMCF per twelve consecutive month period, with compliance determined at the end of each month;

(f) Particulate Matter (PM)

(1) The PM emissions from the 8EMC east holding furnace and the 8EMC west holding furnace shall be limited to 0.083 lbs/ton of charge for combined chlorine and flux salt input rates less than or equal to 1.14 lbs/ton of feed/charge;

(2) The PM emissions from the 8EMC east holding furnace and the 8EMC west holding furnace shall be limited to 0.165 lbs/ton of feed/charge for combined chlorine and flux salt input rates greater than 1.14 lbs/ton of feed/charge but less than 1.20 lbs/ton of feed/charge;

(3) The PM emissions from the 8EMC east holding furnace and the 8EMC west holding furnace shall be limited to the allowable PM emission rate of 0.40 lbs/ton of feed/charge, as specified by 40 CFR 63.1505 (k)(1) each, for combined chlorine and flux salt input rates greater than 1.2 lbs/ton of feed/charge, but less than 1.76 lbs/ton of feed/charge;

(4) In no event shall the combined chlorine and flux salt rate exceed a maximum input rate of 1.76 lbs/ton of feed/charge;

(5) The total PM emissions from both holding furnaces (8EMC east holding furnace and the 8EMC west holding furnace) shall be limited to 34.17 tons per twelve consecutive month period with compliance demonstrated at the end of each month. The following equation shall be utilized to demonstrate compliance:

PM Emissions = (X1*A1 + X2*A2 + X3*A3)/2,000

Where:

X1 = tons of charges fluxed with combined chlorine and flux salt input rates less than or equal to 1.14 lbs/ton of feed/charge;

A1 = the PM emission factor for the X1 operating condition, as provided in the most recently approved Operating, Monitoring, and Maintenance plan (Per the 10/05 OMM, this factor is 0.0592 lb/ton);

X2 = tons of charges fluxed with combined chlorine and salt input rates less than or equal to 1.20 lbs/ton of feed/charge and greater than 1.14 lbs/ton of feed/charge;

A2 = the PM emission factor for the X2 operating condition, as provided in the most recently approved Operating, Monitoring, and Maintenance plan (Per the 10/05 OMM, this factor is 0.165 lb/ton);

X3 = tons of charges fluxed with combined chlorine and salt input rates less than or equal to 1.76 lbs/ton of feed/charge and greater than 1.20 lbs/ton of feed/charge; and

A3 = the PM emission factor for the X3 operating condition, as provided in the most recently approved Operating, Monitoring, and Maintenance plan (Per the 10/05 OMM, this factor is 0.228 lb/ton).

(g) Particulate Matter with aerodynamic diameter of less than or equal to 10 micrometers (PM_{10})

(1) The PM_{10} emissions from the 8EMC east holding furnace and the 8EMC west holding furnace shall be limited to 0.121 lbs/ton of feed/charge for combined chlorine and flux salt input rates less than or equal to 1.14 lbs/ton of aluminum feed/charge;

(2) The PM_{10} emissions from the 8EMC east holding furnace and the 8EMC west holding furnace shall be limited to 0.241 lbs/ton of feed/charge for combined chlorine and flux salt input rates greater than 1.14 lbs/ton of feed/charge but less than or equal to 1.20 lbs/ton of feed/charge;

(3) The PM_{10} emissions from the 8EMC east holding furnace and the 8EMC west holding furnace shall be limited to the allowable PM emission rate of 0.40 lbs/ton of feed/charge, as specified by 40 CFR 63.1505(k)(1), multiplied by 1.46 ~~each~~ for combined chlorine and flux salt input rates greater than 1.20 lbs/ton of feed/charge, but less than or equal to 1.76 lbs/ton of feed/charge;

(4) In no event shall combined chlorine and flux salt rate exceed a maximum input rate of 1.76 lbs/ton of feed/charge;

(5) The total PM_{10} emissions from both holding furnaces (8EMC east holding furnace and the 8EMC west holding furnace) shall be limited to 49.89 tons per twelve consecutive month period, with compliance demonstrated at the end of each month. The following equation shall be utilized to demonstrate compliance;

PM_{10} Emissions = 1.46[(Y1*A1 + Y2*A2+ Y3*A3)]/2,000

Where:

Y1 = tons of charges fluxed with combined chlorine and flux salt input rates less than or equal to 1.14 lbs/ton of feed/charge;

A1 = the PM emission factor for the Y1 operating condition, as provided in the most recently approved Operating, Monitoring, and Maintenance plan (Per the 10/05 OMM, this factor is 0.0592 lb/ton);

Y2 = tons of charges fluxed with combined chlorine and flux salt input rates greater than 1.14 lbs/ton of feed/charge but less than or equal to 1.20 lbs/ton of feed/charge;

A2 = the PM emission factor for the Y2 operating condition, as provided in the most recently approved Operating, Monitoring, and Maintenance plan (Per the 10/05 OMM, this factor is 0.165 lb/ton);

Y3 = tons of charges fluxed with combined chlorine and salt input rates greater than 1.20 lbs/ton of feed/charge, but less than or equal to 1.76 lbs/ton of feed/charge; and

A3 = the PM emission factor for the Y3 operating condition, as provided in the most recently approved Operating, Monitoring, and Maintenance plan (Per the 10/05 OMM, this factor is 0.228 lb/ton).

(h) The NOx emissions from the 8EMC east holding furnace and the 8EMC west holding furnace shall be limited to 147.1 lbs/MMCF of natural gas. Compliance with this limit and the limit on the total amount of natural gas in Condition D.6.2(e) shall ensure that the total NOx emissions from both holding furnaces do not exceed 15.89 tons per year;

<u>8EMC 8EH A622 and 8EMC 8WH A622 in-line degassing units</u>

(i) The total feed/charge rate to 8EMC 8EHA622 and 8EMC 8WH A622 in-line degassing units shall not exceed 823,440 tons per twelve (12) consecutive month period with compliance determined at the end of each month;

(j) The PM emissions from the 8EMC 8EH A622 and 8EMC 8WH A622 in-line degassing units shall not exceed 0.002 lbs/ton of feed/charge for chlorine input rates of 0.11 lbs/ton of feed/charge or less. Compliance with this limit and the feed/charge limit in Condition D.6.2(i) shall ensure that the total PM emissions from the 8EMC 8EH A622 and 8EMC 8WH A622 in-line degassing units do not exceed 0.824 tons per year;

(k) The PM_{10} emissions from the 8EMC 8EH A622 and 8EMC 8WH A622 in-line degassing units shall not exceed 0.00208 lbs/ton of feed ~~per~~/charge for chlorine input rates of 0.11 lbs/ton of feed/charge or less. Compliance with this limit and the feed/charge limit in Condition D.6.2(i) shall ensure that the total PM_{10} emissions from 8EMC 8EH A622 and 8 EMC 8WH A622 in-line degassing units do not exceed 0.856 tons per year;

#1 Complex Alcan Compact Degassing (ACD) units

(l) The total feed/charge rate to the two (2) #1 complex ACD units shall not exceed 172,000 tons per twelve consecutive month period, with compliance demonstrated at the end of each month;

(m) The PM emissions from the two (2) #1 complex ACD units shall not exceed 0.026 lbs/ton of feed/charge. Compliance with this limit and the feed/charge limit in Condition D.6.2(l) shall ensure that the total PM emissions from the two (2) #1 complex ACD units do not exceed 2.24 tons per year;

(n) The PM_{10} emissions from the two (2) #1 complex ACD units shall not exceed 0.027 lbs/ton of feed/charge. Compliance with this limit and the feed/charge limit in Condition D.6.2(l) shall ensure that the total PM_{10} emissions from both #1 complex ACD units do not exceed 2.32 tons per year;

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

(o) The PM emissions from the #1 complex east holding furnace and #1 complex west holding furnace shall not exceed 0.045 lbs/ton of charge for flux salt input rates less than or equal to 0.85 lbs/ton of feed/charge. The PM emissions from the #1 complex east holding furnace and #1 complex west holding furnace shall not exceed 0.084 lbs/ton of feed/charge for flux salt input rates greater than 0.85 lbs/ton of feed/charge but less than 3.25 lbs/ton of feed/charge. The total PM emissions from these furnaces shall not exceed 3.87 tons per twelve consecutive month period, with compliance determined at the end of each month. The following equation shall be utilized to demonstrate compliance:

PM Emissions = [X1*0.045 + X2*0.084]/2,000

Where:

X1 = tons of charge for flux salt input rates less than or equal to 0.85 lbs/ton of feed/charge; and

X2 = tons of charge for flux salt input rates greater than 0.85 lbs/ ton of feed/charge but less than or equal to 3.25 lbs/ton of feed/charge.

(p) The PM_{10} emissions from the #1 complex east holding furnace and #1 complex west holding furnace shall not exceed 0.066 lbs/ton of charge for flux salt input rates less than or equal to 0.85 lbs/ton of feed/charge. The PM_{10} emissions from the #1 complex east holding furnace and #1 complex west holding furnace shall not exceed 0.123 lbs/ton of charge for flux salt input rates greater than 0.85 lbs/ton of feed/charge but less than 3.25 lbs/ton of feed/charge. The total PM_{10} emissions from these furnaces shall not exceed 5.65 tons per twelve consecutive month period, with compliance determined at the end of each month. The following equation shall be utilized to demonstrate compliance:

PM_{10} Emissions = [Y1*0.066 + Y2*0.123] / 2,000

Where:

Y1 = tons of feed/charge for flux salt input rates less than or equal to 0.85 lbs/ton of feed/charge; and

Y2 = tons of feed/charge for flux salt input rates greater than 0.85 lbs/ton of feed/charge but less than 3.25 lbs/ton of feed/charge.

(q) In no event shall flux salt exceed a maximum input rate of 3.25 lbs/ton of feed/charge;

(r) The total feed/charge of the #1 complex east holding furnace and the #1 complex west holding furnace shall not exceed 172,000 tons per twelve consecutive month period, with compliance demonstrated at the end of each month; and

(s) The NOx emissions from the #1 complex east holding furnace and #1 complex west holding furnaces shall not exceed 0.148 lbs per ton of feed/charge and compliance with this limit and the feed/charge limit in Condition D.6.2(r) shall ensure that the total NOx emissions from these furnaces do not exceed 12.58 tons per year.

Compliance with these limits renders the requirements of 326 IAC 2-2 (Prevention of Significant

Deterioration) not applicable to the emissions units covered by this condition.

D.6.3 PSD Minor Limitations [326 IAC 2-2]

(a) Pursuant to SPM 173-20246-00007, and revised by this Part 70 permit, the amount of material charged into the furnace complexes No. 5 and No. 6; and the melting furnaces in casting complex No.1, shall be limited such that:

$$\sum_{i=l}^{n}(\text{OLG1 tons charged X OLG1 PM Ef}/2000) < 202 \text{ tons/year;}$$

where:

OLG1 = Off-line Group 1, including all melting and holding furnaces in the #5 and #6 furnace complexes, and the melt furnaces in the #1 casting complex;

Tons charged = Off line group 1 furnace charging rate, individual OLG1 basis, and are on a tons per 12 consecutive month period basis; and

OLG1 PM Ef is the pounds of particulate matter (PM) per ton of material charged emission factor, each individual OLG1 furnace basis, as provided in the most recently approved Operating, Monitoring, and Maintenance plan.

(b) The amount of natural gas usage for the OLG1 furnaces shall be less than 1,847 million cubic feet (MMCF) per twelve (12) consecutive month period, with compliance determined at the end of each month.

D.6.4 PSD Minor Limitations [326 IAC 2-2]

Pursuant to SSM 173-17780-00007, issued on July 21, 2004, the following limits shall apply to the dross cooling operation:

(a) The throughput of dross through the dross cooling operation shall be limited to 38,000 tons per twelve (12) consecutive month period with compliance determined at the end of each month;

(b) The emission rate of PM shall not exceed 0.440 pounds of PM per ton of dross throughput; and

(c) The emission rate of PM_{10} shall not exceed 0.454 pounds of PM_{10} per ton of dross throughput.

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

D.6.5 General Provisions Relating to NESHAP [326 IAC 20-1] [40 CFR Part 63, Subpart A] [40 CFR 63.1518]

The provisions of 40 CFR Part 63, Subpart A - General Provisions, which are incorporated by reference in 326 IAC 20-1, apply to all the units covered by National Emission Standards for Hazardous Air Pollutants for Secondary Aluminum Production, 40 CFR 63, Subpart RRR. The requirements of the general provisions in 40 CFR 63, Subpart A that are applicable to the source subject to the requirements of this subpart are shown in appendix A of 40 CFR 63, Subpart RRR.

D.6.6 Emission Limits for Secondary Aluminum Production Sources and Emission Units [326 IAC 20-70] [40 CFR 63.1505]

(a) Pursuant to 40 CFR Part 63.1505(b) MSM No. 173-12588, issued on October 10, 2000, the particulate matter (PM) emissions from the Coated Scrap Shredder shall not exceed 0.01 grains per dry standard cubic foot.

(b) Pursuant to 40 CFR Part 63.1505(i), the Permittee shall use the following emission limits for group 1 furnace to determine the emission standards for an existing secondary aluminum processing unit (SAPU), includes all group 1 furnaces:

(1) 0.40 lb of PM per ton of feed/charge from a group 1 furnace;

(2) 2.1×10^{-4} gr of D/F TEQ per ton of feed/charge from a group 1 furnace;

(3) 0.40 lb of HCl per ton of feed/charge from a group 1 furnace; and

(c) Pursuant to 40 CFR Part 63.1505(k), the Permittee shall comply with the emission limits for PM and HCl in paragraphs (c)(1) and (2) of this condition, respectively, for each secondary aluminum processing unit. The Permittee shall comply with the emission limit for D/F in paragraph (c)(3) of this condition for each secondary aluminum processing unit.

(1) The Permittee shall not exceed any 3-day, 24-hour rolling average emissions of 0.40 lb of PM per ton of feed/charge.

(2) The Permittee shall not exceed any 3-day, 24-hour rolling average emissions of 0.40 lb of HCl per ton of feed/charge.

(3) Permittee shall not exceed any 3-day, 24-hour rolling average emissions of 2.1 x 10-4 gr of D/F TEQ per ton of feed/charge from a group 1 furnace.

(d) Pursuant to 40 CFR Part 63.1505(j), the Permittee shall use the following emission limits for in-line fluxers to determine the emission standards for a new SAPU (all in-line fluxers):

(1) 0.04 lb of HCl per ton of feed/charge; and

(2) 0.01 lb of PM per ton of feed/charge.

(e) Pursuant to 40 CFR Part 63.1505(k), the Permittee shall comply with the emission limits for PM and HCl in paragraphs (e)(1) and (2) of this condition for each new secondary aluminum processing unit.

(1) The Permittee shall not exceed any 3-day, 24-hour rolling average emissions of 0.01 lb of PM per ton of feed/charge.

(2) The Permittee shall not exceed any 3-day, 24-hour rolling average emissions of 0.04 lb of HCl per ton of feed/charge.

D.6.7 Operating Requirements for Affected NESHAP Emission Units [326 IAC 20-70] [40 CFR Part 63.1506]

(a) Summary - Pursuant to 40 CFR 63.1506(a), the Permittee shall operate all affected emission units and control equipment according to the requirements in this condition.

(b) Labeling - Pursuant to 40 CFR 63.1506(b), the Permittee shall provide and maintain easily visible labels posted at each group 1 furnace, group 2 furnace, and in-line fluxer that identifies the applicable emission limits and means of compliance, including:

(1) The type of affected source or emission unit (e.g, group 1 furnace, group 2 furnace, and in-line fluxer); and

(2) The applicable operational standard(s) and control method(s) (work practice). This includes, but is not limited to, the type of charge to be used for a furnace, etc.), flux materials and addition practices, and the applicable requirements as incorporated in the OM&M plan.

(c) Feed/charge weight – Pursuant to 40 CFR Part 63.1506(d), for each affected emission unit subject to an emission limit in lb/ton of feed/charge, the Permittee shall:

(1) Operate a device that measures and records or otherwise determines the weight of feed/charge or throughput for each operating cycle or time period used in the performance test; and

(2) Operate each weight measurement system or other weight determination procedure in accordance with the OM&M plan.

(d) Group 1 Furnaces without Add-on Air Pollution Control Devices - Pursuant to 40 CFR Part 63.1506(n), the Permittee shall:

(1) Maintain the total reactive chlorine flux injection rate for each operating cycle or time period used in the performance test at or below the average rate established during the performance test; and

(2) Operate each furnace in accordance with the work practice/pollution prevention measures documented in the OM&M plan and within the parameter values or ranges established in the OM&M plan.

(e) Group 2 Furnace - Pursuant to 40 CFR Part 63.1506(o), the Permittee shall:

(1) Operate each group 2 furnace using only clean charge as the feedstock; and

(2) Operate each group 2 furnace using no reactive flux.

(f) Corrective Action - Pursuant to 40 CFR Part 63.1506(p), when a process parameter deviates from the value or range established during the performance test and incorporated in the OM&M plan, the Permittee shall initiate corrective action. The corrective action shall restore operation of the emission unit (including the process) to its normal or usual mode of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The corrective actions taken shall include follow-up actions necessary to return the process parameter level(s) to the value or range of values established during the performance test and steps to prevent the likely recurrence of the cause of a deviation.

D.6.8 Alternative Opacity Limitation [326 IAC 5-1-5(b)] [U.S. EPA SIP Revisions Revised Opacity Limits]

Pursuant to 326 IAC 5-1-5(b) and U.S. EPA SIP Revisions Revised Opacity Limits, dated July 5, 2000:

(a) #1 Complex East and West holding furnace

The opacity of emissions may exceed 40 percent during the fluxing portion of the production cycle up to 80 percent from the East and West holding furnace exhaust stacks at the #1 Complex. This opacity shall be allowed for no more than 6 six-minute averaging periods, and only during fluxing. For all other portions of the production cycle, the opacity limit shall remain at 40 percent from the East and West holding furnace exhaust stacks at the #1 Complex;

(b) #8 Complex (EMC)

For the East and West holding furnace exhaust stacks at the #8 Complex (EMC), the opacity of emissions may exceed 40 percent during fluxing portion of the production cycle up to 85 percent for 2 six-minute averaging periods, and up to 80 percent opacity for 4 additional six-minute averaging periods. During all other portions of the production cycle, the opacity of emissions from the EMC shall be limited to 40 percent; and

(c) #5 Complex

For the East and West holding furnace exhaust stacks at the #5 Complex, the opacity of emissions may exceed 40 percent during fluxing portion of the production cycle up to 80 percent for 3 six-minute averaging periods, 75 percent opacity for 1 six-minute averaging period, 65 percent opacity for 1 six-minute averaging period, and 55 percent opacity for 1 six-minute averaging period. During all other portions of the production cycle, the opacity of emissions from the #5 complex East and West holding furnace shall be limited to 40 percent.

Compliance Determination Requirements

D.6.9 NESHAP Performance Test/Compliance Demonstration General Requirements [326 IAC 20-1] [40 CFR 63, Subpart A] [326 IAC 20-70] [40 CFR 63.1511]

(a) Site-specific test plan - Prior to conducting any performance test required by 40 CFR 63, subpart RRR, the Permittee shall prepare a site-specific test plan which satisfies all of the requirements, and shall obtain approval of the plan pursuant to the procedures, set forth in 40 CFR 63.7(c).

(b) Test methods - The Permittee shall use the following methods in appendix A to 40 CFR Part 60 to determine compliance with the applicable emission limits:

(1) Method 1 for sample and velocity traverses;

(2) Method 2 for velocity and volumetric flow rate;

(3) Method 3 for gas analysis;

(4) Method 4 for moisture content of the stack gas;

(5) Method 5 for the concentration of PM;

(6) Method 23 for the concentration of D/F; and

(7) Method 25A for the concentration of HCl.

(c) Repeat tests - The Permittee shall conduct a performance test every 5 years following the initial performance test.

(d) Testing of representative emission units - With the prior approval of the IDEM, OAQ, the Permittee shall utilize emission rates obtained by testing a particular type of group 1 furnace, or by testing an in-line flux box, to determine the emission rate for other units of the same type at this source. Such emission test results may only be considered to be representative of other units if all of the following criteria are satisfied:

(1) The tested emission unit shall use feed materials and charge rates which are comparable to the emission units that it represents;

(2) The tested emission unit shall use the same type of flux materials in the same proportions as the emission units it represents;

(3) The tested emission unit shall be operated utilizing the same work practices as the emission units that it represents;

(4) The tested emission unit shall be of the same design as the emission units that it represents; and

(5) The tested emission unit shall be tested under the highest load or capacity reasonably expected to occur for any of the emission units that it represents.

(e) Establishment of monitoring and operating parameter values – 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 Condition D.6.14 that ensures compliance with the applicable emission limit or standard. To establish the minimum or maximum value or range, the Permittee shall use the appropriate procedures in this section. The Permittee may use existing data in addition to the results of performance tests to establish operating parameter values for compliance monitoring provided each of the following conditions are met to the satisfaction of the IDEM, OAQ:

(1) The complete emission test report(s) used as the basis of the parameter(s) is submitted;

(2) The same test methods and procedures as required by this subpart were used in the test;

(3) The Permittee certifies that no design or work practice changes have been made to the source, process, or emission control equipment since the time of the report; and

(4) All process operating parameters required to be monitored were monitored as required in 40 CFR 63.1510 and documented in the test report.

D.6.10 NESHAP Performance Test/Compliance Demonstration Requirements and Procedures [326 IAC 20-1] [40 CFR 63, Subpart A] [326 IAC 20-70] [40 CFR 63.1512] [40 CFR 63.1513]

(a) Aluminum scrap shredders [40 CFR 63.1512(a)] - Aluminum scrap shredders [40 CFR 63.1512(a)] -The Permittee shall conduct performance tests to measure PM emissions at the inlet of baghouse that is available for controlling emissions from the coated scrap shredder/baler in 2010, and at 5-year intervals thereafter, provided however that testing of this shredder/baler will not be required if Alcoa obtains a waiver from testing this unit, pursuant to 40 CFR 63.7(h).

(b) Group 1 furnaces without add-on air pollution control devices [40 CFR 63.1512(e)] - In the site-specific monitoring plan required by Condition D.6.14(e), the Permittee shall include data and information demonstrating compliance with the applicable emission limits.

(1) The Permittee shall conduct emission tests to measure emissions of PM, and HCl at the representative Group 1 furnace exhaust outlet.

(2) The Permittee shall conduct emission tests to measure emissions D/F at the furnace exhaust outlet from representative group 1 furnaces that process other than clean charge.

(c) Secondary aluminum processing unit [40 CFR 63.1512(j)] - The Permittee shall conduct performance tests as described in paragraphs (1) and (2) of this section. The results of the performance tests shall be used to establish emission rates in lb/ton of feed/charge for PM and HCl for each group 1 furnace and in-line fluxer and grain of D/F TEQ/ton of feed/charge for D/F emissions from each group 1 furnace. These emission rates are used for compliance monitoring in the calculation of the 3-day, 24-hour rolling average emission rates using the equation in D.6.14(i)(4). A performance test is required for:

(1) **Representative** group 1 furnaces to measure emissions of PM, D/F; and HCl;

(2) **Representative** in-line fluxers to measure emissions of PM and HCl.

(d) Feed/charge weight measurement [40 CFR 63.1512(k)] - During the emission tests conducted to determine compliance with emission limits in a lb/ ton format, the Permittee shall measure (or otherwise determine) and record the total weight of feed/charge to the affected emission unit for each of the three test runs and calculate and record the total weight.

(e) Flux injection rate [40 CFR 63.1512(o)] - The Permittee must use these procedures to establish an operating parameter value or range for the total reactive chlorine flux injection rate:

(1) Continuously measure and record the weight of gaseous or liquid reactive flux injected for each 15 minute period during the HCl and D/F tests, determine and record the 15-minute block average weights, and calculate and record the total weight of the gaseous or liquid reactive flux for the 3 test runs;

(2) Record the identity, composition, and total weight of each addition of solid reactive flux for the 3 test runs;

(3) Determine the total reactive chlorine flux injection rate by adding the recorded measurement of the total weight of chlorine in the gaseous or liquid reactive flux injected and the total weight of chlorine in the solid reactive flux using Equation 5;

$$W_t = F_1 W_1 + F_2 W_2 \quad (Eq. 5)$$

Where:

W_t = Total chlorine usage, by weight;

F_1 = Fraction of gaseous or liquid flux that is chlorine;

W_1 = Weight of reactive flux gas injected;

F_2 = Fraction of solid reactive chloride flux that is chlorine (e.g., F = 0.75 for magnesium chloride); and

W_2 = Weight of solid reactive flux.

(4) Divide the weight of total chlorine usage (W_t) for the 3 test runs by the recorded measurement of the total weight of feed for the 3 test runs; and

(5) If a solid reactive flux other than magnesium chloride is used, the Permittee must derive the appropriate proportion factor subject to approval by IDEM, OAQ.

(f) Secondary aluminum processing unit [40 CFR 63.1513(e)] – The Permittee shall use the following procedures to determine compliance with the emission limits of PM, HCl, and D/F emissions for a secondary aluminum processing unit:

(1) Use Equation 9 to compute the mass-weighted PM emissions for a secondary aluminum processing unit. Compliance is achieved if the mass-weighted emissions for the secondary aluminum processing unit (E_{cPM}) is less than or equal to the emission limit for the secondary aluminum processing unit in Condition D.6.6(c)(1).

$$E_{C_{PM}} = \frac{\sum_{i=1}^{n} \left(E_{ti_{PM}} \times T_{ti}\right)}{\sum_{i=1}^{n} \left(T_{ti}\right)}$$

Where:

$E_{C_{PM}}$ = The mass-weighted PM emissions for the secondary aluminum processing unit;

$E_{ti_{PM}}$ = Measured PM emissions for individual emission unit i;

T_{ti} = The average feed rate for individual emission unit i during the operating cycle or performance test period; and

n = The number of emission units in the secondary aluminum processing unit.

(2) Use Equation 10 to compute the aluminum mass-weighted HCl emissions for the secondary aluminum processing unit. Compliance is achieved if the mass-weighted emissions for the secondary aluminum processing unit (E_{cHCl}) is less than or equal to the emission limit for the secondary aluminum processing unit in Condition D.6.6(c)(2).

$$E_{C_{HCl}} = \frac{\sum_{i=1}^{n}\left(E_{ti_{HCl}} \times T_{ti}\right)}{\sum_{i=1}^{n}\left(T_{ti}\right)}$$

Where:

$E_{C_{HCl}}$ = The mass-weighted HCl emissions for the secondary aluminum processing unit;

$E_{ti_{HCl}}$ = Measured HCl emissions for individual emission unit i;

T_{ti} = The average feed rate for individual emission unit i during the operating cycle or performance test period; and

n = The number of emission units in the secondary aluminum processing unit.

(3) Use Equation 11 to compute the aluminum mass-weighted D/F emissions for the existing secondary aluminum processing unit (Group 1 furnaces). Compliance is achieved if the mass-weighted emissions for the secondary aluminum processing unit is less than or equal to the emission limit for the secondary aluminum processing unit in Condition D.6.6(c)(3).

$$E_{C_{D/F}} = \frac{\sum_{i=1}^{n}\left(E_{ti_{D/F}} \times T_{ti}\right)}{\sum_{i=1}^{n}\left(T_{ti}\right)}$$

Where:

$E_{C_{D/F}}$ = The mass-weighted D/Fl emissions for the secondary aluminum processing unit;

$E_{ti_{D/F}}$ = Measured D/F emissions for individual emission unit i that processes other than clean charge materials;

T_{ti} = The average feed rate for individual emission unit i during the operating cycle or performance test period; and

n = The number of emission units in the secondary aluminum processing unit.

(g) To convert D/F measurements to TEQ units, the Permittee must use the procedures and equations in “Interim Procedures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxins and -Dibenzofurans (CDDs and CDFs) and 1989 Update” (EPA–625/3–89–016), incorporated by reference in §63.1502 of this subpart, available from the National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, Virginia, NTIS no. PB 90–145756.

D.6.11 Non NESHAP Emission Units Testing Requirements [326 IAC 2-7-6(1), (6)] [326 IAC 2-1.1-11]

(a) Within 36 months after the issuance of this permit or within 5 years after the date of the last valid compliance test, whichever is later, the Permittee shall perform PM, and PM_{10} testing for the dross cooling operation while operating with one (1) large baghouse and one (1) small baghouse, and two small baghouses only in operation, utilizing methods as approved by the Commissioner. These tests shall be repeated at least once every five (5) years from the date of the last valid compliance demonstration. PM_{10} includes filterable and condensable PM_{10}. Testing shall be conducted in accordance with Section C-Performance Testing. During the stack test, the Permittee shall determine the sensitivity of the bag leak detection system and calibrate the particulate concentration readings of the electrodynamic bag leak detector in order to provide an output relative to outlet grain loading levels.

(b) Within 36 months after issuance of this Part 70 permit or within 5 years from the date of the last valid compliance test, whichever is later, the Permittee shall perform NOx testing on a representative 8EMC melter (8M1 or 8M3), 8EMC holder (east holding furnace or west holding furnace), and #1 complex holder (east holding furnace or west holding furnace). These tests shall be repeated at least once every five (5) years from the date of the last valid compliance demonstration. Testing shall be conducted in accordance with Section C- Performance Testing.

D.6.12 PM and PM_{10} Control from Dross Cooling Operation

In order to comply with Condition D.6.4, at least two baghouses controlling PM and PM_{10} shall be in operation at all times when the dross cooling is in operation, and shall follow the following:

(a) When the dross cooling operation is controlled by one (1) small baghouse and one (1) large baghouse, all roll-up doors in the dross cooling building shall be closed, except when vehicles are entering or exiting the building, and hot dross shall be placed beneath a canopy hood that exhausts to the large baghouse; and

(b) When the dross cooling process is operating and neither large baghouse is operating, all skim room doors shall be closed, except when trucks enter to deliver hot dross, and further provided that loadout to third party dross trucks was suspended until at least one large baghouse is returned to service.

D.6.13 PM Control from Coated Scrap Shredder

In order to comply with Condition D.6.6(a), the Coated Scrap Shredder shall not operate at a throughput of greater than 25,000 pounds per hour.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)] [326 IAC 20-1] [40 CFR 63, Subpart A] [326 IAC 20-70] [40 CFR 63.1510]

D.6.14 NESHAP Monitoring Requirements [326 IAC 20-1] [40 CFR 63, Subpart A] [326 IAC 20-70] [40 CFR 63.1510]

The Permittee shall monitor all control equipment and processes according to the requirements in this section. Monitoring requirements for each type of emission unit are summarized in Table 3 to 40 CFR 63, Subpart RRR.

(a) Operation, maintenance, and monitoring (OM&M) plan [40 CFR 63.1510(b)] - The Permittee shall prepare for each affected emission unit regulated by 40 CFR 63, Subpart RRR, a written operation, maintenance, and monitoring (OM&M) plan. The plan shall be accompanied by a written certification by the Permittee that the OM&M plan satisfies all the requirements of 40 CFR 63.1510 and is otherwise consistent with the requirements of 40 CFR 63, subpart RRR. The Permittee shall comply with all of the provisions of the OM&M plan as submitted to the IDEM, OAQ, unless and until the plan is revised in accordance with the following procedures. If IDEM, OAQ determines at any time after receipt of the OM&M plan that any revisions of the plan are necessary to satisfy the requirements of 40 CFR 63.1510 or subpart RRR, the Permittee shall promptly make all necessary revisions and resubmit the revised plan.

If the Permittee determines that any other revisions of the OM&M plan are necessary, such revisions will not become effective until the Permittee submits a description of the changes and a revised plan incorporating them to the IDEM, OAQ. Each plan shall contain the following information:

(1) Process parameters to be monitored to determine compliance, along with established operating levels or ranges, as applicable, for each process;

(2) A monitoring schedule for each affected emission unit;

(3) Procedures for the proper operation and maintenance of each process unit used to meet the emission limits in Condition D.6.6.

(4) Procedures for the proper operation and maintenance of monitoring devices or systems used to determine compliance, including:

(i) Calibration and certification of accuracy of each monitoring device, at least once every 6 months or according to the manufacturer's instructions; and

(ii) Procedures for the quality control and quality assurance of continuous emission as required by the general provisions in subpart A of this 40 CFR 63.

(5) Procedures for monitoring process parameters;

(6) Corrective actions to be taken when process or operating parameters deviate from the value or range established in Condition D.6.14(a)(1), including:

(i) Procedures to determine and record the cause of an deviation or excursion, and the time the deviation or excursion began and ended; and

(ii) Procedures for recording the corrective action taken, the time corrective action was initiated, and the time/date corrective action were completed.

(7) A maintenance schedule for each process that is consistent with the manufacturer's instructions and recommendations for routine and long-term maintenance; and

(8) Documentation of the work practice and pollution prevention measures used to achieve compliance with the applicable emission limits and a site-specific monitoring plan as required in Condition D.6.14(e) for each group 1 furnace.

(b) Labeling [40 CFR 63.1510(c)] - The Permittee shall inspect the labels for each group 1 furnace, group 2 furnace, and in-line fluxer at least once per calendar month to confirm that posted labels as required by the operational standard in Condition D.6.7(b) are intact and legible.

(c) Feed/charge weight [40 CFR 63.1510(e)] - For an emission unit regulated by 40 CFR 63, Subpart RRR and subject to an emission limit in lb/ton of feed/charge, the Permittee shall calibrate, operate, and maintain a device to measure and record the total weight of feed/charge to the affected emission unit over the same operating cycle or time period used in the performance test. Feed/charge within SAPUs shall be measured and recorded on an emission unit-by-emission unit basis.

(1) The accuracy of the weight measurement device or procedure shall be +/-1 percent of the weight being measured.

(2) The Permittee shall verify the calibration of the weight measurement device in accordance with the schedule specified by the manufacturer, or if no calibration schedule is specified, at least once every 6 months.

(d) Total reactive flux injection rate [40 CFR 63.1510(j)] - These requirements apply to a group 1 furnace or in-line fluxer. The Permittee shall:

(1) calibrate, operate, and maintain a device to continuously measure and record the weight of gaseous or liquid reactive flux injected to each affected emission unit;

(i) The monitoring system shall record the weight for each 15-minute block period, during which reactive fluxing occurs, over the same operating cycle or time period used in the performance test;

(ii) The accuracy of the weight measurement device shall be +/- 1 percent of the weight of the reactive component of the flux being measured; and

(iii) The Permittee shall verify the calibration of the weight measurement device in accordance with the schedule specified by the manufacturer, or if no calibration schedule is specified, at least once every 6 months.

(2) Calculate and record the gaseous or liquid reactive flux injection rate (lb/ton) for each operating cycle or time period used in the performance test using the procedure in Condition D.6.10(e);

(3) Record, for each 15-minute block period during each operating cycle or time period used in the performance test during which reactive fluxing occurs, the time, weight, and type of flux for each addition of:

(i) Gaseous or liquid reactive flux other than chlorine; and

(ii) Solid reactive flux.

(4) Calculate and record the total reactive flux injection rate for each operating cycle or time period used in the performance test using the procedure in D.6.10(e).

(e) Group 1 furnace without add-on air pollution control devices [40 CFR 63.1510(o)] – The following requirements apply:

(1) The Permittee must develop, in consultation with the IDEM, OAQ, a written site-specific monitoring plan. The site-specific monitoring plan shall be submitted to the IDEM, OAQ as part of the OM&M plan. The site-specific monitoring plan shall contain sufficient procedures to ensure continuing compliance with all applicable emission limits and shall demonstrate, based on documented test results, the relationship between emissions of PM, HCl, and D/F and the proposed monitoring parameters for each pollutant. Test data shall establish the highest level of PM, HCl, and D/ F that will be emitted from the furnace. This may be determined by conducting performance tests and monitoring operating parameters while charging the furnace with feed/charge materials containing the highest anticipated levels of oils and coatings and fluxing at the highest anticipated rate. If IDEM, OAQ determines that any revisions of the site-specific monitoring plan are necessary to meet the requirements of 40 CFR 63.1510 or 40 CFR 63,subpart RRR, the Permittee shall promptly make all necessary revisions and resubmit the revised plan to the IDEM, OAQ;

(2) Each site-specific monitoring plan shall document each work practice, equipment/design practice, pollution prevention practice, or other measure used to meet the applicable emission standards; and

(3) Each site-specific monitoring plan shall include provisions for unit labeling as required in Condition D.6.14(b), feed/charge weight measurement as required in Condition D.6.14(c) and flux weight measurement as required in Condition D.6.14(d).

(f) Monitoring of scrap contamination level by calculation method for group 1 furnace without add-on air pollution control devices [40 CFR 63.1510(q)] - For a group 1 furnace dedicated to processing a distinct type of furnace feed/charge composed of scrap with a uniform composition (such as rejected product from a manufacturing process for which the coating-to-scrap ratio can be documented), the Permittee may include a program in the site-specific monitoring plan for determining, monitoring, and certifying the scrap contaminant level using a calculation method rather than a scrap inspection program. A scrap contaminant monitoring program using a calculation method shall include:

(1) Procedures for the characterization and documentation of the contaminant level of the scrap prior to the performance test;

(2) Limitations on the furnace feed/charge to scrap of the same composition as that used in the performance test - If the performance test was conducted with a mixture of scrap and clean charge, limitations on the proportion of scrap in the furnace feed/charge to no greater than the proportion used during the performance test; and

(3) Operating, monitoring, recordkeeping, and reporting requirements to ensure that no scrap with a contaminant level higher than that used in the performance test is

charged to the furnace.

(g) Group 2 furnace [40 CFR 63.1510(r)] - These requirements apply to the group 2 furnace. The Permittee shall:

(1) Record a description of the materials charged to each furnace, including any nonreactive, non-HAP-containing/non-HAP-generating fluxing materials or agents; and

(2) Submit a certification of compliance with the applicable operational standard for charge materials in Condition D.6.7(e) for each 6-month reporting period. Each certification shall contain the information in 40 CFR 63.1516(b)(2)(v).

(h) Site-specific requirements for secondary aluminum processing units [40 CFR 63.1510(s)]:

(1) The Permittee shall include, within the OM&M plan prepared in accordance with Condition D.6.14(a), the following information:

(i) The identification of each emission unit in the secondary aluminum processing unit;

(ii) The specific pollution prevention measure to be used for each emission unit in the secondary aluminum processing unit and the date of its installation or application;

(iii) The emission limit calculated for each secondary aluminum processing unit and performance test results with supporting calculations demonstrating initial compliance with each applicable emission limit;

(iv) Information and data demonstrating compliance for each emission unit with all applicable design, equipment, work practice or operational standards of 40 CFR 63 subpart RRR; and

(v) The monitoring requirements applicable to each emission unit in a secondary aluminum processing unit and the monitoring procedures for daily calculation of the 3-day, 24-hour rolling average using the procedure in Condition D.6.14 (i).

(2) The SAPU compliance procedures within the OM&M plan shall not contain any of the following provisions:

(i) Any averaging among emissions of differing pollutants;

(ii) The inclusion of any affected sources other than emission units in a secondary aluminum processing unit;

(iii) The inclusion of any emission unit while it is shutdown; or

(iv) The inclusion of any periods of startup, shutdown, or malfunction in emission calculations.

(3) To revise the SAPU compliance provisions within the OM&M plan prior to the end of the permit term, the Permittee shall submit a request to the IDEM, OAQ containing the information required by paragraph (1) of this section and obtain approval of the IDEM, OAQ prior to implementing any revisions.

(i) Secondary aluminum processing unit [40 CFR 63.1510(t)] - The Permittee shall calculate and record the 3-day, 24-hour rolling average emissions of PM, HCl, and D/F for each secondary aluminum processing unit on a daily basis. To calculate the 3-day, 24-hour rolling average, the Permittee shall:

(1) Calculate and record the total weight of material charged to each emission unit in the secondary aluminum processing unit for each 24-hour day of operation using the feed/charge weight information required in D.6.14 (c).

(2) Multiply the total feed/charge weight to the emission unit, for each emission unit for the 24-hour period by the emission rate (in lb/ton of feed/ charge) for that emission unit (as determined during the performance test) to provide emissions for each emission unit for the 24-hour period, in pounds;

(3) Divide the total emissions for each SAPU for the 24-hour period by the total material charged to the SAPU over the 24-hour period to provide the daily emission rate for the SAPU;

(4) Compute the 24-hour daily emission rate using the following equation:

$$E_{day} = \frac{\sum_{i=1}^{n} \left(T_i * ER_i\right)}{\sum_{i=1}^{n} T_i}$$

Where:

E_{day} = The daily PM, HCl, or D/F emission rate for the secondary aluminum processing unit for the 24-hour period;

T_i = The total amount of feed for emission unit i for the 24-hour period (tons);

ER_i = The measured emission rate for emission unit i as determined in the performance test (lb/ton of feed/charge); and

n = The number of emission units in the secondary aluminum processing unit.

(5) Calculate and record the 3-day, 24-hour rolling average for each pollutant each day by summing the daily emission rates for each pollutant over the 3 most recent consecutive days and dividing by 3.

D.6.15 Bag Leak Detection Systems for Dross Cooling Baghouses [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)

The Permittee shall operate the continuous bag leak detection system for the dross cooling system. The bag leak detection system shall meet the following requirements:

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

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

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

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

(e) The bag leak detection system shall be equipped with an alarm system that will sound automatically when an increase in relative PM emissions over a preset level is detected. The alarm shall be located where it is easily heard by plant operating personnel;

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

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

(h) The baseline output shall be established by adjusting the range and the averaging period of the device and establishing the alarm set points and the alarm delay time;

(i) Following initial adjustment of the system, the Permittee shall not adjust the sensitivity or range, averaging period, alarm set points, or alarm delay time except as detailed in the PMP. In no case may the sensitivity be increased by more than one hundred (100%) percent or decreased more than fifty (50%) percent over a 365-day period unless such adjustment follows a complete fabric filter inspection which demonstrates that the fabric filter is in good operating condition; and

(j) In the event that a bag leak detection system should malfunction, fail or otherwise need repair, the Permittee shall perform visible emissions notations of the stack exhausts associated with that bag leak detection system as follows:

(1) Visible emission notations of the stack exhausts shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal;

(2) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time;

(3) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions;

(4) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal

visible emissions for that specific process and

(5) For the dross cooling operation, if abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C – Response to Excursions and Exceedances. Failure to take response steps in accordance with Section C – Response to Excursions and Exceedances, shall be considered a deviation from this permit.

D.6.16 Bag Leak Detection Alarm Activation [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)

In the event that a bag leak detection system alarm is activated for any reason, the Permittee shall take the corrective action specified in Section C - Response to Excursions or Exceedances, and the following response steps:

The tests performed on December 17, 2004, confirmed that the dross cooling operation can meet the PM limit by operating only two small baghouses. For the four (4) dross cooling operation baghouses, which are single compartment baghouses, when more than two (2) of the four (4) baghouses fail, if failure indicated by an opacity violation or a bag leak detection alarm activation that is not a false alarm, or if bag failure is determined by other means, such as daily checks of the particulate concentration readings from electrodynamic bag leak detectors or visible emissions notations, then the associated process will be shut down immediately. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section C - Emergency Provisions).

D.6.17 Water Level Monitoring [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

(a) The Permittee shall track the operation of the solenoid, which controls a water level electrode of automatic water control boxes on the #2 Offline East Melter Charging rotoclone, #2 Offline West Melter Charging rotoclone, #2 Offline East Melter West Chip Silo rotoclone, and #2 Offline East Melter East Chip Silo rotoclones. Whenever the automatic control fails, the Permittee shall fill the rotoclone by hand.

(b) The failure of the automatic control is not a deviation. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances shall be considered a deviation from this permit.

(c) The Permittee shall completely clean out the #2 Offline East Melter Charging rotoclone, #2 Offline West Melter Charging rotoclone, #2 Offline East Melter West Chip Silo rotoclone, and #2 Offline East Melter East Chip Silo rotoclones at least once per month. In the event that a rotoclone and its associated process have been shutdown, its cleaning schedule shall be amended commencing on the date of the shutdown such that it is cleaned within 4 weeks of the shutdown date. It shall be returned to a cleaning schedule of at least once per month commencing on the date it resumes operation.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19] [326 IAC 20-1] [40 CFR 63, Subpart A] [326 IAC 20-70] [40 CFR 63.1516] [40 CFR 63.1517]

D.6.18 NESHAP Record Keeping Requirements [326 IAC 20-1] [40 CFR 63, Subpart A] [326 IAC 20-70] [40 CFR Part 63.1517]

(a) Pursuant to 40 CFR 63.10(b), the Permittee shall maintain files of all information (including all reports and notifications) required by the general provisions and subpart RRR of 40 CFR 63.

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

(2) The Permittee shall report required information on paper or on a labeled computer disk using commonly available and EPA-compatible computer software; and

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

(1) For each group 1 furnace and each in-line fluxer;

(i) Records of 15-minute block average weights of gaseous or liquid reactive flux injection, total reactive flux injection rate and calculations (including records of the identity, composition, and weight of each addition of gaseous, liquid or solid reactive flux), including records of any period the rate exceeds the compliant operating parameter value and corrective action taken.

(2) For each continuous monitoring system, records required by 40 CFR 63.10(c);

(3) For each emission unit subject to an emission standard in lb/ton of feed/charge, records of feed/charge weights for each operating cycle or time period used in the performance test;

(4) Approved site-specific monitoring plan for a group 1 furnace with records documenting conformance with the plan;

(5) Records of all charge materials and fluxing materials or agents for a group 2 furnace;

(6) Records of monthly inspections for proper unit labeling for each affected emission unit subject to labeling requirements;

(7) Records for any approved alternative monitoring or test procedure;

(8) 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) OM&M plan; and

(iii) Site-specific secondary aluminum processing unit emission plan.

(8) For each secondary aluminum processing unit, records of total charge weight, for each 24-hour period and calculations of 3-day, 24-hour rolling average emissions;

(9) For each group 1 furnace, records of the 3-day, 24-hour rolling average emissions of PM, HCl, and D/F emissions calculations; and

(10) For each in-line degasser, records of the 3-day, 24-hour rolling average emissions of PM, and HCl emissions calculations.

(c) The Permittee shall keep a record of the written startup, shutdown, and malfunction plan and a program of corrective action for malfunctioning process and air pollution control equipment. The Permittee shall also keep records of each event as required by 40 CFR 63.10(b).

(d) The Permittee shall keep records of each event as required by 40 CFR 63.10(b) and record if an action taken during a startup, shutdown, or malfunction is not consistent with the procedures in the plan as described in 40 CFR 63.6(e)(3).

(e) The Permittee shall keep records as required by Conditions D.6.14(f).

D.6.19 Record Keeping Requirements

(a) To document compliance with Condition D.6.2(a), the Permittee shall maintain records of the natural gas consumption of Melters 8M1, 8M2, and 8M3.

(b) To document compliance with Condition D.6.2(b)(4), the Permittee shall maintain records of the combined chlorine and flux salt input rates to 8M1, 8M2, and 8M3.

(c) To document compliance with Conditions D.6.2(b)(5) and (c)(5), the Permittee shall maintain records of PM and PM_{10} emissions from 8M1, 8M2, and 8M3.

(d) To document compliance with Condition D.6.2(e), the Permittee shall maintain records of the natural gas consumption of the 8 EMC east and 8 EMC west holding furnaces.

(e) To document compliance with Conditions D.6.2(f)(4), and (g)(4), the Permittee shall maintain records of the combined chlorine and flux salt rates to 8 EMC east and 8 EMC west holding furnaces.

(f) To document compliance with Conditions D.6.2(f)(5), and (g)(5), the Permittee shall maintain records of PM and PM_{10} emissions from the 8 EMC east and west holding furnaces.

(g) To document compliance with Condition D.6.2(i), the Permittee shall maintain records of the feed/charge rates of the 8EMC 8EH A622 and 8EMC 8WH A622 in-line degassing units.

(h) To document compliance with Conditions D.6.2(j) and (k), the Permittee shall maintain records of the chlorine input rates to the 8EMC 8EH A622 and 8EMC 8WH A622 in-line degassing units.

(i) To document compliance with Condition D.6.2(l), the Permittee shall maintain records of the feed/charge rate of the #1 complex ACD units.

(j) To document compliance with Condition D.6.2(o) and (p), the Permittee shall maintain records of PM and PM_{10} emissions from the #1 complex east holding furnace and the #1 complex west holding furnace.

(k) To document compliance with Condition D.6.2(q), the Permittee shall maintain records of flux salt input rates to the #1 complex east holding furnace and the #1 complex west holding furnace.

(l) To document compliance with Condition D.6.2(r), the Permittee shall maintain records of the feed/charge rate for the #1 complex east holding furnace and the #1 complex west holding furnace.

(m) To document compliance with Condition D.6.3(a), the Permittee shall maintain records of the amount of material charged to OLG1, and the OLG1 PM Ef.

(n) To document compliance with Condition D.6.3(b), the Permittee shall maintain records of the amount of natural gas usage for OLG1 furnaces.

(o) To document compliance with Condition D.6.4(a), the Permittee shall maintain records of the throughput of the dross cooling.

(p) To document compliance with Condition D.6.13, the Permittee shall maintain records of the average throughput of the Coated Scrap Shredder.

(q) To document compliance with Condition D.6.15(a), the Permittee shall keep a log of the calibration test results for the dross cooling baghouses leak detectors.

(r) To document compliance with Condition D.6.15(j), the Permittee shall maintain records of daily visible emission notations of the stack exhaust for the dross cooling baghouses, when the applicable bag leak detection system malfunctions, fails or otherwise needs repair.

(s) To document compliance with Condition D.6.16, the Permittee shall maintain records of the occurrences of all bag leak detection alarms.

(t) To document compliance with Condition D.6.17(a), the Permittee shall maintain records of the automatic water level control and the response steps taken.

(u) To document compliance with Condition D.6.18(c), the Permittee shall maintain records of cleanout dates for #2 Offline East Melter Charging rotoclone, #2 Offline West Melter Charging rotoclone, #2 Offline East Melter West Chip Silo rotoclone, and #2 Offline East Melter East Chip Silo rotoclone.

(v) The Permittee shall maintain the following as required under Conditions D.6.15, D.6.16, and D.6.17:

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

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

D.6.20 NESHAP Reporting Requirements [326 IAC 20-1] [40 CFR 63, Subpart A] [326 IAC 20-70] [40 CFR Part 63.1516]

(a) Startup, shutdown, and malfunction plan/reports - The Permittee shall develop and a written plan as described in 40 CFR 63.6(e)(3) that contains specific procedures to be followed for operating and maintaining the source during periods of startup, shutdown, and malfunction, and a program of corrective action for malfunctioning process and air pollution control equipment used to comply with the standard. In addition to the information required in 40 CFR 63.6(e)(3), the plan shall include:

  (1) Procedures to determine and record the cause of the malfunction and the time the malfunction began and ended; and

  (2) Corrective actions to be taken in the event of a malfunction of a process or control device, including procedures for recording the actions taken to correct the malfunction or minimize emissions.

(b) Excess emissions/summary report - As required by 40 CFR 63.10(e)(3), the Permittee shall submit semiannual reports within 60 days after the end of each 6-month period. Each report shall contain the information specified in 40 CFR 63.10(c). When no deviations of parameters have occurred, the Permittee shall submit a report stating that no excess emissions occurred during the reporting period.

(1) A report shall be submitted if any of these conditions occur during a 6-month reporting period:

(i) An excursion of a compliant process or operating parameter value or range (e.g., screw feeder setting, total reactive chlorine flux injection rate, afterburner operating temperature, definition of acceptable scrap, or other approved operating parameter);

(ii) 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);

(iii) The emission units (including an emission unit in a secondary aluminum processing unit) was not operated according to the requirements of 40 CFR 63, subpart RRR; and

(iv) A deviation from the 3-day, 24-hour rolling average emission limit for a secondary aluminum processing unit.

(2) Each report shall include each of the following certifications, as applicable:

(i) For each group 2 furnace: Only clean charge materials were processed in any group 2 furnace during this reporting period, and no fluxing was performed or all fluxing performed was conducted using only nonreactive, non-HAP-containing/non-HAP-generating fluxing gases or agents, except for cover fluxes, during this reporting period;

(ii) The Coated Aluminum Shredder did not operate in excess of an hourly aluminum scrap throughput of 25,000 lbs/hr. Compliance with 25,000 lbs/hr aluminum scrap throughput limitation satisfies the PM emissions limitation specified by 40 CFR 63, Subpart RRR, i.e. 0.01 grains / dry standard cubic foot;

(3) The Permittee shall submit the results of any performance test conducted during the reporting period, including one complete report documenting test methods and procedures, process operation, and monitoring parameter ranges or values for each test method used for a particular type of emission point tested.

(c) Annual compliance certifications - For the purpose of annual certifications of compliance required by 40 CFR Part 70, the Permittee shall certify continuing compliance based upon, but not limited to, the following conditions:

(i) Any period of excess emissions, as defined in Condition D.6.20 (b)(1), that occurred during the year were reported as required by 40 CFR 63 subpart RRR; and

(ii) All monitoring, recordkeeping, and reporting requirements were met during the year.

D.6.21 Reporting Requirements

A monthly summary of the information to document compliance with Conditions D.6.2 (a), (b)(5), (c)(5), (e), (f)(5), (g)(5), (i), (l), (o), (p), and (r), D.6.3(a) and (b), and D.6.4(a) shall be submitted to the addresses listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or its equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).

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

Natural Gas Quarterly Report

Source Name: Alcoa Inc.- Warrick Operations
Source Address: Jct. IN Hwys. 66 & 61, Newburgh, Indiana 47629-0010
Mailing Address: Bldg. 860 E, P.O. Box 10, Newburgh, Indiana 47629
Part 70 Permit No.: T173-6627-0 0007
Facility: Melters 8M1, 8M2, and 8M3
Parameter: Natural gas usage
Limit: 915 MMCF per twelve (12) consecutive month period

Quarter _______ Year: ______

Month	Natural Gas (MMCF)	Natural Gas (MMCF)	Natural Gas (MMCF)
	This Month	Previous 11 Months	12 Month Total

No deviation occurred in this quarter.

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

Submitted by: ______________________________

Title / Position: ______________________________

Signature: ______________________________

Date: ______________________________

Telephone: ______________________________

Attach a signed certification to complete this report.

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

PM Emissions Quarterly Report

Source Name: Alcoa Inc.- Warrick Operations
Source Address: Jct. IN Hwys. 66 & 61, Newburgh, Indiana 47629-0010
Mailing Address: Bldg. 860 E, P.O. Box 10, Newburgh, Indiana 47629
Part 70 Permit No.: T173-6627-0 0007
Facility: Melters 8M1, 8M2, and 8M3
Parameter: PM Emissions
Limit: 49.57 tons per twelve (12) consecutive month period

Quarter _______ Year: ______

Month	PM (tons)	PM (tons)	PM (tons)
	This Month	Previous 11 Months	12 Month Total

No deviation occurred in this quarter.

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

Submitted by: ______________________

Title / Position: ______________________

Signature: ______________________

Date: ______________________

Telephone: ______________________

Attach a signed certification to complete this report.

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

PM_{10} Emissions Quarterly Report

Source Name: Alcoa Inc.- Warrick Operations
Source Address: Jct. IN Hwys. 66 & 61, Newburgh, Indiana 47629-0010
Mailing Address: Bldg. 860 E, P.O. Box 10, Newburgh, Indiana 47629
Part 70 Permit No.: T173-6627-0 0007
Facility: Melters 8M1, 8M2, and 8M3
Parameter: PM_{10} Emissions
Limit: 53.54 tons per twelve (12) consecutive month period

Quarter _______ Year: ______

Month	**PM_{10} (tons)**	**PM_{10} (tons)**	**PM_{10} (tons)**
	This Month	**Previous 11 Months**	**12 Month Total**

No deviation occurred in this quarter.

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

Submitted by: ______________________________

Title / Position: ______________________________

Signature: ______________________________

Date: ______________________________

Telephone: ______________________________

Attach a signed certification to complete this report.

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

Natural Gas Quarterly Report

Source Name: Alcoa Inc.- Warrick Operations
Source Address: Jct. IN Hwys. 66 & 61, Newburgh, Indiana 47629-0010
Mailing Address: Bldg. 860 E, P.O. Box 10, Newburgh, Indiana 47629
Part 70 Permit No.: T173-6627-0 0007
Facility: 8EMC east and 8EMC west holding furnaces
Parameter: Natural gas usage
Limit: 216 MMCF per twelve (12) consecutive month period

Quarter _______ Year: ______

Month	Natural Gas (MMCF)	Natural Gas (MMCF)	Natural Gas (MMCF)
	This Month	Previous 11 Months	12 Month Total

No deviation occurred in this quarter.

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

Submitted by: ______________________________

Title / Position: ______________________________

Signature: ______________________________

Date: ______________________________

Telephone: ______________________________

Attach a signed certification to complete this report.

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

PM Emissions Quarterly Report

Source Name: Alcoa Inc.- Warrick Operations
Source Address: Jct. IN Hwys. 66 & 61, Newburgh, Indiana 47629-0010
Mailing Address: Bldg. 860 E, P.O. Box 10, Newburgh, Indiana 47629
Part 70 Permit No.: T173-6627-0 0007
Facility: 8EMC east holding and 8EMC west holding furnace
Parameter: PM
Limit: 34.17 tons per twelve (12) consecutive month period

Quarter _______ Year: ______

Month	PM (tons)	PM (tons)	PM (tons)
	This Month	Previous 11 Months	12 Month Total

No deviation occurred in this quarter.

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

Submitted by: ________________________

Title / Position: ________________________

Signature: ________________________

Date: ________________________

Telephone: ________________________

Attach a signed certification to complete this report.

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

PM_{10} Emissions Quarterly Report

Source Name: Alcoa Inc.- Warrick Operations
Source Address: Jct. IN Hwys. 66 & 61, Newburgh, Indiana 47629-0010
Mailing Address: Bldg. 860 E, P.O. Box 10, Newburgh, Indiana 47629
Part 70 Permit No.: T173-6627-0 0007
Facility: 8EMC east holding and 8EMC west holding furnace
Parameter: PM_{10}
Limit: 49.89 tons per twelve (12) consecutive month period

Quarter _______ Year: ______

Month	PM_{10} (tons)	PM_{10} (tons)	PM_{10} (tons)
	This Month	Previous 11 Months	12 Month Total

No deviation occurred in this quarter.

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

Submitted by: ______________________________

Title / Position: ______________________________

Signature: ______________________________

Date: ______________________________

Telephone: ______________________________

Attach a signed certification to complete this report.

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

Feed/Charge Quarterly Report

Source Name: Alcoa, Inc. - Warrick Operations
Source Address: Jct. IN Hwys. 66 & 61, Newburgh, Indiana 47629-0010
Mailing Address: Bldg. 860 E, P.O. Box 10, Newburgh, Indiana 47629
Operation Permit No.: T173-6627-00007
Facilities: 8EMC 8EH and 8EMC 8WH A622 in-line degassing units
Parameter: Feed/Charge Rate
Limit: 823,440 tons per twelve (12) consecutive month period

Quarter _______ Year: ______

Month	Feed/Charge Rate (tons)	Feed/Charge Rate (tons)	Feed/Charge Rate (tons)
	This Month	Previous 11 Months	12 Month Total
	8EMC 8EH and 8EMC 8WH	8EMC 8EH and 8EMC 8WH	8EMC 8EH and 8EMC 8WH

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

Feed/Charge Quarterly Report

Source Name:	Alcoa, Inc. - Warrick Operations
Source Address:	Jct. IN Hwys. 66 & 61, Newburgh, Indiana 47629-0010
Mailing Address:	Bldg. 860 E, P.O. Box 10, Newburgh, Indiana 47629
Operation Permit No.:	T173-6627-00007
Facility:	#1 complex ACD Units
Parameter:	Feed/Charge
Limit:	172,000 tons per twelve (12) consecutive month period

Quarter _______ Year: ______

Month	Feed/Charge (tons)	Feed/Charge (tons)	Feed/Charge (tons)
	This Month	Previous 11 Months	12 Month Total

No deviation occurred in this quarter.

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

Submitted by: ________________________________

Title / Position: ________________________________

Signature: ________________________________

Date: ________________________________

Telephone: ________________________________

Attach a signed certification to complete this report.

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

PM Emissions Quarterly Report

Source Name: Alcoa, Inc. - Warrick Operations
Source Address: Jct. IN Hwys. 66 & 61, Newburgh, Indiana 47629-0010
Mailing Address: Bldg. 860 E, P.O. Box 10, Newburgh, Indiana 47629
Operation Permit No.: T173-6627-00007
Facility: #1 complex east holding furnace and #1 complex west holding furnace
Parameter: PM
Limit: 3.87 tons per twelve (12) consecutive month period

Quarter _______ Year: ______

Month	PM (tons)	PM (tons)	PM (tons)
	This Month	Previous 11 Months	12 Month Total

No deviation occurred in this quarter.

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

Submitted by: ________________________________

Title / Position: ________________________________

Signature: ________________________________

Date: ________________________________

Telephone: ________________________________

Attach a signed certification to complete this report.

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

PM_{10} Emissions Quarterly Report

Source Name: Alcoa, Inc. - Warrick Operations
Source Address: Jct. IN Hwys. 66 & 61, Newburgh, Indiana 47629-0010
Mailing Address: Bldg. 860 E, P.O. Box 10, Newburgh, Indiana 47629
Operation Permit No.: T173-6627-00007
Facility: #1 complex east holding furnace and #1 complex west holding furnace
Parameter: PM_{10}
Limit: 5.65 tons per twelve (12) consecutive month period

Quarter _______ Year: ______

Month	PM_{10} (tons)	PM_{10} (tons)	PM_{10} (tons)
	This Month	Previous 11 Months	12 Month Total

No deviation occurred in this quarter.

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

Submitted by: ________________________________

Title / Position: ________________________________

Signature: ________________________________

Date: ________________________________

Telephone: ________________________________

Attach a signed certification to complete this report.

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

Feed/Charge Quarterly Report

Source Name: Alcoa, Inc. - Warrick Operations
Source Address: Jct. IN Hwys. 66 & 61, Newburgh, Indiana 47629-0010
Mailing Address: Bldg. 860 E, P.O. Box 10, Newburgh, Indiana 47629
Operation Permit No.: T173-6627-00007
Facility: #1 complex East and West Holding Furnaces
Parameter: Feed/Charge
Limit: Total 172,000 tons feed/charge per twelve (12) consecutive month period

Quarter _______ Year: ______

Month	Feed/Charge (tons)	Feed/Charge (tons)	Feed/Charge (tons)
	This Month	Previous 11 Months	12 Month Total

No deviation occurred in this quarter.

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

Submitted by: ________________________________

Title / Position: ________________________________

Signature: ________________________________

Date: ________________________________

Telephone: ________________________________

Attach a signed certification to complete this report.

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

PM Emissions Quarterly Report

Source Name: Alcoa, Inc. - Warrick Operations
Source Address: Jct. IN Hwys. 66 & 61, Newburgh, Indiana 47629
Mailing Address: Bldg. 860 E, P.O. Box 10, Newburgh, Indiana 47629
Operation Permit No.: T173-6627-00007
Facility: OLG1 Furnaces
Parameter: PM
Limit: Less than 202 tons per twelve (12) consecutive month period

Quarter _______ Year: ______

Month	PM (tons) This Month	PM (tons) Previous 11 Months	PM (tons) 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: ________________________________

Telephone: ________________________________

Attach a signed certification to complete this report.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION
Natural Gas Usage Quarterly Report

Source Name: Alcoa, Inc. - Warrick Operations
Source Address: Jct. IN Hwys. 66 & 61, Newburgh, Indiana 47629-0010
Mailing Address: Bldg. 860 E, P.O. Box 10, Newburgh, Indiana 47629
Operation Permit No.: T173-6627-00007
Facility: OLG1 Furnaces
Natural gas usage Limit: 1,847 million cubic feet per twelve (12) consecutive month period

Quarter _______ Year: ______

Month	Natural Gas (MMCF)	Natural Gas (MMCF)	Natural Gas (MMCF)
	This Month	Previous 11 Months	12 Month Total

No deviation occurred in this quarter.

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

Submitted by: ________________________________

Title / Position: ________________________________

Signature: ________________________________

Date: ________________________________

Telephone: ________________________________

Attach a signed certification to complete this report.

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

Dross Cooling Throughput Quarterly Report

Source Name: Alcoa, Inc. - Warrick Operations
Source Address: Jct. IN Hwys. 66 & 61, Newburgh, Indiana 47629
Mailing Address: Bldg. 860 E, P.O. Box 10, Newburgh, Indiana 47629
Operation Permit No.: T173-6627-00007
Facility: Dross Cooling Operation
Parameter: Dross
Limit: 38,000 tons per twelve (12) consecutive month period

Quarter _______ Year: ______

Month	Dross (tons)	Dross (tons)	Dross (tons)
	This Month	Previous 11 Months	12 Month Total

No deviation occurred in this quarter.

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

Submitted by: ________________________________

Title / Position: ______________________________

Signature: ________________________________

Date: ________________________________

Telephone: ________________________________

Attach a signed certification to complete this report.

SECTION D.7 ROLLING MILLS PLANT FACILITY OPERATION CONDITIONS

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

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

Rolling Mills

(1) One (1) gauge reduction of aluminum facility, identified as hot reversing mill, constructed in 1964, with a maximum capacity production of aluminum ingot of 225 tons per hour, controlled by a mist eliminator, and exhausting to Stack 811.1;

(2) One (1) gauge reduction of aluminum facility, identified as continuous hot mill, constructed in 1964, with a maximum capacity production of aluminum ingot of 225 tons per hour, controlled by a mist eliminator, and exhausting to Stack 814.1;

(3) One (1) gauge reduction of aluminum facility, identified as cold mill #2, constructed in 1963, with a maximum capacity production of aluminum sheet of 75 tons per hour, uncontrolled, and exhausting to Stack 816.21;

(4) One (1) gauge reduction of aluminum facility, identified as cold mill #4, constructed in 1970, with a maximum capacity production of aluminum sheet of 88.6 tons per hour, controlled by a mist eliminator, and exhausting to Stacks 816.23 and 816.24.

One (1) mist eliminator, constructed in 1970, and exhausting to Stacks 816.23 and 816.24;

Annealing furnaces (Under NESHAP subpart DDDDD, all of the annealing furnaces described below are considered existing large gaseous fuel units):

(5) One (1) annealing furnace, identified as annealing furnace #5, constructed in 1964, using natural gas with a maximum heat input rate of 15 MMBtu/hr, exhausting to Stack 816.4;

(6) One (1) annealing furnace, identified as annealing furnace #6, constructed in 1964, using natural gas with a maximum heat input rate of 15 MMBtu/hr, exhausting to Stack 816.5;

(7) One (1) annealing furnace, identified as annealing furnace #7, constructed in 1964, using natural gas with a maximum heat input rate of 15 MMBtu/hr, exhausting to Stack 816.6;

(8) One (1) annealing furnace, identified as annealing furnace #8, constructed in 1964, using natural gas with a maximum heat input rate of 15 MMBtu/hr, exhausting to Stack 816.7;

(9) One (1) annealing furnace, identified as annealing furnace #9, constructed in 1964, using natural gas with a maximum heat input rate of 15 MMBtu/hr, exhausting to Stack 816.8;

(10) One (1) annealing furnace, identified as annealing furnace #10, constructed in 1967, using natural gas with a maximum heat input rate of 15 MMBtu/hr, exhausting to Stack 816.9;

(11) One (1) annealing furnace, identified as annealing furnace #11, constructed in 1967, using natural gas with a maximum heat input rate of 15 MMBtu/hr, exhausting to Stack 816.10;

(12) One (1) annealing furnace, identified as annealing furnace #12, constructed in 1969, using natural gas with a maximum heat input rate of 15 MMBtu/hr, exhausting to Stack 816.11;

(13) One (1) annealing furnace, identified as annealing furnace #13, constructed in 1969, using natural gas with a maximum heat input rate of 15 MMBtu/hr, exhausting to Stack 816.12;

(14) One (1) annealing furnace, identified as annealing furnace #14, constructed in 1970, using natural gas with a maximum heat input rate of 48 MMBtu/hr, exhausting to Stack 816.13;

(15) One (1) annealing furnace, identified as annealing furnace #15, constructed in 1970, using natural gas with a maximum heat input rate of 48 MMBtu/hr, exhausting to Stack 816.14;

(16) One (1) annealing furnace, identified as annealing furnace #16, constructed in 1970, using natural gas with a maximum heat input rate of 48 MMBtu/hr, exhausting to Stack 816.15;

(17) One (1) annealing furnace, identified as annealing furnace #17, constructed in 1972, using natural gas with a maximum heat input rate of 48 MMBtu/hr, exhausting to Stack 816.16;

Preheat furnaces (Under NESHAP subpart DDDDD, all of the preheat furnaces described below are considered existing large gaseous fuel units):

(18) Five (5) preheat furnaces, identified as preheat furnace #2 - #6, constructed prior to 1973 and rebuilt in 1975, using natural gas with a maximum heat input rate of 18 MMBtu/hr each, and exhausting to Stacks 811.2 thru 811.6;

(19) Ten (10) preheat furnaces, identified as preheat furnace #7 - #10, #28-#29, #31-#34, constructed in 1966, using natural gas with a maximum heat input rate of 18 MMBtu/hr each, and exhausting to Stacks #811.7- #811.10, #811.28-#811.29, and #811.31-#811.34;

(20) One (1) preheat furnaces, identified as preheat furnace #35, constructed in 1966, using natural gas with a maximum heat input rate of 18 MMBtu/hr, and exhausting to Stack 811.35;

(21) Eight (8) preheat furnaces, identified as preheat furnace #12 - #19, constructed in 1965, using natural gas with a maximum heat input rate of 12 MMBtu/hr each, and exhausting to Stacks #811.12- #811.19, and #811.26;

(21A) Three (3) preheat furnaces, identified as preheat furnace #22, #24, and #26, constructed in 1965, using natural gas with a maximum heat input rate of 18 MMBtu/hr each, and exhausting to Stacks #811.22, #811.24, and #811.26;

(22) Five (5) preheat furnaces, identified as preheat furnace #36 - #40, constructed in 1969 and rebuilt in 1978, using natural gas with a maximum heat input rate of 18 MMBtu/hr each, and exhausting to Stacks #811.36- #811.40;

(23) Three (3) preheat furnaces, identified as preheat furnace #41 - #43, constructed in 1973, using natural gas with a maximum heat input rate of 18 MMBtu/hr each, and exhausting to Stacks #811.41- #811.43;

(24) Seven (7) preheat furnaces, identified as preheat furnace #11, #20, #21, #23, #25, #27, and #30, constructed in 1969 and rebuilt in 1990, using natural gas with a maximum heat input rate of 18 MMBtu/hr each, and exhausting to Stacks #811.11, #811.20, #811.21, #811.23, #811.25, #811.27, and #811.30;

Boilers (Under NESHAP subpart DDDDD, all of the boilers described below are considered existing large gaseous fuel units):

(25) One (1) natural gas fired boiler, identified as Castrol reprocessing system boiler #1, constructed in 1998, with a maximum heat input rate of 12 MMBtu/hr, exhausting to Stack 816B1;

(26) One (1) natural gas fired, boiler, identified as Castrol reprocessing system boiler #2,

constructed in 1998, with a maximum heat input rate of 12 MMBtu/hr, exhausting to Stack 816B2; and

(27) One (1) natural gas fired, boiler, identified as Castrol reprocessing system boiler #3, constructed in 1998, with a maximum heat input rate of 12 MMBtu/hr, exhausting to Stack 816B3.

Ingot Surface Treatment, consisting of:

(28) One (1) scalper step cutter, with a maximum capacity of scalping 172 tons of aluminum ingots per hour, constructed in 2001, exhausting to West Silo No. 1, which is controlled by the West Silo No.1 Cyclone, which exhausts at stack 379.1.

(29) One (1) Hot Ingot Oxide Brushing System, with a maximum capacity of 225 tons of aluminum ingot per hour, constructed in 2000, exhausts inside the rolling bay building, and does not directly exhaust externally.

(30) One (1) silo, identified as West Silo No. 1, with a maximum scrap throughput of 13.76 tons per hour, constructed in 1965, emissions uncontrolled, and exhausts at stack 379.1.

(31) One (1) silo, identified as East Silo No. 2, with a maximum scrap throughput of 15.00 tons per hour, constructed in 1965, emissions uncontrolled, and exhausts at stack 379.2.

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

D.7.1 Particulate Emissions Limitations for Manufacturing Processes [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the Rolling Mills emission units shall be limited as follows:

Facility	Maximum Process Weight Rate (tons/hr)	PM Emission Limit (lbs/hr)
Ingot scalping	13.76	23.75
Ingot preheating operation	172	56.9
Ingot brush	225	59.8
Reversing mills	172	56.9
Continuous hot mills	172	56.9
Annealing furnaces	172	56.9
Ingot cold rolling	172	56.9
East Silo No. 2	15	25.2

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

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

$E = 4.10\ P^{0.67}$

Where:

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

Or

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

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

Where:

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

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

D.7.2 General Provisions Relating to NSPS, Subpart Dc [326 IAC 12][40 CFR Part 60, Subpart A]

The provisions of 40 CFR 60, Subpart A – General Provisions, which are incorporated as 326 IAC 12-1, apply to the boilers described in this section except when otherwise specified in 40 CFR 60, Subpart Dc.

D.7.3 Particulate Emissions Limitations for Sources of Indirect Heating [326 IAC 6-2-3][326 IAC 6-2-4]

(a) Pursuant to 326 IAC 6-2-4 (Particulate Emissions Limitations for Sources of Indirect Heating), the allowable particulate matter (PM) emissions from boiler #1, boiler #2, and boiler #3 shall be limited to 0.178 lb/MMBtu each. The above particulate emissions rates were determined from the following formula:

$$P_t = \frac{1.09}{Q^{0.26}}$$

Where:

Pt = Pounds of particulate matter emitted per million Btu (lb/MMBtu) heat input; and

Q = Total source maximum operating capacity rating in million Btu per hour (MMBtu/hr) heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used.

(b) Pursuant to 326 IAC 6-2-3(b) (Particulate Emissions Limitations for Sources of Indirect Heating), the allowable particulate matter (PM) emissions from annealing furnaces #5-

#16, and preheat furnaces #7 and #4 shall be limited to 0.06 lb/MMBtu each. The above particulate emissions rate was determined from the following formula:

$$Pt = \frac{C * a * h}{76.5 * Q^{0.75} * N^{0.25}}$$

Where:

C = Maximum ground level concentration with respect to distance from the point source at the critical wind speed for level terrain. This shall equal 50 micrograms per cubic meter (μ/m^3) for a period not to exceed a sixty (60) minute time period;

P_t = Pounds of particulate matter emitted per million Btu heat input (lb/MMBtu);

Q = Total source maximum operating capacity rating in million Btu per hour (MMBtu/hr) heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's operation permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used;

N = Number of stacks in fuel burning operation;

a = Plume rise factor which is used to make allowance for less than theoretical plume rise. The value 0.67 shall be used for Q less than or equal to 1,000 MMBtu/hr heat input; and

h = Stack height in feet. If a number of stacks of different heights exist, the average stack height to represent N stacks shall be calculated by weighing each stack height with its particulate matter emission rate as follows:

$$h = \frac{\sum_{i=1}^{N} H_i * pa_i * Q}{\sum_{i=1}^{N} pa_i * Q}$$

Where:

pa = the actual controlled emission rate in lb/MMBtu using the emission factor from AP-42 or stack test data. Stacks constructed after January 1, 1971, shall be credited with GEP stack height only. GEP stack height shall be calculated as specified in 326 IAC 1-7.

Q, N, and h shall include the parameters for all facilities in operation on June 8, 1972. The resulting Pt is the emission limitation for annealing furnaces #5-#16, and preheat furnaces #7 and #4 and will not be affected by the addition of any subsequent facility.

(c) Pursuant to 326 IAC 6-2-3(a) (Particulate Emissions Limitations for Sources of Indirect Heating), the allowable particulate matter (PM) emissions from preheat furnaces #2 - #6 shall be limited to 0.055 lb/MMBtu. The above particulate emissions rate was determined from the following formula:

$$Pt = \frac{C * a * h}{76.5 * Q^{0.75} * N^{0.25}}$$

Where:

C = Maximum ground level concentration with respect to distance from the point source at the critical wind speed for level terrain. This shall equal 50 micrograms per cubic meter (μ/m^3) for a period not to exceed a sixty (60) minute time period;

P_t = Pounds of particulate matter emitted per million Btu heat input (lb/MMBtu);

Q = Total source maximum operating capacity rating in million Btu per hour (MMBtu/hr) heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's operation permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used;

N = Number of stacks in fuel burning operation;

a = Plume rise factor which is used to make allowance for less than theoretical plume rise. The value 0.67 shall be used for Q less than or equal to 1,000 MMBtu/hr heat input; and

h = Stack height in feet. If a number of stacks of different heights exist, the average stack height to represent N stacks shall be calculated by weighing each stack height with its particulate matter emission rate as follows:

$$h = \frac{\sum_{i=1}^{N} H_i * pa_i * Q}{\sum_{i=1}^{N} pa_i * Q}$$

Where:

pa = the actual controlled emission rate in lb/MMBtu using the emission factor from AP-42 or stack test data. Stacks constructed after January 1, 1971, shall be credited with GEP stack height only. GEP stack height shall be calculated as specified in 326 IAC 1-7.

Q, N, and h shall include the parameters for all facilities in operation before 1973. The resulting Pt is the emission limitation for preheat furnaces #2 - #6 and will not be affected by the addition of any subsequent emissions unit.

(d) Pursuant to 326 IAC 6-2-3(a) (Particulate Emissions Limitations for Sources of Indirect Heating), the allowable particulate matter (PM) emissions from annealing furnace #17 shall be limited to 0.053 lb/MMBtu each. The above particulate emissions rate was determined from the following formula:

$$Pt = \frac{C * a * h}{76.5 * Q^{0.75} * N^{0.25}}$$

Where:

C = Maximum ground level concentration with respect to distance from the point source at the critical wind speed for level terrain. This shall equal 50 micrograms per cubic meter (μ/m^3) for a period not to exceed a sixty (60) minute time period;

P_t = Pounds of particulate matter emitted per million Btu heat input (lb/MMBtu);

Q = Total source maximum operating capacity rating in million Btu per hour (MMBtu/hr) heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's operation permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used;

N = Number of stacks in fuel burning operation;

a = Plume rise factor which is used to make allowance for less than theoretical plume rise. The value 0.67 shall be used for Q less than or equal to 1,000 MMBtu/hr heat input; and

h = Stack height in feet. If a number of stacks of different heights exist, the average stack height to represent N stacks shall be calculated by weighing each stack height with its particulate matter emission rate as follows:

$$h = \frac{\sum_{i=1}^{N} H_i * pa_i * Q}{\sum_{i=1}^{N} pa_i * Q}$$

Where:

pa = the actual controlled emission rate in lb/MMBtu using the emission factor from AP-42 or stack test data. Stacks constructed after January 1, 1971, shall be credited with GEP stack height only. GEP stack height shall be calculated as specified in 326 IAC 1-7.

Q, N, and h shall include the parameters for all facilities in operation before 1973. The resulting Pt is the emission limitation for annealing furnace #17, and will not be affected by the addition of any subsequent emissions unit.

(e) Pursuant to 326 IAC 6-2-3(a) (Particulate Emissions Limitations for Sources of Indirect Heating), the allowable particulate matter (PM) emissions from preheat furnaces #41 - #43 shall be limited to 0.051 lb/MMBtu each. The above particulate emissions rate was determined from the following formula:

$$Pt = \frac{C * a * h}{76.5 * Q^{0.75} * N^{0.25}}$$

Where:

C = Maximum ground level concentration with respect to distance from the point source at the critical wind speed for level terrain. This shall equal 50 micrograms per cubic meter (μ/m^3) for a period not to exceed a sixty (60) minute time period;

P_t = Pounds of particulate matter emitted per million Btu heat input (lb/MMBtu);

Q = Total source maximum operating capacity rating in million Btu per hour (MMBtu/hr) heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's operation permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used;

N = Number of stacks in fuel burning operation;

a = Plume rise factor which is used to make allowance for less than theoretical plume rise. The value 0.67 shall be used for Q less than or equal to 1,000 MMBtu/hr heat input; and

h = Stack height in feet. If a number of stacks of different heights exist, the average stack height to represent N stacks shall be calculated by weighing each stack height with its particulate matter emission rate as follows:

$$h = \frac{\sum_{i=1}^{N} H_i * pa_i * Q}{\sum_{i=1}^{N} pa_i * Q}$$

Where:

pa = the actual controlled emission rate in lb/MMBtu using the emission factor from AP-42 or stack test data. Stacks constructed after January 1, 1971, shall be credited with GEP stack height only. GEP stack height shall be calculated as specified in 326 IAC 1-7.

Q, N, and h shall include the parameters for all facilities in operation before 1975. The resulting Pt is the emission limitation for preheat furnaces #41 - #43 and will not be affected by the addition of any subsequent emissions unit.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19] [326 IAC 12] [40 CFR 60, Subpart Dc] [40 CFR 63, Subpart DDDDD]

D.7.4 New Source Performance Standard (NSPS) Record Keeping Requirements [326 IAC 12] [40 CFR 60, Subpart Dc] [40 CFR 63, Subpart DDDDD]

(a) Pursuant to 326 IAC 12, the Permittee shall record and maintain records of the amounts of natural gas combusted in each boiler, annealing furnace, and preheat furnace each day. This condition expires when the revisions made to 40 CFR 60 Subpart Dc, as amended on February 27, 2006, become effective as Indiana Law. This condition is not federally enforceable.

(b) Pursuant to 40 CFR 60.48c(g), the Permittee shall record and maintain records of the amounts of natural gas combusted in each boiler during each calendar month.

(c) Pursuant to 40 CFR 7506(b), the annealing furnaces, preheat furnaces, and boilers are subject to only the initial notification requirements in 40 CFR 63.9(b) (i.e., they are not subject to the emission limits, work practice standards, performance testing, monitoring, SSMP, site-specific monitoring plans, recordkeeping and reporting requirements of 40 CFR 63, Subpart DDDDD or any other requirements in 40 CFR 63, Subpart A.). The Permittee has already complied with the notification requirements.

SECTION D.8 COATING PLANT FACILITY OPERATION CONDITIONS

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

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

(1) One (1) electro coat coil coating line no. 6, identified as CPL6, constructed in 1984, with emissions uncontrolled and exhausting to Stacks 819.7, and 819.13-819.15;

(2) One (1) coil coating line no. 2, identified as CCL2, constructed in 1987, with a temporary total enclosure system surrounding the coating stations. Emissions captured by the temporary total enclosure system and generated within the bake oven are controlled by a thermal oxidizer. Total coating line emissions exhausting to Stacks 826.6.

One (1) thermal oxidizer system exhausting to Stacks 826.5 and 826.6;

(3) One (1) coil coating line no. 3, identified as CCL3, constructed in 1987, with a temporary total enclosure system surrounding the coating stations. Emissions captured by the temporary total enclosure system and generated within the bake oven are controlled by a thermal oxidizer. Total coating line emissions exhausting to Stacks 826.1 and 826.2.

One (1) thermal oxidizer system exhausting to Stacks 826.1;

Mix room

(4) One (1) mixing room of solvents for coil coating lines process vats, installed in 1972, with a maximum of coating and solvents usage of 240,000 tons per year, with no control, and exhausting to Stack 847.2;

(5) Ten (10) coating mix stations, identified as Mix Room Stations #1- #10, with a total of fourteen (14)-400 gallon tanks with flat lids. Each of the fourteen (14) total tanks is vertical fixed roof tank located inside Building 847 with no control devices;

Above ground tank farm

(6) Two (2) fixed roof above ground tanks, identified as tanks, 01 and 02, installed in 1997, with a maximum capacity of coatings or solvents storing 16,000 gallons, with no control, exhausting to Stacks 849.1 and 849.2;

(7) Six (6) fixed roof above ground tanks, identified as tanks, 03, 04, 05, 06, 07, and 08, installed in 1997, with a maximum capacity of coatings or solvents storing of 9,700 gallons, with no control, exhausting to Stacks 849.3 – 849.8;

(8) Four (4) fixed roof above ground tanks, identified as tanks, B, C, D, and E, installed in 1997, with a maximum capacity of coatings or solvents storing of 7,800 gallons, with no control, exhausting to Stacks 849.B – 849.E;

Process Support

(9) One (1) underground storage tank, identified as Hazardous Waste Storage Tank, installed in 1992 with a maximum capacity of 7,500 gallons with no control, exhausting to Stack 847.1;

(10) Two (2) fixed roof above ground tanks, identified as clear and gold electrocoat coating Dump

Tanks, installed in 1996, with a maximum capacity of 20,000 gallons each, with no control, exhausting to Stacks 819.16 and 819.17;

(11) One (1) fixed roof above ground tank, identified as gold electrocoat coating Unload Tank, installed in 1996, with a maximum capacity of 8,000 gallons, with no control, exhausting to Stack 819.18;

(12) One (1) fixed roof above ground tank, identified as clear electrocoat coating Day Tank, installed in 1996, with a maximum capacity of 3,500 gallons, with no control, exhausting to stack 820.01;

(13) One (1) fixed roof above ground tank, identified as experimental electrocoat coating Day Tank, installed in 1996, with a maximum capacity of 3,500 gallons, with no control, exhausting inside the building;

(14) One (1) fixed roof above ground tank, identified as gold electrocoat coating Day tank, installed in 1996, with a maximum capacity of 3,500 gallons, with no control, exhausting to Stack 819.19; and

(15) One (1) carbon silo, identified as 879 Carbon Silo, installed in 1998 with a maximum capacity of 50,000 pounds and a fill rate of 12.66 tons per hour, with no control, exhausting to Stack 877.4.

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

D.8.1 Particulate Emissions Limitations for Manufacturing Processes [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emissions rates from Carbon Silo shall be limited to 22.5 lbs/hr.

The above particulate emissions rate was determined from the following formula:

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

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

Where:

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

D.8.2 PSD Minor Limit [326 IAC 2-2]

(a) Pursuant to CP 173-3276, issued on July 14, 1994, the total amount of volatile organic compounds (VOC) delivered to the coater head of the coil coating line CCL2 shall be less than 7,675 tons per 365 consecutive day period, with compliance demonstrated at the end of each day (the overall control efficiency of the VOC capture and control system shall be no less than 96%). Compliance with these VOC limits and the thermal oxidizer's control efficiency of 96% shall render the requirements of Prevention of Significant Deterioration (PSD) rule, 326 IAC 2-2, not applicable for the coil coating line CCL2.

(b) Pursuant to Amendment A 173-5524 to CP 173-4501 issued on May 6, 1996:

(1) The total amount of volatile organic compounds delivered to the coil coating line

CCL3 coater head applicator ("Input") shall be less than the amount determined by equation 1 using parameters from Table 1. In addition, the total amount of volatile organic compounds delivered to the coater head applicator shall be limited such that the calculated volatile organic compound emissions, calculated using equation 2, shall be less than 112 tons per 365 consecutive day period, with compliance demonstrated at the end of each day.

Equation 1:

$$\text{Input Limit (tons/365 days)} = \sum_{y=1}^{365}\left(\frac{I_y}{365}\right)$$

Where:

I = the VOC input parameter from Table 1 on day y;

y = the day number in the 365-day roll;

Equation 2:

$$\text{Emission (tons/365 days)} = \frac{\sum_{y=1}^{365}(100\% - R)_y * \sum^{j}(L_i D_i W)_y}{(2{,}000\ \text{lbs/ton})}$$

Where:

y = the day number in the 365-day roll;

j = each subsequent coating and solvent consumed per day;

R = the most recently demonstrated overall reduction efficiency (ORE) on day 1;

L = the quantity of the coating/solvent consumed per day (gallons/day);

D = the density of the coating/solvent consumed (lb/gallon); and

W = the weight percent VOC content of the coating/solvent consumed (as a decimal fraction).

The Permittee may select alternate overall reduction efficiency/ VOC input parameter combinations from the following list of compliance options (Table 1):

Compliance Option	Required ORE (%)	VOC input parameter (tons/365-days)
1	98.0	5,600
2	98.25	6,400
3	98.5	7,467
4	98.75	8,960
5	99.0	11,200

6	99.25	14,933
7	99.5	22,400

The Permittee indicated its selection of Option #4, commencing on May 1, 2004. The Permittee may establish an alternate option through written notification to OAQ at least 14 days prior to the calendar month in which an alternate option is to begin being used for compliance purposes. This notification shall include the following:

(i) The compliance option presently being used, and the new option to be used;

(ii) The date on which the new compliance option is to take effect;

(iii) Documentation showing that the required ORE associated with the new compliance option is less than or equal to the most recently demonstrated ORE in testing conducted pursuant to 326 IAC 3-2.1 (Source Sampling Procedures) using test methods acceptable to the Commissioner; and

(iv) Calculated VOC emissions for the 365 – day period ending prior to submission of the notification.

(2) The enclosure room, the capture system, and the capture system fan's measuring and recording devices shall be operating properly at all times during actual coating operations, at an electrical current across one or more of the fans that provide ventilation exhaust from the coating enclosure that has been demonstrated to maintain an average facial velocity of at least 200 feet per minute across all natural draft openings as measured by EPA Method 204, Equation 204-3. All doors and windows not classified as natural draft openings remain closed at all times during actual coating operations except for brief periods to allow personnel entrance to and exit from the enclosure room All doors and windows not classified as natural draft openings remain closed at all times during actual coating operations except for brief periods to allow personnel entrance to and exit from the enclosure room, and to replace empty coating or solvent containers.

Compliance with these limits shall render the requirements of PSD rule 326 IAC 2-2 not applicable for the No. 3 coil coating line.

D.8.3 PSD Emission Limit [326 IAC 2-2]

Pursuant to PSD Permit PSD (87) 1549 issued on May 29, 1984:

(a) The total amount of VOC usage from the electro coat coil coating line CPL6 minus the VOC lost to the wastewater, shall not exceed 404 tons per twelve consecutive month period with compliance demonstrated at the end of each month;

(b) The Permittee shall measure the wastewater flow from the electro coat line (CPL6) continuously and record the flow totalizing meter each week. The Permittee shall procure VOC samples of the wastewater each week and analyze for VOC content in the wastewater. The VOC lost to the wastewater shall be calculated monthly by multiplying the monthly average VOC content of the wastewater by the total monthly metered flow; and

(c) The Permittee shall only use water based coatings in coil coating line CPL6.

D.8.4 General Provisions Relating to NESHAP [326 IAC 20-1] [40 CFR Part 63, Subpart A] [326 IAC 20-64] [40 CFR 63.5140]

The provisions of 40 CFR Part 63, Subpart A - General Provisions, which are incorporated by reference in 326 IAC 20-1, apply to all coating lines except when otherwise specified in 40 CFR Part 63, Subpart SSSS. Table 2 of 40 CFR 63 subpart SSSS provides cross references to 40 CFR 63, subpart A, indicating the applicability of the General Provisions requirements to 40 CFR 63, subpart SSSS.

D.8.5 Coil Coating Lines Emission Limits [326 IAC 12] [326 IAC 20-64] [40 CFR 63.5120] [40 CFR 63.5140] [40 CFR 60.462] [326 IAC 8-2-4]

(a) The Permittee shall limit average equivalent organic HAP emissions from coil coating lines CCL2, CCL3, and CPL6 to the level specified in paragraphs (a)(1) of this condition, and also limit VOC emissions from coating line CPL6 to the level specified in (a)(2) of this condition:

(1) No more than 0.046 kilogram (kg) of organic HAP per liter of solids applied during each 12 - month compliance period; and

(2) No more than 0.28 kilogram (kg) of volatile organic compounds (VOC) per liter of solids applied for each calendar month.

(b) The coil coating lines CCL2 and CCL3 shall be in compliance with the standards in Condition D.8.5(a)(1) and the operating requirements in Condition D.8.6 at all times, except during periods of start-up, shutdown, and malfunction of any capture system and control device used to comply with the standards.

(c) The coil coating line CPL6 shall be in compliance with the standards in Condition D.8.5(a) and (b) at all times, including periods of start-up, shutdown, and malfunction.

D.8.6 Operating Requirements for Coil Coating Lines CCL2 and CCL3 [326 IAC 12] [326 IAC 20-64] [40 CFR Part 63.5121] [40 CFR 60.463]

The Permittee shall establish the operating limits during the performance test according to the requirements in 40 CFR 63.5160(d)(3).The Permittee shall meet the operating limits at all times after the operating limits are established except during periods of start-up, shutdown, and malfunction of any capture system and control device used to comply with the emission limits in Condition D.8.5. The Permittee must meet the applicable operating limits as described below:

(a) The Permittee shall not allow the average combustion temperature of the thermal oxidizer in any 3 – hour period to fall below the combustion temperature limit established according to 40 CFR 63.5160(d)(3)(i). The Permittee shall demonstrate continuous compliance with the operating limit by;

(1) collecting the combustion temperature data according to 40 CFR 63.5150(a)(3);

(2) reducing the data to 3 – hour block averages; and

(3) maintaining the 3 – hour average combustion temperature at or above the temperature limit.

(b) The Permittee shall develop a monitoring plan for the capture system that identifies the operating parameter to be monitored and specifies the operating limits according to 40 CFR 63.5150(a)(4) and conduct monitoring according to 40 CFR 63.5150(a)(4).

D.8.7 General Provisions Relating to HAPs [326 IAC 20-1] [40 CFR Part 63, Subpart A] [326 IAC 20-83] [Table 12 to 40 CFR Part 63, Subpart EEEE] [40 CFR 63.2398]

(a) The provisions of 40 CFR Part 63, Subpart A- General Provisions, which are incorporated by reference as 326 IAC 20-1-1, apply to the affected source, except when otherwise specified by Table 12 to 40 CFR Part 63, Subpart EEEE.

(b) Since the applicable requirements associated with the compliance options are not included and specifically identified in this permit, the permit shield authorized by the B section of this permit in the condition titled Permit Shield, and set out in 326 IAC 2-7-15 does not apply to paragraph (a) of this condition, except as otherwise provided in this condition. The permit shield applies to Condition D.8.15, Notification Requirements.

D.8.8 National Emission Standards for Hazardous Air Pollutants: Organic Liquids Distribution, Non-Gasoline [326 IAC 20-1] [40 CFR Part 63, Subpart A] [326 IAC 20-83] [40 CFR Part 63, Subpart EEEE]

(a) The provisions of 40 CFR Part 63, Subpart EEEE (National Emission Standards for Hazardous Air Pollutants: Organic Liquids Distribution, Non-Gasoline) apply to the affected source. A copy of this rule is available on the US EPA Air Toxics Website at http://www.epa.gov/ttn/atw/orgliq/orgliqpg.html.

(b) Pursuant to 40 CFR 63.2342(b)(1), the Permittee shall comply with the emission limitations, operating limits, and work practice standards for existing affected sources no later than February 5, 2007, except as provided in 40 CFR 63.6.

(c) Since the applicable requirements associated with the compliance options are not included and specifically identified in this permit, the permit shield authorized by the B section of this permit in the condition titled Permit Shield, and set out in 326 IAC 2-7-15 does not apply to paragraphs (a), (b), and (c) of this condition, except as otherwise provided in this condition. The permit shield applies to Condition D.8.15, Notification Requirements.

(d) Terminology used in this section is defined in the CAA, in 40 CFR Part 63, Section 63.2, and in 40 CFR 63.2406, and are applicable to the affected source.

D.8.9 Organic Liquid Distribution Operations – Affected Sources [326 IAC 20-83] [40 CFR 63.2338]

The following emissions units comprise the affected source that is subject to 40 CFR 63, Subpart EEEE:

(a) Two (2) fixed roof above ground tanks, identified as tanks, 01 and 02;

(b) Six (6) fixed roof above ground tanks, identified as tanks, 05, 06, 07, A;

(c) Four (4) fixed roof above ground tanks, identified as tanks, B, C, D, and E;

(d) One (1) underground storage tank, identified as Hazardous Waste Storage Tank;

(e) One (1) fixed roof above ground tanks, identified as gold electrocoat coating Dump Tank; and

(f) One (1) fixed roof above ground tank, identified as gold electrocoat coating Unload Tank.

Compliance Determination Requirements

D.8.10 Compliance Demonstration Requirements [326 IAC 12] [326 IAC 20-64] [40 CFR63.5170] [40 CFR 60.463] [326 IAC 8-2-4]

The Permittee shall include all coating materials (as defined in 40 CFR 63.5110) used in the coating lines when determining compliance with the applicable emission limit in Condition D.8.5.

Table - Compliance Demonstration Requirements Index

Coil Coating Lines	**If the Permittee chooses to demonstrate compliance by:**	**Then the Permittee shall demonstrate that:**
Coating Lines CCL2, CCL3, and CPL6, in combination.	Use of a combination of “as applied” coatings and control devices and maintaining an acceptable equivalent emission rate.	Average equivalent emission rate does not exceed 0.046 kg HAP per liter solids on a rolling 12-month average as applied basis, determined monthly. [D.8.5(a)(1)].

<u>Streamlined Compliance Demonstration for Combination of Coil Coating Lines CCL2, CCL3, and CPL 6</u>

(a) Capture and control to achieve the emission rate limit [40 CFR 63.5170(g)] - Since the Permittee uses two capture systems, two thermal oxidizers, operate one never controlled coating line and limits the organic HAP emission rate to no more than 0.046 kg organic HAP emitted per liter of solids applied on a 12-month average as-applied basis, the Permittee must demonstrate compliance according to the procedures in paragraphs (a), (b), (c), (d), (e), (f), and (g) of this condition.

(b) The Permittee shall use the following procedures to determine the organic HAP emissions from coating lines CCL2 and CCL3:

(1) For each thermal oxidizer, each month of the 12-month compliance period, the Permittee shall:

(i) Monitor combustion temperature of the thermal oxidizers to ensure that the thermal oxidizers's destruction efficiencies are maintained [40 CFR 63.5170(g)(3)(i)];

(ii) Monitor fan motor current (amperes) for each fan specified in the capture monitoring plan as established in 40 CFR 63.5150(a)(4) to ensure capture efficiency [40 CFR 63.5170(g)(3)(ii)]; and

(iii) Determine the organic HAP emissions for coating lines CCL2 and CCL3 in accordance with the following [40 CFR 63.5170(g)(3)(iii)]:.

(A) For each oxidizer, determine the oxidizer destruction efficiency, DRE, using the procedure in 40 CFR 63.5160(d) [40 CFR 63.5170(f)(1)(i)];

(B) Whenever a work station is operated, continuously monitor the combustion temperature in accordance with 40 CFR 63.5150(a)(3) [40 CFR 63.5170(f)(1)(ii)];

(C) Determine the capture system capture efficiency, CE, for each coating line in accordance with 40 CFR 63.5160(e) [40 CFR 63.5170(f)(1)(iii)];

(D) Whenever a coating line is operated, continuously monitor the fan motor current (amperes) established in accordance with 40 CFR 63.5150(a)(4) [40 CFR 63.5170(f)(1)(iv)];

(E) Calculate the overall organic HAP control efficiency, R, achieved using equation (7) [40 CFR 63.5170(f)(1)(v)]; and

$$R = 100 * \frac{\sum_{A=1}^{w}\left[\left(DRE_k\, CE_A\right) * \left(\sum_{i=1}^{p} M_{Ai} C_{vi} + \sum_{j=1}^{q} M_{Aj}\right)\right]}{\sum_{i=1}^{p} M_i C_{vi} + \sum_{j=1}^{q} M_j} \quad \text{(Eq. 7)}$$

Where:

R	=	overall organic HAP control efficiency, percent;
DRE_k	=	organic volatile matter destruction efficiency of the thermal oxidizer, k, percent;
CE_A	=	organic volatile matter capture efficiency of the capture system for work station, A, percent;
M_{Ai}	=	mass of coating material, i, applied on work station, A, in a month, kg;
C_{vi}	=	volatile matter content of coating material, i, expressed as a weight fraction, kg/kg;
M_{Aj}	=	mass of solvent, thinner, reducer, diluent, or other non-solids-containing coating material (including H_2O), j, applied on work station, A, in a month, kg;
M_i	=	mass of coating material, i, applied in a month, kg;
M_j	=	mass of solvent, thinner, reducer, diluent, or other non-solids-containing coating material (excluding H_2O), j, applied in a month, kg;
w	=	number of always-controlled work stations in the facility;
p	=	number of different coating materials applied in a month; and

q = number of different solvents, thinners, reducers, diluents, or other non-solids-containing coating materials applied in a month.

(F) Calculate the organic HAP emitted during the month, He, for each month for coating lines CCL2 and CCL3 using equation (8) [40 CFR 63.5170(f)(1)(ix)].

$$H_e = \sum_{A=1}^{w} \left[1 - \left(DRE_k \, CE_A \right) * \left(\sum_{i=1}^{p} \left(C_{hi} \, M_{Ai} + \sum_{j=1}^{q} C_{hij} \, M_{Aij} \right) \right) \right] \quad \text{Eq. (8)}$$

Where:

H_e = total monthly organic HAP emitted, kg;

DRE_k = organic volatile matter destruction efficiency of control device, k, percent;

CE_A = organic volatile matter capture efficiency of the capture system for work station, A, percent;

C_{hi} = organic HAP content of coating material, i, expressed as a weight-fraction, kg/kg;

M_{Ai} = mass of coating material, i, applied on work station, A, in a month, kg;

C_{hij} = organic HAP content of solvent, j, added to coating material, i, expressed as a weight fraction, kg/kg;

M_{Aij} = mass of solvent, thinner, reducer, diluent, or other non-solids-containing coating material, j, added to solids-containing coating material, i, applied on work station, A, in a month, kg;

w = number of always-controlled work stations in the facility;

p = number of different coating materials applied in a month; and

q = number of different solvents, thinners, reducers, diluents, or other non-solids-containing coating materials applied in a month.

For periods when the thermal oxidizer has not operated within its established operating limit, the control device efficiency is determined to be zero.

(c) The Permittee shall use the following procedures for coating line CPL6 [40 CFR 63.5170 (g)(5)]:

(1) Each month of the 12-month compliance period the Permittee must determine the organic HAP applied on coating line CPL6 using equation 9. The organic HAP emitted from coating line CPL6 is equal to the organic HAP applied on coating line CPL6:

$$H_m = \sum_{A=1}^{x} \left(\sum_{i=1}^{p} C_{hi} M_{Ai} + \sum_{j=1}^{q} C_{hij} MA_{Aij} \right) \quad \text{Eq. (9)}$$

Where:

H_m = total monthly organic HAP applied on coating line CPL6, kg;

C_{hi} = organic HAP content of coating material, i, expressed as a weight-fraction, kg/kg;

M_{Ai} = mass of coating material, i, applied on coating line CPL6, A, in a month, kg;

C_{hij} = organic HAP content of solvent, j, added to coating material, i, expressed as a weight fraction, kg/kg;

M_{Aij} = mass of solvent, thinner, reducer, diluent, or other non-solids-containing coating material, j, added to solids-containing coating material, i, applied on coating line CPL6, A, in a month, kg;

x = number of uncontrolled coating line = 1;

p = number of different coating materials applied in a month; and

q = number of different solvents, thinners, reducers, diluents, or other non-solids-containing coating materials applied in a month.

(d) In each month of the 12-month compliance period, the Permittee shall determine the solids content of each coating material applied during the month following the procedure in 40 CFR 63.5160(c) [40 CFR 63.5170(g)(6)].

(e) The Permittee shall determine the organic HAP emissions for all coil coating lines for each 12-month compliance period by summing all monthly organic HAP emissions [40 CFR 63.5170(g)(7)]. .

(f) Organic HAP emission rate based on solids applied for the 12-month compliance period, L_{ANNUAL}. Calculate the organic HAP emission rate based on solids applied for the 12-month compliance period, L_{ANNUAL}, using Equation 6 of this section [40 CFR 63.5170(f)(1)(x):

$$L_{ANNUAL} = \frac{\sum_{y=1}^{12} H_e}{\sum_{y=1}^{12}\left[\sum_{i=1}^{p} C_{si} M_i\right]} \qquad \text{Eq. (6)}$$

Where:

LANNUAL= mass organic HAP emitted per volume of solids applied for the 12-month compliance period, kg/liter;

H_e = total monthly organic HAP emitted, kg;

C_{si} = solids content of coating material, i, expressed as liter of solids/kg of material;

M_i = mass of coating material, i, applied in a month, kg;

y = identifier for months; and

p = number of different coating materials applied in a month.

(g) Compare actual performance to performance required - The coating lines CCL2, CCL3, and CPL6 are in compliance with condition D.8.5(a) for the 12-month compliance period if all the operating parameters required to be monitored under paragraph (b)(1) of this condition were maintained at the values established in 40 CFR 63.5150; and the total mass of organic HAP emitted by the coating lines was not more than 0.046 kg HAP per liter of solids applied for the 12-month compliance period [40 CFR 63.5170(g)(8)].

<u>Coil Coating Line CPL6 (40 CFR 60, Subpart TT)</u>

(h) Calculate the volume-weighted average of the total mass of VOC's per unit volume of coating solids applied (G) during each calendar month for coil coating line CPL6 as follows:

(1) Calculate the volume-weighted average of the total mass of VOC's consumed per unit volume of coating solids applied (G) during each calendar month, except as provided under paragraph 40 CFR 60.463(c)(1)(iv) as follows:

(i) Calculate the mass of VOC's used (M_o+M_d) during each calendar month by the following equation:

$$M_o + M_d = \sum_{i=1}^{n} L_{ci} D_{ci} W_{oi} + \sum_{j=1}^{m} L_{dj} D_{dj}$$

Where:

M_o = Mass of VOC's in coatings consumed, as received in kilogram (kg) based on either formulation data supplied by the manufacturer, or by an analysis of each coating as specified by EPA Method 24;

M_d = Mass of VOC-solvent added to the coatings, in kg;

L_c = the volume of each coating consumed, as received in liters;

L_d = the volume of each VOC-solvent added to the coatings in liters (l)

W_o = the proportion of VOC's in each coating, as received (fraction by weight);

D_d = density of each VOC-solvent added to the coatings (kg/l);

Σ L_dj D_{dj} = will be 0 if no VOC solvent is added to the coatings, as received;

n = the number of different coatings used during calendar month, and

m = the number of different VOC solvents added to coatings used during the calendar month.

(ii) Calculate the total volume of coating solids used (Ls) in each calendar month by the following equation:

$$L_s = \sum_{i=1}^{n} V_{si} L_{ci}$$

Where:

Vs = the proportion of solids in each coating, as received (fraction by volume);

L_c = the volume of each coating consumed, as received in liters;

L_s = total volume of solids used in a calendar month; and

n = the number of different coatings used during the calendar month.

(iii) Calculate the volume-weighted average mass of VOCs used per unit volume of coating solids applied (G) during the calendar month by the following equation:

$$G = \frac{M_o + M_d}{L_s}$$

(2) If the volume-weighted average mass of VOC's emissions, adjusted for the amount of as-supplied VOC removed in the wastewater and other available material balance data for each calendar month (G) is less than or equal to 0.28 kg/l of coating solids applied, then the coil coating line CPL6 is in compliance with the standard. Each monthly calculation is a performance test.

(3) If each individual coating used in coil coating line CPL6 has a VOC content, as received, that is equal to or less than 0.28 kg/*l* of coating solids, coil coating line CPL6 is in

compliance provided no VOCs are added to the coatings during distribution or application.

D.8.11 Testing Requirements [326 IAC 2-7-6(1), (6)] [326 IAC 2-1.1-11] [326 IAC 12] [326 IAC 20-1] [40 CFR 63, Subpart A] [326 IAC 20-64] [40 CFR 5160] [40 CFR 60.463]

(a) Organic HAP content and solids volume – The Permittee shall determine the organic HAP weight fraction of each coating material applied by following one of the procedures in paragraphs (a)(1) through (2) of this condition:

(1) Method 311 - The Permittee shall test the material in accordance with Method 311 of 40 CFR 63, appendix A. The Method 311 determination may be performed by the manufacturer of the material and the results provided to the Permittee. The organic HAP content must be calculated according to the criteria and procedures in paragraphs (a)(1)(i) through (iii) of this condition:

(i) Count only those organic HAP that are measured to be present at greater than or equal to 0.1 weight percent for Occupational Safety and Health Administration (OSHA)-defined carcinogens as specified in 29 CFR 1910.1200(d)(4) and greater than or equal to 1.0 weight percent for other organic HAP compounds;

(ii) Express the weight fraction of each organic HAP you count according to paragraph (b)(1)(i) of this condition as a value truncated to four places after the decimal point (for example, 0.3791); and

(iii) Calculate the total weight fraction of organic HAP in the tested material by summing the counted individual organic HAP weight fractions and truncating the result to three places after the decimal point (for example, 0.763).

(2) Formulation data - The Permittee may use the formulation data provided that the information represents each organic HAP present at a level equal to or greater than 0.1 percent for OSHA-defined carcinogens as specified in 29 CFR 1910.1200(d)(4) and equal to or greater than 1.0 percent for other organic HAP compounds in any raw material used, weighted by the mass fraction of each raw material used in the material. Formulation data may be provided to the Permittee by the manufacturer of the coating material. In the event of any inconsistency between test data obtained with the test methods specified in paragraphs (a)(1) through (2) of this condition and formulation data, the test data will govern.

(b) Solids content - The Permittee must determine the solids content of each coating material applied. The Permittee may determine the volume solids content using ASTM D2697–86 (Reapproved 1998) or ASTM D6093–97 (incorporated by reference, see §63.14), or an EPA approved alternative method. The ASTM D2697–86 (Reapproved 1998) or ASTM D6093–97 determination may be performed by the manufacturer of the material and the results provided to the Permittee. Alternatively, the Permittee may rely on formulation data provided by material providers to determine the volume solids.

(c) Within 5 years from the date of last compliance stack test or one hundred and eighty (180) days after issuance of this permit, whichever is later, the Permittee must conduct a performance test to establish the overall VOC removal efficiency across coating lines CCL2 and CCL3, according to the methods and procedures in 40 CFR 63.5160(d)(2) and (3)(iii). During the performance test, the Permittee must establish the combustion temperature of each thermal oxidizer, required by 40 CFR 63.5121, according to the methods and procedures in 40 CFR 63.5160(d)(3). This test shall be repeated at least once every five years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with Section C - Performance Testing.

The Permittee shall use the data collected during the performance test to calculate and record the average combustion temperature maintained during the performance test for each thermal oxidizer. The average combustion temperature determined is the minimum operating limit for the thermal oxidizer.

(d) Within 5 years from the date of last compliance test or one hundred and eighty (180) days after issuance of this permit, whichever is later, the Permittee must conduct a performance test to establish the capture efficiency of each capture system, according to the methods and procedures in 40 CFR 63.5160(e)(2) and (3). During the performance test, the Permittee must establish the fan motor current (ampere) for each fan for each capture system, required by 40 CFR 63.5121, according to the methods and procedures in 40 CFR 63.5160(d)(3). This test shall be repeated at least once every five years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with Section C - Performance Testing.

The Permittee shall use the data collected during the performance test to calculate and record the average value of the fan motor current (ampere) maintained during the performance test for each fan for each capture system. The average ampere values determined for the fans of each capture system are the minimum operating limits for the coater to oven fan and the maximum operating limits for the floor sweeps fan. A fan amps range can be specified in the capture monitoring plan if a demonstration is included in the test report demonstrating the impact of the requested range on VOC emissions capture and removal efficiency.

Compliance Monitoring Requirements [326 IAC 2-7-6 (1)] [326 IAC 2-7-5 (1)] [326 IAC 12] [326 IAC 20-1] [40 CFR 63, Subpart A] [326 IAC 20-64] [40 CFR 63.5150] [40 CFR 60.464]

D.8.12 Thermal Oxidizer and Capture System Operating Parameters Monitoring

(a) The Permittee shall calibrate, maintain, and operate temperature monitoring equipment according to the manufacturer's specifications. Each temperature monitoring device shall be equipped with a continuous recorder. The device shall have an accuracy of 0.75 percent of the temperature being monitored in degrees Celsius, or 1 deg. Celsius, whichever is greater. [40 CFR 63.5150(a)(3)(i)][40 CFR 60.464(c)]

(b) The Permittee shall collect the combustion temperature data according to 40 CFR 3.5150(a)(3); reduce the data to 3-hour block averages; and maintain the 3-hour average combustion temperature at or above the temperature limit.

(c) The records required by 40 CFR 60.7 shall identify each such occurrence and its duration.

(d) The Permittee shall develop a capture system monitoring plan containing the information specified in 40 CFR 63.5150(a)(4)(i) and (ii). The Permittee shall monitor the capture system in accordance with 40 CFR 63.5150 (a)(4)(iii). The monitoring plan shall be available for inspection by IDEM, OAQ upon request.

(1) The monitoring plan shall identify the operating parameter to be monitored to ensure that the capture efficiency measured during the initial compliance test is maintained, explain why this parameter is appropriate for demonstrating ongoing compliance, and identify the specific monitoring procedures.

(2) The plan also must specify operating limits at the capture system operating

parameter value, or range of values, that demonstrates compliance with the standards in Condition D.8.5. The operating limits must represent the conditions indicative of proper operation and maintenance of the capture system.

(e) The Permittee has selected to monitor the fan motor current as a capture system operating parameter in the current capture system monitoring plan. The Permittee shall conduct monitoring in accordance with the plan, submitted to IDEM, OAQ.

(f) Any deviation from the required operating parameters, which are monitored in accordance with 40 CFR 63.5150 (a)(3) and (4), unless otherwise excused, will be considered a deviation from the operating limit.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19] [326 IAC 12] [326 IAC 20-1] [40 CFR 63, Subpart A] [326 IAC 20-64] [326 IAC 20-83] [40 CFR 60.465] [40 CFR 63.5180] [40 CFR 63.5190]

D.8.13 Record Keeping Requirements

(a) To document compliance with Conditions D.8.2, the Permittee shall maintain records as stated below and shall be complete and sufficient to establish compliance with the VOC usage limit established in Condition D.8.2 for coil coating lines CCL2 and CCL3.

The VOC content of each coating material and solvent used less water. Records shall include recorded VOC and HAP application rates and material safety data sheets (MSDS) necessary to verify the type and amount used.

(b) To document compliance with Conditions D.8.3, the Permittee shall maintain records as stated below and shall be complete and sufficient to establish compliance with the VOC usage limit established in condition D.8.3 for electro coat coil coating line CPL6.

The VOC content of each coating material and solvent used less water. Records shall include recorded VOC and HAP application rates and material safety data sheets (MSDS) necessary to verify the type and amount used.

(c) To document compliance with condition D.8.5, the Permittee shall maintain the records in accordance with 40 CFR 63.10(b)(1):

(1) Records specified in 40 CFR 63.10(b)(2) of all measurements needed to demonstrate compliance, including:

(i) Average combustion temperature and average fan motor current (ampere) data in accordance with 40 CFR 63.5150(a)(3), and (4), respectively;

(ii) Organic HAP content data for the purpose of demonstrating compliance in accordance with 40 CFR 63.5160(b);

(iii) Solids content data for the purpose of demonstrating compliance in accordance with 40 CFR 63.5160(c);

(iv) Overall control efficiency determination in accordance with 40 CFR 63.5160(d) and (e), and

(v) Material usage, HAP usage, volatile matter usage, and solids usage and compliance demonstrations using these data in accordance with 40 CFR 63.5170(g).

(2) Records specified in 40 CFR 63.10(b)(3).

(d) To document compliance with Conditions D.8.2, D.8.3, and D.8.5, the Permittee shall maintain records of all data and calculations used to determine the emission rates specified therein.

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

D.8.14 Reporting Requirements [326 IAC 20-1] [40 CFR 63, Subpart A] [326 IAC 12] [326 IAC 20-64] [40 CFR 63.5180] [40 CFR 60, Subpart TT]

(a) The Permittee shall submit the reports specified in paragraphs (b) through (i) of this condition to the U. S. EPA Regional Office 5 and to IDEM, OAQ:

(1) Performance test reports as specified in 40 CFR 63.10(d)(2).

(2) Start-up, shutdown, and malfunction reports as specified in 40 CFR 63.10(d)(5) for coating lines CCL2 and CCL3. Separate start-up, shutdown, or malfunction reports are not required if the information is included in the report specified in the following paragraph (5) of this condition.

(3) Semi-annual compliance reports containing the information specified in 40 CFR 63.5180(g)(i) and (ii).

(4) For each deviation occurring at a coil coating line, the semi-annual compliance report containing the information in paragraphs 40 CFR 63.5180(g)(2)(i) through (iv) and the information in 40 CFR 63.5180 (h)(1) through (3).

(5) Identify, record and submit a written report every calendar quarter of each instance in which the volume weighted average of the total mass of the VOCs emitted per volume of applied coating solids from coil coating line CPL6 is greater than the limit specified under 40 CFR 60.462. If no such instances have occurred during a particular quarter, a report stating this shall be submitted semiannually.

(b) A monthly summary of the information to document compliance with condition D.8.2, for coil coating lines CCL2 and CCL3 shall be submitted to the addresses listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The reports submitted by the Permittee do require the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).

(c) A monthly summary of the information to document compliance with condition D.8.3 for coil coating line CPL6 shall be submitted to the addresses listed in Section C - General Reporting Requirements, of this permit, using the reporting form located at the end of this permit, or its equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).

D.8.15 Notifications Requirements [326 IAC 12] [326 IAC 20-1] [40 CFR 63, Subpart A] [326 IAC 20-64] [326 IAC 20-83] [40 CFR 63.5180] [40 CFR 63.2382]

(a) The Permittee shall submit each notification in Table 12 to 40 CFR Part 63, Subpart EEEE, and paragraphs (b) through (d) of 40 CFR 63.2382 that applies to the Permittee. The Permittee shall submit the notifications, required by 40 CFR 63, Subpart EEEE, according to the schedule in Table 12 to 40 CFR Part 63, Subpart EEEE and as specified in paragraphs (b) through (d) of 40 CFR 63.2382.

(b) The Permittee shall submit the Notification of Intent to conduct a performance test at least 60 calendar days before it is initially scheduled to begin as required in 40 CFR 63.7(b)(1).

(c) Notification of Compliance Status - If the Permittee is required to conduct a performance test, design evaluation, or other initial compliance demonstration as specified in Table 5, 6, or 7 to 40 CFR Part 63, Subpart EEEE, the Permittee shall submit a Notification of Compliance Status. The Notification of Compliance Status must include the information required in 40 CFR Part 63, Section 63.999(b) and in 40 CFR 63.2382, paragraphs (d)(2)(i) through (viii).

D.8.16 Requirement to Submit a Significant Permit Modification Application [326 IAC 2-7-12] [326 IAC 2-7-5]

The Permittee shall submit an application for a significant permit modification to IDEM, OAQ to include information regarding which compliance option or options will be chosen in the Part 70 permit.

(a) The significant permit modification application shall be consistent with 326 IAC 2-7-12, including information sufficient for IDEM, OAQ to incorporate into the Part 70 permit the applicable requirements of 40 CFR 63, Subpart EEEE, a description of the affected source and activities subject to the standard, and a description of how the Permittee will meet the applicable requirements of the standard.

(b) The significant permit modification application shall be submitted no later than 45 days after IDEM grants the extension for the compliance deadline as provided by 40 CFR 63.6.

(c) The significant permit modification application shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue
Indianapolis, Indiana 46204-2251

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

VOC Usage Quarterly Report

Source Name: Alcoa Inc. - Warrick Operations
Source Address: Jct. IN Hwys. 66 & 61, Newburgh, Indiana 47629-0010
Mailing Address: Bldg. 860 E, P.O. Box 10, Newburgh, Indiana 47629
Part 70 Permit No.: T173-6627-0 0007
Facility: Coil Coating line CCL2
Parameter: VOC Usage
Limit: 7,675 tons/365-days of VOC input

Quarter:___________ Month:______________ Year:________

Day	This Day (Tons)	Previous 364 Days (Tons)	365 Days Total (Tons)	Day	This Day (Tons)	Previous 364 Days (Tons)	365 Days Total (Tons)
1				**17**			
2				**18**			
3				**19**			
4				**20**			
5				**21**			
6				**22**			
7				**23**			
8				**24**			
9				**25**			
10				**26**			
11				**27**			
12				**28**			
13				**29**			
14				**30**			
15				**31**			
16							

☐ No deviation occurred in this month.

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

Submitted by:
Title/Position:
Signature:
Date:
Phone:

Attach a signed certification to complete this report.

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

VOC Usage Quarterly Report

Source Name: Alcoa Inc. - Warrick Operations
Source Address: Jct. IN Hwys. 66 & 61, Newburgh, Indiana 47629
Mailing Address: Bldg. 860 E, P.O. Box 10, Newburgh, Indiana 47629
Part 70 Permit No.: T173-6627-00007
Facility: Coil Coating line CCL3
Parameter: VOC Usage
Limit: 112 tons/365-days

Quarter:___________ Month:______________ Year:________

Day	This Day (Tons)	Previous 364 Days (Tons)	365 Days Total (Tons)	Day	This Day (Tons)	Previous 364 Days (Tons)	365 Days Total (Tons)
1				**17**			
2				**18**			
3				**19**			
4				**20**			
5				**21**			
6				**22**			
7				**23**			
8				**24**			
9				**25**			
10				**26**			
11				**27**			
12				**28**			
13				**29**			
14				**30**			
15				**31**			
16							

☐ No deviation occurred in this month.

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

Submitted by:
Title/Position:
Signature:
Date:
Phone:

Attach a signed certification to complete this report.

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

VOC Usage Quarterly Report

Source Name: Alcoa, Inc. - Warrick Operations
Source Address: Jct. IN Hwys. 66 & 61, Newburgh, Indiana 47629-0010
Mailing Address: Bldg. 860 E, P.O. Box 10, Newburgh, Indiana 47629
Operation Permit No.: T173-6627-00007
Facility: Electro Coat Coating Line CPL6
Parameter: VOC Usage
Limit: 404 tons per twelve (12) consecutive month period

Quarter: ________________Year: ________

Month	This Month (tons)	Previous 11 Months (tons)	12 Month Total (tons)

No deviation occurred in this quarter.

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

Submitted by: ________________________________

Title / Position: ________________________________

Signature: ________________________________

Date: ________________________________

Telephone: ________________________________

Attach a signed certification to complete this report.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY

PART 70 OPERATING PERMIT
CERTIFICATION

Source Name:	Alcoa, Inc. - Warrick Operations
Source Address:	Jct. IN Hwys. 66 & 61, Newburgh, Indiana 47629-0010
Mailing Address:	Bldg. 860 E, P.O. Box 10, Newburgh, Indiana 47629
Operation Permit No.:	T173-6627-00007

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

Please check what document is being certified:

☐ Annual Compliance Certification Letter

☐ Test Result (specify)

☐ Report (specify)

☐ Notification (specify)

☐ Affidavit (specify)

☐ Other (specify)

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
Signature:
Printed Name:
Title/Position:
Phone:
Date:

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY

COMPLIANCE BRANCH
100 North Senate Avenue
Indianapolis, Indiana 46204-2251
Phone: 317-233-5674
Fax: 317-233-5967

PART 70 OPERATING PERMIT
EMERGENCY OCCURRENCE REPORT

Source Name:	Alcoa, Inc. - Warrick Operations
Source Address:	Jct. IN Hwys. 66 & 61, Newburgh, Indiana 47629-0010
Mailing Address:	Bldg. 860 E, P.O. Box 10, Newburgh, Indiana 47629
Operation Permit No.:	T173-6627-00007

This form consists of 2 pages **Page 1 of 2**

☐ This is an emergency as defined in 326 IAC 2-7-1(12)

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

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

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

If any of the following are not applicable, mark N/A **Page 2 of 2**

Date/Time Emergency started:
Date/Time Emergency was corrected:
Was the facility being properly operated at the time of the emergency? Y N Describe:
Type of Pollutants Emitted: TSP, PM-10, SO2, VOC, NOX, CO, Pb, other:
Estimated amount of pollutant(s) emitted during emergency:
Describe the steps taken to mitigate the problem:
Describe the corrective actions/response steps taken:
Describe the measures taken to minimize emissions:
If applicable, describe the reasons why continued operation of the facilities are necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw materials of substantial economic value:

Form Completed by:

Title / Position:

Date:

Phone:

A certification is not required for this report.

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

PART 70 OPERATING PERMIT
QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT

Source Name:	Alcoa, Inc. - Warrick Operations
Source Address:	Jct. IN Hwys. 66 & 61, Newburgh, Indiana 47629-0010
Mailing Address:	Bldg. 860 E, P.O. Box 10, Newburgh, Indiana 47629
Operation Permit No.:	T173-6627-00007

Months: ______ to ______ Year: _

Page 1 of 2

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

Page 2 of 2

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

Form Completed By:

Title/Position:

Date:

Phone:

Attach a signed certification to complete this report.

Indiana Department of Environmental Management
Office of Air Quality

Addendum to the
Technical Support Document for a Part 70 Permit

Source Name:	Alcoa Inc. - Warrick Operations
Source Address:	Jct. IN Highways 66 and 61, Newburgh, Indiana 47629-0010
SIC Code:	3334 and 3352
County Location:	Warrick
Operation Permit No.:	T173-6627-00007
Permit Reviewer:	Dr. Trip Sinha

On June 29, 2006, the Office of Air Quality (OAQ) had a notice published in the Boonville Standard, in Boonville, Indiana, stating that Alcoa, Inc. - Warrick Operations had applied for a Part 70 permit for the operation of the aluminum production, anode production, aluminum coil and ingot operations, and coating operations; and associated support facilities. The notice also stated that OAQ proposed to issue a Part 70 Permit for this operation and provided information on how the public could review the proposed Part 70 Permit and other documentation. Finally, the notice informed interested parties that there was a period of sixty (60) days to provide comments on whether or not this Part 70 Permit should be issued as proposed. A Public Meeting and public hearing was held on Wednesday, November 1, 2006 at the Newburgh City Council Chambers in Newburgh.

IDEM, OAQ received oral comments and questions that were made part of the record during the public hearing. Written comments were, also, received from U.S. EPA Region 5 and Alcoa Inc.

The comments and responses appear below. Any revisions to the permit are shown by the additions being in bold and the deletions being in strikeout. Since some comments are similar in nature, they have been grouped for one response.

Comment: Carly Watson stated that all IDEM, OAQ does is issue permits and that under the current administration rules are being changed to protect polluters. She stated that Alcoa has a long history of environmental violations; lawsuits brought against it, and have been ordered to pay $8.8 million by the Clinton Administration to clean up pollution. Ms. Watson stated that this is not a company that just voluntarily cleans up. Ms. Watson expressed concern that Alcoa's power generation plant will increase its emissions, including toxic emissions, and asked how that is being addressed. Ms. Watson noted that Warrick County is not in attainment for the National Ambient Air Quality Standard for particulate matter less than 2.5 microns in diameter.

Response: IDEM, OAQ is required to issue Title V operating permits to every major source of air pollution in Indiana, regardless of its past environmental violations. The Clean Air Act requires all major sources of air pollution to apply for and obtain a Title V permit. Alcoa's Title V permit does not allow any new emission units to be constructed or operated. The Title V permit requires Alcoa to do additional testing, monitoring, recordkeeping and reporting to help ensure that it is in continuous compliance with all applicable emission limitations and standards. The Title V permit also establishes a schedule requiring future testing of Alcoa's emissions. Alcoa will need to apply for a permit modification if it wishes to add equipment or change its method of operation in a way that will increase its regulated emissions.

Issuing air pollution control permits is just one of the functions of IDEM, OAQ. IDEM, OAQ performs many other duties, including monitoring the levels of pollutants in the ambient air, establishing pollution reduction programs, initiating rulemakings to address specific air pollution concerns, and ensuring industry's compliance with air pollution control laws and permits through inspection, testing and other processes. More information on IDEM, OAQ's duties is available at http://www.in.gov/idem/programs/air on the internet.

Warrick County is in nonattainment for the National Ambient Air Quality Standard for particulate matter less than 2.5 microns in diameter. Particulate matter is one of six criteria pollutants addressed by the federal Clean Air Act and Indiana's corresponding air pollution control laws. These pollutants have been identified as being particularly harmful to humans and the environment. Particulate matter, or PM, is the term for particles found in the air, including dust, dirt, soot, smoke, and liquid droplets. Some particles are large or dark enough to be seen as soot or smoke. Others are so small that individually they can only be detected with an electron microscope. The United States Environmental Protection Agency (EPA) categorizes particulate matter in two categories. The first category is "fine particles", referred to as PM2.5, that are 2.5 microns or less in diameter. The second category is "coarse particles", referred to as PM10, that are between 2.5 and 10 microns in diameter. In comparison, a human hair is about 70 microns in diameter.

Particulate matter comes from many different sources including industrial and residential combustion activities and vehicle exhaust, so its composition varies widely. Some particles are emitted directly into the air from cars, trucks, buses, factories, constructions sites, tilled fields, unpaved roads, stone crushing, and wood burning. Other particles are formed in the air from the chemical change of gases. They are indirectly formed when gases from burning fuels react with sunlight and water vapor. These gases come from fuel combustion in motor vehicles, diesel engines, at power plants, and in other industrial processes.

IDEM, OAQ conducts ambient air monitoring of PM2.5 at eight locations around Indiana, including one site in Evansville. A map of these air monitoring sites is located at http://www.in.gov/idem/programs/air/smog/pm25monitors.html on the internet. IDEM, OAQ's PM2.5 monitoring sites are polled hourly to obtain current information on air quality throughout the state. The data from the PM2.5 ambient air monitor located at the Mill Road Fire Station in Evansville is uploaded to IDEM, OAQ's website and can be viewed at http://www.in.gov/idem/programs/air/amb/data/pm/evansville_pm.html on the internet.

The federal Clean Air Act requires the United States Environmental Protection Agency (EPA) to set National Ambient Air Quality Standards (NAAQS) for six criteria pollutants. PM2.5 is one of the six criteria pollutants. The EPA sets these standards at levels that protect human health, which is why the NAAQS are often referred to as the federal health standards for outdoor air. The NAAQS limit for all criteria pollutants is set low enough to protect human health, including the health of sensitive persons, such as asthmatics, children, and the elderly. More information about the NAAQS for PM2.5 is available at http://www.epa.gov/air/particlepollution/standards.html on EPA's website. The complete table of the NAAQS for all criteria pollutants can be found at the http://www.epa.gov/air/criteria.html website. EPA's website http://www.epa.gov/air/urbanair/6poll.html provides more detailed information about the health effects of six common air pollutants and why they are regulated.

Comment: Carly Watson commented that condition D.2.6 Particulate Control, should be revised so that in the event that bag failure is observed in a multi-compartment baghouse, that the compartment with a failed bag not be used until it is repaired. She noted that a layperson may not understand that there are other compartments that control emissions while the failed units are being repaired or replaced.

Response: IDEM, OAQ agrees with this comment and will change this condition as suggested. The additional language is indicated by **bold font** as follows:

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

(a) ...

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

Comment: Carly Watson commented that the public should be notified if Alcoa experiences a bag leak or something else that results in the release of a tremendous amount of particulates or other pollutants into the air. Ms. Watson commented that if people were notified of such an occurrence they could leave the area or at least have not have their children playing outside.

Response: The air pollution control rules do not require Alcoa to make any immediate notification if it were to experience an operational problem that releases a large amount of pollutants. Under the terms of the permit, any such deviation or exceedance would have to be reported to IDEM, OAQ as part of the quarterly report required by condition B.15.

Information about current air pollution levels is available on IDEM's SmogWatch site at http://www.in.gov/apps/idem/smog/ on the internet. The site is designed to provide Hoosiers with an easy-to-read forecast of air quality in their communities. The site provides information about ground-level ozone and particulate matter forecasts.

Comment: Elizabeth Joshi and Elaine Maldonado commented that IDEM, OAQ should locate an ambient air toxics monitoring site closer to Alcoa than the current monitoring site at the University of Evansville. Ms. Joshi and Ms. Maldonado stated that monitoring data would be helpful also in keeping the public informed when levels of certain chemicals get too high or if there were a huge release. Ms. Joshi asked for information on the process for locating an ambient air toxics monitor near the plant.

Response: IDEM, OAQ conducts ambient monitoring of toxic air pollutants in Indiana as part of the ToxWatch Program. IDEM, OAQ currently monitors for air toxics at 10 locations across the state. The closest air toxics monitor to Warrick County is at the University of Evansville site in Vanderburgh County. The monitoring data from the Mt. Vernon Middle School study in 2000, and current data, is available at IDEM, OAQ's ToxWatch site at http://www.in.gov/idem/programs/air/toxwatch/ on the internet. Placement of air toxics monitors is done by IDEM, OAQ's Monitoring Branch. The Monitoring Branch Chief is Richard Zeiler. Mr. Zeiler can be reached at (800) 451-6027, extension 308-3238 or directly at (317) 308-3238, or at dzeiler@idem.in.gov by e-mail.

Information on the health effects of hazardous air pollutants can be found at http://yosemite.epa.gov/oswer/ceppoweb.nsf/content/ChemicalsInYourCommunity.htm . Information pertaining to emissions of hazardous air pollutants in the Warrick County area can be found at http://www.epa.gov/tri or http://www.state.in.us/idem/oppta/tri .

Comment: Scott Darling, Alcoa's environmental manager, commented that Alcoa judges its own performance using three factors: community, financial and environmental. Mr. Darling noted that Alcoa's Title V Operating Permit is designed to bring forth all the information about environmental air requirements into one cohesive document. Mr. Darling stated that the permit will be valuable both to the company and to the community by increasing both the access to information and decreasing potential confusion. Mr. Darling stated that Alcoa expects that all of its employees will work in a safe manner that protects and promotes the health and well-being for the individual and the environment. Mr. Darling described Alcoa's ISO 1400 Environmental Management System Certification, emission reductions and annual Environmental Open House.

Response: Mr. Darling's comments did not result in any changes to the permit.

Comment: Elaine Maldonado commented that IDEM or the EPA should look into incentives for improving and increasing control technologies and to provide incentives for industry to link their production to their emissions and controls. These incentives would be in addition to current air pollution control rules.

Response: IDEM's The Office of Pollution Prevention & Technical Assistance (OPPTA) is responsible for developing and fostering an emphasis on environmentally and economically sound approaches to achieve environmental results. These responsibilities are fulfilled through the programs for compliance assistance, recycling, pollution prevention, information on toxic releases, CLEAN Community Challenge and the Environmental Stewardship Program. More information about these programs is available at http://www.in.gov/idem/programs/oppta on the internet.

U.S. EPA Comments and OAQ's Responses:

Comment 1: Condition D.2.7(a): The citation mentioned in the rule and this condition, 7-2-1(b) appears to be referencing a definition and not a stack testing requirement. Please explain. Also, what is the testing frequency?

Response 1: The rule 326 IAC 7-4-10(b) requires a stack test. Condition D.2.8 requires these tests to be repeated every five years.

Comment 2: Conditions D.3.2, D.4.2, D.5.2, D.6.4: Is compliance determined at the end of each month for these limitations? Please clarify.

Response 2: Condition D.4.2(a) limits the input of green anodes to the green anode baking ring furnace to 187,645 tons per twelve (12) consecutive month period with compliance determined at the end of each month, Condition D.6.4(a) limits the throughput of dross through the dross cooling operation to 38,000 tons per twelve (12) consecutive month period with compliance determined at the end of each month. These limits when multiplied by the respective pollutants' emission limits (pounds per ton) will determine the respective pollutants' emissions rates each month. These monthly emissions rates are added to the previous 11 months emissions to determine the consecutive 12 months emissions. Therefore, compliance noncompliance with emission limits for respective pollutants will be determined at the end of each month.

Comment 3: Condition D.4.3: It appears this is a new synthetic minor limit, but I cannot locate a justification for its inclusion or history in the TSD. If this is to remedy a past permitting oversight please state if the facility has ever violated this limit in the past and explain why it has been added.

Response 3: This is a new synthetic minor limit for this equipment as stated in item (d) of State Rule Applicability - Individual Facilities section in Appendix A.4 of Appendix A. This is the remedy of a past permitting oversight. IDEM is not aware of any violation of this limitation in the past.

Alcoa's Comments and OAQ Responses:

Comment 1: Alcoa, Inc. commented that the Alcoa, Inc. – Warrick Operations plant should not be combined with the Alcoa Warrick Power Plant as a single "major source" as defined in 326 Indiana Administrative Code (IAC) 2-7-1(22). Alcoa asserts that the two plants are not under common control, because the power plant is owned and operated by Alcoa Power Generating, Inc. – Warrick Power Plant. Alcoa states that the power plant consists of three industrial boilers wholly owned by Alcoa, Inc., and an electric utility boiler jointly owned by Alcoa and Vectren. Alcoa states that Alcoa and Vectren together control Alcoa Power Generating, Inc. – Warrick Power, although Vectren is not a part of this wholly-owned subsidiary of Alcoa, Inc. Alcoa states that the aluminum production plant is wholly owned by Alcoa, Inc. Alcoa notes a recent letter from Pamela Blakely, Chief of the Air Permits Section of the United States Environmental Protection Agency's Region V office regarding two Illinois sources, the Premcor Distribution Center and Hartford Working Group (available at: http://www.epa.gov/region7/programs/artd/air/nsr/nsrmemos/hartford.pdf on the internet).

Alcoa asserts that Alcoa and Vectren jointly operate the electric utility and that there is no way that Alcoa could exercise total control over the facility as provided for in the Premcor letter. Moreover, Alcoa asserts that several IDEM documents and rulemakings, such as 326 IAC 7-4-10 indicate that the electric utility is operated by both Alcoa and Vectren. Alcoa also asserts that, as in the Premcor letter, the extent of the relationship between the aluminum production plant and the electric utility is that the aluminum production plant "gets electricity from" the electric utility, and therefore no support relationship exists.

Response 1 IDEM, OAQ has determined that Alcoa, Inc. – Warrick Operations plant and the Alcoa Warrick Power Plant are part of the same major source. The term "major source" is defined by rule at 326 IAC 2-7-1(22). In order for these two plants to be considered one major source, they must meet all three of the rule's criteria:

(1) the plants must be under common ownership or common control;

(2) the plants must have the same Standard Industrial Classification (SIC) Code or one must serve as a support facility for the other; and,

(3) the plants must be located on contiguous or adjacent properties.

IDEM, OAQ's determination that the two plants are one major source is based on Alcoa's common control of both plants, the support role played by the power plant in supplying electricity to the aluminum production plant, and the plants' locations on contiguous property.

Alcoa's comment challenges IDEM, OAQ's determination in two ways. First, Alcoa asserts that the aluminum production plant and the power plant are not under common control. Second, Alcoa asserts that there is no support relationship between the plants, because electricity is not the type of support contemplated by the rule. IDEM, OAQ is not persuaded by Alcoa's arguments.

U.S. EPA Region 5's Premcor letter, interpreting federal rules, is in no way binding on IDEM, OAQ's interpretation of Indiana rules. IDEM, OAQ finds that the two plants are under common control. Indiana's rule does not require that one entity exercise total control over both sources. The rule language centers on a finding of common control. On December 28, 2004, IDEM, OAQ issued a Phase II and Opt-in Acid Rain Permit Renewal to the Warrick Power Plant, Alcoa Power Generating, Inc. That permit noted that Alcoa Power Generating, Inc. operates all four of the boilers at the power plant, including the single boiler owned by

Vectren. This information was obtained from the acid rain permit application documents filed by Alcoa Power Generating, Inc., a wholly owned subsidiary of Alcoa, Inc. There is no indication that Vectren has any role in the operation of the power plant. Therefore, both the power plant and the aluminum production plant are under the common control of Alcoa, Inc.

IDEM, OAQ finds that the power plant is a support facility for the aluminum production plant. Under the definition of "major source", 326 IAC 2-7-1(22), one plant is considered a support facility to a second plant if at least fifty percent of the output of the support facility is dedicated to the second plant. Alcoa uses the Premcor letter, sent by U.S. EPA, Region 5 to Illinois EPA, to argue that electricity is not an "output" that can be considered in determining if a support relationship exists. In the Premcor letter, U.S. EPA, Region 5 determined that Harford Working Group and Premcor Distribution Center were not a single source. The Hartford source was doing soil and groundwater remediation in the area. The only support relationship between the two was that Hartford got its electricity from Premcor. Region 5 found that this was not the type of assistance necessary to find a support relationship under federal rules.

IDEM, OAQ does not find the Premcor letter's reasoning applicable to Alcoa. There is no indication that Premcor was an electrical generating power plant. Illinois EPA's permit number 96030082, issued to Premcor on September 19, 2006, states that Premcor is a petroleum storage and distribution center. The Alcoa Warrick Power Plant's only output is electricity.

IDEM, OAQ affirms its determination that the two plants are one major source. There are no changes to the permit as a result of this comment.

Comment 2: <u>Section A.3 - Emission Units and Pollution Control Equipment Summary</u>.

The equipment summary in Condition A.3 does not match with the Facility Descriptions found in the D sections of the draft permit. Some of the equipment summaries contained in Condition A.3 are erroneous or confusing as they do not describe accurately the equipment used at the Warrick Operations, or they selectively include insignificant activities in their descriptions. Therefore, Condition A.3 should be revised as follows:

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

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

(a) D.1.Alumina and aluminum **fluoride** handling Plant: The alumina and aluminum fluoride handling plant consists of the barge alumina unloading, truck unloading, and rail unloading. There are various conveyors, and tanks associated with this operation. The alumina is finally fed to Potlines 1 to 6. The emissions are controlled by several baghouses. The detailed equipment list is located in Section D.1 of this permit.

(b) D.2 **Center-worked Pre-Bake One** Potlines and Potlines Support: The Potlines and Potlines Support plant consists of the six center-worked prebake one potline controlled by fluidized bed scrubbers **(for potlines 2, 5, and 6)**, alumina injection and fabric filtration system**s (for potlines 3 and 4, identified as the gas treatment**

center (GTC) systems), and baghouses**. It includes a hydraulic hammer, auger, crusher, each controlled by a baghouse, and alumina/butt bath/cake storage tanks.** The detailed equipment list is located in Section D.2 of this permit.

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

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

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

(f) D.6 Ingot Plant and Support: The Ingot Plant and Support consists of group 1 furnaces, ~~degreasing units~~, in-line fluxers, group 2 furnaces, aluminum pneumatic transport system**s**, **a** coated scrap shredder, dross cooling and handling, and ~~fuel oil storage tanks~~ **and emergency intermittent duty-cycled, diesel fired, reciprocating internal combustion engines**. The detailed equipment list is located in Section D.6 of this permit. **(The fuel oil storage tanks will be removed)**

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

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

Response 2: Section A.3 reflects the overall general descriptions of the D sections. The opening paragraph of Condition A.3 states that "these operating areas correspond to the various “D” sections of the Part 70 permit". All emission unit descriptions are included in D sections. All descriptions in the permit were reviewed by Alcoa prior to Public Notice of the permit. The rule requires that the permit identify all applicable requirements (326 IAC 2-7-5 Permit Content). Insignificant activities listed in Section A.3 of the permit are only those that are specifically regulated by state or federal rules.

Degreasing units are not included in the public notice version of the permit.

IDEM, OAQ has confirmed from Alcoa that the fuel oil storage tanks have been removed from service and will not be activated. Although, the scalper step cutter, hot ingot oxide brushing system, and silos are insignificant units, they are part of the Section D.7, and have applicable requirements, therefore, these emissions units will not be deleted from Section A.3. Section A.3 and Section D.6 − Facility Description have been revised as shown below.

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

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

(a) D.1.Alumina and aluminum **fluoride** handling Plant: The alumina and aluminum fluoride handling plant consists of the barge alumina unloading, truck unloading, and rail unloading. There are various conveyors, and tanks associated with this operation. The alumina is finally fed to Potlines 1 to 6. The emissions are controlled by several baghouses. The detailed equipment list is located in Section D.1 of this permit.

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

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

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

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

(f) D.6 Ingot Plant and Support: The Ingot Plant and Support consists of group 1 furnaces, ~~degreasing units~~, in-line fluxers, group 2 furnaces, aluminum pneumatic transport system**s**, **a** coated scrap shredder, dross cooling and handling, and ~~fuel oil storage tanks~~ **and emergency intermittent duty-cycled, diesel fired, reciprocating internal combustion engines**. The detailed equipment list is located in Section D.6 of this permit**. (The fuel oil storage tanks will be removed)**

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

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

Section D.6 − Facility Description

....

~~Fuel Oil Storage, consisting of:~~

~~(23) Four (4) 143,000 gallon tanks, identified as Ingot Tanks 170A, 170B, 170C, and 170D, storing No. 2 fuel oil, constructed in 1974, and exhausting to Stacks 170A, 170B, 170C, and 170D, respectfully;~~

~~(24) Two (2) 143,000 gallon tanks, identified as Ingot Tanks 170E and 170F, storing No. 2 fuel oil, constructed in 1977, and exhausting to Stacks 170E and 170F, respectively; and~~

(23) ~~(25)~~ Two (2) Emergency intermittent duty-cycled, diesel-fired, reciprocating internal combustion engines, identified as Water Pump Diesel Engines #1 and #2, constructed in December, 2005, with a maximum capacity of 460 brake horsepower each, exhausting at Stacks 134.E1 and 134.E2.

The scalper step cutter, hot ingot oxide brushing system, and silos were inadvertently left out from section D.7. The following descriptions have been included in section D.7 equipment descriptions:

Ingot Surface Treatment, consisting of:

(28) One (1) scalper step cutter, with a maximum capacity of scalping 172 tons of aluminum ingots per hour, constructed in 2001, exhausting to West Silo No. 1, which is controlled by the West Silo No.1 Cyclone, which exhausts at stack 379.1.

(29) One (1) Hot Ingot Oxide Brushing System, with a maximum capacity of 225 tons of aluminum ingot per hour, constructed in 2000, exhausts inside the rolling bay building, and does not directly exhaust externally.

(30) One (1) silo, identified as West Silo No. 1, with a maximum scrap throughput of 13.76 tons per hour, constructed in 1965, emissions uncontrolled, and

exhausts at stack 379.1.

(31) One (1) silo, identified as East Silo No. 2, with a maximum scrap throughput of 15.00 tons per hour, constructed in 1965, emissions uncontrolled, and exhausts at stack 379.2.

Comment 3: Section A.4 – Specifically Regulated Insignificant Activities. This condition is erroneous with respect to the regulated insignificant activities. There are no insignificant activities that have accompanying requirements listed in any of the D sections of the draft permit as stated in this Condition. Therefore the Condition as stated is incorrect and should be deleted. Furthermore, the Technical Support Document and Associated Appendix A does list a number of insignificant activities for the operations that are described in Sections D.2, D.4, D.5, D.6, D.7, and D.8. However, none of these insignificant activities impose additional requirements on Alcoa that should be incorporated into the draft permit, thus providing another reason that this Condition should be deleted from the draft permit, as is shown below.

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

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

Response 3: East Silo No. 2 in D 7 section is an insignificant activity that has an applicable requirement from 326 IAC 6-3-2. Therefore, statement in section A.4 is correct. Also in Condition D.7.1, an emission limit has been included, which was inadvertently left out. Condition D.7.1 is revised as shown below:

D.7.1 Particulate Emissions Limitations for Manufacturing Processes [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the Rolling Mills emission units shall be limited as follows:

Facility	Maximum Process Weight Rate (tons/hr)	PM Emission Limit (lbs/hr)
Ingot scalping	13.76	23.75
Ingot preheating operation	172	56.9
Ingot brush	225	59.8
Reversing mills	172	56.9
Continuous hot mills	172	56.9
Annealing furnaces	172	56.9
Ingot cold rolling	172	56.9
East Silo No. 2	**15**	**25.2**

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

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

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

Where:

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

....

Comment 4: The Actual Emissions table in the TSD has an entry for ammonia. It should be noted that the ammonia values listed therein were inserted there by IDEM, and that Alcoa had no data to support the ammonia emissions estimate. It is thus requested that the statement be amended as follows:

The following table shows the actual emissions from the source. This information reflects the 2003 OAQ emission data from the annual emission statement submitted by the source **for all pollutants except ammonia. The ammonia estimates are based on calculation assumptions input by IDEM**.

Response 4: The OAQ prefers that the Technical Support Document reflect the permit that was on public notice. Changes to the permit or technical support material that occur after the public notice are documented in this Addendum to the Technical Support Document. This accomplishes the desired result of ensuring that these types of concerns are documented and part of the record regarding this permit decision.

This Addendum to Technical Support Document becomes the part of Technical Support Document.

IDEM agrees with the statement provided by Alcoa.

Comment 5: Condition B.10 - Annual Compliance Certification. Alcoa requests that IDEM clarify each term that requires compliance certification and specify that if no such statement is made for a given term, then certifications are not required for that term. In addition, IDEM should specifically identify all those permit terms for which annual compliance certification is not required, such as those that do not impose any requirements. For example, those permit terms that the state rights, processes, or authorities, but do not impose requirements that need certification on the Permittee, such as Conditions B.1, B.11(c), B.12, B.13, B.16, etc., should be specified as not requiring any compliance certification.

The eventual final permit is meant to contain all requirements with which Alcoa must comply, and 326 IAC 2-7-6(5) requires that each Part 70 operating permit contain “requirements for compliance certification with terms and conditions contained in a Part 70 permit” and that the compliance certification identify “each term or condition of a Part 70 permit that is the basis of the certification.” Condition B.10 as written is vague and ambiguous, and does not meet these requirements. Furthermore, the guidance documents that IDEM has provided on what conditions do require annual compliance certification are equally vague and ambiguous. For example, it is unclear from IDEM’s non-rule policy document, “Guidelines for Submittal and Review of Annual Compliance Certifications under the Federally Enforceable State Operating Permit (FESOP) and Part 70 Permit Programs,” whether deviations of specific requirements also require certification of non-compliance under related, general requirements. Therefore, Alcoa requests that this condition be modified to identify the conditions in the draft permit with which it must certify compliance.

Response 5: Pursuant to 326 IAC 2-7-6(5), all terms and conditions contained in a Part 70 permit, including the emission limitations, standards, and work practices contained in the permit require compliance certification by the Permittee. All applicable requirements in a Part 70 permit refer to all terms and conditions in Sections A, B, C, and D.1 through D.8, and any other requirements from all the Federal and State rules, when it becomes effective. If some conditions in Sections B or C are not applicable, the Permittee shall state in the certification that these requirements were not applicable to this source at this time. IDEM, OAQ does not believe that it is necessary to specifically identify all those permit terms for which annual compliance certification is not required.

Conditions B.1, B.11(c), B.12, B.13, B.16 do not have any emission limitations, standards, and work practices or require performance testing, monitoring, record keeping or reporting based on the monitoring methods , therefore, these conditions do not need certification. Please refer to AIR 007 NPD for more guidance.

The deviations of specific requirements may or may not require certification of non-compliance under related, general requirements. If the Permittee is in non compliance with one requirement in D section, it may or may not be in non compliance with a B condition.

There will be no changes to the condition B.10 in the final permit as a result of this comment.

Comment 6: Condition B.11 − Preventative Maintenance Plan. Alcoa requests the deletion of this Condition because the preventative maintenance plan (“PMP”) requirement is inapplicable to the source. The Petitioner’s source is not required to obtain a permit under 326 IAC 2-5.1 or 326 IAC 2-6.1; therefore, IDEM is without authority to impose a PMP requirement on the source. Moreover, even if a PMP were required, it would be required for only emission control devices at the source, and the draft permit does not expressly limit the PMP requirement to emission control devices.

Response 6: The Preventive Maintenance Plan requirement must be included in every applicable Title V permit pursuant to 326 IAC 2-7-5 (13). Both of those rules refer back to the Preventive Maintenance Plan requirement found in 326 IAC 1-6-3.

Pursuant to 326 IAC 1-6-1 (Applicability), 326 IAC 1-6-3 applies to the owner or operator of any facility required to obtain a permit under 326 IAC 2-1-2 and 326 IAC 2-1-4. Therefore, it is clear from the structure of 326 IAC 1-6-3 that the PMP requirement affects the entirety of the applicable facilities.

326 IAC 2-7-5(13) requires that the source does all of the following:

(A) Maintain on-site the preventive maintenance plan required under section 4(c)(9) of this rule.

(B) Implement the preventive maintenance plan.

(C) Forward to the department upon request the preventive maintenance plan.

326 IAC 2-7-4(c)(9) (cited above in (A)) requires that a Part 70 operating permit application provides confirmation that the source maintains on-site a PMP as described in 326 IAC 1-6-3. Therefore, the terms of 326 IAC 1-6-3 are applicable to Alcoa, and sets out the

requirements for:

(1) Identification of the individuals responsible for inspecting, maintaining and repairing the emission control equipment (326 IAC 1-6-3 (a)(1)),

(2) The description of the items or conditions in the facility that will be inspected and the inspection schedule for said items or conditions (326 IAC 1-6-3(a)(2)), and

(3) The identification and quantification of the replacement parts for the facility, which the Permittee will maintain in inventory for quick replacement (326 IAC 1-6-3 (a)(2)).

As noted above in (2) and (3), the PMP is for the facility and not only for the emission control equipment. Only 326 IAC 1-6-3(a)(1) is limited, in that it requires identification of the personnel in charge of only the emission control equipment, and not any other facility equipment. 326 IAC 1-6-3(b) states, "As deemed necessary by the commissioner, any person operating a facility shall comply with the requirements of subsection (a) of this section."

In addition to preventive maintenance performed on the control devices, preventive maintenance should also be performed on the emission units themselves because lack of proper maintenance on the units can result in increased emissions. Many types of facilities require maintenance in order to prevent excess emissions.

There will be no changes to the condition B.11 in the final permit as a result of this comment.

Comment 7: Condition B.12 − Emergency Provisions. Alcoa notes that the telephone and facsimile numbers contained in this Condition and the Emergency Occurrence Report form contained in the draft permit do not match; accordingly, Alcoa asks that IDEM reconcile the contact information to be used in an emergency. In addition, IDEM does not have the authority to require more than the emergency rule provides in 326 IAC 2-7-16 in either the Condition or the requisite reporting form. Alcoa therefore requests that the Condition be revised to remove the sentence from subpart (e) that provides: “The Permittee seeking to establish the occurrence of an emergency shall make records available upon request to ensure that failure to implement a PMP did not cause or contribute to an exceedance of any limitations on emissions,” to correspond with the requirements of 326 IAC 2-7-16.

Also, subpart (g) of Condition B.12 is not provided for in 326 IAC 2-7-16. Moreover, 326 IAC 2-7-16(h) is unnecessary because 326 IAC 2-7-16(b)(5) provides IDEM with the pertinent information requested by Condition B.12 (h). Therefore, Alcoa requests that these provisions be stricken from the draft permit as follows. In the alternative to deleting subpart (g), Alcoa requests that IDEM identify its authority for incorporating this requirement in the draft permit because, as discussed below, IDEM cannot incorporate new requirements in issuing Part 70 operating permits.

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

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

Finally, the information requested on the form is more specific than that contained in the Condition; items currently contained on the form are necessary only if Alcoa was seeking an affirmative defense to an action for noncompliance, and therefore are not mandatory. Therefore, Alcoa requests the form be revised to require only Alcoa to report the following elements from 326 IAC 2-7-16, while other information may be requested but should be designated as not mandatory:

(A) A description of the emergency;

(B) Any steps taken to mitigate the emissions; and

(C) Corrective actions taken.

Response 7: The Emergency Occurrence Report form has been revised and reflects the correct phone number (317-233-0178) and facsimile number (317-233-6865).

326 IAC 2-7-16(f) gives Commissioner of IDEM the authority to revise the preventive maintenance plan in response to an emergency. Unless IDEM reviews the records of preventive maintenance plan, IDEM, OAQ can not ensure that failure to implement a PMP did not cause or contribute to an exceedance of any limitations on emissions during an emergency.

The subpart (g) of Condition B.12 comes from 326 IAC 2-7-16(g). 326 IAC 2-7-16(g) states:

Operation may continue during an emergency only if the emergency situation causes a deviation from a technology-based limit. The source may continue to operate the affected emitting facilities during the emergency provided the source immediately takes all reasonable steps to correct the emergency and minimize emissions.

IDEM does not agree that emergencies previously reported in accordance with Condition B.11(b) do not need to be reported again in the Quarterly Deviation and Compliance Monitoring Report. Rule 326 IAC 2-7-6(1) requires that any document or report required by a Part 70 permit must include a certification by the responsible official. Many applicants have stated that obtaining a certification by the responsible official would cause difficulty in meeting the requirement to submit the Emergency Occurrence Report within 2 days. Therefore IDEM and U.S. EPA have agreed that the report which is required to be submitted within 2 days of an emergency does not require a certification by the responsible official. Instead, the emergencies must be reported again in the Quarterly Deviation and Compliance Monitoring Report that is certified by the responsible official. Reporting the emergency again in the Quarterly Deviation and Compliance Monitoring Report fulfills the obligation to satisfy the requirements of 326 IAC 2-7-6(1) which requires reports to be certified.

The rule 326 IAC 2-7-16 states that only if Alcoa claims an affirmative defense to an action for noncompliance, Alcoa has to provide information as requested in the form, and therefore information requested in the form is not mandatory.

There will be no changes to the condition B.12 in the final permit as a result of this comment.

Comment 8: Condition B.14 − Prior Permits Superseded. Alcoa requests that the provisional portion of this Condition that suggests previous registrations and permits may not be superseded by the draft permit are deleted. Neither 326 IAC 2-1.1-9.5 or 326 IAC 2-7-10.5 authorize this caveat. Moreover, the Part 70 operating permits are required to contain the applicable requirements for a source, and there is no reason why IDEM cannot accurately reflect in the final Part 70 permit the requisite terms and conditions from Alcoa's previous registrations and permits. Accordingly, Alcoa requests the Condition be revised as follows:

(b) ~~Provided that all terms and conditions are accurately reflected in this permit, a~~**l**l previous registrations and permits are superseded by this Part 70 operating permit, except for permits issued pursuant to Title IV of the Clean Air Act and 326 IAC 21 (Acid Deposition Control).

There will be no changes to the condition B.10 in the final permit as a result of this comment.

Response 8: The purpose of the Part 70 permit program is to incorporate all requirements into one permit by incorporating, revising, or removing all conditions from previous permits. B.14 correctly states that all previous regulations and permits are superceded by this permit. The conditions revised or modified were based primarily on the information provided in the Part 70 permit application. It is not possible for IDEM to determine definitively that all revisions and modifications are accurate. Therefore, there will be no changes to the condition B.14 in the final permit as a result of this comment.

Comment 9: Condition C.4 − Incineration. As written, Condition C.4 could prevent the operation of the incinerators for VOC destruction, such as those required in order to enable solvent based coating lines CCL2 and CCL3 to comply with 40 CFR 63, Subpart SSSS. It is requested that this condition be deleted, or clarified to exclude incinerators used for process emission pollution control equipment.

Response 9: Condition C.4 has been clarified that this provision does not apply to incinerators used as pollution control equipment to control process emissions. Additionally, regarding issues of enforceability, because 326 IAC 9-1 has been SIP approved since January 31, 2005, the second sentence of condition C.4, Incineration, has been removed. Condition C.4 has been revised as follows:

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

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

Comment 10: Condition C.7 − Stack Height. This condition applies the provisions of 326 IAC 1-7 to the source. However, it only applies to stacks "for which construction commenced after June 19, 1979." *See* 326 IAC 1-7-3. Therefore, since a number of its stacks are not subject to this provision as their construction commenced before 1979, Alcoa requests that IDEM confirm that all the unregulated stacks at Alcoa's facility satisfy all "applicable" provisions, and that no repeated compliance certification is required.

Response 10: The existing stacks were built before 1970 and are exempt from 326 IAC 1-7-3(a). The emissions limitations that currently apply to the source were established in conformance with 326 IAC 1-7-4. However, new stacks and any major modification of the source will be subject to 326 IAC 1-7. It is the Permittee's responsibility to verify that all the stacks at this source are in compliance with the requirements of 326 IAC 1-7. Therefore, there will be no changes to the condition C.7 in the final permit as a result of this comment.

Comment 11: Condition C.8 - Performance Testing. The Permittee stated that the performance testing requirements in Condition C.8 do not appear to be federally enforceable requirements, and they are not designated as "state-only" requirements. The Permittee stated that this condition should be designated as state-enforceable only.

In addition, the term "submitted" should be changed to "provided" to indicate that phone call notifications are sufficient.

Response 11: The performance testing requirements contained in 326 IAC 3-6 were approved into the SIP in a Federal Register dated September 4, 1981. In addition, rule 326 IAC 2-7-6(1) gives the authority to include performance testing and reporting requirements in a Part 70 Permit to demonstrate compliance. Rule 326 IAC 2-7-6 was included in the SIP and is federally enforceable. Therefore, Condition C.8 is also federally enforceable. In order to keep records of every communication with the Permittee, IDEM, OAQ requires written notifications. Phone call notifications are not sufficient.

For clarification purposes, the rule citation of 326 IAC 2-7-6(1) has been added to this condition. Condition C.8 has been revised as follows:

C.8 Performance Testing [326 IAC 3-6] **[326 IAC 2-7-6(1)]**

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

....

Comment 12: Condition C.10 − Compliance Monitoring. To the extent that these conditions remain in the permit, Alcoa requests that IDEM confirm which plans and operational/monitoring activities are not required to be developed and implemented until 90 days after issuance of the permit.

In addition, as discussed in later comments, IDEM is not authorized to impose new conditions through the Part 70 process as is suggested by this Condition C.10. Alcoa requests that IDEM identify all new conditions that were not previously required that are being imposed by this Part 70 permit, and requests that if any such conditions are included in this permit, they be designated as state-enforceable only.

Response 12: According to Conditions B.11, C.10, and C. 15, all the required plans shall be prepared and implemented within ninety (90) days of permit issuance if not already legally required. According to Condition C.10 -Compliance Monitoring, unless otherwise specified in the permit, all monitoring and record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance.

The Permittee is required to certify continuous compliance with all of the emission limits contained in the permit. The Permittee must have sufficient information available in order to be able to certify continuous compliance. Therefore, it is necessary to include the appropriate monitoring and corresponding record keeping requirements for a Part 70 permit, pursuant to 326 IAC 2-7-5(3). If the monitoring and record keeping requirements were not included in the previous permits, IDEM, OAQ must include these conditions in the Part 70 permit. Since rule 326 IAC 2-7-5 was approved by the EPA, the monitoring and record keeping requirements established based on this provision are federally enforceable.

IDEM, OAQ does not believe it is necessary to identify the conditions which were not previously required in other permits issued to this source. All the conditions that are not federally enforceable have been specified in the last sentence of each condition. No change has been made as a result of this comment.

Comment 13: Condition C.12 − Pressure Gauge and Other Instrument Specifications. The technical specifications for an expected maximum reading being no less than 20% of full scale does not appear in 326 IAC 2-1.1-11, 326 IAC 2-7-5(3), or 326 IAC 2-7-6(1), or any other regulation. As discussed in other comments, IDEM is not authorized to impose this Condition which imposes new requirements at the source. At a minimum, these requirements should not be classified as federally enforceable, but instead should be classified as “state-only” requirements. However, more fundamentally, because of its lack of IDEM’s authorization to impose Condition C.12, Alcoa requests that it be deleted as follows:

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

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

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

Response 13: Adequate instrument specification must be included in the permit in order to accurately measure the parameters specified in the permit. Although the rules do not specifically call out the technical specifications of monitors, they are a logical and reasonable part of monitoring requirements. IDEM, OAQ contends that including technical specification of monitors in the permits is within the authority of the rules mentioned to include monitoring requirements. Without these specifications, it could cause confusion and monitoring data rejection. No change has been made as a result of this comment.

Comment 14: Condition C.13 − Emergency Reduction Plans. Alcoa requests that subsection (a), which confirms that Alcoa prepared and submitted a written emergency reduction plan, be included in the Technical Support Document, rather than the permit itself, since this is a condition for which compliance cannot be certified because it is merely confirming that compliance has occurred in the past.

Response 14: Since this source has submitted the required emergency reduction plans on May 20, 1997, this source is in compliance with the requirement of C.15 - Emergency Reduction Plans. A Part 70 permit shall include all the applicable requirements. Since the Permittee is subject to the requirements of 326 IAC 1-5-2 (Emergency Reduction Plans), this condition shall remain in the permit. No change has been made as a result of this comment.

Comment 15 Condition C.15 − Response to Excursions or Exceedances. Subparts (b)-(d) of this condition are not authorized by law, and IDEM has no authority to impose them. IDEM is not authorized to create requirements out of whole cloth. As an agency of state government, IDEM has only the powers expressly conferred by statute.

The authority of the State to engage in administrative action is limited to that which is granted by statute.

Charles A. Beard Classroom Teachers Ass’n v. Bd. of School Trustees, 668 N.E.2d 1222, 1224 (Ind. 1996).

A keystone of administrative law is the proposition that an administrative agency has no powers which are not expressly or impliedly granted by statute. Gordon v. Review Bd. of Indiana Employment Sec. Division, (1981) Ind.App., 426 N.E.2d 1364; Indiana State Bd., etc. v. Keller, (1980) Ind., 409 N.E.2d 583. All doubtful claims to a power claimed by a governmental agency must be resolved against the agency. Indiana Civil Rights Commission v. Holman, (1978) 177 Ind.App. 648, 380 N.E.2d 1281; Monon Railroad Company v. Citizens of Sherwood Forest, Marion County, (1969) 146 Ind.App. 620, 257 N.E.2d 846; Good v. Western Pulaski County School Corp., (1965) 139 Ind.App. 567, 210 N.E.2d 100. The administrative agency can only exercise its powers in conformity with the statutes. Boone County Rural Elec. Membership Corp. v. Public Service Commission of Ind., (1958) 129 Ind.App. 175, 155 N.E.2d 149.

Indiana State Bd. of Embalmers v. Kaufman, 463 N.E.2d 513, 521-22 (Ind. Ct. App. 1984).

For these reasons, Condition C.15(b)-(d) should be deleted.

In addition to subparts (b)-(d) being unauthorized by any law, the law gives the Petitioner every incentive to avoid excursions and exceedances so that subparts (b) - (d) serve no legitimate purpose, and accordingly they should be removed from the draft permit.
It is also unclear, under subsection (c), whether the draft permit contemplates that the Alcoa or IDEM will make the “determination whether the Permittee has used acceptable procedures in response to an excursion or exceedance” The timeframe and procedures for such determinations are unclear, so that the Petitioner cannot be sure when (or whether) the “deviation” that triggers a reporting obligation under subsection (d) will be determined to have occurred. This makes timely and accurate reporting impossible. For all of these reasons, subsections (b) - (d) of this condition should be deleted from the Permit.

Condition C.15 should be revised as follows:

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

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

~~(b) The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Corrective actions may include, but are not limited to, the following:~~

~~(1) initial inspection and evaluation;~~

~~(2) recording that operations returned to normal without operator action (such as through response by a computerized distribution control system); or~~

~~(3) any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.~~

~~(c) A determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, the following:~~

~~(1) monitoring results;~~

~~(2) review of operation and maintenance procedures and records;~~

~~(3) inspection of the control device, associated capture system, and the process.~~

~~(d) Failure to take reasonable response steps shall be considered a deviation from this permit.~~

(b)(e) The Permittee shall maintain the following records:

(1) monitoring data;

(2) monitor performance data, if applicable; and

(3) corrective actions taken.

Response 15: An important goal of the Part 70 Operating Permit program is to assure that each Permittee has the ability to demonstrate compliance with applicable requirements on a continuous basis. The Permittee is required to take reasonable response steps when a compliance monitoring parameter is determined to be out of range or abnormal. The requirement to take reasonable response steps will ensure that the control equipment is returned to proper operation as soon as practicable, while still allowing the Permittee the flexibility to respond to situations that were not anticipated.

Rules 326 IAC 2-7-5(3)(A) and 326 IAC 2-7-6 are the basis for this condition. 326 IAC 2-7-6(6) provides IDEM, OAQ, with the authority to specify provisions in the Part 70 operating permit as the Commissioner may require with respect to ensuring compliance with applicable requirements. IDEM has determined that a condition such as this is necessary with respect to compliance assurance.

Fulfilling this Part 70 operating permit condition does not prescribe any new applicable requirement. Corrective actions are a compilation of reasonable responses, schedules, work practices and other information developed by the Permittee from the standpoint of good business practices and the prevention of environmental problems. The Permittee has to implement these reasonable responses and schedules to maintain or return to compliance. Corrective actions are reasonable actions to be taken for specific deviations that occur at the emission unit or control device.

Permittees already have maintenance schedules and trouble shooting guidelines that specify options and steps to be taken when the emission unit or control device is not operating or functioning properly. The Permittee has the knowledge, expertise and experience on how to operate the equipment at the plant, and is required to take action during exceedances and/or excursions based on this knowledge, experience and expertise. No change has been made to this condition as a result of this comment.

Comment 16 Condition C.16 − Actions Related to Noncompliance Demonstrated by a Stack Test. The content of Condition C.16 appears to be different than the cited regulation. The requirement presented in the draft permit, prescribes certain actions to be taken as a result of measured emissions in excess of an established limitation. The required actions presented in this Condition do not appear to be founded on a 326 IAC regulation. Thus, to the extent that this Condition is retained in the draft permit, it should be designated as state-enforceable only.

In addition, as there does not appear to be regulation that proscribes the time for submittals, Alcoa requests that the timing for submittals be consistent throughout the draft permit, and that the subpart (a) of the Condition be revised to allow for 45 days to submit the response actions to IDEM following the receipt of stack test results.

Finally, IDEM should modify this condition to allow themselves and the permit holder more flexibility in the event a stack test is failed**.** As currently written, this Condition specifies certain actions that must be taken when noncompliance is demonstrated by a stack test. In reality, negotiations to resolve the issue generally occur on the spot between the representatives of the source and IDEM. The specific corrective measures are often subsequently developed during consultation with IDEM depending on the specific circumstances. The specific procedures set out in Condition C.16 interfere with the ability of IDEM and the permit holder to develop timely or subsequent constructive alternatives and, therefore, these requirements inhibit flexibility. In order to restore the current flexibility IDEM and the source have when this occurs, the Condition should be modified by adding a new subsection (c) as indicated below.

Accordingly, Condition C.16 should be modified as follows:

C.16 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5] [326 IAC 2-7-6]

(a) When the results of a stack test performed in conformance with Section C – Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall take appropriate response actions. The Permittee shall submit a description of these response actions to IDEM, OAQ, within **forty-five (45)** ~~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) The Permittee is not required to follow the specific procedures set out in (a) and (b) above if it and IDEM, OAQ agree to a different schedule of activities to address any noncompliant situation. IDEM, OAQ may agree to any such alternative procedures proposed by the Permittee so long as they are reasonable and consistent with applicable law.

(d) ~~(c)~~ IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

The response action documents submitted pursuant to this condition do require the certification by the “responsible official” as defined by 326 IAC 2-7-1(34). **This condition C.16 is state-enforceable only.**

Response 16: IDEM has determined it is not necessary to modify this condition by adding the suggested language. The condition as currently written provides sufficient flexibility for IDEM, OAQ and the Permittee to establish a different schedule of activities if appropriate. For example, Condition C.18(b) already states that should the Permittee demonstrate to IDEM, OAQ that retesting in 120 days is not practicable, IDEM, OAQ may extend the retesting deadline. Since rules 326 IAC 2-7-5 and 326 IAC 2-7-6 have been approved by the EPA, the stack testing requirements established based on these provisions are federally enforceable. Therefore, no change has been made in Condition C.16 as a result of this comment.

Comment 17 Condition C.18 − General Record Keeping Requirements. Subsection (b) of Condition C.18, which states that "all record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance," implies that new requirements are being added to this draft permit. As discussed earlier, the Part 70 permitting program was not intended to add new requirements to existing sources. Alcoa requests that IDEM identify each and every such "new" requirement and designate such requirements as state-enforceable only if they remain in the draft permit.

Response 17: An important goal of the Part 70 Operating Permit program is to assure that each Permittee has the ability to assure compliance with applicable requirements on a continuous basis. Pursuant to 327 IAC 2-7-5(3), a Part 70 permit shall include monitoring and related record keeping and reporting requirements to ensure continuous compliance with the permit conditions. If the necessary record keeping requirements were not required in the previous permit, a Part 70 permit shall include these monitoring, record keeping, and reporting requirements.

Not all the new requirements are state-enforceable only. The enforceability of the requirements is based on provisions of the rules. For the conditions not federally enforceable, IDEM, OAQ has added a statement at the end of such a condition in the draft permit. Therefore, no change has been made as a result of this comment.

Comment 18: Conditions D.1, D.1.1, and D.1.3, and the descriptions for the Types of Emission Units and Pollution Control Equipment in the Alumina and State Rule Applicability, Section A of the alumina and aluminum fluoride handling plant section of Appendix A of the TSD. Following a detailed staff review, numerous needed changes were identified in each of these sections; these amendments are included with this letter as *Attachment 3*. The detailed staff review also determined that tanks 141A(NW) and 141BS, as described in the "removed from service" section should be retained in the Part 70 permit. Thus, those tanks should be deleted from that section.

Response 18: The following requested changes have been made and this Addendum to the Technical Support Document becomes a part of the TSD. The permit has been revised accordingly and the revised part of the Section D.1 follows as below:

SECTION D.1 ALUMINA & ALUMINUM FLUORIDE HANDLING SYSTEM

FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)] (The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.) <u>Central Alumina and Aluminum Fluoride Handling System</u>: (1) Two (2) barge unloading pneumatic conveyors transferring alumina and aluminum fluoride from barge, identified as Airveyor No. 1 and Airveyor No. 2, constructed in 1968, with a maximum capacity of 200 tons per hour each, controlled by Airveyor No. 1 Baghouse and Airveyor No. 2 Baghouse, respectively, and exhausting at Stacks 60.2 and 60.3, respectively. Two (2) baghouses, identified as Airveyor No. 1 Baghouse and Airveyor No. 2 Baghouse, with an air flow rate of 8,400 acfm at 120^{o}F each, and exhausting at Stacks

60.2 and 60.3, respectively;

(2) One (1) belt conveyor transferring alumina and aluminum fluoride from Airveyor No. 1 and Airveyor No. 2 to Transfer Tower 61A, identified as Airveyors Discharge Conveyor (Section 1), constructed in 1969, with a maximum capacity of **500** ~~225~~ tons per hour, controlled by Building 60 Baghouse, and exhausting at Stack **60.8** ~~60.6~~**.**

One (1) baghouse, identified as Building 60 Baghouse, controlling the Airveyors discharge onto the Airveyors Discharge Conveyor, with an airflow rate of 2,200 acfm at 80^{o}F, and exhausting at Stack 60.8;

(3) One (1) Transfer Tower 61A, constructed in 1969, for transferring alumina and aluminum fluoride from the Airveyors Discharge Conveyor to Tank 62 Feed Conveyor (Section 2), with a maximum capacity of **500** ~~225~~ tons per hour, controlled by Transfer Tower 61A Baghouse, and exhausting at Stack 61A.1.

One (1) transfer tower baghouse, identified as Transfer Tower 61A Baghouse, with an airflow rate of 3,500 acfm at 80^{o}F, and exhausting at Stack 61A.1;

(4) One (1) alumina/aluminum fluoride storage tank, identified as Tank 62, constructed in 1969, with a maximum storage capacity of 1,800 tons and a transfer rate of 225 tons per hour. The Tank 62 Feed Conveyor discharge into Tank 62 is controlled by Tank 62 Baghouse (top of tank), exhausting at Stack 62.1. The Tank 62 discharge to Transfer Tower 61B Feed Conveyor (Section 3) **occurs in an enclosed building. This transfer point does not exhaust to a baghouse. The** ~~or~~ 112A Passageway Conveyor is controlled by BC-24 Baghouse (Tank 62 baghouse, ground level), exhausting at Stack 62.2.

Two (2) alumina/aluminum fluoride Tank 62 baghouses, identified as Tank 62 Baghouse (top of tank) and Baghouse BC-24 (Tank 62 baghouse, ground level), with maximum gas flow rates of 3,000 and 710 acfm at 70^{0}F, respectively, and exhausting at Stacks 62.1 and 62.2, respectively;

<u>Potlines 1 and 2 Alumina and Alumina Fluoride Handling System</u>:

(5) One (1) belt conveyor transferring alumina and aluminum fluoride from Tank 62 to Transfer Tower 61B, identified as Transfer Tower 61B Feed Conveyor, constructed in 1969, with a maximum capacity of **275** ~~225~~ tons per hour**. This transfer point is contained within a building and does not exhaust to a baghouse;** ~~, controlled by Baghouse BC-24, at the discharge point onto the conveyor and Transfer Tower 61B baghouse at the discharge point onto Transfer Tower 61B, and exhausting at Stacks 62.2 and 61B.1.~~

~~One (1) baghouse, identified as Transfer Tower 61B Baghouse, with an airflow rate of 3,000 acfm at 80^{e}F, and exhausting at Stack 61B.1;~~

(6) One (1) Transfer Tower 61B transferring alumina and aluminum fluoride from the Transfer Tower 61B Feed Conveyor to 104 passageway Conveyor, constructed in 1969, with a maximum capacity of 225 tons per hour, with the feed and discharge points into/out of Transfer Tower 61B controlled by Transfer Tower 61B Baghouse, and exhausting at Stack 61B.1;

(7) One (1) railcar/truck unloading system transferring alumina and aluminum fluoride to 104 Passageway Conveyor, identified as Building 140 Unloading, constructed in 1958,

with a maximum capacity of 225 tons per hour, controlled by Building 140 Baghouse, and exhausting at Stack 140.1.

One (1) baghouse, identified as Building 140 Baghouse, with an airflow rate of 1,000 acfm at 70^0F, and exhausting at Stack 140.1;

(8) One (1) belt conveyor transferring alumina and aluminum fluoride from either the railcar/truck unloading system or 61B Transfer Tower to Bucket Elevators 141A and/or 141B, identified as 104 Passageway Conveyor, constructed in 1969, with a maximum capacity of 280 tons per hour, controlled by 104A Passageway Baghouse, and exhausting at Stack 104.1.

One (1) baghouse, identified as 104A Passageway Baghouse, with an airflow rate of 10,000 acfm at 70^0F, and exhausting at Stack 104.1;

(9) Two (2) bucket elevators transferring alumina and aluminum fluoride from 104 Passageway Conveyor to the Tank 144 feed airslide (Airslide 141) or the #8 screw conveyor, identified as Bucket Elevator 141A and Bucket Elevator 141B, each constructed in 1969, with a maximum capacity of 100 tons per hour each, controlled by 104A Passageway Baghouse at their inlet and the 144A Baghouse at their outlet, and exhausting at Stacks 104.1 and 144.1;

(10) One (1) Tank 144 feed airslide (Airslide 141) transferring alumina from Bucket Elevator 141A and Bucket Elevator 141B to Tanks 141BN, 141 BS, 141 CN, 141 CS, 141NE, 141NW, and 144, constructed in 1969, with a capacity of **240** ~~200~~ tons per hour. **All transfer points except those into tanks 141NE and 141NW are** controlled by 144A Baghouse, and exhausting at Stack 144.1. **The transfer point into tank 141NE is controlled by the 141ANE baghouse, and the transfer point into tank 141NW is controlled by the 141ANW baghouse.**

One (1) baghouse, identified as 144A Baghouse, with airflow of 14,800 acfm at 70^0F, and exhausting at Stack 144A.1.

One (1) baghouse, identified as the Tank 141NE Baghouse, with an airflow of 3,500 acfm at 70^0F, and exhausting at Stack 141.1NE,

One (1) baghouse, identified as the Tank 141NW Baghouse, with an airflow of 3,500 acfm at 70^0F, and exhausting at Stack 141.1NW;

(11) One (1) tank transferring alumina to fresh alumina Tanks 160M.1 and 160M.2, identified as Tank 144, constructed in 1956, with a maximum storage capacity of 2,235 tons and a transfer rate of 225 tons per hour, controlled by 144A Baghouse, and exhausting at Stack 144.1;

(12) One (1) tank transferring alumina to reacted alumina Tank 141A(NE), identified as Tank 141BN, constructed in 1969, with a maximum storage capacity of 985 tons and a discharge rate of 5 tons per hour, controlled by 144A Baghouse, and exhausting at Stack 144.1;

(13) One (1) #8 Screw Conveyor transferring aluminum fluoride from Bucket Elevator 141A and Bucket Elevator 141B to Tanks 141CN, 141CS, 141D, 141E, and 141F, constructed in 1969, with a maximum **conveying rate** ~~storage capacity~~ of 200 tons per hour, controlled by 144A Baghouse, and exhausting at Stack 144.1;

(14) Five (5) tanks, identified as Tanks **141BN, 141BS,** 141CN, 141CS, 141D, 141E, and 141F, constructed in 1969, with a maximum capacity of 985 tons each, 144A Baghouse, and exhausting at Stack 144.1;

(15) Tank 160M.2 Feed ~~Airslide~~ **Convair, pneumatically** feeding fresh alumina from Tank 144 to Tank 160M.2, with a capacity of 18 tons per hour, constructed in 1956, controlled by the 160M.2 Bin Vent Baghouse, and exhausting at Stack 160M.2.

One (1) baghouse, identified as 160M.2 Bin Vent Baghouse, with an airflow rate of **3,000** ~~100~~ acfm at 70^0F, and exhausting at Stack 160M.2;

(16) One (1) fresh alumina tank for the supply of alumina to the Potline #1 B2 fluidized bed dry scrubber and baghouse, identified as Tank 160M.2, constructed in 1956, with a maximum capacity of **650** ~~550~~ tons, controlled by the 160M.2 Bin Vent Baghouse, and exhausting at Stack 160M.2;

(17) One (1) distribution box and airslide transferring fresh alumina from Tank 160M.2 to fluidized bed scrubber and B2 Baghouse, identified as the Alumina Feed Airslide B2, constructed in 1956, with a maximum capacity of 18 tons per hour, controlled by the Airslide B2 Baghouse, and exhausting at Stack 160B2.16.

One (1) baghouse, identified as Airslide B2 Baghouse, with an airflow rate of **750** ~~1,500~~ acfm at a temperature ~~range of~~ 70~~-120~~^{0}F, and exhausting at Stack 160B2.16;

(18) One (1) Tank 160M.1 **pneumatic conveyor** ~~Feed Airslide~~ feeding fresh alumina from Tank 144 to Tank 160M.1, constructed in 1962, with a capacity of 18 tons per hour, controlled by Potline #2 C1 Pollution Control System, and exhausting at Stacks 160C.1 through 160C.37.

One fluidized bed dry scrubber and baghouse system consisting of twelve (12) fluidized dry scrubbers and baghouses, identified as the Potline #2 C1 Pollution Control System, with a total gas flow rate of 480,000 acfm at 200^0F, and exhausting at Stacks 160C.1 - 160C.36;

(19) One (1) fresh alumina tank for the supply of alumina to the Potline #2 C1 fluidized bed dry scrubber and baghouse, identified as Tank 160M.1, with a capacity of **650** ~~550~~ tons, constructed in 1962, controlled by Potline #2 C1 Pollution Control System, and exhausting at Stacks 160C.1 through 160C.37;

(20) One (1) distribution box and airslide transferring fresh alumina to fluidized bed scrubber and Baghouse C1, identified as the Alumina Feed Airslide C1, constructed in 1962, with a capacity of 18 tons per hour, controlled by the Airslide C1 Baghouse, and exhausting at Stack 160C1.37.

One baghouse, identified as the Airslide C1 Baghouse, with an airflow rate of 3,500 acfm at a temperature ~~range of~~ 70~~-120~~^{0}F, and exhausting at Stack 160C.37;

(21) **One (1)** ~~Two (2)~~ reacted alumina airslides transporting reacted alumina from the C1 and B2 Pollution Control Systems to Tank 141A(NE), identified as ~~Reacted Alumina Airslide B2 and~~ Reacted Alumina Airslide C1, constructed in ~~1956 and~~ 1962 ~~respectively~~, with a maximum capacity of 18 tons per hour each, controlled by Tank 141A(NE) Baghouse, and exhausting at Stack 141.1(NE).

~~One (1) baghouse, identified as Tank 141A(NE) Baghouse, with an airflow rate of 2,400~~

~~acfm at 70^{0}F, and exhausting at Stack 141.1(NE);~~

(21A) One (1) reacted alumina airslides transporting reacted alumina from the B2 Pollution Control Systems to Tank 141A(NW), identified as Reacted Alumina Airslide~~-~~B2, constructed in 1956, with a maximum capacity of 18 tons per hour, controlled by the Tank 141A(NW) Baghouse, and exhausting at Stack 141.1(NW).

(22) One (1) reacted alumina eductor transporting reacted alumina from Tank 141**BS** ~~BN~~ to Tank 141A(NE), identified as Tank 141 **BS** ~~BN~~ Eductor, constructed in 1984, with a maximum capacity of 5 tons per hour, controlled by Tank 141A(NE) Baghouse, and exhausting at Stack 141.1(NE);

(23) One (1) reacted alumina storage tank, identified as Tank 141A(NE), constructed in 1964, with a maximum capacity of 860 tons, controlled by Tank 141A(NE) Baghouse at its inlet and 104A Baghouse at its discharge, and exhausting at Stacks 141.1(NE) and 104.1;

(23A) One (1) reacted alumina storage tank, identified as Tank 141A(NW), constructed in 1964, with a maximum capacity of 860 tons, controlled by Tank 141A(NW) Baghouse at its inlet and 104A Baghouse at its discharge, and exhausting at Stacks 141.1(NW) and 104.1;

Potlines 3, 4, 5, and 6 Alumina and Aluminum Fluoride Handling System:

(24) One (1) belt conveyor transferring alumina and aluminum fluoride from Tank 62 ~~and/or Tank 152~~ to Airlift 150-FM-AE-01 and Airlift 150-FM-AE-02, identified as 112A Passageway Conveyor, constructed in 1969, with a maximum capacity of 275 tons per hour, controlled by 112A Passageway Baghouse, and exhausting at Stack 112A.1.

One (1) baghouse, identified as Baghouse 112A, with an airflow rate of 26,900 acfm at 70^{0}F, and exhausting at Stack 112A.1;

(24A) One (1) belt conveyor transferring alumina and aluminum fluoride from Tank 152 to Airlift 150-FM-AE-01 and Airlift 150-FM-AE-02, identified as BC26 Conveyor, constructed in 1969, with a maximum capacity of 275 tons per hour, controlled by 112A Passageway Baghouse, and exhausting at Stack 112A.1;

(25) Airlift 150-FM-AE-01 and Airlift 150-FM-AE-02, transferring alumina and aluminum fluoride from the 112A Passageway Conveyor **or the BC26 conveyor** to Airslide151, constructed in 2000, with a maximum capacity of 100 tons per hour each, controlled by 112A Passageway Baghouse, and exhausting at Stack 112A.1;

(26) Airslide 151, transferring alumina from Airlifts 150-FM-AE-01 and 150-FM-AE-02 to Tank 151C, Tank 151J, Tank 152, and Tank 154; and aluminum fluoride from Airlift 150-FM-AE-01 and Airlift 150-FM-AE-02 to Tank 151F and Tank 151G and to atmosphere constructed in 1969, with a maximum capacity of 225 tons per hour, controlled by Baghouse 112A, and exhausting at Stack 112A.1;

(27) One (1) aluminum fluoride tank, identified as Tank 151F, constructed in 1970, with a maximum storage capacity of **850** ~~655~~ tons, fed from Airslide 151, and venting to Tank 151G **and to atmosphere;** ~~The discharge from this tank is controlled by Baghouse 112A, and exhausting at Stack 112A.1;~~

(28) One (1) aluminum fluoride tank, identified as Tank 151G, constructed in 1970, with a

maximum storage capacity of **850** ~~655~~ tons, fed from Airslide 151, and venting to atmosphere~~. The discharge from this tank is controlled by Baghouse 112A, and exhausting at Stack 112A.1~~;

(29) One (1) fresh alumina tank, identified as Tank 151C, constructed in 1969, with a capacity of 985 tons, and venting to Tank **152** ~~151J~~. This tank supplies alumina for the anode baking ring furnace A-446 pollution control system and the bath crusher if needed;

(30) One (1) fresh alumina tank, identified as Tank 151J, fed from Airslide 151, constructed in 1969, with a maximum storage capacity of 113 tons, **venting to Tank 151** ~~controlled by Baghouse 112A, and exhausting at Stack 112A.1~~. This tank supplies alumina for the anode baking ring furnace A-446 pollution control system;

(31) One (1) fresh alumina tank, identified as Tank 152, fed from Airslide 151, constructed in 1969, with a maximum storage capacity of **25,000** ~~23,672~~ tons, and venting to **the B5 and B6 Pollution control system feed airslide baghouses** ~~Tank 154~~. This tank serves as an emergency supply point for alumina. Withdrawals from this tank occur via the **BC26** ~~112A Passageway~~ Belt Conveyor;

(32) Feed box B5 and Pollution Control System Alumina Feed Airslide B5, transporting alumina from Tank 154 to the B5 Pollution Control System, constructed in 1969, with a maximum capacity of 18 tons per hour, controlled by Airslide B5 Baghouse, and exhausting at Stack 161.B5.37.

One (1) baghouse, identified as Airslide B5 Baghouse, with an airflow rate of 3,500 acfm at a temperature ~~range of~~ 70~~-120~~^{o}F, and exhausting at Stack 161B5.37;

(33) Feed box B6 and Pollution Control System Alumina Feed Airslide B6, transporting alumina from Tank 154 to the B6 Pollution Control System, constructed in 1969, with a capacity of 18 tons per hour, controlled by Airslide B6 Baghouse, and exhausting at Stack 161.B6.37.

One (1) baghouse, identified as Airslide B6 Baghouse, with an airflow rate of 3,500 acfm at a temperature ~~range of~~ 70~~-120~~^{o}F, and exhausting at Stack 161B6.**37** ~~16~~;

(34) One (1) fresh alumina tank, identified as Tank 154, fed from Airslide 151, feeding to:

(A) Potline #5 pollution control system, Feed Box B5;

(B) Potline #6 pollution control system, Feed Box B6;

(C) Vibratory Screen and GTC Feed Airslide 161-B3-FM-01; and

(D) Vibratory Screen and GTC Feed Airslide 161-B4-FM-01.

Tank 154 was constructed in 1969, and has a capacity of **1,200** ~~985~~ tons. It is controlled by Airslide B5 Baghouse and Airslide B6 Baghouse, and exhausts at Stacks 161.B5.37 and 161.B6.37~~, respectively~~;

(35) Vibratory Screen and GTC Feed Airslide 161-B3-FM-01, and Vibratory Screen and GTC Feed Airslide 161-B4-FM-01, transporting fresh alumina from Tank 154 to Potlines 3 and 4 Gas Treatment Center (GTC) for fluoride control, constructed in 2000, with a maximum capacity of 80 tons per hour each, controlled by **Gas Treatment Center**

(GTC) ~~Baghouse 112A~~, and exhausting at Stack **GTC** ~~112A.1~~;

(36) Transfer of reacted alumina from the Potlines 3 and 4 Gas Treatment Center (GTC) for fluoride control to reacted alumina Airslide 166-FM-03 via:

(A) Airslide **161B3** ~~166~~-FM-**03** ~~01~~ to Airlift **161B3** ~~166-FM-01~~-AE-01 or **Airlift 161B4-AE-02** to Vibratory Screen **161B3** ~~166-FM-01~~-SC-**02** ~~01~~ **or vibratory screen 161B4-SC-02**;

(B) Airslide 166-FM-02 ~~to Airlift 166-FM-02-AE-02 to Vibratory Screen 166-FM-02-SC-02 to Airslide 166-FM-03~~.

Maximum capacity for the equipment described by (A.) is **30** ~~40~~ tons per hour each, Maximum capacity for Airslide 166-FM-02 and ~~(B) is 40 tons per hour each, while the maximum capacity of~~ Airslide 166-FM-03 is **60** ~~50~~ tons per hour. All of the airslides, airlifts, and vibratory screens described herein, **except for airslides 165-FM-02 and 166-FM-03** are controlled by the **GTC, exhausting at Stack GTC. Airslides 166-FM-02 and 166-FM-03 are controlled by** Baghouse 166, exhausting at Stack 166.1. ~~Except for Airslide 166-FM-03, a~~**A**ll of the equipment described herein was constructed in 2000. ~~The Airslide 166-FM-03 was constructed in 1969.~~

One (1) baghouse, identified as Baghouse 166, with an airflow rate of 7,000 standard dry cubic foot at 70^0F, and exhausting at Stack 166.1;

(37) Transfer of reacted alumina from Potline #6 B6 Pollution Control System for fluoride control to Airslide 166-FM-03 via Airslide 161-B6-FM-01 to Airlift 166-B6-FM-AE-01, thence to Vibratory Screen 166-B6-FM-SC-01, and thence to Airslide 166-FM-03. All of this equipment except for Airslide 166-FM-03 has a maximum capacity of 20 tons per hour, was constructed in 1969, and is controlled by Baghouse 166, exhausting at Stack 166.1;

(38) Transfer of reacted alumina from the Potline #5 B5 pollution control system for fluoride control to reacted alumina Airslide 161-B5-FM-01, thence to Airlift 161-B5-FM-AE-01, thence to Vibratory Screen 61-B5-FM-SC-01, thence to the feedbox for Airslide 166-FM-05 and Airslide 166-FM-06. All of this equipment except for the feedbox for Airslide 166-FM-05 and Airslide 166-FM-06 has a maximum capacity of 20 tons per hour, was constructed in 1969, and is controlled by the Baghouse 166, exhausting at Stack 166.1;

(39) Feedbox for Airslide 166-FM-05 and Airslide 166-FM-06, transferring reacted alumina from the GTC, B5, and B6 pollution control systems to Airslide 166-FM-05 and Airslide 166-FM-06. This feedbox was constructed in 2000, has a maximum capacity of 80 tons per hour, and is controlled by Baghouse 166, exhausting at Stack 166.1;

(40) Airslide 166-FM-05, transferring reacted alumina from the feedbox for Airslide 166-FM-05 and Airslide 166-FM-06 to Airlift 166-AE-01, constructed in 2000, with a maximum capacity of 80 tons per hour, and controlled by Baghouse 166, exhausting at Stack 166.1;

(41) Airslide 166-FM-06, transferring reacted alumina from the feedbox for Airslide 166-FM-05 and Airslide 166-FM-06 to Airlift 166-AE-02, constructed in 2000, with a maximum capacity of 80 tons per hour, and controlled by Baghouse 166, exhausting at Stack 166.1;

(42) Airlift 166-AE-02, transferring reacted alumina from Airslide 166-FM-06 to reacted

alumina Airslide 166-FM-07, constructed in 2000, with a maximum capacity of 80 tons per hour, and controlled by Baghouse 166, exhausting at Stack 166.1;

(43) Airlift 166-AE-01, transferring reacted alumina from Airslide 166-FM-05 to reacted alumina Airslide 166-FM-07, constructed in 2000, with a maximum capacity of 80 tons per hour, and controlled by Baghouse 166, exhausting at Stack 166.1;

(44) Transfer of reacted alumina from Airlift 166-AE-01 and Airlift 166-AE-02 to Airslide 166-FM-07. Airslide 166-FM-07 has a maximum capacity of 80 tons per hour, was constructed in 2000, and is controlled by Baghouse **166** ~~112A~~, exhausting at Stack **166.1** ~~112A.1~~;

(45) Unloading Station BL-08, accepting reacted alumina that has been trucked from Anode Baking Ring Furnace A-446 Pollution Control System, and transferring it to Tank 151H. Unloading Station BL-08 has a maximum capacity of **40** ~~30~~ tons per hour, and is controlled by Baghouse 112A, exhausting at Stack 112A.1;

(46) One (1) reacted alumina storage tank, identified as Tank 151H, fed from Unloading Station BL-08, constructed in 1969,with a maximum capacity of 655 tons, **controlled by Baghouse 112A, exhausting at Stack 112A.1;** ~~venting to Tank 151C;~~

(47) Dense Phase Transporter VS-01, transporting reacted alumina from Tank 151H to Feed Box 166-FM-08. Dense Phase Transporter VS-01 was constructed in 2000, has a maximum capacity of 7 tons per hour, and is controlled by Baghouse 112A, exhausting at Stack 112A.1;

(48) Feed box 166-FM-08, transferring reacted alumina from Dense Phase Transporter VS-01 and Airslide 166-FM-07, constructed in 2000, with a maximum capacity of 87 tons per hour, controlled by Baghouse 112A, and exhausting at Stack 112A.1;

(49) Airslide 166-FM-09, transferring reacted alumina from Feed Box 166-FM-08 to Tank 151A Distribution Box 151-FM-1A, constructed in 2000, with a capacity of **87** ~~80~~ tons per hour, controlled by Baghouse 112A, and exhausting at Stack 112A.1;

(50) Tank 151A Distribution Box 151-FM-1A, transferring reacted alumina from Airslide 166-FM-09 to Tank 151A, constructed in 2000, with a capacity of **87** ~~80~~ tons per hour, controlled by Baghouse112A, and exhausting at Stack 112A.1;

(51) Airslide 166-FM-10, transferring reacted alumina from Feed Box 166-FM-08 to Tank 151B Distribution Box 151-FM-1B, constructed in 2000, with a capacity of **87** ~~80~~ tons per hour, controlled by Baghouse 112A, and exhausting at Stack 112A.1;

(52) Tank 151B Distribution Box 151-FM-1B, transferring reacted alumina from Airslide 166-FM-10 to Tank 151B, constructed in 2000, with a capacity of **87** ~~80~~ tons per hour, controlled by Baghouse 112A, and exhausting at Stack 112A.1; and

(53) Tanks 151A and 151B, transferring reacted alumina to Potlines 3-6, with a storage capacity of 985 tons each, constructed in 1969, the discharge from each tank controlled by Baghouse 112A, and exhausting at Stack 112A.1.

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.1.1 Particulate Emissions Limitations for Manufacturing Processes [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3 (Particulate Emissions Limitations for Manufacturing Processes), the allowable PM emission rate from the below listed processes shall be limited as follows:

Facility	Control Device	Maximum Process Weight Rate (tons/hr)	PM Emission Limit (lbs/hr)
Air Conveyors No. 1 ~~and No. 2~~	Airveyor No. 1 Baghouse ~~and Airveyor No. 2 Baghouse~~	**200** ~~225~~	**58.5** ~~59.8~~
Air Conveyors No. 2	**Airveyor No. 2 Baghouse**	**200**	**58.5**
Airveyor Discharge Conveyor	Building 60 Baghouse	**500** ~~225~~	**69** ~~59.8~~
Transfer Tower 61A	Transfer Tower 61A Baghouse	**500** ~~225~~	**69** ~~59.8~~
Tank 62 loading	Tank 62 Baghouse (Tank 62 baghouse, top of tank)	**500** ~~225~~	**69** ~~59.8~~
Tank 62 unloading	Baghouse BC-24 (Tank 62 baghouse, ground level)	**275** ~~225~~	**62.02** ~~59.8~~
Transfer Tower 61B	Transfer Tower 61B Baghouse	**275** ~~225~~	**62.02** ~~59.8~~
Building 140 Unloading	Building 140 Baghouse	**275** ~~225~~	**62.02** ~~59.8~~
104 Passageway Conveyor, and Bucket Elevator 141A and Bucket Elevator 141B	104A Passageway Baghouse	**275** ~~200~~	**62.02** ~~58.5~~
Airslide 141, Tank 144, Tank 141BN, Tank 141CN, Tank 141CS, Tank 141D, Tank 141E, Tank 141F, and #8 Screw Conveyor	Tank 144A Baghouse	**240** ~~200~~	**60.5** ~~58.5~~
Tank 160M.1	Potline #2 C1 Pollution Control System	18	28.4
Tank 160M.1 Feed Airslide		18	28.4
Tank 160M.2	Tank 160M.2 Bin Vent Baghouse	18	28.4
Tank 160M.2 Feed Airslide	Tank 160M.2 Bin Vent Baghouse	18	28.4
Alumina Feed Airslide B2	Airslide B2 Baghouse	18	28.4
Alumina Feed Airslide C1	Airslide C1 Baghouse	18	28.4
Reacted Alumina Airslide B2	Tank 141A(NE) Baghouse	18	28.4
Reacted Alumina Airslide C1	Tank 141A(NE) Baghouse	18	28.4
Tank 141(NE) System	Tank 141A (NE) Baghouse	18	28.4
Tank 141(NW) System	**Tank 141A (NW) Baghouse**	**18**	**28.4**
Tank 141 **BS** ~~BN~~ Eductor	Tank 141A (NE) Baghouse	5	12
Equipment controlled by Baghouse112A			
(1) 112A Passageway Conveyor	Baghouse112A	**402** ~~225~~	**66.37** ~~59.8~~

Facility	Control Device	Maximum Process Weight Rate (tons/hr)	PM Emission Limit (lbs/hr)
(2) Airlift 150-FM-AE01			
(3) Airlift 150-FM-AE02			
(4) Airslide 151			
~~(5) Tank 151F~~			
~~(6) Vibratory Screen and GTC Feed Airslide 161-B3-FM-01~~			
~~(7) Vibratory Screen and GTC Feed Airslide 161-B4-FM-01~~			
~~(8) Tank 152~~			
~~(9) Tank 151C~~			
~~(10) Tank 151J~~			
(5) ~~(11)~~ Tank 151H			
(6) ~~(12)~~ Unloading Station B-08			
(7) ~~(13)~~ Dense Phase Transporter VS-01			
~~(14)~~ Airslide 166-FM-07			
(8) ~~(15)~~ Feed Box 166-FM-08			
(9) ~~(16)~~ Airslide 166-FM-09			
(10) ~~(17)~~ Tank 151A Distribution Box 151-FM-1A			
(11) ~~(18)~~ Airslide 166-FM-10			
(12) ~~(19)~~ Tank 151B Distribution Box 151-FM-1B			
(13) ~~(20)~~ Tanks 151A and 151B			
Tank 151F Loading	**Uncontrolled**	**225**	**59.79**
Tank 151G Loading	Uncontrolled	**225** ~~200~~	**59.79** ~~58.5~~
Tank 151C, Tank 151J, Tank 152, Tank 154, Feed Box B5 and Pollution Control System Alumina Feed Airslide B5	Airslide B5 Baghouse	**243** ~~200~~	**60.54** ~~58.5~~
Tank 151C, Tank 151J, Tank 152, Tank 154, Feed Box B6 and Pollution Control System Alumina Feed Airslide B6	Airslide B6 Baghouse	**243** ~~200~~	**60.54** ~~58.5~~
Equipment controlled by the Gas Treatment Center (GTC)			
(1) Vibratory Screen and GTC Feed Airslide 161-B3-FM-01			
(2) Vibratory Screen and GTC Feed Airslide 161-B4-FM-01			
(3) GTC Reacted Alumina 161B3-FM-03 Airslide			
(4) GTC Reacted Alumina 161B3-AE-02 Airlift			
(5) GTC Reacted Alumina 161B4-AE-02 Airlift	**GTC**	**60**	**46.29**

Facility	Control Device	Maximum Process Weight Rate (tons/hr)	PM Emission Limit (lbs/hr)
(6) GTC Reacted Alumina 161B4-SC-02 Vibratory Screen			
(7) GTC Reacted Alumina 161B3-SC-02 Vibratory Screen			
Equipment controlled by Baghouse166			
(1) Airslide166-FM-01	Baghouse166	**100** ~~80~~	**51.3** ~~29.1~~
~~(2) Airlift 166-FM-01-AE-01~~			
~~(3) Vibratory Screen 166-FM-01-SC-01~~			
(2) ~~(4)~~ Airslide 166-FM-02			
~~(5) Airlift 166-FM-02-AE-02~~			
~~(6) Vibratory screen 166-FM-02-SC-02~~			
(3) ~~(7)~~ Airslide 161-B6-FM-01			
(4) ~~(8)~~ Airlift 166-B6-FM-AE-01,			
(5) ~~(9)~~ Vibratory Screen 166-B6-FM-SC-01			
(6) ~~(10)~~ Airslide 166-FM-03;			
(7) ~~(11)~~ Airslide 161-B5-FM-01			
(8) ~~(12)~~ Airlift 166-B5-FM-AE-01,			
(9) ~~(13)~~ Vibratory Screen 166-B5-FM-SC-01			
(10) ~~(14)~~ Feedbox for Airslide 165-FM-05 and Airslide 166-FM-06			
(11) ~~(15)~~ Airslide 165-FM-05			
(12) ~~(16)~~ Airslide 166-FM-06			
(13) ~~(17)~~ Airlift 166-AE-02			
(14) ~~(18)~~ Airlift 166-AE-01			
(15) Airslide 166-FM-07			

The above particulate emissions rates were determined from the following formulae:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour by use of the equation:

$E = 4.10\ P^{0.67}$

Where:

E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour.

Or

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour by use of the equation:

$$E = 55.0\ P^{0.11} - 40$$

Where:

E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour.

When the process rate exceeds two hundred (200) tons per hour, the allowable emission may exceed the emission limits shown in the above table; provided the concentration of particulate in the discharge gases to the atmosphere is less than one-tenth (0.10) pound per thousand (1,000) pounds of gases.

D.1.2 PSD Minor Limit [326 IAC 2-2]

Pursuant to 326 IAC 2-2 and SSM 173-18836-00007, issued on February 25, 2005, the combined PM and PM_{10} emissions from Baghouse 112A and Baghouse 116 shall be less than 5.7 and 3.4 pounds per hour, respectively. Compliance with these emissions limits shall ensure that the potential PM and PM_{10} emissions from the emissions units associated with Baghouse 112A and Baghouse 166 shall be less than 25 and 15 tons per year, respectively, which renders the requirements of PSD rule 326 IAC 2-2 not applicable.

Compliance Determination Requirements

D.1.3 Particulate Control [326 IAC 2-7-6(6)]

(a) In order to comply with Condition D.1.1, the PM emissions from the following facilities shall be controlled by the baghouses as indicated in the table below. Each baghouse shall be in operation and control emissions from its associated facility at all times when a facility that the baghouse controls is in operation.

Facility	Baghouse
Airveyor No. 1	Airveyor No. 1 Baghouse
Airveyor No. 2	Airveyor No. 2 Baghouse
Airveyor Discharge Conveyor	Building 60 Baghouse
Airveyor Discharge Conveyor discharge to Tank 62 Feed conveyor	Transfer Tower 61A Baghouse
Tank 62 Feed conveyor discharge to Tank 62	Tank 62 Baghouse
Tank 62 discharge point to **Passageway 112A** ~~Transfer Tower 61B~~ Feed Conveyor	Baghouse BC-24
Transfer Tower 61B	Transfer Tower 61B Baghouse
Building 140 Unloading	Building 140 Baghouse
104 Passageway Conveyor, and Bucket Elevator 141A and Bucket Elevator 141B	104A Passageway Baghouse

<table>
<tr><th>Facility</th><th>Baghouse</th></tr>
<tr><td>Airslide 141,Tank 144, Tank 141BN, Tank141 BS, Tank 141CN, Tank 141CS, Tank 141D, Tank 141E, Tank 141F, and #8 Screw Conveyor</td><td>144A Baghouse</td></tr>
<tr><td>Tank 160M.2 Feed Pneumatic Conveyor <s>Airslide</s></td><td rowspan="2">160M.2 Bin Vent Baghouse</td></tr>
<tr><td>Tank 160M.2</td></tr>
<tr><td>Alumina Feed Airslide B2</td><td>Airslide B2 Baghouse</td></tr>
<tr><td>Tank 160M.1 Feed Airslide</td><td rowspan="2">Potline #2 C1 Pollution Control System</td></tr>
<tr><td>Tank 160M.1</td></tr>
<tr><td>Alumina Feed Airslide C1</td><td>Airslide C1 Baghouse</td></tr>
<tr><td>Reacted Alumina Airslide B2</td><td rowspan="2">Tank 141A(NE) Baghouse</td></tr>
<tr><td>Reacted Alumina Airslide C1</td></tr>
<tr><td>Tank 141A(NE)</td><td>Tank 141A(NE) Baghouse at its inlet and 104A Baghouse at its discharge</td></tr>
<tr><td>Tank 141A(NW)</td><td>Tank 141A(NW) Baghouse at its inlet and 104A Baghouse at its discharge</td></tr>
<tr><td>Tank 141 BN Eductor</td><td>Tank 141A(NE) Baghouse</td></tr>
<tr><td>Tank 151C, Tank 141J, Tank 152, Tank 154, Feed Box B5 and Pollution Control System Alumina Feed Airslide B5</td><td>Airslide Baghouse B5</td></tr>
<tr><td>Tank 151C, Tank 141J, Tank 152, Tank 154, Feed Box B6 and Pollution Control System Alumina Feed Airslide B6</td><td>Airslide Baghouse B6</td></tr>
<tr><td>Any equipment controlled by Baghouse112A</td><td>Baghouse 112A</td></tr>
<tr><td>Any equipment controlled by Baghouse166</td><td>Baghouse 166</td></tr>
<tr><td>Any equipment controlled by the Gas Treatment Center (GTC)</td><td>GTC</td></tr>
</table>

(b) Pursuant to SSM 173-18836-00007, issued on February 25, 2005, and in order to comply with Condition D.1.2, except as necessary to supply alumina to control fluoride emissions, the PM and PM_{10} emissions from the following facilities shall be controlled by the baghouses as indicated in the table below. Each baghouse shall be in operation and control emissions from its associated facility at all times when a facility that the baghouse controls is in operation.

Facility	Baghouse
Equipment controlled by Baghouse112A	Baghouse 112A
(1) 112A Passageway Conveyor	
(2) Airlift 150-FM-AE01	
(3) Airlift 150-FM-AE02	
(4) Airslide 151	
~~(5) Tank 151F~~	
~~(6) Vibratory Screen and GTC Feed Airslide 161-B3-FM-01~~	
~~(7) Vibratory Screen and GTC Feed Airslide 161-B4-FM-01~~	
~~(8) Tank 152~~	
~~(9) Tank 151C~~	
~~(10) Tank 151J~~	
(5) ~~(11)~~ Tank 151H	
(6) ~~(12)~~ Unloading Station B-08	
(7) ~~(13)~~ Dense Phase Transporter VS-01	
~~(14) Airslide 166-FM-07~~	
(8) ~~(15)~~ Feed Box 166-FM-08	
(9) ~~(16)~~ Airslide 166-FM-09	
(10) ~~(17)~~ Tank 151A Distribution Box 151-FM-1A	
(11) ~~(18)~~ Airslide 166-FM-10	
(12) ~~(19)~~ Tank 151B Distribution Box 151-FM-1B	
(13) ~~(20)~~ Tanks 151A and 151B	
~~(21) Tank 151G Loading~~	
Equipment controlled by Baghouse166	Baghouse 166
(1) Airslide166-FM-01	
~~(2) Airlift 166-FM-01-AE-01~~	
~~(3) Vibratory Screen 166-FM-01-SC-01~~	
(2) ~~(4)~~ Airslide 166-FM-02	
~~(5) Airlift 166-FM-02-AE-02~~	
~~(6) Vibratory screen 166-FM-02-SC-02~~	
(3) ~~(7)~~ Airslide 161-B6-FM-01	
(4) ~~(8)~~ Airlift **161** ~~166-~~B6-FM-AE-01,	
(5) ~~(9)~~ Vibratory Screen **161** ~~166-~~B6-FM-SC-01	
(6) ~~(10)~~ Airslide 166-FM-03;	
(7) ~~(11)~~ Airslide 161-B5-FM-01	
(8) ~~(12)~~ Airlift 166-B5-FM-AE-01,	
(9) ~~(13)~~ Vibratory Screen **161** ~~166-~~B5-FM-SC-01	
(10) ~~(14)~~ Feedbox for Airslide 165-FM-05 and Airslide 166-FM-06	
(11) ~~(15)~~ Airslide **166** ~~165-~~FM-05	
(12) ~~(16)~~ Airslide 166-FM-06	
(13) ~~(17)~~ Airlift 166-AE-02	

Facility	Baghouse
(14) ~~(18)~~ Airlift 166-AE-01	
(15) Airslide 166-FM-05	

(c) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

Comment 19: Condition D.1.3 − Particulate Control. *(This comment also applies to Conditions D.2.6(b), D.3.6(a), D.4.10(a), and D.5.4(a)).* Alcoa requests that these conditions be revised to indicate that the operation of baghouses is not required at all times when a facility controlled by the baghouse is in operation. There is no applicable condition that requires the operation of a baghouse at all times, and the particulate matter emission limitations imposed by the draft permit remain in effect regardless of the operation of the baghouses. Moreover, there are times at which the operations controlled by the baghouses could be in operation but not in need of the baghouses' control (*e.g.*, during times of start-up or shutdown). Finally, as IDEM has no authority to require the operation of the baghouses at all times, to provide otherwise would be tantamount to giving IDEM operational authority at the source. Therefore, each occurrence in the draft permit of the sentence "Each baghouse shall be in operation and control emissions from its associated facility at all times when a facility that baghouse controls is in operation" should be deleted. *See*, D.1.3(a) and (b), D.2.6(b), D.3.6(a), D.4.10(a), and D.5.4(a).

Response 19: These baghouses are not equipped with continuous emission monitoring systems to measure particulate matter mass emissions, and the only demonstrations of compliance with the particulate matter emission limitations are stack tests, all of which are performed while the baghouses are in operation. There is no information to demonstrate that compliance with the particulate matter mass emission limitations can be achieved without the use of the baghouses; therefore, IDEM does not agree to make the requested revisions to the condition and no change has been made as a result of this comment. The applicable rules do not provide exemptions from the limits during startup and shutdown period.

Comment 20: Condition D.1.5 − Bag Leak Detection System; Condition D.1.7 − Visible Emission Notations. *(This comment also applies to Conditions D.2.12(e), D.3.10(e), D.4.18(e), and D.5.7(e)).* In Condition D.1.5 subpart (k)(5), the draft permit requires Alcoa to take reasonable response steps in response to "abnormal emissions" and provides that failure to do so shall be considered a deviation from the permit. However, the draft permit does not provide that observance of the abnormal emissions alone is not necessarily a deviation from the permit. The same is true of the Condition D.1.7. As the abnormal emissions are not proof of an emissions limit violation, Alcoa requests the following revisions:

D.1.5 Bag Leak Detection System

(k) In the event that a bag leak detection system should malfunction, fail or otherwise need repair, the Permittee shall perform visible emissions notations of the stack exhausts associated with that bag leak detection system as follows:

(1) Daily visible emission notations of the baghouse stack exhausts shall be performed during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal;

(2) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time;

(3) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions;

(4) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process; and

(5) If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C – Response to Excursions and Exceedances. **Abnormal emissions alone are not a deviation from this permit.** Failure to take response steps in accordance with Section C - Response to Excursions and Exceedances, shall be considered a deviation from this permit.

....

D.1.7 Visible Emissions Notations

(a) Visible emission notations of the exhaust from Stacks 60.2 and 60.3, 60.6, 60.8, 61A.1, 62.1, 62.2, 61B.1, 140.1, 104.1, 144.1, 160M.2, 160B2.16, 141.1(NE), 161.B5.37 and 161.B6.37, shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C – Response to Excursions and Exceedances. **Abnormal emissions alone are not a deviation from this permit.** Failure to take response steps in accordance with Section C – Response to Excursions and Exceedances, shall be considered a deviation from this permit.

For the foregoing reasons, Alcoa also requests the same revisions to Conditions D.2.12(e), D.3.10(e), D.4.18(e), and D.5.7(e).

Response 20: IDEM, OAQ agrees with Alcoa. Conditions D.1.5, D.1.7, D.2.12(e), D.3.10(e), D.4.18(e), and D.5.7(e) have been changed accordingly.

Comment 21: Condition D.1.7(c) − Visible Emission Notations *(This comment also applies to Conditions D.2.12(c), D.3.10(c), D.4.18(c), and D.5.7(c)).* Alcoa generally supports Section D permit conditions that require the performance of baghouse visible emission notations as a valid compliance monitoring parameter. However, Alcoa is concerned that it could be vulnerable to having to certify compliance with the subpart (c) language, which is proposed by IDEM as follows:

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

Alcoa personnel now perform baghouse visible emission notations on a daily rounds basis, and record their observations using a palm pilot and cradle system. At present, efforts are not made to assure that any baghouses controlling batch operations are observed when emissions are at their "greatest". If bags in a baghouse have deteriorated to a point where there are visible emissions, the process venting to the baghouse does not necessarily have to be at the point in the cycle where emissions are the greatest, in order for there to be visible emissions from the baghouse. The observation of emissions triggers a notification to maintenance to schedule the baghouse and process down for maintenance as expeditiously as practical.

If it is IDEM's intent that worst case conditions prevail before the visible emission notation is performed, there could be several days when the notation was not performed because conditions causing the greatest emissions did not occur. In that case, IDEM and Alcoa would not have a representative record of the performance of the baghouse(s) involved.

If it is IDEM's intent that Alcoa make a judgment call that, at the time of the notation, the time of observation was done at a time that greatest emissions normally occur, it may take several attempts throughout the day to be sure that all of the baghouse observations occurred during the period of greatest emissions. This requirement, as presently worded, could extend what is normally a 2 hour job into a job requiring several hours.

As an example, the B5 and B6 airslide baghouses described in Section D.1 control PM emissions from feed airslides for the potline 5 and 6 pollution control systems, and the filling of alumina storage tanks. The storage tanks do not fill on a continuous basis, but the airslides operate continuously. It is entirely possible that when the visible emissions observation is performed, the storage tanks would not be receiving fresh alumina. Thus, the visible emission notation would not have been performed during a time of greatest emissions. Alcoa could certify that the notation was performed, but it could not certify that emissions were at their greatest.

To correct this problem, Alcoa requests that Conditions D.1.7(c), D.2.12(c), D.3.10(c), D.4.18(c) , and D.5.7(c) be amended as follows:

(c) In the case of batch or discontinuous operations, readings shall be taken during **normal** ~~that part of the~~ operations ~~that would normally be expected to cause the greatest emissions~~.

For the foregoing reasons, Alcoa also requests the same revisions to Conditions D.2.12(c), D.3.10(c), D.4.18(c), and D.5.7(c).

Response 21: IDEM, OAQ agrees with Alcoa. Therefore, Part (c) of Conditions D.1.7(c), D.2.12(c), D.3.10(c), D.4.18(c), and D.5.7(c) have been revised accordingly.

Comment 22: Condition D.1.8 − Parametric Monitoring. (This comment also applies to Comment 21:Conditions D.10(f), D.2.13, D.2.15(c), D.3.11, D.3.13(c), D.4.19, D.4.20(f), D.5.8, and D.5.10(e).) Alcoa strongly objects to the attempt by IDEM to impose baghouse pressure drop monitoring as a compliance monitoring parameter, for the following reasons:

A. Establishing a compliance monitoring requirement without supporting data.

IDEM cites as the authority for imposing the baghouse pressure drop requirement 326 IAC 2-7-5(1) and 326 IAC 2-7-6(1). 326 IAC 2-7-5(1) states in part:

The following shall be included in each Part 70 permit…operational requirements…that assure compliance…

326 IAC 2-7-6(1) states in part:

Each Part 70 permit…shall contain the following with respect to compliance…compliance certification …monitoring… sufficient to assure compliance…

Both regulatory cites indicate that IDEM is trying to require baghouse pressure drop monitoring because of a belief that a baghouse is operating in compliance if it is operating in a pressure drop range of 3 to 6 inches of water. Alcoa Inc. - Warrick Operations has stack test data which supports its contentions that (i) baghouse pressure drop is not a valid compliance monitoring parameter, and (ii.) that establishing a generic pressure drop range of 3.00 to 6.00 is not a valid indicator of compliance. Data in support of these contentions is presented below.

(i) Data Showing that Baghouse Pressure Drop is not a Valid Compliance Monitoring Parameter

On December 18, 2001, Alcoa had in-house stack tests performed on the dross cooling baghouses that were in operation that day. At the time of these tests, the dross cooling skim room was subject to 326 IAC 6-3 (Particulate Emissions Limitations for Manufacturing Processes). Skim room emissions are controlled by baghouses 1 and 2, each with an airflow capacity of 18,000 cfm, and baghouses 3 and 4, each with an airflow capacity of 40,000 cfm.

Baghouse #2 was not operational that day, but the other 3 baghouses were. Baghouse #3 and Baghouse #4 jointly controlled emissions from cool dross being dumped beneath canopy hoods. Baghouses #3 and #4 operated throughout the test day in the following pressure drop ranges:

Baghouse #3: 3.98 – 4.52 inches water

Baghouse #4: 3.63 – 3.85 inches water

Throughout the test day, Baghouse #4 had periodic visible emissions. Baghouse #3 had no visible emissions the entire test day. The allowable emission rate for all three baghouses combined averaged 27.58 lbs/hr.; whereas combined measured emissions were 2.72 lbs/hr. Baghouse #3 contributed 0.28 lb/hr., while Baghouse #4 contributed 2.26 lbs/hr. (12.65 mg/dscm)

The above data demonstrates that a baghouse can have periodic visible emissions, but still be in within a pressure drop of 3.00-6.00 inches.

(ii) Data demonstrating that a Generic Pressure Drop Range of 3.0 to 6.0 inches Water is not indicative of Baghouse Compliance

If the IDEM belief that a pressure drop range of 3.00 − 6.00 were a valid indicator of no visible emissions, Baghouse #4 would not be expected to have visible emissions if its pressure drop were 3.00 inches water or higher. Conversely, visible emissions should be worse at lower pressure drops.

Baghouse #4 underwent its annual broken bag detector calibration test in April, 2006, and the detector was adjusted. In May, 2006, the broken bag detector indicated an exhaust stack concentration of 1.82 mg/dscm at a pressure drop of 2.0 inches water. There were no visible emissions.

(iii) EPA and IDEM History with Respect to Baghouse Pressure Drop as a Compliance Parameter

When EPA developed the regulations governing HAP's emissions from primary aluminum reduction plants (40 CFR 63, Subpart LL), it specified emission control device parameters that had to be monitored. These specifications required performance of daily exhaust stack inspections for visible emissions (for Polycyclic Organic Compounds (POM and Total Fluorides (TF)), and monitoring of alumina flow (for TF and POM) and airflow (to assure emissions capture). A review of 40 CFR 63, Subpart LL indicates that EPA did not impose pressure drop monitoring as a required compliance monitoring parameter. Had EPA considered pressure drop monitoring to be a meaningful compliance monitoring parameter for baghouse performance, TF, and POM control, it would certainly have imposed it. (Note that the compliance monitoring parameters which EPA requires for POM and TF control will also effectively provide PM compliance assurance monitoring).

In developing these compliance monitoring requirements, EPA received and considered input from regulated entities and other stakeholders before finalizing the compliance monitoring requirements. As a stakeholder, IDEM had the opportunity to present input to EPA on the importance of performing pressure drop monitoring as an added compliance monitoring requirement, together with data supporting a pressure drop range indicative of proper performance. A review of the EPA summary of the comments received before regulation promulgation does not indicate that any comments were filed by IDEM in support of pressure drop monitoring, nor does it appear that data was presented by IDEM to EPA justifying the specification of a pressure drop range.

EPA did not consider pressure drop monitoring to be a useful compliance monitoring parameter for a complex pollution control system, such as the anode baking ring furnace and potlines dry scrubber type pollution control systems, both of which utilize fabric filtration as the final step in the control process. EPA also did not impose baghouse pressure drop monitoring as a compliance monitoring requirement in other MACT standards where simple baghouse control is required (e.g., some of the affected facilities in the Secondary Aluminum MACT category, such as shredders and rotary dross coolers).

IDEM has not provided data in the Technical Support Document demonstrating that pressure drop monitoring assures compliance, and seems to have been unsuccessful in convincing EPA that compliance is assured if baghouse pressure drop is maintained in a range of 3.0 – 6.0 inches of water for the Primary Aluminum Reduction or other source categories.

Lastly, in developing the various "White Papers" on Part 70 permitting and Compliance

Assurance Monitoring, the EPA repeatedly stated that any compliance assurance monitoring implemented as a part of a NESHAP should be considered as sufficient for demonstrating compliance with the SIP limits for criteria pollutants controlled by the same control device required under the NESHAP.

The above discussions do not support the IDEM-proposed requirement that maintaining baghouse operations within a generic range assures compliance. The above discussions also point out that EPA has had numerous opportunities to require baghouse pressure drop monitoring as part of various MACT standards and has chosen not to do so, because they do not have data that correlates pressure drop to emissions. If EPA needs a correlation between an operating parameter and emission rates in order to specify compliance monitoring, it is reasonable on the part of Alcoa to expect IDEM to follow EPA's example when specifying compliance monitoring criteria.

B. <u>Mandating Response Steps in Response to Criteria not Proven to Indicate Compliance Status.</u>

IDEM not only is trying to impose baghouse pressure drop monitoring as a compliance monitoring parameter, it additionally is trying to impose a requirement that reasonable response steps be taken when the baghouse operates outside the generic range. The requirement, as stated in the draft permit, further indicates that if Alcoa does not take response actions, it will then have committed a reportable permit deviation. Given the data presented for skim room baghouse #4, Alcoa is confused with respect to what response actions it would have needed to take, since the baghouse had been demonstrated to comply with applicable limits while operating below 3.0 inches water pressure drop.

C. <u>Mandating that an Instrument used for Measuring Baghouse Pressure Drop be Demonstrated to Adequately Assure Compliance, and be Calibrated at 6-month Intervals.</u>

There are a total of 28 baghouses at Alcoa for which IDEM proposes to impose baghouse pressure drop monitoring. The typical method for performance of baghouse pressure drop monitoring is magnehelic gauges. Such units qualify as analog units. Alcoa is concerned that such gauges cannot meet the criteria set forth by Condition C.12(a), and would thus have to install pressure drop monitoring capability as provided by Condition C.12(b). Alcoa has done some preliminary cost analyses on what would be required to provide baghouse pressure drop recording instrumentation that would meet the criteria of Condition C.12(b). Such instrumentation would have to be digital, with its output continuously recorded, in order to assure that daily baghouse pressure drop data was reliably procured. For preventive maintenance reasons, 10 of these baghouses have continuous pressure drop monitoring capability. To install such a system for the remaining 18 referenced baghouses, it is projected that Alcoa would incur an initial installation cost of $1.17 million. Such instruments would then have to be calibrated every 6-month, against standards or calibration criteria not specified by IDEM. Were Alcoa to go to this expense, there is no assurance that baghouse performance would be properly assessed, since there is no valid or reliable correlation between pressure drop and emissions. Based on the data available to Alcoa, there are no environmental benefits to be gained from installing and operating such a system.

D. <u>Mandating Preventive Maintenance Procedures</u>

Condition B.11 will require the development of Preventive Maintenance Plans. Among other things, the plan will require a description of the items or conditions that will be inspected and the inspection schedule for said items or conditions. While baghouse pressure drop has no validity as a compliance assurance method, it may be used as an inspection item, should the source elect to do so. However, it is not within IDEM's authority to dictate preventive maintenance procedures. Alcoa does have a preventive maintenance program for its baghouses that is followed on a daily basis. The baghouse exhaust stacks are inspected daily for visible emissions. If emissions are observed, the response action taken is to inspect and/or replace bad bags as expeditiously as practical. In the December, 2001 example cited earlier, Baghouse #4 was later checked for bad bags and the leaking bags were replaced. The decision to replace the leaking bags was made exclusively due to the observed visible emissions. Baghouse pressure drop data was not used in making the decision to replace the leaking bags.

IDEM has defined as normal a pressure drop range of 3.00 – 6.00 inches of water for a baghouse. Had this condition been in effect on Dec. 18, 2001, Alcoa could have chosen to take no action on identifying and replacing the bad bags in Baghouse #4 because it was operating in a "normal" pressure drop range, and because it had test data demonstrating that the baghouse was not causing the process to exceed its allowable emission rate. Specification of the "normal" pressure drop range by IDEM as a valid compliance monitoring condition can thus be counter- productive to keeping baghouses in good operating condition at all times.

Alcoa has a visible emissions palm pilot program in place for the 28 baghouses referenced earlier. There are bar codes strategically placed throughout the plant that allow the observation of one or more baghouse stacks from a common location. As each location is scanned, a series of questions comes up that document whether or not the baghouse has visible emissions. If it does, maintenance follow-up is scheduled. Alcoa believes its existing preventive maintenance program based on visible emissions observations is a more effective and responsive program than pressure drop monitoring.

Instead of these conditions, Alcoa proposes that it will initiate corrective actions within a reasonable time period for any baghouse described by these conditions when visible emissions indicate that there is a bag failure, as provided in, e.g., Condition D.1.9. There is, as the example above indicates, no need for Condition D.1.8 and others that require Alcoa to monitor and record pressure drop in the baghouses, and Alcoa requests that these conditions − along with the associated recordkeeping conditions − be deleted from the draft permit. The recordkeeping conditions for which deletion is requested are D.1.10(f), D.2.15 (c), D.3.13(e), D.4.21(h), and D.5.10(e).

Response 22: Pursuant to 326 IAC 2-7-5(3), a Part 70 permit shall include the monitoring and the corresponding record keeping requirements to ensure continuous compliance with the emission limits set in a Part 70 permit. This rule gives IDEM authority to include any necessary monitoring and recordkeeping requirements in a Part 70 permit. Visible emission notation ensures compliance with the opacity limits in 326 IAC 5. However, the opacity limit does not have a direct relationship with the PM emission limits. Compliance with the opacity limit does not necessarily ensure compliance with the PM emission limits.

The monitoring of the pressure drop of the baghouses provides an indication of whether the control device is operating properly. Monitoring of the static pressure drop can alert the operator to relative changes (such as dust cake resistance) over a period of time. The operator can use this information to chart trends and determine if the unit is operating within the optimal range as determined by baseline testing of the unit and manufacturer's specifications. Pressure drop is an indicator of a variety of conditions within the baghouse. Any deviations from the normal operational range of the unit, whether gradual or sudden, should alert the operator that the unit needs maintenance.

Failure to include a specific range for the pressure drop under normal baghouse conditions would make the parametric monitoring requirement less enforceable. Prior to the start of the public notice period for the draft permit, the OAQ requested Alcoa to provide the pressure drop range across the baghouses. Alcoa did not change the pressure drop range during the review of the draft stage of this proposed permit**.**

If Alcoa wants to use an analog instruments, which does not meet the criteria of maximum reading for the normal range of less than twenty percent (20%) of full scale, then Condition C.12(b) allows Alcoa to get an approval to use that instrument.

If Alcoa will provide the appropriate pressure drop range, then the permit will be amended through a permit amendment.

Alcoa cites the tests performed on the baghouses and the tests proved that if the baghouses are operating in the appropriate range, it will not violate emissions limits.

While IDEM, OAQ, recognizes the U.S. EPA's NESHAP compliance monitoring provisions, it does not affect IDEM's ability or authority to require compliance monitoring in Part 70 permits for criteria pollutants other than what is required in NESHAP's requirement for hazardous pollutants. The provisions of 326 IAC 2-7-5(3) state that the Part 70 permits must include: "Monitoring and related record keeping and reporting requirements which assure that all reasonable information is provided to evaluate continuous compliance with the applicable requirements."

Failure to take any response steps after observing a pressure drop that is outside the normal range is considered a deviation from the permit. An abnormal pressure drop can indicate a pending or current malfunction of the control device, which could cause an exceedance of a particulate matter limitation or an exceedance of an opacity limit. Without taking any response steps or doing any stack tests, the only information available regarding emissions would be that the pressure drop of the baghouse was outside the normal operating range. Without any other evidence to the contrary, the out of range pressure drop would be credible evidence that the control device was not functioning properly and emissions from the stack could be in violation of the particulate matter and opacity limits in the permit. For these reasons, the Permittee is required to take response steps whenever the pressure drop is outside the normal range, and the failure to take any response steps will be considered a deviation from the permit.

In order to accurately measure the pressure drop, adequate pressure drop gauges must be used. The authority for the condition is in 326 IAC 2-1.1-11, 326 IAC 2-7-5(3) and 326 IAC 2-7-6(1). If the pressure gage manufacturer has different gage calibration and frequency of calibration, the Permittee is allowed to follow manufacturer's recommendation. The change in the permit can be done through a permit amendment.

Alcoa is required to have preventive maintenance plan in place for the baghouses. It is for Alcoa to determine what kind of preventive maintenance is needed for each part of the baghouses.

The requirements to measure the pressure drops across the baghouses will not be deleted from the permit.

Comment 23: Condition D.1.9 −Broken or Failed Bag Detection except Baghouse 112A and Baghouse 166. (This comment also applies to Conditions D.2.14 and D.4.20). While Alcoa recognizes that abnormal visible emissions, opacity violations, and other means may indicate a bag failure, Alcoa requests that this Condition be revised to indicate that the occurrence of any of these events is not necessarily an indicator of a failed bag, and that these events (aside from an opacity violation) are not in and of themselves indicators of noncompliance with the permit. In addition, this Condition should be revised to clarify that the repair and replacement required in the event of a broken or failed bag applies to the individual failed bags, and not the baghouses themselves. Therefore, Alcoa requests the following revision:

D.1.9 Broken or Failed Bag Detection except Baghouse 112A and Baghouse 166

(a) For a single compartment baghouse controlling emissions from a process operated continuously, a **baghouse with** failed **bags** unit and the associated process shall be shut down immediately until the **failed bag(s) have** ~~unit has~~ been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

(b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed **bag(s) have** ~~unit has~~ been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the line. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Bag failure ~~can~~ **may** be indicated by ~~a significant drop in the baghouse's pressure reading with~~ abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, or leaks. **The occurrence of any of these events does not require compliance with this condition unless a failed unit is detected. Abnormal visible emissions, and changes in gas temperature, flow rate, air infiltration, or leaks alone shall not be considered a violation of this permit.**

Alcoa also requests that this language be added to Conditions D.2.14 and D.4.20, as well.

Response 23: IDEM, OAQ agrees with Alcoa comments made to Conditions D.1.9, D.2.14, and D.4.20. Conditions D.1.9, D.2.14, and D.4.20 have been changed as shown below:

D.1.9 Broken or Failed Bag Detection except Baghouse 112A and Baghouse 166 **[326 IAC 2-7-5(3)]**

(a) For a single compartment baghouse controlling emissions from a process operated continuously, a **baghouse with** failed **bags** ~~unit~~ and the associated process shall be shut down immediately until the **failed bag(s) have** ~~unit has~~ been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

(b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed **bag(s) have** ~~unit has~~ been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the line. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

~~Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, or leaks.~~

D.2.14 Broken or Failed Bag Detection [326 IAC 2-7-5(3)]

For a single compartment baghouse controlling emissions from a process operated continuously, a **baghouse with** failed **bags** ~~unit~~ and the associated process shall be shut down immediately until the failed **bag(s) have** ~~unit has~~ been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B – Emergency Provisions).

~~Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, or leaks.~~

D.4.20 Broken or Failed Bag Detection **[326 IAC 2-7-5(3)]**

For a single compartment baghouse controlling emissions from a process operated continuously, a **baghouse with** failed **bags** ~~unit~~ and the associated process shall be shut down immediately until the failed **bag(s) have** ~~unit has~~ been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B – Emergency Provisions).

~~Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, or leaks.~~

Comment 24: Conditions D.2.7 and D.2.8(a) – SO_2 Emission Determinations and Testing. Alcoa acknowledges that 326 IAC 7-4-10(b) specifies that SO_2 stack testing be performed. SO_2 emissions from the potlines occur via the air pollution control device exhaust stacks, and the roof monitors. Alcoa is concerned regarding the validity of such tests because EPA has not specified a reference method for measuring SO_2 emissions from potroom roof monitors. Alcoa thus proposes that it be allowed to continue to demonstrate compliance based on material balance calculations. In addition, if IDEM agrees to this request, Alcoa then requests that Condition D.2.8(a) be amended as follows:

(a) In order to comply with Condition D.2.7, within 36 months after issuance of this Part 70 permit or 5 years from the date of the last valid compliance test, whichever is later, the Permittee shall perform SO_2 testing for the Potlines Nos.1, 2, 3, 4, 5, and 6, utilizing methods as approved by the Commissioner **or shall obtain approval allowing material balance calculations in lieu of stack testing**. These tests shall be repeated at least once every five (5) years from the date of the valid compliance demonstration, **unless IDEM determines that material balance calculations are a satisfactory demonstration of compliance**. Testing shall be conducted in accordance with Section C - Performance Testing.

Response 24: IDEM agrees with the suggested language and Condition D.2.8(a) has been changed accordingly.

Comment 25: Part 70 SO_2 Quarterly Report (for Potlines Nos. 1, 2, 3, 4, 5, and 6). (The same comment also applies to the following forms: Part 70 Green Anode Throughput Quarterly Report, Part

70 Quarterly (SO_2) Report (for Green anode baking ring furnace dry scrubber), the Part 70 Anode Baking Furnace Natural Gas Quarterly Report, and the Part 70 Quarterly Report (for A-446 Pollution Control System). This quarterly report requests information regarding deviations on a monthly basis, however, based on the three-month (quarterly) period in which the report is required, this appears to be an error. Therefore, Alcoa proposes the following revisions:

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION
Part 70 SO_2 Quarterly Report

Source Name:	Alcoa Inc. - Warrick Operations
Source Address:	Jct. IN Hwys. 66 & 61, Newburgh, Indiana 47629-0010
Mailing Address:	Bldg. 860 E, P.O. Box 10, Newburgh, Indiana 47629
Part 70 Permit No.:	T173-6627-00007
Facility:	Potlines Nos. 1, 2, 3, 4, 5, and 6
Parameter:	SO_2 Emissions
Limit:	Combined SO_2 emissions of 5,608 tons per 12 consecutive month period

Quarter _______ Year: ______

....

No deviation occurred in this **quarter**. ~~month~~.
Deviation/s occurred in this **quarter**. ~~month~~.

....

Response 25: IDEM, OAQ does agree with Alcoa. Reporting form has been revised accordingly.

Comment 26: Condition D.2.11 − Emission Monitoring Requirements. Subpart (f) of this Condition requires the submission of recommended accuracy requirements to IDEM for review and approval. Alcoa already has complied with this requirement on February 16, 2005. Therefore, Alcoa asks that the subpart be revised to reflect that this requirement has already been fulfilled and that no further compliance demonstration is required.

(f) Pursuant to 40 CFR 63.848(k), the Permittee shall submit recommended accuracy requirements to IDEM, OAQ, for review and approval. All monitoring devices required by this section shall be certified by the Permittee to meet the accuracy requirements and shall be calibrated in accordance with the manufacturer's instructions. **The Permittee has already demonstrated compliance with this subpart (f) and no further compliance demonstration or certification is required by this subpart.**

Response 26: IDEM, OAQ does not agree with Alcoa regarding the compliance demonstration statement to be included in Condition D.2.11. No change has been made to this condition as a result of this comment.

Comment 27: Condition D.2.18 − NESHAP and NSPS Reporting Requirements. The regulatory citation in subparts (a) and (b) of this Condition is not applicable to Alcoa's Warrick Operations. The requirements in 40 CFR 63.650 is applicable to petroleum refining process units and to related emission points. There are none of the affected facilities located at Warrick Operations. It appears that the draft permit should have referenced 40 CFR 63.**850**.

In addition, the requirement to submit annually is contradictory to the requirement to submit performance test results to IDEM within 45 days of the performance test being completed found in Condition C.8.(c). Therefore, Condition C.8(c) should be revised to include provisions that are consistent with Condition D.2.18(a) as provided below. Finally, the immediate reporting requirements associated with a failure to follow the SSM plan are not in D.2.5. If D.2.18(b) is to remain, it should reference the correct regulatory requirements: 40 CFR 63.6(e)(3)(iv).

Condition C.8 Performance Testing [326 IAC 3-6]

(a) All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

A test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue
Indianapolis, Indiana 46204-2251

no later than thirty-five (35) days prior to the intended test date, **except as provided for in Condition D.2.18(a).**

The protocol submitted by the Permittee does not require certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ if the Permittee submits to IDEM, OAQ, a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

....

Condition D.2.18 NESHAP and NSPS Reporting Requirements [326 IAC 12] [40 CFR 60 Subpart S] [326 IAC 20-1] [40 CFR 63, Subpart A] [326 IAC 20-24] [40 CFR 63.850(b), (c), (d), and (e)]

(a) Pursuant to 40 CFR 63.**8**~~6~~50(b), the Permittee shall submit a summary of all performance tests to IDEM, OAQ on an annual basis.

(b) Pursuant to 40 CFR 63.**8**~~6~~5(c)(2), the Permittee shall report if an action taken during a startup, shutdown, or malfunction is not consistent with the procedures in the SSM plan as required by **40 CFR 63.6(e)(3)(iv)** ~~Condition D.2.5~~.

(c) Pursuant to 40 CFR 63.850(d), the Permittee shall submit an excess emission report (or a summary report) if measured emissions are in excess of the applicable standard. The report shall contain the information specified in 40 CFR 63.10(e)(3)(v) and be submitted semiannually unless quarterly reports are required as a result of excess emissions.

(d) Pursuant to 40 CFR 63.850(e)(3), the Permittee may report required information on paper or on a labeled computer disc using commonly available and compatible computer software.

Response 27: The typo in Condition D.2.18 − NESHAP and NSPS Reporting Requirements has been corrected. IDEM, OAQ does not agree with the suggested changes in Condition C.8(a) and C.8(c). Rule 326 IAC 3-6-4(b) is more stringent than NSPS and NESHAP rules cited in Condition D.2.18(a). 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. This is required to determine what further actions are needed for Alcoa to come in compliance as soon as possible.

Condition D.2.18(a) and (b) have been changed as shown below:

D.2.18 NESHAP and NSPS Reporting Requirements [326 IAC 12] [40 CFR 60 Subpart S] [326 IAC 20-1] [40 CFR 63, Subpart A] [326 IAC 20-24] [40 CFR 63.850(b), (c), (d), and (e)]

(a) Pursuant to 40 CFR 63.**8**~~6~~50(b), the Permittee shall submit a summary of all performance tests to IDEM, OAQ on an annual basis.

(b) Pursuant to 40 CFR 63.**8**~~6~~5(c)(2), the Permittee shall report if an action taken during a startup, shutdown, or malfunction is not consistent with the procedures in the SSM plan as required by **40 CFR 63.6(e)(3)(iv)** ~~Condition D.2.5~~.

....

Comment 28: Condition D.3.4 − POM Emission Control Requirement. − IDEM has limited the applicability of this Condition to mixing in the draft permit. The MACT regulation encompasses initial mixing through final forming. Therefore, the wording of the Condition should be revised to reflect what is in the Federal regulation, as follows:

D.3.4 POM Emissions Control Requirement [326 IAC 20-24] [40 CFR 63.843] [40 CFR 63.847]

Pursuant to 40 CFR 63.843(b)(1), (2), and (3) for all operations in the Green Anode plant, where coal tar pitch is mixed with calcined petroleum coke and/or spent anode materials, the Permittee shall

(a) operate, and maintain equipment to capture and control POM emissions from the anode forming operations **(which encompasses initial mixing through final forming)**;

(b) operate the emission capture system to meet the generally accepted engineering standards for minimum exhaust rates as published by the American Conference of Governmental Industrial Hygienists in Chapters 3 and 5 of "Industrial Ventilation: A Handbook of Recommended Practice" (incorporated by reference in 40 CFR 63.841; and

(c) route the captured emissions through a closed system to a dry coke scrubber.

Response 28: IDEM, OAQ agrees with Alcoa. Condition D.3.4 has been revised accordingly.

Comment 29: Condition D.3.5 − Plans and Procedures. This condition omits the anode mixing requirement of the PMACT regulation. This requirement should be amended into the draft permit. In addition, subpart (b) incorrectly requires the SSM plan to be maintained in the operating record; the applicable requirements necessitate that the SSM plan be available upon request to the permitting authority, nothing more. Therefore, Alcoa requests the following revision to Condition D.3.5:

D.3.5 Plans and Procedures [326 IAC 20-1] [40 CFR 63.6] [326 IAC 20-24] [40 CFR 63.850]

Pursuant to 40 CFR 63.850 (c), the Permittee shall develop a written startup, shutdown, and malfunction (SSM) plan as described in 40 CFR 63.6(e) (3) that contains specific procedures to be followed for operating the anode forming process **(which encompasses initial mixing through final forming)** and maintaining the anode forming equipment during periods of startup, shutdown, and malfunction and a program of corrective action for malfunctioning process and control systems used to comply with the standard. The plan does not have to be submitted with the permit application or included in the Part 70 operating permit. IDEM, OAQ may review the plan upon request. In addition to the information required in 40 CFR 63.6(e) (3), the plan shall include:

(a) Procedures, including corrective actions, to be followed if for any baghouse the fan motor amperes are less than that included in the most recent NESHAP Parametric Plan approved by IDEM, OAQ, if for any dry coke scrubber the coke feeder rpm is less than that included in the most recent NESHAP Parametric Plan approved by IDEM, OAQ, if the alarm on any of the bag leak detection systems activates, or if visible emissions indicating abnormal operation are observed from the exhaust stacks of the pitch fume treatment system whenever the bag leak detection systems are not operational; and

(b) The Permittee shall maintain a copy of the SSM plan **as required by 40 CFR 63.850(b)**.~~shall be maintained in the operating record~~.

Response 29: IDEM, OAQ agrees with Alcoa. Condition D.3.4 has been revised accordingly.

Comment 30: Section D.4 − Facility Description. - The Section D.4 Facility Description is wrong with respect to the construction date for the anode baking ring furnace. The 2003 date listed corresponds to the date when the re-built furnace came back on-line following a re-build. It was originally constructed in 1981. The State Rule Applicability, item section of the Anode Baking Ring Furnace section of the TSD, Appendix A is also wrong. The furnace underwent a shutdown and re-start in 2003 in order to implement the re-build program.

Response 30: IDEM, OAQ agrees with Alcoa. Condition D.3.4 has been revised as shown below:

Section D.4(1) One (1) above-ground, natural gas-fired, green anode baking ring furnace, known as Bldg. 295 Anode Baking Ring Furnace, constructed in **1981 and was restarted in 2003 after it was rebuilt** in 2003, with a maximum capacity of 21.42 tons of green anodes per hour, equipped with an A-446 pollution control system consisting of three (3) reactor sections with baghouses for PM and PM_{10} control and dry alumina scrubbers for TF and SO_2 control which operate at a minimum of two (2) reactor sections at any one (1) time, exhausting through Stacks 265D.1, 265D.2, 265D.3, 265D.4, 265D.5, 265D.6, 265D.8, and 265J.1 (which is the diesel-fired emergency bypass engine stack used for venting ring furnace exhaust gases during emergency periods of unexpected loss of power to the A-446 dry scrubber fans);

This ATSD becomes the part of the Technical Support Document.

Comment 31: Condition D.4.4 − PSD BACT. It is requested that the word “coal tar” be deleted from the phrase “coal tar pitch.” This is recommended because of Alcoa’s needed ability to use blended pitch which contains petroleum pitch. The specificity of the Condition as written in the draft permit may limit flexibility in the future. The material is characterized as “pitch” elsewhere in D.4.4. Therefore, Alcoa requests that this substitution be made throughout Condition D.4.4 as follows:

Condition D.4.4 PSD BACT [326 IAC 2-2-3]

Pursuant to Construction Permit PSD (87) 1766, issued on November 3, 1989;

(a) Sulfur dioxide emissions from the A-446 dry alumina scrubbers shall be limited to 1.13 tons per day, and 35 tons per month, and 412 tons per twelve (12) consecutive month period with compliance determined at the end of each month;

(b) Alcoa shall use the lowest sulfur content ~~coal tar~~ pitch commercially available. This shall be limited to a maximum of 0.80% sulfur;

(1) The Permittee shall use the lowest sulfur content ~~coal tar~~ pitch commercially available. The sulfur content of coal tar pitch shall not exceed 0.80%;

(2) Should pitch with a sulfur content of 0.80% become unavailable and the monthly average pitch sulfur content exceed this limit, then Alcoa shall have thirty (30) days from the end of the month in violation to provide to the OAQ documentation that lower sulfur pitch is not available and documentation for a new proposed pitch sulfur content BACT limit. The BACT limit in (1) above shall remain in effect until such time as the Commissioner approves a revised pitch sulfur content BACT limit. However, enforcement action will not be taken until such time as Alcoa has been given the opportunity to support, request and obtain approval for a revised BACT limit as described above. Testing to establish a new A-446 inlet SO2 emission rate, similar to that described in (1), will be required as part of any revised BACT limit approval;

(3) If the monthly average sulfur content of the pitch used in the anodes exceeds 0.75% for any calendar month, then the Permittee shall report this to OAQ within thirty (30) days. This notification shall include a discussion of the reason the pitch sulfur content has increased and whether Alcoa has been able, or will be able, to obtain pitch with sulfur content below 0.75%. If pitch with a sulfur content of less than 0.75% is not available, then Alcoa shall submit documentation of this and, within ninety (90) days of the notification, conduct an A-446 dry scrubber SO_2 inlet (ring furnace outlet) test to reestablish the SO_2 inlet emission rate pursuant to 326 IAC 7-4-10(a)(4)(H), previously established in Condition No. 6 of Construction permit No. PSD (87) 1766, issued November 3, 1989. This test shall be conducted pursuant to 326 IAC 3-6-2 at the current maximum achievable anode production rate and the result will be used to determine compliance.; and

Also, subpart (c) of Condition D.4.4 specifies a natural gas usage limit of 75 million cubic feet per month and 600 million cubic feet per twelve (12) consecutive months. This condition is a carry-over from the PSD permit, and was imposed to limit NOx emissions. The significant source modification permit for the 2003 re-build was issued based on NOx emissions as a function of green anodes input. An emissions factor of 0.41 lb/ton was developed based on stack tests performed in 2000. The annual green anodes input limit provides IDEM with a sufficient enforcement mechanism with respect to NOx. It is thus requested that Conditions D.4.4(c) and its associated recordkeeping requirement, D.4.21(c), be deleted. In addition it is also requested that Condition D.4.23, which includes the associated reporting requirements for Condition D.4.4(c) be amended as follows:

Condition D.4.23 Reporting Requirements

The Permittee shall report a quarterly summary of the information to document compliance with Conditions D.4.2(a), 4.4(a) ~~and (c)~~, and D.4.5 to the addresses listed in Section C – General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or its equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the “responsible official” as defined by 326 IAC 2-7-1(34).

Response 31: The word “coal tar” has been deleted from the phrase “coal tar pitch” in Condition D.4.4. The PSD BACT requirement for NOx emissions from Condition D.4.4(c) may not be removed at this stage of the permit. The applicable conditions from the Pre PN draft permit can only be revised after Public Review. Alcoa is suggested to submit a permit modification for revision of the BACT.

Condition D.4.4 PSD BACT [326 IAC 2-2-3]

Pursuant to Construction Permit PSD (87) 1766, issued on November 3, 1989;

(a) Sulfur dioxide emissions from the A-446 dry alumina scrubbers shall be limited to 1.13 tons per day, and 35 tons per month, and 412 tons per twelve (12) consecutive month period with compliance determined at the end of each month;

(b) Alcoa shall use the lowest sulfur content ~~coal tar~~ pitch commercially available. This shall be limited to a maximum of 0.80% sulfur;

(1) The Permittee shall use the lowest sulfur content ~~coal tar~~ pitch commercially available. The sulfur content of coal tar pitch shall not exceed 0.80%;

....

Comment 32: Condition D.4.22—NESHAP Record Keeping Requirements. Subpart (b)(2)(iii) of this Condition requires that:

(iii) Records, such as a checklist or the equivalent, demonstrating that the daily visual inspection of the exhaust stack for the baghouse of the pitch fume treatment system were performed including the results of each inspection during the time a bag leak detection system was malfunctioning, failed or otherwise needed repair; and

However, these recordkeeping requirements are not relevant to exhaust stack, as the Condition is written. Therefore, this subpart should be deleted from Condition D.4.22(b)(2).

(iii) Records, such as a checklist or the equivalent, demonstrating that the daily visual inspection of the **A-446 pollution control** exhaust stack ~~for the baghouse of the pitch fume treatment system~~ were performed including the results of each inspection during the time a bag leak detection system was malfunctioning, failed or otherwise needed repair; …

Response 32: IDEM, OAQ agrees with Alcoa. Condition D.4.22 has been revised accordingly.

Comment 33: The Background and Description for the Ingot Plant section of the TSD, Appendix A is wrong. The strip casters are in the #1 complex, not the #2 complex, and Alcoa requests that the TSD be revised accordingly

Response 33: As discussed before, TSD are not revised and this ATSD becomes the part of the TSD.

Comment 34: Conditions D.6.6 and D.6.10 − Emission limits for Secondary Aluminum Production Sources and Emission Units and NESHAP Performance Test/Compliance Demonstration Requirements and Procedures. Conditions D.6.6(b)(2), D.6.6(c)(3), D.6.10(c), and D.6.10(f)(3) require clarification. The dioxin/furan emission limitation listed therein does not apply to group 1 furnaces that only process clean charge. It is thus requested that these conditions be amended as follows:

Condition D.6.6(b):

(2) 2.1 x 10-4 gr of D/F TEQ per ton of feed/charge from a group 1 furnace **that processes other than clean charge**

Condition D.6.6(c):

(3) Permittee shall not exceed any 3-day, 24-hour rolling average emissions of 2.1 x 10-4 gr of D/F TEQ per ton of feed/charge **from a group 1 furnace that processes other than clean charge.**

Condition D.6.10:

(c) Secondary aluminum processing unit [40 CFR 63.1512(j)] - The Permittee shall conduct performance tests as described in paragraphs (1) and (2) of this section. The results of the performance tests shall be used to establish emission rates in lb/ton of feed/charge for PM and HCl **for each group 1 furnace and in-line fluxer and** grain of D/F TEQ/ton of feed/charge for D/F emissions from **each group 1 furnace that processes other than clean charge**.~~emission unit~~. These emission rates are used for compliance monitoring in the calculation of the 3-day, 24-hour rolling average emission rates using the equation in D.6.14(i)(4). A performance test is required for:

(1) **Representative** ~~Each~~ group 1 furnaces to measure emissions of PM, D/F; and HCl;

(2) **Representative** ~~Each~~ in-line fluxers to measure emissions of PM and HCl.

(3) Representative group 1 furnaces that process other than clean charge to measure emissions of D/F

Condition D.6.10(f)(3):

Use Equation 11 to compute the aluminum mass-weighted D/F emissions for the existing secondary aluminum processing unit (Group 1 furnaces). Compliance is achieved if the mass-weighted emissions for the secondary aluminum processing unit is less than or equal to the emission limit for the secondary aluminum processing unit in Condition D.6.6(c)(3). …

$E_{ti_{D/F}}$ = Measured D/F emissions for individual emission unit i **that processes other than clean charge materials**; …

Response 34: IDEM, OAQ agrees to clarify the types of emissions units in these conditions. IDEM, OAQ must evaluate the following criteria to allow testing of the representative emissions units. NESHAP 40 CFR 63, Subpart RRR testing is required for group 1 furnace and in-line fluxer irrespective of what materials are being processed by these emission units. Therefore, emission units have been identified as group 1 furnace and in-line fluxer.

Pursuant to 40 CFR 63.1511(f), IDEM, OAQ has determined that Alcoa has met the criteria for representative testing for group 1 furnaces and in-line fluxers.

Conditions D.6.6(c), D.6.10(c), and D.6.10(f)(3) have been changed as shown below:

Condition D.6.6(c)(3) Permittee shall not exceed any 3-day, 24-hour rolling average emissions of 2.1 x 10-4 gr of D/F TEQ per ton of feed/charge **from a group 1 furnace.**

Condition D.6.10(c) Secondary aluminum processing unit [40 CFR 63.1512(j)] - The Permittee shall conduct performance tests as described in paragraphs (1) and (2) of this section. The results of the performance tests shall be used to establish emission rates in lb/ton of feed/charge for PM and HCl **for each group 1 furnace and in-**

line fluxer and grain of D/F TEQ/ton of feed/charge for D/F emissions from **each group 1 furnace**.~~emission unit~~. These emission rates are used for compliance monitoring in the calculation of the 3-day, 24-hour rolling average emission rates using the equation in D.6.14(i)(4). A performance test is required for:

(1) **Representative** ~~Each~~ group 1 furnaces to measure emissions of PM, D/F; and HCl;

(2) **Representative** ~~Each~~ in-line fluxers to measure emissions of PM and HCl.

Comment 35: Condition D.6.9(b)(7) − Operating Requirements for Affected NESHAP Emission Units. This condition requires clarification with respect to the pollutant and test method references contained therein. Alcoa is not subject to any VOC emissions limits from the emission units in the Ingot plant, because there are no delacquering furnaces or thermal chip dryers. However, Alcoa is subject to HCl emission standards for group1 furnaces and in-line fluxers. It thus requests that Condition D.6.9 (b)(7) be amended as follows:

Condition D.6.9(b)(7) Method **25A** ~~26A~~ for the concentration of **HCl** ~~THC, as propane~~.

Response 35: IDEM, OAQ agrees with the change requested. Condition D.6.9(b)(7) has been changed accordingly.

Comment 36: Condition D.6.10 − NESHAP for Performance Test/Compliance Demonstration Requirements and Procedures. Condition D.6.10 requires amendment. 40 CFR 63, Subpart RRR provides that testing of representative emission units is permissible, and that it is unnecessary to test each individual emission unit. Accordingly, Alcoa requests revisions as follows to Condition D.6.10(b):

(b) Group 1 furnaces without add-on air pollution control devices [40 CFR 63.1512(e)] - In the site-specific monitoring plan required by Condition D.6.14(e), the Permittee shall include data and information demonstrating compliance with the applicable emission limits.

(1) The Permittee shall conduct emission tests to measure emissions of PM, and HCl **at the representative Group 1 furnace exhaust outlet**. ~~and D/F at the furnace exhaust outlet.~~

(2) The Permittee shall conduct emission tests to measure emissions D/F at the furnace exhaust outlet from representative group 1 furnaces that process other than clean charge.

Response 36: Alcoa has to get the prior approval of the IDEM, OAQ. Pursuant to 40 CFR 63.1511(f), IDEM, OAQ must evaluate the criteria to allow testing of the representative emissions units. Therefore, no change has been made in the reporting forms as a result of this comment.

Comment 37: Condition D.6.17(c) − Water Level Monitoring. Upon further review, Alcoa finds that rotoclone wet scrubber clean-out time intervals need to be amended to address occasions when the rotoclones and associated processes are down for extended periods of time. Alcoa thus requests that Condition D.6.17(c) be amended as follows:

Condition D.6.17 (c) The Permittee shall completely clean out the #2 Offline East Melter Charging rotoclone, #2 Offline West Melter Charging rotoclone, #2

Offline East Melter West Chip Silo rotoclone, and #2 Offline East Melter East Chip Silo rotoclones at least once per month. **In the event that a rotoclone and its associated process have shutdown, its cleaning schedule shall be amended commencing on the date of the shutdown such that it is cleaned within 4 weeks of the shutdown date. It shall be returned to a cleaning schedule of at least once per month commencing on the date it resumes operation.**

Response 37: IDEM, OAQ agrees with the change requested. Condition D.6.17(c) has been changed accordingly.

Comment 38: Section D.7 − Facility Description. Based on a review of file information, it has been determined that all of the pre-heat furnaces were installed between 1964 -1974. Pre-heat furnaces initially indicated to have later construction dates were actually the original furnaces that had been re-built. A letter to IDEM dated June 29, 1990 describes these changes. Based on this letter, the following revisions in the Section D.7 Facility Description are requested with respect to the pre-heat furnaces:

(18) Five (5) preheat furnaces, identified as preheat furnace #2 - #6, constructed **prior to** ~~in 1975~~ **1973**, using natural gas with a maximum heat input rate of 18 MMBtu/hr each, and exhausting to Stacks 811.2 thru 811.6;

....

(21) **Eight (8)** ~~Eleven (11)~~ preheat furnaces, identified as preheat furnace #12 - #19, ~~#22, #24, and #26~~, constructed in 1965, using natural gas with a maximum heat input rate of **12** ~~18~~ MMBtu/hr each, and exhausting to Stacks #811.12- #811.19, ~~#811.22, #811.24,~~ and #811.26;

(21A) Three (3) preheat furnaces, identified as preheat furnace #22, #24, and #26, constructed in 1965, using natural gas with a maximum heat input rate of 18 MMBtu/hr each, and exhausting to Stacks #811.22, #811.24, and #811.26;

(22) Five (5) preheat furnaces, identified as preheat furnace #36 - #40, constructed in **1969** ~~1978~~, using natural gas with a maximum heat input rate of 18 MMBtu/hr each, and exhausting to Stacks #811.36- #811.40;

....

(24) Seven (7) preheat furnaces, identified as preheat furnace #11, #20, #21, #23, #25, #27, and #30, constructed in **1969** ~~1990~~, using natural gas with a maximum heat input rate of 18 MMBtu/hr each, and exhausting to Stacks #811.11, #811.20, #811.21, #811.23, #811.25, #811.27, and #811.30

Response 38: Section D.7 − Facility Description has been changed as shown below:

(18) Five (5) preheat furnaces, identified as preheat furnace #2 - #6, constructed **prior to 1973 and rebuilt** in 1975, using natural gas with a maximum heat input rate of 18 MMBtu/hr each, and exhausting to Stacks 811.2 thru 811.6;

....

(21) **Eight (8)** ~~Eleven (11)~~ preheat furnaces, identified as preheat furnace #12 - #19, ~~#22, #24, and #26~~, constructed in 1965, using natural gas with a maximum heat input rate of **12** ~~18~~ MMBtu/hr each, and exhausting to Stacks #811.12- #811.19, ~~#811.22, #811.24,~~ and #811.26;

(21A) Three (3) preheat furnaces, identified as preheat furnace #22, #24, and #26, constructed in 1965, using natural gas with a maximum heat input rate of 18 MMBtu/hr each, and exhausting to Stacks #811.22, #811.24, and #811.26;

(22) Five (5) preheat furnaces, identified as preheat furnace #36 **-** #40, constructed in **1969 and rebuilt in** ~~1978~~, using natural gas with a maximum heat input rate of 18 MMBtu/hr each, and exhausting to Stacks #811.36- #811.40;

....

(24) Seven (7) preheat furnaces, identified as preheat furnace #11, #20, #21, #23, #25, #27, and #30, constructed in **1969 and rebuilt in** ~~1990~~, using natural gas with a maximum heat input rate of 18 MMBtu/hr each, and exhausting to Stacks #811.11, #811.20, #811.21, #811.23, #811.25, #811.27, and #811.30;

Comment 39: Condition D.7.3 **–** Particulate Emission Limitations for Sources of Indirect Heating. With the above revisions in construction dates and heat input capacities (described in Comment 38.), this condition requires amendment, as follows:

(a) Pursuant to 326 IAC 6-2-4 (Particulate Emissions Limitations for Sources of Indirect Heating), the allowable particulate matter (PM) emissions from boiler #1, boiler #2, and boiler #3 shall be limited to 0.17**8**~~6~~ lb/MMBtu each. The above particulate emissions rates were determined from the following formula:

$$P_t = \frac{1.09}{Q^{0.26}}$$

Where:

Pt = Pounds of particulate matter emitted per million Btu (lb/MMBtu) heat input; and

Q = Total source maximum operating capacity rating in million Btu per hour (MMBtu/hr) heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used.

(b) Pursuant to 326 IAC 6-2-3(b) (Particulate Emissions Limitations for Sources of Indirect Heating), the allowable particulate matter (PM) emissions from annealing furnaces #5-#16, and preheat furnaces #7 **and** #**4, **#~~10, #12-#19, #22, #24, #26, #28-#29 and #31-#35,~~ shall be limited to **0.06** ~~0.078~~ lb/MMBtu each. The above particulate emissions rate was determined from the following formula:

$$Pt = \frac{C * a * h}{76.5 * Q^{0.75} * N^{0.25}}$$

Where:

C = Maximum ground level concentration with respect to distance from the point source at the critical wind speed for level terrain. This shall equal 50 micrograms per cubic meter (μ/m3) for a period not to exceed a sixty (60) minute time period;

Pt = Pounds of particulate matter emitted per million Btu heat input (lb/MMBtu);

Q = Total source maximum operating capacity rating in million Btu per hour (MMBtu/hr) heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's operation permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used;

N = Number of stacks in fuel burning operation;

a = Plume rise factor which is used to make allowance for less than theoretical plume rise. The value 0.67 shall be used for Q less than or equal to 1,000 MMBtu/hr heat input; and

h = Stack height in feet. If a number of stacks of different heights exist, the average stack height to represent

N stacks shall be calculated by weighing each stack height with its particulate matter emission rate as follows:

$$h = \frac{\sum_{i=1}^{N} H_i * pa_i * Q}{\sum_{i=1}^{N} pa_i * Q}$$

Where:

pa = the actual controlled emission rate in lb/MMBtu using the emission factor from AP-42 or stack test data. Stacks constructed after January 1, 1971, shall be credited with GEP stack height only. GEP stack height shall be calculated as specified in 326 IAC 1-7.

Q, N, and h shall include the parameters for all facilities in operation on June 8, 1972. The resulting Pt is the emission limitation for annealing furnaces #5-#16, and preheat furnaces #7 **and #4** ~~#10, #12-#19, #22, #24, #26, #28-#29 and #31-#35~~ and will not be affected by the addition of any subsequent facility.

(c) Pursuant to 326 IAC 6-2-3(a) (Particulate Emissions Limitations for Sources of Indirect Heating), the allowable particulate matter (PM) emissions from ~~annealing furnace #17~~ **preheat furnaces #2 - #6** shall be limited to ~~0.074~~ **0.055** lb/MMBtu each. The above particulate emissions rate was determined from the following formula:

$$Pt = \frac{C * a * h}{76.5 * Q^{0.75} * N^{0.25}}$$

Where:

C = Maximum ground level concentration with respect to distance from the point source at the critical wind speed for level terrain. This shall equal 50 micrograms per cubic meter (μ/m3) for a period not to exceed a sixty (60) minute time period;

Pt = Pounds of particulate matter emitted per million Btu heat input (lb/MMBtu);

Q = Total source maximum operating capacity rating in million Btu per hour (MMBtu/hr) heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's operation permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used;

N = Number of stacks in fuel burning operation;

a = Plume rise factor which is used to make allowance for less than theoretical plume rise. The value 0.67 shall be used for Q less than or equal to 1,000 MMBtu/hr heat input; and

h = Stack height in feet. If a number of stacks of different heights exist, the average stack height to represent

N stacks shall be calculated by weighing each stack height with its particulate matter emission rate as follows:

$$h = \frac{\sum_{i=1}^{N} H_i * pa_i * Q}{\sum_{i=1}^{N} pa_i * Q}$$

Where:

pa = the actual controlled emission rate in lb/MMBtu using the emission factor from AP-42 or stack test data.

Stacks constructed after January 1, 1971, shall be credited with GEP stack height only. GEP stack height shall be calculated as specified in 326 IAC 1-7.

Q, N, and h shall include the parameters for all facilities in operation before 1975. The resulting Pt is the emission limitation for preheat furnaces #2 - #6 and will not be affected by the addition of any subsequent emissions unit.

(d) Pursuant to 326 IAC 6-2-3(a) (Particulate Emissions Limitations for Sources of Indirect Heating), the allowable particulate matter (PM) emissions from **annealing furnace #17** ~~preheat furnaces #36 - #40~~ shall be limited to **0.053** ~~0.056~~ lb/MMBtu each. The above particulate emissions rate was determined from the following formula:

$$Pt = \frac{C * a * h}{76.5 * Q^{0.75} * N^{0.25}}$$

Where:

C = Maximum ground level concentration with respect to distance from the point source at the critical wind speed for level terrain. This shall equal 50 micrograms per cubic meter (μ/m3) for a period not to exceed a sixty (60) minute time period;

Pt = Pounds of particulate matter emitted per million Btu heat input (lb/MMBtu);

Q = Total source maximum operating capacity rating in million Btu per hour (MMBtu/hr) heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's operation permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used;

N = Number of stacks in fuel burning operation;

a = Plume rise factor which is used to make allowance for less than theoretical plume rise. The value 0.67 shall be used for Q less than or equal to 1,000 MMBtu/hr heat input; and

h = Stack height in feet. If a number of stacks of different heights exist, the average stack height to represent

N stacks shall be calculated by weighing each stack height with its particulate matter emission rate as follows:

$$h = \frac{\sum_{i=1}^{N} H_i * pa_i * Q}{\sum_{i=1}^{N} pa_i * Q}$$

Where:

pa = the actual controlled emission rate in lb/MMBtu using the emission factor from AP-42 or stack test data. Stacks constructed after January 1, 1971, shall be credited with GEP stack height only. GEP stack height shall be calculated as specified in 326 IAC 1-7.

Q, N, and h shall include the parameters for all facilities in operation before 1978. The resulting Pt is the emission limitation for **annealing furnace #17** ~~preheat furnaces #36 - #40~~ and will not be affected by the addition of any subsequent emissions unit.

(e) Pursuant to 326 IAC 6-2-3(a) (Particulate Emissions Limitations for Sources of Indirect Heating), the allowable particulate matter (PM) emissions from preheat furnaces # **41** ~~2~~ - #**43** ~~6~~ shall be limited to **0.051** ~~0.062~~ lb/MMBtu each. The above particulate emissions rate was determined from the following formula:

$$Pt = \frac{C * a * h}{76.5 * Q^{0.75} * N^{0.25}}$$

Where:

C = Maximum ground level concentration with respect to distance from the point source at the critical wind speed for level terrain. This shall equal 50 micrograms per cubic meter (μ/m3) for a period not to exceed a sixty (60) minute time period;

Pt = Pounds of particulate matter emitted per million Btu heat input (lb/MMBtu);

Q = Total source maximum operating capacity rating in million Btu per hour (MMBtu/hr) heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's operation permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used;

N = Number of stacks in fuel burning operation;

a = Plume rise factor which is used to make allowance for less than theoretical plume rise. The value 0.67 shall be used for Q less than or equal to 1,000 MMBtu/hr heat input; and

h = Stack height in feet. If a number of stacks of different heights exist, the average stack height to represent

N stacks shall be calculated by weighing each stack height with its particulate matter emission rate as follows:

$$h = \frac{\sum_{i=1}^{N} H_i * pa_i * Q}{\sum_{i=1}^{N} pa_i * Q}$$

Where:

pa = the actual controlled emission rate in lb/MMBtu using the emission factor from AP-42 or stack test data. Stacks constructed after January 1, 1971, shall be credited with GEP stack height only. GEP stack height shall be calculated as specified in 326 IAC 1-7.

Q, N, and h shall include the parameters for all facilities in operation before 1975. The resulting Pt is the emission limitation for preheat furnaces # **41** ~~2~~ - #**43** ~~6~~ and will not be affected by the addition of any subsequent emissions unit.

Conditions D.7.3 (f) and (g) should then be deleted in their entirety.

Response 39: Condition D.7.3 − Particulate Emission Limitations for Sources of Indirect Heating has been revised is shown as below:

(a) Pursuant to 326 IAC 6-2-4 (Particulate Emissions Limitations for Sources of Indirect Heating), the allowable particulate matter (PM) emissions from boiler #1, boiler #2, and boiler #3 shall be limited to 0.17**8**~~6~~ lb/MMBtu each. The above particulate emissions rates were determined from the following formula:

$$P_t = \frac{1.09}{Q^{0.26}}$$

Where:

Pt = Pounds of particulate matter emitted per million Btu (lb/MMBtu) heat input; and

Q = Total source maximum operating capacity rating in million Btu per hour (MMBtu/hr) heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used.

(b) Pursuant to 326 IAC 6-2-3(b) (Particulate Emissions Limitations for Sources of Indirect Heating), the allowable particulate matter (PM) emissions from annealing furnaces #5-#16, and preheat furnaces #7 **and** #**4,** ~~#10, #12-#19, #22, #24, #26, #28-#29 and #31-#35,~~ shall be limited to **0.06** ~~0.078~~ lb/MMBtu each. The above particulate emissions rate was determined from the following formula:

$$Pt = \frac{C * a * h}{76.5 * Q^{0.75} * N^{0.25}}$$

Where:

C = Maximum ground level concentration with respect to distance from the point source at the critical wind speed for level terrain. This shall equal 50 micrograms per cubic meter (μ/m3) for a period not to exceed a sixty (60) minute time period;

Pt = Pounds of particulate matter emitted per million Btu heat input (lb/MMBtu);

Q = Total source maximum operating capacity rating in million Btu per hour (MMBtu/hr) heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's operation permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used;

N = Number of stacks in fuel burning operation;

a = Plume rise factor which is used to make allowance for less than theoretical plume rise. The value 0.67 shall be used for Q less than or equal to 1,000 MMBtu/hr heat input; and

h = Stack height in feet. If a number of stacks of different heights exist, the average stack height to represent

N stacks shall be calculated by weighing each stack height with its particulate matter emission rate as follows:

$$h = \frac{\sum_{i=1}^{N} H_i * pa_i * Q}{\sum_{i=1}^{N} pa_i * Q}$$

Where:

pa = the actual controlled emission rate in lb/MMBtu using the emission factor from AP-42 or stack test data. Stacks constructed after January 1, 1971, shall be credited with GEP stack height only. GEP stack height shall be calculated as specified in 326 IAC 1-7.

Q, N, and h shall include the parameters for all facilities in operation on June 8, 1972. The resulting Pt is the emission limitation for annealing furnaces #5-#16, and preheat furnaces #7 **and #4** ~~#10, #12-#19, #22, #24, #26, #28-#29 and #31-#35~~ and will not be affected by the addition of any subsequent facility.

(c) Pursuant to 326 IAC 6-2-3(a) (Particulate Emissions Limitations for Sources of Indirect Heating), the allowable particulate matter (PM) emissions from ~~annealing furnace #17~~ **preheat furnaces #2 - #6** shall be limited to ~~0.074~~ **0.055** lb/MMBtu each. The above particulate emissions rate was determined from the following formula:

$$Pt = \frac{C * a * h}{76.5 * Q^{0.75} * N^{0.25}}$$

Where:

C = Maximum ground level concentration with respect to distance from the point source at the critical wind speed for level terrain. This shall equal 50 micrograms per cubic meter (μ/m3) for a period not to exceed a sixty (60) minute time period;

Pt = Pounds of particulate matter emitted per million Btu heat input (lb/MMBtu);

Q = Total source maximum operating capacity rating in million Btu per hour (MMBtu/hr) heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's operation permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used;

N = Number of stacks in fuel burning operation;

a = Plume rise factor which is used to make allowance for less than theoretical plume rise. The value 0.67 shall be used for Q less than or equal to 1,000 MMBtu/hr heat input; and

h = Stack height in feet. If a number of stacks of different heights exist, the average stack height to represent

N stacks shall be calculated by weighing each stack height with its particulate matter emission rate as follows:

$$h = \frac{\sum_{i=1}^{N} H_i * pa_i * Q}{\sum_{i=1}^{N} pa_i * Q}$$

Where:

pa = the actual controlled emission rate in lb/MMBtu using the emission factor from AP-42 or stack test data.

Stacks constructed after January 1, 1971, shall be credited with GEP stack height only. GEP stack height shall be calculated as specified in 326 IAC 1-7.

Q, N, and h shall include the parameters for all facilities in operation before 1975. The resulting Pt is the emission limitation for preheat furnaces #2 - #6 and will not be affected by the addition of any subsequent emissions unit.

(d) Pursuant to 326 IAC 6-2-3(a) (Particulate Emissions Limitations for Sources of Indirect Heating), the allowable particulate matter (PM) emissions from **annealing furnace #17** ~~preheat furnaces #36 - #40~~ shall be limited to **0.053** ~~0.056~~ lb/MMBtu each. The above particulate emissions rate was determined from the following formula:

$$Pt = \frac{C * a * h}{76.5 * Q^{0.75} * N^{0.25}}$$

Where:

C = Maximum ground level concentration with respect to distance from the point source at the critical wind speed for level terrain. This shall equal 50 micrograms per cubic meter (µ/m3) for a period not to exceed a sixty (60) minute time period;

Pt = Pounds of particulate matter emitted per million Btu heat input (lb/MMBtu);

Q = Total source maximum operating capacity rating in million Btu per hour (MMBtu/hr) heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's operation permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used;

N = Number of stacks in fuel burning operation;

a = Plume rise factor which is used to make allowance for less than theoretical plume rise. The value 0.67 shall be used for Q less than or equal to 1,000 MMBtu/hr heat input; and

h = Stack height in feet. If a number of stacks of different heights exist, the average stack height to represent

N stacks shall be calculated by weighing each stack height with its particulate matter emission rate as follows:

$$h = \frac{\sum_{i=1}^{N} H_i * pa_i * Q}{\sum_{i=1}^{N} pa_i * Q}$$

Where:

pa = the actual controlled emission rate in lb/MMBtu using the emission factor from AP-42 or stack test data. Stacks constructed after January 1, 1971, shall be credited with GEP stack height only. GEP stack height shall be calculated as specified in 326 IAC 1-7.

Q, N, and h shall include the parameters for all facilities in operation before 1978. The resulting Pt is the emission limitation for **annealing furnace #17** ~~preheat furnaces #36 - #40~~ and will not be affected by the addition of any subsequent emissions unit.

(e) Pursuant to 326 IAC 6-2-3(a) (Particulate Emissions Limitations for Sources of Indirect Heating), the allowable particulate matter (PM) emissions from preheat furnaces # **41** ~~2~~ - #**43** ~~6~~ shall be limited to **0.051** ~~0.062~~ lb/MMBtu each. The above particulate emissions rate was determined from the following formula:

$$Pt = \frac{C * a * h}{76.5 * Q^{0.75} * N^{0.25}}$$

Where:

C = Maximum ground level concentration with respect to distance from the point source at the critical wind speed for level terrain. This shall equal 50 micrograms per cubic meter (μ/m3) for a period not to exceed a sixty (60) minute time period;

Pt = Pounds of particulate matter emitted per million Btu heat input (lb/MMBtu);

Q = Total source maximum operating capacity rating in million Btu per hour (MMBtu/hr) heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's operation permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used;

N = Number of stacks in fuel burning operation;

a = Plume rise factor which is used to make allowance for less than theoretical plume rise. The value 0.67 shall be used for Q less than or equal to 1,000 MMBtu/hr heat input; and

h = Stack height in feet. If a number of stacks of different heights exist, the average stack height to represent

N stacks shall be calculated by weighing each stack height with its particulate matter emission rate as follows:

$$h = \frac{\sum_{i=1}^{N} H_i * pa_i * Q}{\sum_{i=1}^{N} pa_i * Q}$$

Where:

pa = the actual controlled emission rate in lb/MMBtu using the emission factor from AP-42 or stack test data. Stacks constructed after January 1, 1971, shall be credited with GEP stack height only. GEP stack height shall be calculated as specified in 326 IAC 1-7.

Q, N, and h shall include the parameters for all facilities in operation before 1975. The resulting Pt is the emission limitation for preheat furnaces # **41** ~~2~~ - #**43** ~~6~~ and will not be affected by the addition of any subsequent emissions unit.

~~(f) Pursuant to 326 IAC 6-2-3(a) (Particulate Emissions Limitations for Sources of Indirect Heating), the allowable particulate matter (PM) emissions from preheat furnaces #36 - #40 shall be limited to 0.056 lb/MMBtu each. The above particulate emissions rate was determined from the following formula:~~

$$Pt = \frac{C * a * h}{76.5 * Q^{0.75} * N^{0.25}}$$

~~Where:~~

~~C = Maximum ground level concentration with respect to distance from the point source at the critical wind speed for level terrain. This shall equal 50 micrograms per cubic meter (μ/m³) for a period not to exceed a sixty (60) minute time period;~~

~~P_t = Pounds of particulate matter emitted per million Btu heat input (lb/MMBtu);~~

~~Q = Total source maximum operating capacity rating in million Btu per hour (MMBtu/hr) heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's operation permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used;~~

~~N = Number of stacks in fuel burning operation;~~

~~a = Plume rise factor which is used to make allowance for less than theoretical plume rise. The value 0.67 shall be used for Q less than or equal to 1,000 MMBtu/hr heat input; and~~

~~h = Stack height in feet. If a number of stacks of different heights exist, the average stack height to represent N stacks shall be calculated by weighing each stack height with its particulate matter emission rate as follows:~~

$$h = \frac{\sum_{i=1}^{N} H_i * pa_i * Q}{\sum_{i=1}^{N} pa_i * Q}$$

~~Where:~~

~~pa = the actual controlled emission rate in lb/MMBtu using the emission factor from AP-42 or stack test data. Stacks constructed after January 1, 1971, shall be credited with GEP stack height only. GEP stack height shall be calculated as specified in 326 IAC 1-7.~~

~~Q, N, and h shall include the parameters for all facilities in operation before~~

~~1978. The resulting Pt is the emission limitation for preheat furnaces #36 - #40 and will not be affected by the addition of any subsequent emissions unit.~~

~~(g) Pursuant to 326 IAC 6-2-4 (Particulate Emissions Limitations for Sources of Indirect Heating), the allowable particulate matter (PM) emissions from preheat furnaces #11, #20-#21, #23, #25, #27, and #30 shall be limited to 0.177 lb/MMBtu each. The above particulate emissions rate was determined from the following formula:~~

$$\cancel{Pt = \frac{1.09}{Q^{0.26}}}$$

~~Where:~~

~~P_t = Pounds of particulate matter emitted per million Btu (lb/MMBtu) heat input; and~~

~~Q = Total source maximum operating capacity rating in million Btu per hour (MMBtu/hr) heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used.~~

Comment 40: Condition D.7.4(a) − New Source Performance Standard (NSPS) Record Keeping Requirements. This condition references the New Source Performance Standards specified at 40 CFR 60, Subpart Db. The affected facility to which this subpart applies is each steam generating unit that commences construction, modification, or reconstruction after June 19, 1984, and that has a heat input capacity from fuels combusted in the steam generating unit of greater than 29 MW (100 million Btu/hour). None of the boilers, annealers, or pre-heat furnaces have a heat input capacity of 100 mm Btu/hr, so the portion of 326 IAC 12 that incorporates 40 CFR 60, Subpart Db is not applicable. Alcoa thus requests that Condition D.7.4 (a) be deleted.

Response 40: Condition D.7.4(a) − New Source Performance Standard (NSPS) Record Keeping Requirements. This condition should have referenced the New Source Performance Standards specified at 40 CFR 60, Subpart Dc. The typo has been corrected. The revised condition is shown as below:

D.7.4 New Source Performance Standard (NSPS) Record Keeping Requirements [326 IAC 12] [40 CFR 60, Subpart Dc] [40 CFR 63, Subpart DDDDD]

(a) Pursuant to 326 IAC 12, the Permittee shall record and maintain records of the amounts of natural gas combusted in each boiler, annealing furnace, and preheat furnace each day. This condition expires when the revisions made to 40 CFR 60 Subpart **Dc** ~~Db~~, as amended on February 27, 2006, become effective as Indiana Law. This condition is not federally enforceable.

Comment 41: Condition D.7.4(b) − New Source Performance Standard (NSPS) Record Keeping Requirements. This condition erroneously states that 40 CFR 60.48c is applicable for the annealing furnaces, pre-heat furnaces, and boilers. 40 CFR 60.48c is applicable for each steam generating unit for which construction, modification, or reconstruction is commenced after June 9, 1989 and that has a maximum design heat input capacity of 29 megawatts

(MW) (100 million Btu per hour (Btu/hr)) or less, but greater than or equal to 2.9 MW (10 million Btu/hr). All of the annealing furnaces and pre-heat furnaces were installed prior to June 9, 1989, and are thus not subject to 40 CFR 60.48c. It is thus requested that Condition D.7.4 (b) be amended as follows:

(a) ~~(b)~~ Pursuant to 40 CFR 60.48c(g), the Permittee shall record and maintain records of the amounts of natural gas combusted in each boiler~~, annealing furnace, and preheat furnace~~ during each calendar month.

Response 41: IDEM agrees with Alcoa that annealing furnaces and the preheat furnaces are not subject to New Source Performance Standard (NSPS), 40 CFR 60, Subpart Dc. Condition D.7.4(b) has been revised as shown below:

Condition D.7.4(b) Pursuant to 40 CFR 60.48c(g), the Permittee shall record and maintain records of the amounts of natural gas combusted in each boiler~~, annealing furnace, and preheat furnace~~ during each calendar month.

Comment 42: Section D.8 – Facility Description, and the Background and Description for the Coating Plant section of the TSD, Appendix A. These sections require amendment as follows:

(1) One (1) electro coat coil coating line no. 6, identified as CPL6, constructed in **1984** ~~1995~~, with emissions uncontrolled and exhausting to Stacks 819.7, and 819.13-819.15;

(2) One (1) coil coating line no. 2, identified as CCL2, constructed in **1987** ~~1984~~, with a temporary total enclosure system surrounding the coating stations. Emissions captured by the temporary total enclosure system and generated within the bake oven are controlled by a thermal oxidizer. Total coating line emissions exhausting to Stacks ~~826.5 and~~ 826.6.

One (1) thermal oxidizer system exhausting to Stacks 826.5 and 826.6;

(3) One (1) coil coating line no. 3, identified as CCL3, constructed in 1987, with a temporary total enclosure system surrounding the coating stations. Emissions captured by the temporary total enclosure system and generated within the bake oven are controlled by a thermal oxidizer. Total coating line emissions exhausting to Stacks 826.1 and 826.2.

One (1) thermal oxidizer system exhausting to Stacks 826.1 ~~and 826.2~~;

Mix room

(4) One (1) mixing room of solvents for coil coating lines process vats, installed in **1972** ~~1985~~, with a maximum of coating and solvents usage of 240,000 tons per year, with no control, and exhausting to Stack 847.2;

....

Above ground tank farm

....

(8) Four (**4** ~~3~~) fixed roof above ground tanks, identified as tanks, B, C, D, and E, installed

in 1997, with a maximum capacity of coatings or solvents storing of 7,800 gallons, with no control, exhausting to Stacks 849.B – 849.E;

Process Support

(9) ~~One (1) underground storage tank, identified as Hazardous Waste Storage Tank, installed in 1992 with a maximum capacity of 7,500 gallons with no control, exhausting to Stack 847.1~~ **One (1) fixed roof above ground tank, identified as clear electrocoat coating Unload Tank, installed in 1996, with a maximum capacity of 8,000 gallons, with no control, exhausting to Stack 819.20;**

(Alcoa has elected to close the underground hazardous waste storage tank in place, and utilize tank C in the above ground tank farm as the hazardous waste storage tank. This change will occur as part of Alcoa's program to comply with 40 CFR 63, Subpart EEEE. Alcoa also requests that the clear electrocoat coating unload tank replace the underground tank in the description.)

(10) Two (2) fixed roof above ground tanks, identified as clear and gold electrocoat coating Dump Tanks, installed in **1996** ~~1984~~, with a maximum capacity of 20,000 gallons each, with no control, exhausting to Stacks 819.16 and 819.17;

(11) One (1) fixed roof above ground tank, identified as gold electrocoat coating Unload Tank, installed in **1996** ~~1984~~, with a maximum capacity of 8,000 gallons, with no control, exhausting to Stack 819.18. **Use of this tank will be discontinued as part of Alcoa's program to comply with 40 CFR 63, Subpart EEEE;**

(Alcoa has determined that the existing experimental electrocoat coating tank described in item 13 has sufficient capacity to meet the production needs for the gold electrocoat coating, and will utilize this tank for future unloading needs when the compliance program for 40 CFR 63, Subpart EEEE is implemented.)

(12) One (1) fixed roof above ground tank, identified as clear electrocoat coating Day Tank, installed in 1996 1984, with a maximum capacity of 3,500 gallons, with no control, exhausting ~~inside the building~~ **to Stack 820.01**;

(13) One (1) fixed roof above ground tank, identified as experimental electrocoat coating Day Tank, installed in **1996** ~~1984~~, with a maximum capacity of 3,500 gallons, with no control, exhausting inside the building to Stack 820.02;

(14) One (1) fixed roof above ground tank, identified as gold electrocoat coating Day tank, installed in **1996** ~~1984~~, with a maximum capacity of 3,500 gallons, with no control, exhausting to Stack 819.19;

Response 42: Alcoa is still using the one underground storage tank, identified as Hazardous Waste Storage Tank, installed in 1992 with a maximum capacity of 7,500 gallons, as identified by item 9 of the Facility Descriptions. Therefore, item no. 9 can not be deleted. All other descriptions have been revised and are shown as below:

(1) One (1) electro coat coil coating line no. 6, identified as CPL6, constructed in **1984** ~~1995~~, with emissions uncontrolled and exhausting to Stacks 819.7, and 819.13-819.15;

(2) One (1) coil coating line no. 2, identified as CCL2, constructed in **1987** ~~1984~~, with a

temporary total enclosure system surrounding the coating stations. Emissions captured by the temporary total enclosure system and generated within the bake oven are controlled by a thermal oxidizer. Total coating line emissions exhausting to Stacks ~~826.5 and~~ 826.6.

One (1) thermal oxidizer system exhausting to Stacks 826.5 and 826.6;

(3) One (1) coil coating line no. 3, identified as CCL3, constructed in 1987, with a temporary total enclosure system surrounding the coating stations. Emissions captured by the temporary total enclosure system and generated within the bake oven are controlled by a thermal oxidizer. Total coating line emissions exhausting to Stacks 826.1 and 826.2.

One (1) thermal oxidizer system exhausting to Stacks 826.1 ~~and 826.2~~;

Mix room

(4) One (1) mixing room of solvents for coil coating lines process vats, installed in **1972** ~~1985~~, with a maximum of coating and solvents usage of 240,000 tons per year, with no control, and exhausting to Stack 847.2;

....

Above ground tank farm

....

(8) Four (**4** ~~3~~) fixed roof above ground tanks, identified as tanks, B, C, D, and E, installed in 1997, with a maximum capacity of coatings or solvents storing of 7,800 gallons, with no control, exhausting to Stacks 849.B – 849.E;

Process Support

....

(10) Two (2) fixed roof above ground tanks, identified as clear and gold electrocoat coating Dump Tanks, installed in **1996** ~~1984~~, with a maximum capacity of 20,000 gallons each, with no control, exhausting to Stacks 819.16 and 819.17;

(11) One (1) fixed roof above ground tank, identified as gold electrocoat coating Unload Tank, installed in **1996** ~~1984~~, with a maximum capacity of 8,000 gallons, with no control, exhausting to Stack 819.18.

(12) One (1) fixed roof above ground tank, identified as clear electrocoat coating Day Tank, installed in **1996** ~~1984~~, with a maximum capacity of 3,500 gallons, with no control, exhausting inside the building to Stack 820.01;

(13) One (1) fixed roof above ground tank, identified as experimental electrocoat coating Day Tank, installed in **1996** ~~1984~~, with a maximum capacity of 3,500 gallons, with no control, exhausting ~~inside the building~~ **to Stack 820.02**;

(14) One (1) fixed roof above ground tank, identified as gold electrocoat coating Day tank, installed in **1996** ~~1984~~, with a maximum capacity of 3,500 gallons, with no control, exhausting to Stack 819.19;

Comment 43: Condition D.8.2(a) − PSD Minor Limit. - Very recently, a customer has specified that a water base coating be applied on the CCL2 solvent based coating line. Due to the potential lower VOC input from the water based coatings, the efficiencies currently specified may not be attainable. Alcoa recognizes that this condition was established as a PSD avoidance condition, and that overall emissions derived by applying a minimum 96% removal efficiency to the annual solvent input limit must not be exceeded. The suggested revisions would allow Alcoa to accommodate this change, while providing a mechanism that assures that the annual permit limits for PSD avoidance will not be changed. The requested revision is as follows:

Condition D.8.2 PSD Minor Limit [326 IAC 2-2]

(a) Pursuant to CP 173-3276, issued on July 14, 1994, the total amount of volatile organic compounds (VOC) delivered to the coater head of the coil coating line CCL2 shall be less than 7,675 tons per 365 consecutive day period, with compliance demonstrated at the end of each day **and that annual VOC emissions from coating line CCL2 shall not equal or exceed 307 tons per 365 consecutive day period** (**equivalent to an** ~~the~~ overall control efficiency of the VOC capture and control system **of** ~~shall be no less than~~ 96%). Compliance with these VOC limits ~~and the thermal oxidizer's control efficiency of 96%~~ shall render the requirements of Prevention of Significant Deterioration (PSD) rule, 326 IAC 2-2, not applicable for the coil coating line CCL2.

Response 43: This change requires significant changes in monitoring, recordkeeping and reporting requirements. These significant changes must be public noticed. Alcoa can ask for this revision through a significant permit modification application. Therefore, no change has been made to Condition D.8.2(a) as a result of this comment.

Comment 44: Condition D.8.2(b)(2) − PSD Minor Limit. In addition to providing that doors and windows remain closed at all times during actual coating operations, except for brief periods to allow personnel to enter and exit the room, it is also necessary for Alcoa to occasionally replace empty coating containers with full containers, while not shutting the line down. It is thus requested that the last sentence of this condition be amended as follows:

Condition D.8.2(b)(2) The enclosure room, the capture system, and the capture system fan's measuring and recording devices shall be operating properly at all times during actual coating operations, at an electrical current across one or more of the fans that provide ventilation exhaust from the coating enclosure that has been demonstrated to maintain an average facial velocity of at least 200 feet per minute across all natural draft openings as measured by EPA Method 204, Equation 204-3. All doors and windows not classified as natural draft openings remain closed at all times during actual coating operations except for brief periods to allow personnel entrance to and exit from the enclosure room All doors and windows not classified as natural draft openings remain closed at all times during actual coating operations except for brief periods to allow personnel entrance to and exit from the enclosure room, **and to replace empty coating or solvent containers**.

Response 44: Condition D.8.2(b)(2) has been revised accordingly.

Comment 45: Condition D.8.3(b) − PSD Emission Limit. Alcoa has procured a number of wastewater VOC samples, and has found that the VOC content does not vary significantly over time. Alcoa thus requests that Condition D.8.3 (b) be amended as follows:

Condition D.8.3(b) The Permittee shall measure the wastewater flow from the electro coat line (CPL6) continuously and record the flow totalizing meter each week. The Permittee shall procure VOC samples of the wastewater **once per month** ~~each week~~ and analyze for VOC content in the wastewater. The VOC lost to the wastewater shall be calculated monthly by multiplying ~~the monthly average VOC content of the wastewater by~~ **the total monthly metered flow by either the historical average or the monthly sample VOC content, whichever is lower**; …

Response 45: This is a significant change in monitoring condition. It will also necessiate change in record keeping and reporting requirement. The significant change must be public noticed. Alcoa can ask for this revision through a significant permit modification application. Therefore, no change has been made to Condition D.8.3(b) as a result of this comment.

Comment 46: Conditions D.8.7 and D.8.8 − General Provisions Relating to HAPs and National Emission Standards for Hazardous Air Pollutants: Organic Liquids Distribution, Non-Gasoline. The draft permit in Conditions D.8.7(b) and D.8.8(c) limit the applicability of the permit shield contained in Condition B.13 and 326 IAC 2-7-15 to Alcoa's compliance with the requirements of 40 CFR Part 63, Subpart EEEE. Alcoa requests that these limitations be removed from the draft permit since these condition subparts are meaningless. Either the NESHAP requirements are applicable requirements, as defined by 326 IAC 2-7-1(6), or they are not, *at the time of permit issuance*. No purpose is served by including provisions that state the permit shield does not apply to non-existent requirements in the permit. Therefore, because Alcoa is subject to the 40 CFR Part 63, Subpart EEEE, as noted in Conditions D.8.7 and D.8.8, it requests that subparts (b) and (c), respectively, be deleted from the draft permit as follows:

Condition D.8.7 General Provisions Relating to HAPs [326 IAC 20-1] [40 CFR Part 63, Subpart A] [326 IAC 20-83] [Table 12 to 40 CFR Part 63, Subpart EEEE] [40 CFR 63.2398]

(a) The provisions of 40 CFR Part 63, Subpart A- General Provisions, which are incorporated by reference as 326 IAC 20-1-1, apply to the affected source, except when otherwise specified by Table 12 to 40 CFR Part 63, Subpart EEEE.

~~(b) Since the applicable requirements associated with the compliance options are not included and specifically identified in this permit, the permit shield authorized by the B section of this permit in the condition titled Permit Shield, and set out in 326 IAC 2-7-15 does not apply to paragraph (a) of this condition, except as otherwise provided in this condition. The permit shield applies to Condition D.8.15, Notification Requirements.~~

Condition D.8.8 National Emission Standards for Hazardous Air Pollutants: Organic Liquids Distribution, Non-Gasoline [326 IAC 20-1] [40 CFR Part 63, Subpart A] [326 IAC 20-83] [40 CFR Part 63, Subpart EEEE]

(a) The provisions of 40 CFR Part 63, Subpart EEEE (National Emission Standards for Hazardous Air Pollutants: Organic Liquids Distribution, Non-Gasoline) apply to the affected source. A copy of this rule is available on the US EPA Air Toxics Website at http://www.epa.gov/ttn/atw/orgliq/orgliqpg.html.

(b) Pursuant to 40 CFR 63.2342(b)(1), the Permittee shall comply with the emission limitations, operating limits, and work practice standards for existing affected sources no later than February 5, 2007, except as provided in 40 CFR 63.6.

~~(c) Since the applicable requirements associated with the compliance options are not included and specifically identified in this permit, the permit shield authorized by the B section of this permit in the condition titled Permit Shield, and set out in 326 IAC 2-7-15 does not apply to paragraphs (a), (b), and (c) of this condition, except as otherwise provided in this condition. The permit shield applies to Condition D.8.15, Notification Requirements.~~

(c) ~~(d)~~ Terminology used in this section is defined in the CAA, in 40 CFR Part Part 63, Section 63.2, and in 40 CFR 63.2406, and are applicable to the affected source.

Response 46: The NESHAP, EEEE is applicable. Alcoa has complied with the notification requirement. IDEM, OAQ is simply stating that the permit shield only applies to the D.8.15 Notification Requirement. Therefore, permit shield only applies to this part and the permit shield does not apply to other requirements of NESHAP EEEE. Therefore, no change has been made to Conditions D.8.7 and D.8.8 as a result of this comment.

Comment 47: Condition D.8.9 − Organic Liquid Distribution Operations − Affected Sources. Alcoa will make the following process changes as the result of 40 CFR 63, Subpart EEEE:

(A) It will close the underground hazardous waste storage tank in place, and will instead manage its solvent based coating line hazardous waste in Tank C the above ground storage tank;

(B) The gold electrocoat dump tank is not subject to 40 CFR 63, Subpart EEEE, because it is a tank utilized as described 40 CFR 63.2338(c) (3);

(C) The gold electrocoat 8,000 gallon unload tank will no longer be utilized when Alcoa implements its program to comply with 40 CFR 63, Subpart EEEE. Present production projections indicate that the 3,500 gallon day tank can adequately serve as the unload tank. Tanks less than 5,000 gallons capacity do not require organic HAP's controls.

Accordingly, Alcoa requests that Conditions D.8.9 (d), (e), and (f) be deleted, and that Condition D.8.9 (b) be amended as follows:

D.8.9 Organic Liquid Distribution Operations – Affected Sources [326 IAC 20-83] [40 CFR 63.2338]

The following emissions units comprise the affected source that is subject to

40 CFR 63, Subpart EEEE:

(a) Two (2) fixed roof above ground tanks, identified as tanks, 01 and 02;

(b) Six (6) fixed roof above ground tanks, identified as tanks, **03, 04,** 05, 06, 07, and **08 A;** and

(c) Four (4) fixed roof above ground tanks, identified as tanks, B, C, D, and E~~;~~**.**

~~(d) One (1) underground storage tank, identified as Hazardous Waste Storage Tank;~~

~~(e) One (1) fixed roof above ground tanks, identified as gold electrocoat coating Dump Tank; and~~

~~(f) One (1) fixed roof above ground tank, identified as gold electrocoat coating Unload Tank.~~

Response 47: See response to comment 42. Alcoa is again advised to include these changes when applying for a permit modification to include the requirements of NESHAP, 40 CFR 63, Subpart EEEE.

Comment 48: Condition D.8.10(b)(1)(ii) − Compliance Demonstration Requirements. This Condition D.8.10 requires amendment. During the compliance tests conducted pursuant to 40 CFR 63, Subpart SSSS, Alcoa monitored and recorded fan motor current (amperes) for the floor sweeps fans, which exhausts emissions directly to atmosphere from the temporary total enclosures for the coater heads, and the fans that exhaust a portion of temporary total enclosure directly to the bake ovens. These fans were monitored, and their fan motor current (amperes) chosen as the capture system monitoring parameter, because they are constant speed fans. The oxidizer fan motor current (amperes) were not monitored and recorded, because the oxidizer fan speed must be varied to maintain below LEL conditions within the bake oven. With respect to capture efficiency, Method 204 allows the assumption of 100% capture, provided certain geometric design criteria is met, and 200 ft./min. air in-flow through the natural draft openings can be demonstrated. The oxidizer exhaust fan also draws emissions from the enclosures through the oven connecting tunnels. However, its contribution did not need to be considered, in order to demonstrate an air in-flow greater than 200 ft/min. It is thus requested that Condition D.8.10(b)(1)(ii) be amended as follows:

Condition D.8.10(b)(1)(ii) Monitor fan motor current (amperes) for each fan **specified in the capture monitoring plan** ~~of the thermal oxidizers~~ as established in 40 CFR 63.5150(a)(4) to ensure capture efficiency [40 CFR 63.5170(g)(3)(ii)]; and

Response 48: IDEM, OAQ agrees with Alcoa regarding the capture monitoring plan. Condition D.8.10(b)(1)(ii) has been changed accordingly.

Comment 49: Condition D.8.10(b)(1)(iii) − Compliance Demonstration Requirements. This Condition requires amendment in addition to the amendment proposed by Comment 48. The system described in the capture monitoring plan required by 40 CFR 63.5150(a)(4) does not deliver all of the emissions generated by the coating lines to the oxidizers. The ovens and oxidizers are not sized to capture and treat all of the airflow associated with the temporary total enclosures of coating lines CCL2 and CCL3. Emissions collected by the floor sweeps fan of each enclosure are exhausted directly to atmosphere. During the performance tests required by 40 CFR 63, Subpart SSSS, efficiency was demonstrated by comparing applied VOC (inlet) to VOC combined emissions from the oxidizer and floor sweeps exhausts (outlet). Alcoa thus requests that Condition D.8.10 (b)(1)(iii) be amended as follows:

Condition D.8.10(b)(1)(iii) Determine the organic HAP emissions for coating lines CCL2 and CCL3 ~~served by each capture system delivering emissions to the oxidizer~~ in accordance with the following [40 CFR 63.5170(g)(3)(iii)]:

Response 49: IDEM, OAQ agrees with Alcoa regarding the compliance demonstration requirements. Condition D.8.10(b)(1)(iii) has been changed accordingly.

Comment 50: Condition D.8.11(c) − Testing Requirements. This Condition requires amendment. The performance tests performed pursuant to 40 CFR 63, Subpart SSSS was an overall VOC removal efficiency test. It was not an oxidizer efficiency test. 40 CFR 63.5160 (d)(3)(iii) provides this as an option to 40 CFR 63.5160(d)(1). Alcoa thus requests that Condition D.8.11(c) be amended as follows:

Condition D.8.11(c) Within 5 years from the date of last compliance stack test or one hundred and eighty (180) days after issuance of this permit, whichever is later, the Permittee must conduct a performance test to establish the **overall VOC removal efficiency across coating lines CCL2 and CCL3** ~~destruction efficiency of the thermal oxidizers~~, according to the methods and procedures in 40 CFR 63.5160(d)**(2)** ~~(1)~~ and **(3)(iii)** ~~(2)~~. This test shall be repeated at least once every five years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with Section C - Performance Testing.

The Permittee shall use the data collected during the performance test to calculate and record the average combustion temperature maintained during the performance test for each thermal oxidizer. The average combustion temperature determined is the minimum operating limit for the thermal oxidizer.

…...

Response 50: IDEM, OAQ agrees with Alcoa regarding the testing requirements. Condition D.8.11(c) has been changed accordingly.

Comment 51: Condition D.8.11(d) − Testing Requirements. In addition to revisions proposed by Comment 50, the second sentence of this Condition requires amendment. The capture monitoring plan describes two fans for each temporary total enclosure. The floor sweeps fan exhausts directly to atmosphere, while the coater to oven fan exhausts to the oven. Establishing that the average fan amp value monitored shall be the minimum attained could allow less VOC emissions capture with respect to the floor sweeps fan, because higher fan amps than those measured during the test could mean more airflow and VOC emissions venting directly to atmosphere. In addition, there will be slight variations in fan amps over the course of a year, because of seasonal changes in air densities, and variations in applied line voltages. This issue can be addressed by specifying a fan amps range with respect to the tested value, coupled with a requirement that the requested fan amps variation impact on VOC emissions capture be demonstrated in the test report. Alcoa requests that the portion of Condition D.8.11(d) discussed above be amended as follows:

Condition D.8.11(d) Within 5 years from the date of last compliance test or one hundred and eighty (180) days after issuance of this permit, whichever is later, the Permittee must conduct a performance test to establish the capture efficiency of each capture system, according to the methods and procedures in 40 CFR 63.5160(e)(2) and (3). During the performance test, the Permittee must establish the fan motor current (ampere) for each fan for each capture system, required by 40 CFR 63.5121, according to the methods and procedures in 40 CFR 63.5160(d)(3). This test shall be repeated at least once every five years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with Section C - Performance Testing.

The Permittee shall use the data collected during the performance test to calculate and record the average value of the fan motor current (ampere) maintained during the performance test for each fan for each capture system. The average ampere values determined for the fans of each capture system are the minimum operating limits for ~~that capture system~~ **the coater to oven fan and the maximum operating limits for the floor sweeps fan. A fan amps range can be specified in the capture monitoring plan if a demonstration is included in the test report demonstrating the impact of the requested range on VOC emissions capture and removal efficiency.**

……

Response 51: IDEM, OAQ agrees with Alcoa regarding the testing requirements. Condition D.8.11(d) has been changed accordingly.

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a Part 70 Operating Permit

Source Description and Location

Source Name: Alcoa, Inc. - Warrick Operations
Source Location: Jct. IN Hwys. 66 & 61, Newburgh, Indiana 47629-0010
County: Warrick
SIC Code: 3334, 3352
Operation Permit No.: T173-6627-00007
Permit Reviewer: Dr. Trip Sinha

The Office of Air Quality (OAQ) has reviewed a Part 70 permit application from Alcoa Inc - Warrick Operations. The Part 70 permit application addresses the aluminum production, anode production, aluminum coil and ingot operations, and coating operations; and associated support facilities.

Because Alcoa Inc. – Warrick Operations is a large and complex source, this technical support document describes source-wide emissions information and regulatory requirements and references the reader to a series of appendices containing more detailed information on various aspects of the plant site.

Source Definition

This company consists of two (2) plants:

(a) Alcoa aluminum production plant, the primary operation, is located at Jct. IN Hwys. 66 & 61, Newburgh, Indiana.

(b) Alcoa power plant, the supporting operation, is located at 4700 Darlington Road, Newburgh, Indiana.

Since the two (2) plants are located on contiguous properties, and are owned by one (1) company, they will be considered one (1) source.

Separate Part 70 permits will be issued to *Alcoa Inc.- Warrick Operations* and *Alcoa Warrick Power Plant* solely for administrative purposes.

These two plants have different Plant ID Number.

Alcoa Inc. – Warrick Operations ID - 173-00007.
Alcoa Warrick Power Plant ID - 173-00002

Operating Areas

The source consists of the following operating areas that are made up of various types of emission units and pollution control devices. These operating areas correspond to the various "D" sections of the Part 70 permit and are described in more detail in Appendix A of this TSD.

(a) D.1 Alumina and aluminum handling Plant: The alumina and aluminum fluoride handling plant consists of the barge alumina unloading, truck unloading, and rail unloading. There are various conveyors, and tanks associated with this operation. The alumina is finally fed to potlines 1 to 6. The emissions are controlled by several baghouses. The detailed equipment list is located in Section D.1 of this permit.

(b) D.2 Potlines and Potlines Support: The Potlines and Potlines Support plant consists of the six center-worked prebake one potlines controlled by fluidized bed scrubbers, alumina injection and fabric filtration systems, and baghouses. The detailed equipment list is located in Section D.2 of this permit.

(c) D.3 Green Anode Plant: The Green Anode Plant consists of the green petroleum coke storage silos, green petroleum coke and anode butt shaker screens, coke storage tanks, hammermill, anode butts and scrap green anode hammermill, green petroleum coke intermediate classifier, ball mill, weighting facility, anode forming and associated pitch fume treatment system, mixers, hydraulic presses, and coal tar pitch tank. The detailed equipment list is located in Section D.3 of this permit.

(d) D.4 Anode Baking Plant: The Anode Baking Plant consists of the anode baking ring furnace, reacted alumina storage tank, reacted alumina truck loadout, baked anode vacuum system, and un-reacted alumina storage tank/truck unloading. The detailed equipment list is located in Section D.4 of this permit.

(e) D.5 Anode Assembly & Spent Anode Plant: The Anode Assembly & Spent Anode Plant consists of anode butt blast machine, tumbleblast, impactor, rod cleaning machine, butt storage tank, iron casting station, induction furnaces, spent anode storage pad, and several baghouses. The detailed equipment list is located in Section D.5 of this permit.

(f) D.6 Ingot Plant and Support: The Ingot Plant and Support consists of group 1 furnaces, in-line fluxers, group 2 furnaces, aluminum pneumatic transport system, coated scrap shredder, dross cooling and handling, and fuel oil storage tanks. The detailed equipment list is located in Section D.6 of this permit.

(g) D.7 Rolling Mills Plant: The Rolling Mills Plant consists of the scalper step cutter, hot ingot oxide brushing system, silos, hot reversing mill, continuous hot mill, cold mill, mist eliminator, annealing furnaces, preheat furnaces, and natural gas fired boilers. The detailed equipment list is located in Section D.7 of this permit.

(h) D.8 Coating Plant: The Coating Plant consists of the electro coil prep coating line, coil coating lines, coating mix stations, and solvents tanks. The detailed equipment list is located in Section D.8 of this permit.

Emission Units and Pollution Control Devices Identified Through the Title V Compliance Transition Program

This TSD describes facilities and emission units that were identified by the source pursuant to the Title V Compliance Transition Program under IC 13-7-7 and non-rule policy document Air-000-NPD [19 IR 1709]. Those facilities and emission units are listed in the specific sections of this TSD relating to individual operating areas.

Insignificant Activities Not Associated with Specific Operating Areas

Insignificant activities are noted in the specific sections of the TSD relating to an individual operating area.

Other insignificant activities on a plantwide general basis that are not associated with a specific operating area are as follows:

Carpenter shop operations controlled by a baghouse, less than 4,000 cfm

Annual fire brigade training

Purging of gas lines and vessels in the 827 truck re-build facility and 851 truck shop

General plant paved roads

Sanitary sewage system

General plant machine shop, including welders, friction welders, and machine shop burn table

General plant gasoline and diesel fuel dispensing

Roll shop vehicle garage natural gas furnaces #1 and #2

43 Parts washers dispersed throughout the plant

Spray paint facility or maintaining in-plant vehicles

Existing Approvals

The source has been operating under previous approvals including, but not limited to, operating permits, registrations, construction permits, and source modification approvals. The specific listing of existing approvals and how the conditions in those approvals are incorporated into this permit are described in the various sections of this TSD relating to specific operating areas. Although incorporation of individual terms is discussed in the sections of the TSD specifically relating to an operating area, generally the following concepts were followed:

(a) Conditions from operating permits issued pursuant to the now-repealed 326 IAC 2-1-4 are not incorporated into this permit because those conditions are not applicable requirements, as defined by 326 IAC 2-7-1(6).

(b) Conditions from registrations, construction permits, and source modification approvals were evaluated on a case-by-case basis to determine whether the condition is a relevant and valid applicable requirement. In some cases, conditions from these existing approvals are modified or deleted by this Part 70 permit.

The TSD for each operating area will contain a table or similar discussion that describes the proposed treatment of these conditions.

Enforcement Issue

There are no enforcement actions pending.

Recommendation

The staff recommends to the Commissioner that the Part 70 permit be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An administratively complete Part 70 permit application for the purposes of this review was received on September 19, 1996. Various updates to the Part 70 permit application were received between 1996 and 2006.

County Attainment Status

The source is located in Warrick County.

Pollutant	Status
PM_{10}	Attainment
$PM_{2.5}$	Nonattainment
SO_2	Attainment
NO_2	Attainment
1-hour Ozone	Attainment
8-hour Ozone	Attainment
CO	Attainment
Lead	Attainment

(a) Volatile organic compounds (VOC) and nitrogen oxides (NOx) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NOx emissions are considered when evaluating the rule applicability relating to the ozone standards. Warrick County has been designated as attainment for the 8-hour and 1-hour ozone standards. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

(b) U.S. EPA, in the Federal Register Notice 70 FR 943 dated January 5, 2005, has designated Warrick County as nonattainment for $PM_{2.5}$. On March 7, 2005 the Indiana Attorney General's Office, on behalf of IDEM, filed a law suit with the Court of Appeals for the District of Columbia Circuit challenging U.S. EPA's designation of nonattainment areas without sufficient data. However, in order to ensure that sources are not potentially liable for a violation of the Clean Air Act, the OAQ is following the U.S. EPA's guidance to regulate PM_{10} emissions as a surrogate for $PM_{2.5}$ emissions pursuant to the requirements of Emission Offset, 326 IAC 2-3.

(c) Warrick County has been classified as attainment or unclassifiable for PM_{10}, SO_2, NO_2, CO, and Lead. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

(d) Fugitive Emissions

Since this type of operation is in one of the twenty-eight (28) listed source categories under 326 IAC 2-2 or 326 IAC 2-3, fugitive emissions are counted toward the determination of PSD and Emission Offset applicability.

Source Status

The table below summarizes the potential to emit of the entire source, after consideration of all enforceable limits established in the effective permits:

Pollutant	Potential to Emit (tons/year)
PM	>100 tpy
PM_{10}	>100 tpy
SO_2	>100 tpy
VOC	>100 tpy
CO	>100 tpy
NOx	>100 tpy
Combined HAPs	>25 tpy
Individual HAPs	Several >10 tpy

Note: For the purpose of determining Title V applicability for particulates, PM_{10}, not PM, is the regulated pollutant in consideration.

(a) The potential to emit (as defined in 326 IAC 2-1.1-1(16)) of CO, NO_x, PM_{10}, SO_2 and VOC greater than 100 tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7; and

(b) The potential to emit (as defined in 326 IAC 2-1.1-1(16)) of any single HAP is equal to or greater than ten (10) tons per year and the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination of HAPs is greater than or equal to twenty-five (25) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7.

Actual Emissions

The following table shows the actual emissions from the source. This information reflects the 2003 OAQ emission data from the annual emission statement submitted by the source.

Pollutant	Actual Emissions (tons/year)
PM	651
PM_{10}	651
SO_2	3,244
VOC	609
CO	24,921
NO_x	222
HAP	
Ethyl Benzene	0.591
Methyl Isobutyl ketone	0.868
Toluene	5.69
Triethylamine	16.8
Xylene	3.31
2,3,7,8-Tetrachlorodibenzo-p-dioxin	1.14E-06
Carbonyl sulfide	326
Formaldehyde	0.128
Hydrochloric acid	60.6
Hydrogen fluoride	90.7
Chlorine	4.84
Naphthalene 4	1.26
Ammonia	3.95
Polycyclic organic matter	14.8
Total HAPs	>25

(a) This existing source is a major stationary source, under PSD (326 IAC 2-2), because a regulated pollutant is emitted at a rate of 100 tons per year or more, and it is one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(gg)(1).

(b) This existing source is a major stationary source under Emission Offset (326 IAC 2-3), because PM_{10} (a surrogate for $PM_{2.5}$), a nonattainment regulated pollutant, is emitted at a rate of 100 tons per year or more.

Part 70 Permit Conditions

This source is subject to the requirements of 326 IAC 2-7, pursuant to which the source has to meet the following:

(a) Emission limitations and standards, including those operational requirements and limitations that assure compliance with all applicable requirements at the time of issuance of Part 70 permits.

(b) Monitoring and related record keeping requirements which assume that all reasonable information is provided to evaluate continuous compliance with the applicable requirements.

Federal Rule Applicability

Part 70 – Operating Permits

(a) This source is a major source, as defined by 40 CFR 70.2 and 326 IAC 2-7-1, and is subject to the Part 70 operating permits program. This permit serves as the Part 70 operation permit for the source.

(b) Federal Rule Applicability for individual facilities is described in Appendix A of this TSD.

State Rules Applicability – Entire Source

(a) 326 IAC 1-5-2 (Emergency Reduction Plans) - The source has submitted an Emergency Reduction Plan (ERP) on May 20, 1997. The ERP has been verified to fulfill the requirements of 326 IAC 1-5-2 (Emergency Reduction Plans).

(b) 326 IAC 2-6 (Emission Reporting) - Since this source is required to have an operating permit under 326 IAC 2-7, Part 70 Permit Program, this source is subject to 326 IAC 2-6 (Emission Reporting). The source also has potential to emit greater than or equal to 2,500 tons per year of sulfur dioxide and carbon monoxide each; therefore, an emission statement covering the previous calendar year must be submitted by July 1 annually. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4.

(c) 326 IAC 5-1 (Opacity Limitations) - Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in the permit:

(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.

State Rule Applicability – Individual Facilities

State Rule Applicability for individual facilities are described in Appendix A of this TSD.

Testing Requirements

The detailed testing requirements for individual facilities are described in Appendix A of this TSD.

Compliance Requirements

The monitoring requirements for individual facilities are described in Appendix A of this TSD.

Conclusion

The operation of this aluminum production plant and associated support facilities shall be subject to the conditions of the attached proposed Part 70 Permit No. T173-6627-00007.

Appendix A
Technical Support Documentation for
Alumina and Aluminum Fluoride Handling Plant

D.1 Alumina and aluminum fluoride handling plant

Background and Description

The alumina and aluminum fluoride handling operations consist of barge alumina unloading, truck unloading, and rail unloading. There are various conveyors, and tanks associated with this operation. The alumina is finally fed to Potlines Nos. 1 to 6. The emissions are controlled by several baghouses.

Types of Emission Units and Pollution Control Equipment

Central Alumina and Aluminum Fluoride Handling System:

(1) Two (2) barge unloading pneumatic conveyors transferring alumina and aluminum fluoride from barge, identified as Airveyor No. 1 and Airveyor No. 2, constructed in 1968, with a maximum capacity of 200 tons per hour each, controlled by Airveyor No. 1 Baghouse and Airveyor No. 2 Baghouse, respectively, and exhausting at Stacks 60.2 and 60.3, respectively.

Two (2) baghouses, identified as Airveyor No. 1 Baghouse and Airveyor No. 2 Baghouse, with an air flow rate of 8,400 acfm at 120^{o}F each, and exhausting at Stacks 60.2 and 60.3, respectively;

(2) One (1) belt conveyor transferring alumina and aluminum fluoride from Airveyor No. 1 and Airveyor No. 2 to Transfer Tower 61A, identified as Airveyors Discharge Conveyor (Section 1), constructed in 1969, with a maximum capacity of 225 tons per hour, controlled by Building 60 Baghouse, and exhausting at Stack 60.6.

One (1) baghouse, identified as Building 60 Baghouse, controlling the Airveyors discharge onto the Airveyors Discharge Conveyor, with an airflow rate of 2,200 acfm at 80^{o}F, and exhausting at Stack 60.8;

(3) One (1) Transfer Tower 61A, constructed in 1969, for transferring alumina and aluminum fluoride from the Airveyors Discharge Conveyor to Tank 62 Feed Conveyor (Section 2), with a maximum capacity of 225 tons per hour, controlled by Transfer Tower 61A Baghouse, and exhausting at Stack 61A.1.

One (1) transfer tower baghouse, identified as Transfer Tower 61A Baghouse, with an airflow rate of 3,500 acfm at 80^{o}F, and exhausting at Stack 61A.1;

(4) One (1) alumina/aluminum fluoride storage tank, identified as Tank 62, constructed in 1969, with a maximum storage capacity of 1,800 tons and a transfer rate of 225 tons per hour. The Tank 62 Feed Conveyor discharge into Tank 62 is controlled by Tank 62 Baghouse (top of tank), exhausting at Stack 62.1. The Tank 62 discharge to Transfer Tower 61B Feed Conveyor (Section 3) or 112A Passageway Conveyor is controlled by BC-24 Baghouse (Tank 62 baghouse, ground level), exhausting at Stack 62.2.

Two (2) alumina/aluminum fluoride Tank 62 baghouses, identified as Tank 62 Baghouse (top of tank) and Baghouse BC-24 (Tank 62 baghouse, ground level), with maximum gas flow rates of 3,000 and 710 acfm at 70^{0}F, respectively, and exhausting at Stacks 62.1 and 62.2, respectively;

Potlines 1 and 2 Alumina and Alumina Fluoride Handling System:

(5) One (1) belt conveyor transferring alumina and aluminum fluoride from Tank 62 to Transfer Tower 61B, identified as Transfer Tower 61B Feed Conveyor, constructed in 1969, with a maximum capacity of 225 tons per hour, controlled by Baghouse BC-24, at the discharge point onto the conveyor and Transfer Tower 61B baghouse at the discharge point onto Transfer Tower 61B, and exhausting at Stacks 62.2 and 61B.1.

One (1) baghouse, identified as Transfer Tower 61B Baghouse, with an airflow rate of 3,000 acfm at 80^{o}F, and exhausting at Stack 61B.1;

(6) One (1) Transfer Tower 61B transferring alumina and aluminum fluoride from the Transfer Tower 61B Feed Conveyor to 104 passageway Conveyor, constructed in 1969, with a maximum capacity of 225 tons per hour, with the feed and discharge points into/out of Transfer Tower 61B controlled by Transfer Tower 61B Baghouse, and exhausting at Stack 61B.1;

(7) One (1) railcar/truck unloading system transferring alumina and aluminum fluoride to 104 Passageway Conveyor, identified as Building 140 Unloading, constructed in 1958, with a maximum capacity of 225 tons per hour, controlled by Building 140 Baghouse, and exhausting at Stack 140.1.

One (1) baghouse, identified as Building 140 Baghouse, with an airflow rate of 1,000 acfm at 70^{0}F, and exhausting at Stack 140.1;

(8) One (1) belt conveyor transferring alumina and aluminum fluoride from either the railcar/truck unloading system or 61B Transfer Tower to Bucket Elevators 141A and/or 141B, identified as 104 Passageway Conveyor, constructed in 1969, with a maximum capacity of 280 tons per hour, controlled by 104A Passageway Baghouse, and exhausting at Stack 104.1.

One (1) baghouse, identified as 104A Passageway Baghouse, with an airflow rate of 10,000 acfm at 70^{0}F, and exhausting at Stack 104.1;

(9) Two (2) bucket elevators transferring alumina and aluminum fluoride from 104 Passageway Conveyor to the Tank 144 feed airslide (Airslide 141) or the #8 screw conveyor, identified as Bucket Elevator 141A and Bucket Elevator 141B, each constructed in 1969, with a maximum capacity of 100 tons per hour each, controlled by 104A Passageway Baghouse at their inlet and the 144A Baghouse at their outlet, and exhausting at Stacks 104.1 and 144.1;

(10) One (1) Tank 144 feed airslide (Airslide 141) transferring alumina from Bucket Elevator 141A and Bucket Elevator 141B to Tanks 141BN and 144, constructed in 1969, with a capacity of 200 tons per hour, controlled by 144A Baghouse, and exhausting at Stack 144.1.

One (1) baghouse, identified as 144A Baghouse, with an airflow rate of 14,800 acfm at 70^{0}F, and exhausting at Stack 144A.1;

(11) One (1) tank transferring alumina to fresh alumina Tanks 160M.1 and 160M.2, identified as Tank 144, constructed in 1956, with a maximum storage capacity of 2,235 tons and a transfer rate of 225 tons per hour, controlled by 144A Baghouse, and exhausting at Stack 144.1;

(12) One (1) tank transferring alumina to reacted alumina Tank 141A(NE), identified as Tank 141BN, constructed in 1969, with a maximum storage capacity of 985 tons and a discharge rate of 5 tons per hour, controlled by 144A Baghouse, and exhausting at Stack 144.1;

(13) One (1) #8 Screw Conveyor transferring aluminum fluoride from Bucket Elevator 141A and Bucket Elevator 141B to Tanks 141CN, 141CS, 141D, 141E, and 141F, constructed in 1969, with a maximum storage capacity of 200 tons per hour, controlled by 144A Baghouse, and exhausting at Stack 144.1;

(14) Five (5) tanks, identified as Tanks 141CN, 141CS, 141D, 141E, and 141F, constructed in 1969, with a maximum capacity of 985 tons each, 144A Baghouse, and exhausting at Stack 144.1;

(15) Tank 160M.2 Feed Airslide feeding fresh alumina from Tank 144 to Tank 160M.2, with a capacity of 18 tons per hour, constructed in 1956, controlled by the 160M.2 Bin Vent Baghouse, and exhausting at Stack 160M.2.

One (1) baghouse, identified as 160M.2 Bin Vent Baghouse, with an airflow rate of 100 acfm at 70^{0}F, and exhausting at Stack 160M.2;

(16) One (1) fresh alumina tank for the supply of alumina to the Potline #1 B2 fluidized bed dry scrubber and baghouse, identified as Tank 160M.2, constructed in 1956, with a maximum capacity of 550 tons, controlled by the 160M.2 Bin Vent Baghouse, and exhausting at Stack 160M.2;

(17) One (1) distribution box and airslide transferring fresh alumina from Tank 160M.2 to fluidized bed scrubber and B2 Baghouse, identified as the Alumina Feed Airslide B2, constructed in 1956, with a maximum capacity of 18 tons per hour, controlled by the Airslide B2 Baghouse, and exhausting at Stack 160B2.16.

One (1) baghouse, identified as Airslide B2 Baghouse, with an airflow rate of 1,500 acfm at a temperature range of 70-120^{0}F, and exhausting at Stack 160B2.16;

(18) One (1) Tank 160M.1 Feed Airslide feeding fresh alumina from Tank 144 to Tank 160M.1, constructed in 1962, with a capacity of 18 tons per hour, controlled by Potline #2 C1 Pollution Control System, and exhausting at Stacks 160C.1 through 160C.37.

One fluidized bed dry scrubber and baghouse system consisting of twelve (12) fluidized dry scrubbers and baghouses, identified as the Potline #2 C1 Pollution Control System, with a total gas flow rate of 480,000 acfm at 200^{0}F, and exhausting at Stacks 160C.1 - 160C.36;

(19) One (1) fresh alumina tank for the supply of alumina to the Potline #2 C1 fluidized bed dry scrubber and baghouse, identified as Tank 160M.1, with a capacity of 550 tons, constructed in 1962, controlled by Potline #2 C1 Pollution Control System, and exhausting at Stacks 160C.1 through 160C.37;

(20) One (1) distribution box and airslide transferring fresh alumina to fluidized bed scrubber and Baghouse C1, identified as the Alumina Feed Airslide C1, constructed in 1962, with a capacity of 18 tons per hour, controlled by the Airslide C1 Baghouse, and exhausting at Stack 160C1.37.

One baghouse, identified as the Airslide C1 Baghouse, with an airflow rate of 3,500 acfm at a temperature range of 70-120^{0}F, and exhausting at Stack 160C.37;

(21) Two (2) reacted alumina airslides transporting reacted alumina from the C1 and B2 Pollution Control Systems to Tank 141A(NE), identified as Reacted Alumina Airslide B2 and Reacted Alumina Airslide C1, constructed in 1956 and 1962 respectively, with a maximum capacity of 18 tons per hour each, controlled by Tank 141A(NE) Baghouse, and exhausting at Stack 141.1(NE).

One (1) baghouse, identified as Tank 141A(NE) Baghouse, with an airflow rate of 2,400 acfm at 70^{0}F, and exhausting at Stack 141.1(NE);

(22) One (1) reacted alumina eductor transporting reacted alumina from Tank 141BN to Tank 141A(NE), identified as Tank 141 BN Eductor, constructed in 1984, with a maximum capacity of 5 tons per hour, controlled by Tank 141A(NE) Baghouse, and exhausting at Stack 141.1(NE);

(23) One (1) reacted alumina storage tank, identified as Tank 141A(NE), constructed in 1964, with a maximum capacity of 860 tons, controlled by Tank 141A(NE) Baghouse at its inlet and 104A Baghouse at its discharge, and exhausting at Stacks 141.1(NE) and 104.1;

<u>Potlines 3, 4, 5, and 6 Alumina and Aluminum Fluoride Handling System</u>:

(24) One (1) belt conveyor transferring alumina and aluminum fluoride from Tank 62 and/or Tank 152 to Airlift 150-FM-AE-01 and Airlift 150-FM-AE-02, identified as 112A Passageway Conveyor, constructed in 1969, with a maximum capacity of 275 tons per hour, controlled by 112A Passageway Baghouse, and exhausting at Stack 112A.1.

One (1) baghouse, identified as Baghouse 112A, with an airflow rate of 26,900 acfm at 70^{0}F, and exhausting at Stack 112A.1;

(25) Airlift 150-FM-AE-01 and Airlift 150-FM-AE-02, transferring alumina and aluminum fluoride from the 112A Passageway Conveyor to Airslide151, constructed in 2000, with a maximum capacity of 100 tons per hour each, controlled by 112A Passageway Baghouse, and exhausting at Stack 112A.1;

(26) Airslide 151, transferring alumina from Airlifts 150-FM-AE-01 and 150-FM-AE-02 to Tank 151C, Tank 151J, Tank 152, and Tank 154; and aluminum fluoride from Airlift 150-FM-AE-01 and Airlift 150-FM-AE-02 to Tank 151F and Tank 151G, constructed in 1969, with a maximum capacity of 225 tons per hour, controlled by Baghouse 112A, and exhausting at Stack 112A.1;

(27) One (1) aluminum fluoride tank, identified as Tank 151F, constructed in 1970, with a maximum storage capacity of 655 tons, fed from Airslide 151, and venting to Tank 151G. The discharge from this tank is controlled by Baghouse 112A, and exhausting at Stack 112A.1;

(28) One (1) aluminum fluoride tank, identified as Tank 151G, constructed in 1970, with a maximum storage capacity of 655 tons, fed from Airslide 151, and venting to atmosphere. The discharge from this tank is controlled by Baghouse 112A, and exhausting at Stack 112A.1;

(29) One (1) fresh alumina tank, identified as Tank 151C, constructed in 1969, with a capacity of 985 tons, and venting to Tank 151J. This tank supplies alumina for the anode baking ring furnace A-446 pollution control system and the bath crusher if needed;

(30) One (1) fresh alumina tank, identified as Tank 151J, fed from Airslide 151, constructed in 1969, with a maximum storage capacity of 113 tons, controlled by Baghouse 112A, and exhausting at Stack 112A.1. This tank supplies alumina for the anode baking ring furnace A-446 pollution control system;

(31) One (1) fresh alumina tank, identified as Tank 152, fed from Airslide 151, constructed in 1969, with a maximum storage capacity of 23,672 tons, and venting to Tank 154. This tank serves as an emergency supply point for alumina. Withdrawals from this tank occur via the 112A Passageway Belt Conveyor;

(32) Feed box B5 and Pollution Control System Alumina Feed Airslide B5, transporting alumina from Tank 154 to the B5 Pollution Control System, constructed in 1969, with a maximum capacity of 18 tons per hour, controlled by Airslide B5 Baghouse, and exhausting at Stack 161.B5.37.

One (1) baghouse, identified as Airslide B5 Baghouse, with an airflow rate of 3,500 acfm at a temperature range of 70-120^{o}F, and exhausting at Stack 161B5.37;

(33) Feed box B6 and Pollution Control System Alumina Feed Airslide B6, transporting alumina from Tank 154 to the B6 Pollution Control System, constructed in 1969, with a capacity of 18 tons per hour, controlled by Airslide B6 Baghouse, and exhausting at Stack 161.B6.37.

One (1) baghouse, identified as Airslide B6 Baghouse, with an airflow rate of 3,500 acfm at a temperature range of 70-120^{o}F, and exhausting at Stack 161B6.16;

(34) One (1) fresh alumina tank, identified as Tank 154, fed from Airslide 151, feeding to:

(A) Potline #5 pollution control system, Feed Box B5;

(B) Potline #6 pollution control system, Feed Box B6;

(C) Vibratory Screen and GTC Feed Airslide 161-B3-FM-01; and

(D) Vibratory Screen and GTC Feed Airslide 161-B4-FM-01.

Tank 154 was constructed in 1969, and has a capacity of 985 tons. It is controlled by Airslide B5 Baghouse and Airslide B6 Baghouse, and exhausts at Stacks 161.B5.37 and 161.B6.37, respectively;

(35) Vibratory Screen and GTC Feed Airslide 161-B3-FM-01, and Vibratory Screen and GTC Feed Airslide 161-B4-FM-01, transporting fresh alumina from Tank 154 to Potlines 3 and 4 Gas Treatment Center (GTC) for fluoride control, constructed in 2000, with a maximum capacity of 80 tons per hour each, controlled by Baghouse 112A, and exhausting at Stack 112A.1;

(36) Transfer of reacted alumina from the Potlines 3 and 4 Gas Treatment Center (GTC) for fluoride control to reacted alumina Airslide 166-FM-03 via:

(A) Airslide 166-FM-01 to Airlift 166-FM-01-AE-01 to Vibratory Screen 166-FM-01-SC-01 to Airslide 166-FM-03;

(B) Airslide 166-FM-02 to Airlift 166-FM-02-AE-02 to Vibratory Screen 166-FM-02-SC-02 to Airslide 166-FM-03.

Maximum capacity for the equipment described by (A.) and (B.) is 40 tons per hour each, while the maximum capacity of Airslide 166-FM-03 is 50 tons per hour. All of the airslides, airlifts, and vibratory screens described herein are controlled by Baghouse 166, exhausting at Stack 166.1. Except for Airslide 166-FM-03, all of the equipment described herein was constructed in 2000. The Airslide 166-FM-03 was constructed in 1969.

One (1) baghouse, identified as Baghouse 166, with an airflow rate of 7,000 standard dry cubic foot at 70^{0}F, and exhausting at Stack 166.1;

(37) Transfer of reacted alumina from Potline #6 B6 Pollution Control System for fluoride control to Airslide 166-FM-03 via Airslide 161-B6-FM-01 to Airlift 166-B6-FM-AE-01, thence to Vibratory Screen 166-B6-FM-SC-01, and thence to Airslide 166-FM-03. All of this equipment except for Airslide 166-FM-03 has a maximum capacity of 20 tons per hour, was constructed in 1969, and is controlled by Baghouse 166, exhausting at Stack 166.1;

(38) Transfer of reacted alumina from the Potline #5 B5 pollution control system for fluoride control to reacted alumina Airslide 161-B5-FM-01, thence to Airlift 161-B5-FM-AE-01, thence to Vibratory Screen 61-B5-FM-SC-01, thence to the feedbox for Airslide 166-FM-05 and Airslide 166-FM-06. All of this equipment except for the feedbox for Airslide 166-FM-05 and Airslide 166-FM-06 has a maximum capacity of 20 tons per hour, was constructed in 1969, and is controlled by the Baghouse 166, exhausting at Stack 166.1;

(39) Feedbox for Airslide 166-FM-05 and Airslide 166-FM-06, transferring reacted alumina from the GTC, B5, and B6 pollution control systems to Airslide 166-FM-05 and Airslide 166-FM-06. This feedbox was constructed in 2000, has a maximum capacity of 80 tons per hour, and is controlled by Baghouse 166, exhausting at Stack 166.1;

(40) Airslide 166-FM-05, transferring reacted alumina from the feedbox for Airslide 166-FM-05 and Airslide 166-FM-06 to Airlift 166-AE-01, constructed in 2000, with a maximum capacity of 80 tons per hour, and controlled by Baghouse 166, exhausting at Stack 166.1;

(41) Airslide 166-FM-06, transferring reacted alumina from the feedbox for Airslide 166-FM-05 and Airslide 166-FM-06 to Airlift 166-AE-02, constructed in 2000, with a maximum capacity of 80 tons per hour, and controlled by Baghouse 166, exhausting at Stack 166.1;

(42) Airlift 166-AE-02, transferring reacted alumina from Airslide 166-FM-06 to reacted alumina Airslide 166-FM-07, constructed in 2000, with a maximum capacity of 80 tons per hour, and controlled by Baghouse 166, exhausting at Stack 166.1;

(43) Airlift 166-AE-01, transferring reacted alumina from Airslide 166-FM-05 to reacted alumina Airslide 166-FM-07, constructed in 2000, with a maximum capacity of 80 tons per hour, and controlled by Baghouse 166, exhausting at Stack 166.1;

(44) Transfer of reacted alumina from Airlift 166-AE-01 and Airlift 166-AE-02 to Airslide 166-FM-07. Airslide 166-FM-07 has a maximum capacity of 80 tons per hour, was constructed in 2000, and is controlled by Baghouse 112A, exhausting at Stack 112A.1;

(45) Unloading Station BL-08, accepting reacted alumina that has been trucked from Anode Baking Ring Furnace A-446 Pollution Control System, and transferring it to Tank 151H. Unloading Station BL-08 has a maximum capacity of 30 tons per hour, and is controlled by Baghouse 112A, exhausting at Stack 112A.1;

(46) One (1) reacted alumina storage tank, identified as Tank 151H, fed from Unloading Station BL-08, constructed in 1969,with a maximum capacity of 655 tons, venting to Tank 151C;

(47) Dense Phase Transporter VS-01, transporting reacted alumina from Tank 151H to Feed Box 166-FM-08. Dense Phase Transporter VS-01 was constructed in 2000, has a maximum capacity of 7 tons per hour, and is controlled by Baghouse 112A, exhausting at Stack 112A.1;

(48) Feed box 166-FM-08, transferring reacted alumina from Dense Phase Transporter VS-01 and Airslide 166-FM-07, constructed in 2000, with a maximum capacity of 87 tons per hour, controlled by Baghouse 112A, and exhausting at Stack 112A.1;

(49) Airslide 166-FM-09, transferring reacted alumina from Feed Box 166-FM-08 to Tank 151A Distribution Box 151-FM-1A, constructed in 2000, with a capacity of 80 tons per hour, controlled by Baghouse 112A, and exhausting at Stack 112A.1;

(50) Tank 151A Distribution Box 151-FM-1A, transferring reacted alumina from Airslide 166-FM-09 to Tank 151A, constructed in 2000, with a capacity of 80 tons per hour, controlled by Baghouse112A, and exhausting at Stack 112A.1;

(51) Airslide 166-FM-10, transferring reacted alumina from Feed Box 166-FM-08 to Tank 151B Distribution Box 151-FM-1B, constructed in 2000, with a capacity of 80 tons per hour, controlled by Baghouse 112A, and exhausting at Stack 112A.1;

(52) Tank 151B Distribution Box 151-FM-1B, transferring reacted alumina from Airslide 166-FM-10 to Tank 151B, constructed in 2000, with a capacity of 80 tons per hour, controlled by Baghouse 112A, and exhausting at Stack 112A.1; and

(53) Tanks 151A and 151B, transferring reacted alumina to Potlines 3-6, with a storage capacity of 985 tons each, constructed in 1969, the discharge from each tank controlled by Baghouse 112A, and exhausting at Stack 112A.1.

The following emissions units have been removed from service since the initial Title V permit application was submitted to IDEM:

Emission Unit ID	Emission Unit Description
Tank 142	Alumina storage tank
Tank 143	Alumina storage tank
Tank 141A(NW)	Alumina storage tank
Tank 141A(SE)	Alumina storage tank
Tank 141A(SW)	Alumina storage tank
Tank 141BS	Alumina storage tank
Tank 144A	Alumina storage tank

Insignificant Activities

None

Existing Approvals

With respect to the aluminum handling operations, the source has been operating under the following previous approvals:

Description	Permit #	Issue Date
Operating Permits		
	OP 87-07-83-0058	Expired
Preconstruction Approvals		
	SPM 173-18836-00007	Issued on February 25, 2005.
	SSM 173-11342-00007	Issued on May 22, 2000
	Registration no. 173-9620	Issued on June 17, 1998
	Registration no. 173-3467	Issued on February 8, 1994

The following table describes those permit terms which were either modified or not incorporated into the Title V operating permit. Operation Permits issued by IDEM pursuant to 326 IAC 2-1-4 (now repealed) are not federally enforceable permits, nor are the terms of such permit "applicable requirements" which must be incorporated into the Title V permit.

Term Identification	Original Term Language	Proposed Term Language	Explanation/Comment
SSM 173-18836-00007	D.1.2 (a) PM and PM10 emissions from Dust Collector 112A shall each not exceed 0.006 grain per dry standard cubic foot at a flow rate of 26,900 actual cubic feet per minute, equivalent to 1.38 pounds of PM and PM10 per hour, each. D.1.2 (b) PM and PM10 emissions from Dust Collector 166 shall each not exceed 0.023 grain per dry standard cubic foot a flow rate of 7,000 actual cubic feet per minute, equivalent to 1.38 pounds of PM and PM10 per hour, each. D.1.2 (c) Compliance with the limits in paragraphs (a) and (b) of this condition shall ensure that the potential PM emissions from the alumina handling system do not exceed twenty-five (25) tons per year and that the potential PM10 emissions from the alumina handling system do not exceed fifteen (15) tons per year, which renders the requirements of 326 IAC 2-2 not applicable. The requirements of this condition shall supersede the requirements of Condition D.1.2 of SSM 173-11342-00007, issued on May 23, 2000.	~~D.1.2 (a) PM and PM10 emissions from Dust Collector 112A shall each not exceed 0.006 grain per dry standard cubic foot at a flow rate of 26,900 actual cubic feet per minute, equivalent to 1.38 pounds of PM and PM10 per hour, each.~~ ~~D.1.2 (b) PM and PM10 emissions from Dust Collector 166 shall each not exceed 0.023 grain per dry standard cubic foot a flow rate of 7,000 actual cubic feet per minute, equivalent to 1.38 pounds of PM and PM10 per hour, each.~~ ~~D.1.2 (c) Compliance with the limits in paragraphs (a) and (b) of this condition shall ensure that the potential PM emissions from the alumina handling system do not exceed twenty-five (25) tons per year and that the potential P10 emissions from the alumina handling system do not exceed fifteen (15) tons per year, which renders the requirements of 326 IAC 2-2 not applicable. The requirements of this condition shall supersede the requirements of Condition D.1.2 of SSM 173-11342-00007, issued on May 23, 2000.~~ **D.1.2 Pursuant to 326 IAC 2-2 and SSM 173-18836-00007, issued on February 25, 2005, the combined PM and PM_{10} emissions from Baghouse 112A and Baghouse 116 shall be less than 5.7 and 3.4 pounds per hour, respectively. Compliance with these emissions limits shall ensure that the**	D.1.2 (a) SSM 18836 was issued for Baghouse 112A and Baghouse 166 on a combined basis. The amended condition specifies a combined hourly PM and PM_{10} limits. There is no need to establish separate emission limits for Baghouse 112A and Baghouse 166. Also there is no need to establish specific gas flow rates and grain loadings for particulate. A new condition has replaced the old condition. For consistency, throughout the permit "Dust Collector" has been replaced with "Baghouse". "do not exceed" has been replaced with "shall be less than", because if the PM and PM_{10} limits reach the 25 and 15 tons/yr, respectively, the PSD requirements will apply. In order to clarify that the emission limits established in this permit are only for the specific emissions units of the alumina handling system, the "alumina handling system" has been replaced with the "emissions units associated with Baghouse 112A and Baghouse 166".

Term Identification	Original Term Language	Proposed Term Language	Explanation/Comment
		potential PM and PM_{10} emissions from the emissions units associated with Baghouse 112A and Baghouse 166 shall be less than 25 and 15 tons per year, respectively, which renders the requirements of PSD rule 326 IAC 2-2 not applicable.	
SSM 173-18836-00007	D.1.3 Preventive Maintenance Plan [326 IAC 2-7-5(13)] A Preventive Maintenance Plan, in accordance with Section C - Preventive Maintenance Plan, of this permit, is required for the alumina handling system and its control devices.	~~D.1.3 Preventive Maintenance Plan [326 IAC 2-7-5(13)]~~ ~~A Preventive Maintenance Plan, in accordance with Section C - Preventive Maintenance Plan, of this permit, is required for the alumina handling system and its control devices.~~	The Permittee has chosen to have a more general condition appear in Section B of the permit instead of an individual PMP condition in every D Section. A general PMP condition has been included in Section B of the permit.
SSM 173-18836-00007	D.1.6 The Permittee shall install and operate a continuous bag leak detection system for each dust collector stack exhaust (112A and 166) in the alumina handling system. The bag leak detection system shall meet the following requirements: (a) Each electrodynamic bag leak detection system shall be installed, calibrated, operated, and maintained in accordance with manufacturer's specifications.	**D.1.5 Pursuant to SSM 173-18836-00007, issued on February 25, 2005,** ~~T~~**t**he Permittee shall ~~install and~~ operate a continuous bag leak detection system for ~~each~~ **Baghouse 112A and Baghouse 166** ~~dust collector~~ stack exhaust ~~(112A and 166)~~ in the alumina handling system. The bag leak detection system shall meet the following requirements: (a) Each electrodynamic bag leak detection system shall be ~~installed,~~ calibrated, operated, and maintained in accordance with **the** manufacturer's specifications.	SSM 173-18836-00007 was issued for Baghouse 112A and Baghouse 166 on a combined basis. The amended condition specifies combined hourly PM and PM_{10} limits. The leak detector system has already been installed, therefore "install" has been deleted.
	(b) The Permittee shall calibrate each bag leak detection system such that: (1) For Dust Collector 112A, the bag leak detection alarm shall activate whenever PM and/or PM10 emissions from Stack 112A are greater than or equal to 0.0030 grains per dry standard cubic foot at a flow rate of 26,900 actual cubic feet per minute, equivalent to greater than or equal to 0.692 pounds of PM and/or PM10 per hour.	(b) The Permittee shall ~~calibrate~~ establish alarms for each bag leak detection system**s** such that ~~(1) For Dust Collector 112A, the bag leak detection alarm shall activate whenever PM and/or PM10 emissions from Stack 112A are greater than or equal to 0.0030 grains per dry standard cubic foot at a flow rate of 26,900 actual cubic feet per minute, equivalent to greater than or equal to 0.692 pounds of PM~~	New language has been included for Conditions D.1.5(a) and (b) in the permit.

Term Identification	Original Term Language	Proposed Term Language	Explanation/Comment
	(2) For Dust Collector 166, the bag leak detection alarm shall activate whenever PM and/or PM10 emissions from Stack 166 are greater than or equal to 0.0115 grains per dry standard cubic foot at a flow rate of 7,000 actual cubic feet per minute, equivalent to greater than or equal to 0.690 pounds of PM and/or PM10 per hour. Failure to comply with the requirements in paragraphs (b)(1) and (b)(2) of this condition shall be considered a deviation from this permit.	~~and/or PM10 per hour.~~ **an initial investigation alarm shall be activated for Baghouse 112A, whenever PM and/or PM_{10} emissions from Stack 112A.1 are greater than or equal to 0.003 grains per dry standard cubic foot, equivalent to greater than or equal to 0.692 pounds of PM and/or PM_{10} per hour, and for Baghouse 166, whenever PM and/or PM_{10} emissions from Stack 166.1 are greater than or equal to 0.0115 grains per dry standard cubic foot, equivalent to greater than or equal to 0.69 pounds of PM and/or PM_{10} per hour.** ~~(2) For Dust Collector 166, the bag leak detection alarm shall activate whenever PM and/or PM10 emissions from Stack 166 are greater than or equal to 0.0115 grains per dry standard cubic foot at a flow rate of 7,000 actual cubic feet per minute, equivalent to greater than or equal to 0.690 pounds of PM and/or PM10 per hour.~~ Failure to comply with the requirements in paragraph~~s~~ (b)~~(1) and (b)(2)~~ of this condition shall be considered a deviation from this permit~~.;~~	
SSM 173-18836-00007	D.1.6(c) In order to ensure compliance with paragraphs (b)(1) and (b)(2) of this condition, the Permittee shall perform annual calibration tests utilizing methods as approved by the Commissioner.	~~D.1.6(c) In order to ensure compliance with paragraphs (b)(1) and (b)(2) of this condition, the Permittee shall perform annual calibration tests utilizing methods as approved by the Commissioner.~~	The language in Condition D.1.6(c) comes from the EPA Guidance Document on triboelectric broken bag leak detectors. The units on Baghouse 112A and Baghouse 166 are not triboelectric. Condition D.1.5(a) states that the bag leak detector shall be calibrated in accordance with the manufacturer's specifications. Therefore, old Condition D.1.6(c) has been deleted. Subsequent conditions have been renumbered.

Term Identification	Original Term Language	Proposed Term Language	Explanation/Comment
SSM 173-18836-00007	D.1.6(g) For negative pressure or induced air fabric filters, the bag leak detector shall be installed downstream of the fabric filter.	D.1.5(g) ~~For negative pressure or induced air fabric filters, t~~**T**he bag leak detector shall be installed downstream of the fabric filter.	This is a negative pressure baghouse.
SSM 173-18836-00007	D.1.6 (j) Following initial adjustment of the system, the Permittee shall not adjust the sensitivity or range, averaging period, alarm set points, or alarm delay time except as detailed in the Compliance Response Plan. In no case may the sensitivity be increased by more than one hundred (100%) percent or decreased more than fifty (50%) percent over a 365-day period unless such adjustment follows a complete fabric filter inspection which demonstrates that the fabric filter is in good operating condition.	D.1.5 (j) Following initial adjustment of the system, the Permittee shall not adjust the sensitivity or range, averaging period, alarm set points, or alarm delay time except as detailed in the ~~Compliance Response Plan~~ **PMP**.	Alarm adjustment procedures should be specified in the Preventive Maintenance Plan (PMP), since the SSM plan only describes how excess emissions from start-up, shutdowns, and malfunctions should be addressed. The language regarding making alarm set points as detailed in the PMP allows the Permittee to make alarm adjustments as indicated by calibrations.
SSM 173-18836-00007	D.1.6 (k)(5) The Compliance Response Plan for the alumina handling system shall contain troubleshooting contingency and response steps for when an abnormal emission is observed. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit. D.1.7 In the event that a bag leak detection system alarm is activated for any reason, the same corrective actions specified in the Compliance Response Plan for use during periods of startup, shutdown, and	D.1.5(k)(5) ~~The Compliance Response Plan for the alumina handling system shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.~~ **If abnormal emissions are observed, the Permittee shall take reasonable response steps in accordance with Section C – Response to Excursions and Exceedances.** Failure to take response steps in accordance with Section C - ~~Compliance Response Plan - Preparation, Implementation, Records, and Reports~~ **Response to Excursions and Exceedances**, shall be considered a deviation from this permit. D.1.6 In the event that a bag leak detection system alarm is activated for any reason, ~~the same corrective actions specified in the Compliance Response Plan for use during periods of startup, shutdown, and~~	IDEM has reconsidered the requirements to develop and follow a Compliance Response Plan. The Permittee will still be required to take reasonable response steps when a compliance monitoring parameter is determined to be out of compliance or abnormal. Replacing the requirement to develop and follow a Compliance Response Plan with a requirement to take reasonable response steps will ensure that the control equipment is returned to proper operation as soon as practicable, while still allowing the Permittee the flexibility to respond to situations that were not anticipated.

Term Identification	Original Term Language	Proposed Term Language	Explanation/Comment
	malfunction, shall be followed to correct the cause for the alarm, regardless of whether the alarm is caused by a malfunction as defined,-the Permittee shall take the following response steps: ……………………………	~~malfunction, shall be followed to correct the cause for the alarm, regardless of whether the alarm is caused by a malfunction as defined,~~ the Permittee shall take the following response steps:. ……………………………	

Federal Rule Applicability

(a) New Source Performance Standards (NSPS) for Primary Aluminum Reduction Plants [326 IAC 12] [40 CFR 60 Subpart S]

This portion of the aluminum reduction plant is not covered by this NSPS.

(b) National Emission Standards for Hazardous Air Pollutants (NESHAP) [326 IAC 14, and 40 CFR Part 61]

There are no National Emission Standards for Hazardous Air Pollutants (NESHAP) (326 IAC 14 and 40 CFR Part 61) included in the permit application for this source.

(c) National Emission Standards for Hazardous Air Pollutants for Primary Aluminum Reduction Plants [326 IAC 20-24, and 40 CFR 63, Subpart LL]

This portion of the aluminum reduction plant is not covered by this NESHAP.

(d) Compliance Assurance Monitoring (CAM) [40 CFR 64]

This initial Part 70 operating permit application has been determined to be complete by April 20, 1998. Therefore, the Permittee is not required to prepare and submit a Compliance Assurance Monitoring (CAM) plan during the review of the initial Part 70 permit.

(e) The National Emission Standards for Hazardous Air Pollutants (NESHAP) for Secondary Aluminum Production [40 CFR Part 63, Part RRR]

The National Emission Standards for Hazardous Air Pollutants (NESHAP) for Secondary Aluminum Production (40 CFR Part 63, Part RRR) are not included in this permit for the alumina handling operations, because the alumina handling operation is not one of the emission units regulated by this NESHAP.

State Rule Applicability - Individual Facilities

(a) Particulate Emissions from Manufacturing Operations [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the below listed processes shall be limited as follows:

Facility	Control Device	Maximum Process Weight Rate (tons/hr)	PM Emission Limit (lbs/hr)
Air Conveyors No. 1 and No. 2	Airveyor No. 1 Baghouse and Airveyor No. 2 Baghouse	225	59.8
Airveyor Discharge Conveyor	Building 60 Baghouse	225	59.8
Transfer Tower 61A	Transfer Tower 61A Baghouse	225	59.8
Tank 62 loading	Tank 62 Baghouse (Tank 62 baghouse, top of tank)	225	59.8
Tank 62 unloading	Baghouse BC-24 (Tank 62 baghouse, ground level)	225	59.8
Transfer Tower 61B	Transfer Tower 61B Baghouse	225	59.8
Building 140 Unloading	Building 140 Baghouse	225	59.8
104 Passageway Conveyor, and Bucket Elevator 141A and Bucket Elevator 141B	104A Passageway Baghouse	200	58.5
Airslide 141, Tank 144, Tank 141BN, Tank 141CN, Tank 141CS, Tank 141D, Tank 141E, Tank 141F, and #8 Screw Conveyor	Tank 144A Baghouse	200	58.5
Tank 160M.1	Potline #2 C1 Pollution Control System	18	28.4
Tank 160M.1 Feed Airslide		18	28.4
Tank 160M.2	Tank 160M.2 Bin Vent Baghouse	18	28.4
Tank 160M.2 Feed Airslide	Tank 160M.2 Bin Vent Baghouse	18	28.4
Alumina Feed Airslide B2	Airslide B2 Baghouse	18	28.4
Alumina Feed Airslide C1	Airslide C1 Baghouse	18	28.4
Reacted Alumina Airslide B2	Tank 141A(NE) Baghouse	18	28.4
Reacted Alumina Airslide C1	Tank 141A(NE) Baghouse	18	28.4
Tank 141(NE) System	Tank 141A (NE) Baghouse	18	28.4
Tank 141 BN Eductor	Tank 141A (NE) Baghouse	5	12

Facility	Control Device	Maximum Process Weight Rate (tons/hr)	PM Emission Limit (lbs/hr)
Equipment controlled by Baghouse 112A			
(1) 112A Passageway Conveyor	Baghouse 112A	225	59.8
(2) Airlift 150-FM-AE01			
(3) Airlift 150-FM-AE02			
(4) Airslide 151			
(5) Tank 151F			
(6) Vibratory Screen and GTC Feed Airslide 161-B3-FM-01			
(7) Vibratory Screen and GTC Feed Airslide 161-B4-FM-01			
(8) Tank 152			
(9) Tank 151C			
(10) Tank 151J			
(11) Tank 151H			
(12) Unloading Station B-08			
(13) Dense Phase Transporter VS-01			
(14) Airslide 166-FM-07			
(15) Feed Box 166-FM-08			
(16) Airslide 166-FM-09			
(17) Tank 151A Distribution Box 151-FM-1A			
(18) Airslide 166-FM-10			
(19) Tank 151B Distribution Box 151-FM-1B			
(20) Tanks 151A and 151B			
Tank 151G Loading	Uncontrolled	200	58.5
Tank 154, Feed Box B5 and Pollution Control System Alumina Feed Airslide B5	Airslide Baghouse B5	200	58.5
Tank 154, Feed Box B6 and Pollution Control System Alumina Feed Airslide B6	Airslide Baghouse B6	200	58.5

Facility	Control Device	Maximum Process Weight Rate (tons/hr)	PM Emission Limit (lbs/hr)
Equipment controlled by Baghouse 166			
(1) Airslide166-FM-01	Baghouse 166	80	29.1
(2) Airlift 166-FM-01-AE-01			
(3) Vibratory Screen 166-FM-01-SC-01			
(4) Airslide 166-FM-02			
(5) Airlift 166-FM-02-AE-02			
(6) Vibratory screen 166-FM-02-SC-02			
(7) Airslide 161-B6-FM-01			
(8) Airlift 166-B6-FM-AE-01,			
(9) Vibratory Screen 166-B6-FM-SC-01			
(10) Airslide 166-FM-03;			
(11) Airslide 161-B5-FM-01			
(12) Airlift 166-B5-FM-AE-01,			
(13) Vibratory Screen 166-B5-FM-SC-01			
(14) Feedbox for Airslide 165-FM-05 and Airslide 166-FM-06			
(15) Airslide 165-FM-05			
(16) Airslide 166-FM-06			
(17) Airlift 166-AE-02			
(18) Airlift 166-AE-01			

The above particulate emissions rates were determined from the following formulae:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour by use of the equation:

$E = 4.10\ P^{0.67}$

where:

E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour.

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour by use of the equation:

$E = 55.0\ P^{0.11} - 40$

where:

E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour.

When the process rate exceeds two hundred (200) tons per hour, the allowable emission may exceed the emission limits shown in the above table; provided the concentration of particulate in discharge gases to the atmosphere is less than one-tenth (0.10) pound per thousand (1,000) pounds of gases.

(b) PSD Minor Limit [326 IAC 2-2]

Pursuant to 326 IAC 2-2 and SSM 173-18836-00007, issued on February 25, 2005, the combined PM and PM_{10} emissions from Baghouse 112A and Baghouse 116 shall be less than 5.7 and 3.4 pounds per hour, respectively. Compliance with these emissions limits shall ensure that the combined potential PM and PM_{10} emissions from the emissions units associated with Baghouse 112A and Baghouse 166 shall be less than 25 and 15 tons per year, respectively, which renders the requirements of PSD rule 326 IAC 2-2 not applicable.

(c) Tank 141 BN Eductor Uncontrolled Emissions

This tank was constructed in 1984. The emissions factors for PM and PM_{10} were taken from SCC 3-03-024-08 (AP-42, Table 11.24-1).

Process Weight Rate (tons/hr)	PM Ef (lb/ton)	PM_{10} Ef (lb/ton)	PM Emissions (lb/yr)	PM_{10} Emissions (lb/yr)
5	0.01	0.004	0.22	0.09

The potential uncontrolled PM and PM_{10} emissions from Tank 141 BN Eductor are less than the PSD significant levels of 25, and 15 tons per year, respectively. Therefore, the requirements of PSD rule 326 IAC 2-2 are not applicable to Tank 141 BN Eductor.

Compliance Determination Requirements

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with all applicable state and federal rules on a continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a continuous demonstration. When this occurs, IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, Compliance Determination Requirements are included in the permit. The Compliance Determination Requirements in Section D of the permit are those conditions that are found directly within state and federal rules and the violation of which serves as grounds for enforcement action.

If the Compliance Determination Requirements are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also in Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

Testing Requirements

The Permittee shall perform PM and PM_{10} testing on Baghouse 112A and Baghouse 166 at least once every five (5) years from the date of the last valid compliance demonstration, because the Permittee is using these baghouses to stay below the PSD significant levels for PM and PM_{10}.

The monitoring requirements applicable to the alumina and aluminum fluoride handling plant are as follows:

(a) For Baghouse 112A and Baghouse 166 with bag leak detectors:

Pursuant to SSM 173-18836-00007, issued on February 25, 2005, the Permittee shall operate a continuous bag leak detection system for each of Baghouse 112A and Baghouse 166 stack exhaust in the alumina handling system. The bag leak detection system shall meet the following requirements:

(1) Each electrodynamic bag leak detection system shall be calibrated, operated, and maintained according to the manufacturer's recommendations; and

(2) The Permittee shall continuously record output signal from the sensor. If the leak detection system is inoperable, the Permittee shall perform visible emissions notations once per day;

(3) The Permittee shall establish alarms for both bag leak detection systems such that The Permittee shall establish alarms for both bag leak detection systems such that an initial investigation alarm shall be activated for Baghouse 112A, whenever PM and/or PM_{10} emissions from Stack 112A.1 are greater than or equal to 0.003 grains per dry standard cubic foot, equivalent to greater than or equal to 0.692 pounds of PM and/or PM_{10} per hour; and for Baghouse 166, whenever PM and/or PM_{10} emissions from Stack 166.1 are greater than or equal to 0.0115 grains per dry standard cubic foot, equivalent to greater than or equal to 0.69 pounds of PM and/or PM_{10} per hour.

Failure to comply with the requirements in paragraph (3) of this condition shall be considered a deviation from this permit.

(b) The 112A and 166 baghouse control PM/PM_{10} emissions from the alumina handling operations associated with potlines 3, 4, 5, and 6. The fresh alumina is initially routed to the dry scrubber for these potlines, in order to capture the gaseous and particulate fluoride emissions. If associated operations had to shutdown due to a failure of either baghouse, fluoride emissions would increase significantly from the potline emission control devices, because the scrubbing alumina would no longer be available, and/or because the reacted alumina could not be evacuated from the dry scrubbers. Therefore, four (4) hours of operation of the process following the bag failure is allowed rather than shutting down the process immediately after the failure of the baghouse.

Bag Leak Detection Alarm Activation

In the event that a bag leak detection system alarm is activated for any reason, the Permittee shall take the following response steps:

(1) For Baghouse 112A and Baghouse 166 which are single compartment baghouses, if failure is indicated by a bag leak detection alarm activation that is not a false alarm, or if bag failure is determined by other means, such as daily visible emissions notations and/or daily checks of the particulate concentration

readings from electrodynamic bag leak detectors, then the associated process will be shut down after four (4) hours of operation following bag failure if the failed units have not been repaired or replaced. Operations may continue after four (4) hours of operation following bag failure only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section C - Emergency Provisions); and

(2) After bag failure, if the alumina handling system continues to operate, until the failed bag is repaired or replaced, the Permittee shall monitor the hourly PM and PM_{10} emission rate recorded by the electrodynamic bag leak detector's data acquisition system until the failed bag is repaired or replaced.

(c)

Control	Parameter	Frequency	Range	Excursions and Exceedances
Airveyor No. 1 Baghouse,	Water Pressure Drop	Daily	2 to 5 inches	Response Steps
	Visible Emissions		Normal-Abnormal	
Airveyor No. 2 Baghouse	Water Pressure Drop	Daily	2 to 5 inches	Response Steps
	Visible Emissions		Normal-Abnormal	
Building 60 Baghouse	Water Pressure Drop	Daily	3 to 6 inches	Response Steps
	Visible emissions		Normal-Abnormal	
Transfer Tower 61A Baghouse	Water Pressure Drop	Daily	3 to 6 inches	Response Steps
	Visible Emissions		Normal-Abnormal	
Baghouse Tank 62 (top of tank)	Water Pressure Drop	Daily	3 to 6 inches	Response Steps
	Visible Emissions		Normal-Abnormal	
Baghouse BC-24 (Tank 62 baghouse, ground level)	Water Pressure Drop	Daily	3 to 6 inches	Response Steps
	Visible Emissions		Normal-Abnormal	
Transfer tower 61B Baghouse	Water Pressure Drop	Daily	3 to 6 inches	Response Steps
	Visible Emissions		Normal-Abnormal	
Building 140 Baghouse	Water Pressure Drop	Daily	3 to 6 inches	Response Steps
	Visible Emissions		Normal-Abnormal	

Control	Parameter	Frequency	Range	Excursions and Exceedances
104A Passageway Baghouse	Water Pressure Drop	Daily	3 to 6 inches	Response Steps
	Visible Emissions		Normal-Abnormal	
144A Baghouse	Water Pressure Drop	Daily	3 to 6 inches	Response Steps
	Visible Emissions		Normal-Abnormal	
160M.2 Bin Vent Baghouse	Water Pressure Drop	Daily	3 to 6 inches	Response Steps
	Visible Emissions		Normal-Abnormal	
Airslide B2 Baghouse	Water Pressure Drop	Daily	3 to 6 inches	Response Steps
	Visible Emissions		Normal-Abnormal	
Airslide C1 Baghouse	Water Pressure Drop	Daily	3 to 6 inches	Response Steps
	Visible Emissions		Normal-Abnormal	
Tank 141A(NW) Baghouse	Water Pressure Drop	Daily	3 to 6 inches	Response Steps
	Visible Emissions		Normal-Abnormal	
Airslide B5 Baghouse	Water Pressure Drop	Daily	3 to 6 inches	Response Steps
	Visible Emissions		Normal-Abnormal	
Airslide B6 Baghouse	Water Pressure Drop	Daily	3 to 6 inches	Response Steps
	Visible Emissions		Normal-Abnormal	

These monitoring conditions are necessary because the baghouses for the alumina handling system must operate properly to comply with the rules 326 IAC 6-3-2, and 326 IAC 2-7 (Part 70).

Conclusion

The operation of this alumina and aluminum handling plant shall be subject to the conditions of this Part 70 permit 173-6627-00007.

Technical Support Documentation for Potlines and Potlines Support

D.2 Potlines and Potlines Support

Background and Description

The potlines manufacture metallic aluminum by the electrolytic reduction of alumina (Al_2O_3) in center –worked prebake (CWPB) cells. Direct electrical current, passing between anodes and the cathodes, electrolytically reduces the alumina to aluminum and oxygen. Molten aluminum is deposited and accumulates over time at the cathode beneath a layer of the cryolite bath. Periodically the molten aluminum is siphoned beneath the cryolite bath and processed to achieve specific metal properties or retained as pure aluminum. The product aluminum is solidified into intermediate or final products. Potlines emissions are controlled by alumina scrubber and baghouses or a single bed reactor type system with fabric filtration system.

Types of Emission Units and Pollution Control Equipment

(1) One (1) center-worked prebake one (CWPB1) potline, consisting of 150 pots, identified as Potline No.1, constructed in 1956, with a maximum aluminum production rate of 7.08 tons per hour. Primary emissions are controlled by the Potline No.1 A-398 pollution control system (B2) and exhaust at Stacks 160B2.1-160B2.14. Secondary emissions are uncontrolled and exhaust at roof monitors 101M.1 and 102M.1.

One (1) fluidized bed scrubber and baghouse system, consisting of seven (7) fluidized bed scrubbers and baghouses, identified as Potline No. 1 A-398 pollution control system (B2), with a total gas flow rate of 490,000 acfm at 200^0F, and exhausting at Stacks 160B2.1-160B2.14;

(2) One (1) center-worked prebake one (CWPB1) potline, consisting of 150 pots, identified as Potline No. 2, constructed in 1962 with a maximum aluminum production rate of 7.99 tons per hour. Primary emissions are controlled by the Potline No.2 A-398 pollution control system (C1) and exhaust at Stacks 160C1.1-160C1.36. Secondary emissions are uncontrolled and exhaust at roof monitors 103M.1 and 104M.1.

One (1) fluidized bed scrubber and baghouse system, consisting of twelve (12) fluidized bed scrubbers and baghouses, identified as Potline No. 2 A-398 pollution control system (C1), with a total gas flow rate of 480,000 acfm at 200^0F, and exhausting at Stacks 160C1.1-160C1.36;

(3) One (1) center-worked prebake one (CWPB1) potline, consisting of 150 pots, identified as Potline No. 3, constructed in 1965, with a maximum aluminum production rate of 7.99 tons per hour. Primary emissions are controlled by the gas treatment center (GTC) system and exhaust at Stack GTC. Secondary emissions are uncontrolled and exhaust at roof monitors 105M.1 and 106M.1.

One (1) alumina injection and fabric filtration system, identified as GTC system, with a total gas flow rate of 1,000,000 acfm at 170^0F, and exhausting at Stack GTC;

(4) One (1) center-worked prebake one (CWPB1) potline, consisting of 150 pots, identified as Potline No. 4, constructed in 1965, with a maximum aluminum production rate of 7.99 tons per hour. Primary emissions are controlled by the GTC system and exhaust at Stack GTC. Secondary emissions are uncontrolled and exhaust at roof monitors 107M.1 and 108M.1;

(5) One (1) center-worked prebake one (CWPB1) potline, consisting of 150 pots, identified as Potline No. 5, constructed in 1968, with a maximum aluminum production rate of 7.99 tons per hour. Primary emissions are controlled by the Potline No. 5 A-398 pollution control system (B5) and exhaust at Stacks 161B5.1-161B5.36. Secondary emissions are uncontrolled and exhaust at roof monitors 109M.1 and 110M.1.

One (1) fluidized bed scrubber and baghouse system, consisting of twelve (12) fluidized bed scrubbers and baghouses, identified as Potline No. 5 A-398 pollution control system (B5), with a total gas flow rate of 480,000 acfm at 200^0F, and exhausting at Stacks 161B5.1-161B5.36;

(6) One (1) center-worked prebake one (CWPB1) potline, consisting of 150 pots, identified as Potline No. 6, constructed in 1968, with a maximum aluminum production rate of 7.99 tons per hour. Primary emissions are controlled by the Potline No.6 A-398 pollution control system (B6) and exhaust at Stacks 161B6.1-161B6.36. Secondary emissions are uncontrolled and exhaust at roof monitors 111M.1 and 112M.1.

One (1) fluidized bed scrubber and baghouse system, consisting of twelve (12) fluidized bed scrubbers and baghouses, identified as Potline No.6 A-398 pollution control system (B6), with a total gas flow rate of 480,000 acfm at 200^0F, and exhausting at Stacks 161B6.1-161B6.36;

(7) One (1) hydraulic hammer, identified as Pot Digging, constructed in 1962, with a maximum capacity of 2.85 tons per hour, controlled by the Pot Digging baghouse, and exhausting at Stack 136.4.

One (1) baghouse, identified as Pot Digging Baghouse, with an airflow rate of 70,000 dscfm, and exhausting at Stack 136.4;

(8) One (1) auger, identified as Crucible Digging, constructed in 1988, with a maximum capacity of 0.86 tons per hour, controlled by the Crucible Digging baghouse, and exhausting at Stack 110.1.

One (1) baghouse, identified as Crucible Digging Baghouse, with an airflow rate of 6,560 dscfm, and exhausting to Stack 110.1;

(9) One (1) crusher, identified as Potline Bath Crusher, constructed in 1972, with a maximum capacity of 21 tons per hour, controlled by the Potline Bath Crusher Baghouse, and exhausting at Stack 110.2.

One (1) baghouse, identified as Potline Bath Crusher Baghouse, with an airflow rate of 99,000 dscfm, and exhausting at Stack 110.2; and

(10) Four (4) alumina/butt bath/cake bath storage tanks, constructed in 1972, identified as Tanks 110H-A, 110H-B, 110H-C, and 110H-D with a capacity of 1000 cubic feet each, controlled by the Potline Bath Crusher Baghouse, and exhausting at Stack 110.2.

The following emissions units have been removed from service since the initial Title V permit application as submitted to IDEM:

Building	Emission Unit ID	Emission Unit Description	Stack/Vent ID
	None		

Insignificant Activities

(1) Wheelabrator

(2) Plant air dryer unit

Existing Approvals

With respect to the potlines operations, the source has been operating under the following previous approvals.

Description	Permit #	Issue Date
Operating Permits		
	OP 87-07-83-0059	Expired
Preconstruction Approvals		
Pot Lines	Constructed before December, 1968	
Crucible Augur and the baghouse	Registration	Issued on May 25, 1988
Pot Digging baghouse	Registration	February 20, 1991
GTC pollution control equipment	Exemption CP 173-10598-00007	September 20, 1999

Federal Rule Applicability

(a) New Source Performance Standards (NSPS) for Primary Aluminum Reduction Plants [326 IAC 12] [40 CFR 60 Subpart S]

The requirements of the New Source Performance Standard, 326 IAC 12 (40 CFR 60, Subpart S), are not included in the permit for the potlines. Construction of these potlines commenced prior to October 24, 1974, which is the applicability date for this NSPS.

(b) National Emission Standards for Hazardous Air Pollutants (NESHAP) [326 IAC 14 and 40 CFR Part 61]

There are no National Emission Standards for Hazardous Air Pollutants (NESHAP)(326 IAC 14 and 40 CFR Part 61) included in the permit for this source.

(c) The potlines are subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP), 326 IAC 20-24, and 40 CFR 63, Subpart LL. Nonapplicable portions of the NESHAP will not be included in the permit. The Permittee has opted not to use emission averaging to comply with the emission limit for the potlines. The potlines are subject to the following portions of 40 CFR 63, Subpart LL:

40 CFR 63.840(a)

40 CFR 63.841
40 CFR 63.842

40 CFR 63.843(a)(1)(i)

40 CFR 63.847(a)(3)
40 CFR 63.847(b)(1)-(3), (8)
40 CFR 63.847(c)(1)
40 CFR 63.847(d)(1), (3)
40 CFR 63.847(e)(1), (5)-(6)
40 CFR 63.847(h)(1), (3)

40 CFR 63.848(a)
40 CFR 63.848(d)(1)(i)-(ii)
40 CFR 63.848(f)(1)
40 CFR 63.848(g)-(m)

40 CFR 63.849(a)(1)-(5)
40 CFR 63.849(e)(1)
40 CFR 63.849(e)(2)(i)

40 CFR 63.850(a)(2), (5)-(8)
40 CFR 63.850(b)
40 CFR 63.850(c)(1)-(2)
40 CFR 63.850(d)
40 CFR 63.850(e)(1)-(3)
40 CFR 63.850(e)(4)(i), (iii), (xv)

40 CFR 63.852

Appendix A

The provisions of 40 CFR 63 Subpart A – General Provisions, which are incorporated as 326 IAC 20-1-1, apply to the facility described in this section except when otherwise specified in 40 CFR 63, Subpart LL.

(d) Compliance Assurance Monitoring (CAM) [40 CFR 64]

This initial Part 70 operating permit application has been determined to be complete by April 20, 1998. Therefore, the Permittee is not required to prepare and submit a Compliance Assurance Monitoring (CAM) plan during the review of the initial Part 70 permit.

The CAM rule does not apply to emissions units and pollutants regulated under a NSPS or NESHAP that was promulgated after November 15, 1990.

(e) The National Emission Standards for Hazardous Air Pollutants (NESHAP) for Secondary Aluminum Production [40 CFR Part 63, Part RRR]

The National Emission Standards for Hazardous Air Pollutants (NESHAP) for Secondary Aluminum Production (40 CFR Part 63, Part RRR) are not included in this permit for the potlines, because the potline is not one of the emission units regulated by this NESHAP.

State Rule Applicability - Individual Facilities

(a) Primary Aluminum Reduction Plants [326 IAC 20-24]
The potlines are subject to 326 IAC 20-24-1 (Primary Aluminum Reduction Plants). 326 IAC 20-24 incorporates by reference 40 CFR 63, Subpart LL. The Permittee will comply with the provisions of 40 CFR 63, Subpart LL as detailed in the Federal Rule Applicability section.

40 CFR 63, Subpart LL was amended November 2, 2005 under Federal Register notice 70 FR 66280. However, pursuant to 326 IAC 1-1-3, the version of the rule referenced by 326 IAC 20-24 is the version in existence on July 1, 2005. Therefore, the amendments are not included in the state rules, and the potlines at this source are subject to both versions of the rule. The amendments revised the emission limit for polycyclic organic matter (POM) applicable to VSS potlines. The amendments revised the compliance provisions to clarify the dates by which all plants must meet the NESHAP requirements, and to specify the time allowed to demonstrate initial compliance for a new or reconstructed potline, as well as an existing potline that has been shutdown and subsequently restarted. The potlines at this source are not one of the VSS type, are not a new or reconstructed potline, have already met the NESHAP requirements, and none of the potlines has been shutdown, and restarted.

All the requirements of 326 IAC 20-24 applicable to potlines are the same as the requirements listed under Federal Rule Applicability.

(b) Particulate Emissions from Manufacturing Operations [326 IAC 6-3-2]
Pursuant to 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the below listed processes shall be limited as follows:

Process	Maximum Process Weight Rate (tons/hr)	PM Emission Limit (lbs/hr)
Potline No.1	75.8	48.5
Potline No.2	83.4	49.5
Potline No.3	83.4	49.5
Potline No.4	83.4	49.5
Potline No.5	83.4	49.5
Potline No.6	83.4	49.5
Pot Digging	2.85	8.27
Crucible Digging	0.86	3.70

Process	Maximum Process Weight Rate (tons/hr)	PM Emission Limit (lbs/hr)
Potline Bath Crusher, Tanks 110H-A, 110H-B, 110H-C, and 110H-D	21	31.5

The above particulate emissions rates were determined from the following formulae:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour by use of the equation:

$E = 4.10\ P^{0.67}$

where:

E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour.

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour by use of the equation:

$E = 55.0\ P^{0.11} - 40$

where:

E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour.

(c) Sulfur Dioxide Emission Limitations: Warrick County [326 IAC 7-4-10]

The Alcoa Warrick smelter operations shall be limited by the following:

<u>Emission Limitations</u>

(1) Potline 1:

All stacks associated with scrubber	176.3 lbs/hr
Roof Monitors associated with Potline 1	19.6 lbs/hr

(2) Potline 2:

All stacks associated with scrubber	195.2 lbs/hr
Roof Monitors associated with Potline 2	21.7 lbs/hr

(3) Potline 3:

All vents or stacks associated with scrubber	195.2 lbs/hr
Roof Monitors associated with Potline 3	21.7 lbs/hr

(4) Potline 4:

All vents or stacks associated with scrubber	195.2 lbs/hr
Roof Monitors associated with Potline 4	21.7 lbs/hr

(5) Potline 5:

All stacks associated with scrubber	195.2 lbs/hr
Roof Monitors associated with Potline 5	21.7 lbs/hr

(6) Potline 6:

All stacks associated with scrubber	195.2 lbs/hr
Roof Monitors associated with Potline 6	21.7 lbs/hr

(7) Potlines 1, 2, 3, 4, 5, and 6 — 5,608 tons/yr total

(8) Compliance with the pounds per hour limitations shall be based on a stack test pursuant to 326 IAC 7-2-1(b).

(9) Compliance with the tons per year limitations shall be based on a rolling twelve-(12) consecutive month emission total. Monthly sulfur dioxide emissions shall be determined from calendar month material balances using actual average sulfur content and material throughput. Quarterly reports shall be submitted to IDEM, OAQ containing the calendar month and rolling twelve month sulfur dioxide emissions from the smelter operation (potline scrubber stacks, roof monitors). The reports shall include documentation of the data and methodology used to calculate the monthly sulfur dioxide emissions and shall be submitted by the end of the month following the end of the quarter.

(d) The uncontrolled PM emissions of Crucible Digging are 22.09 tons per year. This is based on the in-house testing done in March 1996. PM_{10} was not regulated at that time. Therefore, a PSD minor limit for PM is not required.

(e) Pot digging is being carried out since 1962. The baghouse was installed in 1991 to collect formerly fugitive emissions. The emissions reduction from installation of the baghouse was applied on a contemporaneous basis to the #1 delacquering furnace. Therefore a PSD minor limit for PM or PM_{10} is not required.

Compliance Determination Requirements

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with all applicable state and federal rules on a continuous basis. All state and federal rules contain compliance provisions; however, these provisions do not always fulfill the requirement for a continuous demonstration. When this occurs, IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, Compliance Determination Requirements are included in the permit. The Compliance Determination Requirements in Section D of the permit are those conditions that are found directly within state and federal rules and the violation of which serves as grounds for enforcement action.

If the Compliance Determination Requirements are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also in Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

Testing Requirements

The Permittee shall measure and record the emission ratio of total fluoride (TF) exiting the outlet of the primary control system for each potline and the rate of secondary emissions exiting through each roof monitor. Using the equations given in 40 CFR 63.847(e)(1), the Permittee shall compare and record the average of at least three runs each month for secondary emissions, and at least three runs each month for the primary control system to determine compliance with the applicable emission limit.

Compliance Monitoring Requirements [326 IAC 2-7-6 (1)] [326 IAC 2-7-5 (1)]

Pot Digging Baghouse, Crucible Digging Baghouse, and Potline Bath Crusher Baghouse Emissions Determination:

Baghouse	PM Emissions from Tests (lb/hr)	Allowable Emissions (lb/hr)
Pot Digging Baghouse	0.47	8.27
Crucible Digging Baghouse	0.083	3.70
Potline Bath Crusher Baghouse	17.0	31.5

No compliance monitoring is required for the Pot Digging Baghouse, and Crucible Digging Baghouse, because the allowable particulate emissions are relatively small and these baghouses will comply with the emission limit by a large margin.

The following table shows the applicable compliance monitoring requirements:

Control	Parameter	Frequency	Range	Excursions and Exceedances
Potline No. 1 A-398 pollution control system (B2)	Visible Emissions	Daily	Normal-Abnormal	Corrective action
	Fan Motor Amperes	24-Hour Average of Per Minute Readings	Lower	Corrective action
	Alumina Feeder rpm	24-Hour Average of Per Minute Readings	Lower	Corrective action
Potline No. 2 A-398 pollution control system (C1)	Visible Emissions	Daily	Normal-Abnormal	Corrective action
	Fan Motor Amperes	24-Hour Average of Per Minute Readings	Lower	Corrective action
	Alumina Feeder rpm	24-Hour Average of Per Minute Readings	Lower	Corrective action

Control	Parameter	Frequency	Range	Excursions and Exceedances
GTC	Visible Emissions	Daily	Normal-Abnormal	Corrective action
	Fan Motor Amperes	24-Hour Average of Per Minute Readings	Lower	Corrective action
	Alumina Feeder rpm	24-Hour Average of Per Minute Readings	Lower	Corrective action
Potline No. 5 A-398 pollution control system (B5)	Visible Emissions	Daily	Normal-Abnormal	Corrective action
	Fan Motor Amperes	24-Hour Average of Per Minute Readings	Lower	Corrective action
	Alumina Feeder rpm	24-Hour Average of Per Minute Readings	Lower	Corrective action
Potline No.6 A-398 pollution control system (B6)	Visible Emissions	Daily	Normal-Abnormal	Corrective action
	Fan Motor Amperes	24-Hour Average of Per Minute Readings	Lower	Corrective action
	Alumina Feeder rpm	24-Hour Average of Per Minute Readings	Lower	Corrective action
Potline Bath Crusher Baghouse	Visible Emissions	Daily	Normal-Abnormal	Response Steps
	Water Pressure Drop		3 to 6 inches	

These monitoring conditions are necessary because the baghouses, pollution control systems, and GTC must operate properly to comply with the requirements of 326 IAC 6-3-2, 326 IAC 7-4-10, and 326 IAC 2-7 (Part 70).

Conclusion

The operation of this Potlines and Support Plant shall be subject to the conditions of this Part 70 permit 173-6627-00007.

Technical Support Documentation for Green Anode Plant

D.3 Green Anode Plant

Background and Description

Green anodes are manufactured in this paste production plant. The anodes are called green anodes before they are baked in the anode baking furnace. Coke is crushed and sized; and both are mixed together with pitch and formed into self-supporting carbonaceous blocks called "green anodes". The particulate emissions from green anodes are controlled by several baghouses. The hydrocarbon emissions are controlled by a pitch fume treatment system consisting of dry coke scrubbers and baghouses.

Types of Emission Units and Pollution Control Equipment

(1) Ten (10) calcined petroleum coke storage silos, identified as Coke Silos, constructed in 1959, with a maximum capacity of 1,286 tons each, with maximum filling and unfilling rates of 138.0 and 18.4 tons/hr, respectively;

(2) Four (4) vibrating screens and size classifying equipment, identified as Shaker Screens, constructed in 1959, with a maximum coke screening capacity of 16.7 tons per hour, controlled by the baghouse DC-218, and exhausting at Stack 254.7.

One (1) baghouse, identified as DC-218, with an air flow rate of 18,000 acfm at 77^{o}F, exhausting at Stack 254.7;

(3) One (1) coarse sized coke storage tank, identified as Coarse Coke Tank T-35, constructed in 1959, with a maximum incoming coke of 6.94 tons per hour, controlled by the baghouse DC-218, and exhausting at Stack 254.7;

(4) One (1) hammermill, identified as 45 Hammermill, constructed in 1959, with a maximum capacity of 16.7 tons per hour, controlled by the baghouse DC-218, and exhausting at Stack 254.7;

(5) One (1) intermediate sized coke storage tank, identified as intermediate tank T-101, constructed in 1959, with a maximum of incoming coke of 15.4 tons per hour, controlled by the baghouse DC-218, and exhausting at Stack 254.7; and

(6) One (1) fine sized coke storage tank, identified as Fine Coke Tank T-146, constructed in 1959, with a maximum capacity of 18.0 tons per hour, controlled by the baghouse DC-218, and exhausting at Stack 254.7;

(7) One (1) hammermill, identified as 153 Hammermill, constructed in 1959, with a maximum capacity of 21.0 tons per hour, controlled by the baghouse DC-153, and exhausting at Stack 254.4.

One (1) baghouse, identified as DC-153, with an air flow rate of 8,000 acfm at 77^{o}F, exhausting at Stack 254.4;

(8) One (1) intermediate classifier, identified as Intermediate Classifier CL-82, constructed in 1959, with a maximum capacity of 15.4 tons per hour, controlled by the baghouse DCF-221A, and exhausting at Stack 254.5.

One (1) baghouse, identified as DCF-221A, with an air flow rate of 1,200 acfm at 77^{o}F, exhausting at Stack 254.5, and controlling emissions from the following equipment;

(9) One (1) fine calcined petroleum coke and dust (from baghouses 218 and 153) fines ball mill grinding facility, identified as BM-112, constructed in 1959, with a maximum capacity of 18.0 tons per hour, controlled by the baghouse DCF-221B, and exhausting at Stack 254.6.

One (1) ball mill baghouse, identified as DCF-221B, with an air flow rate of 4,500 acfm at 77^{o}F, exhausting at Stack 254.6;

(10) One (1) weighting facility, identified as Greenmill Check-Weigh Scale, constructed in 1959, with a maximum throughput of 43.6 tons per hour controlled by Check-Weigh Scale Baghouse, and exhausting at Stack 254.8.

One (1) baghouse, identified as Check-Weigh Scale Baghouse, with an air flow rate of 3,000 acfm at 77^{o}F, exhausting at Stack 254.8;

(11) Ten (10) mixers, identified as Mixer Tanks Nos. 1-10, constructed in 1959, each with a maximum throughput of aggregate material 52.5 tons per hour, controlled by Pitch Fume Treatment System, and exhausting at Stack 254.13.

One (1) pitch fume treatment system (formerly green anode forming operations), consisting of two (2) dry coke scrubbers and two (2) baghouses for PM, PM_{10}, and VOC control, identified as Pitch Fume Treatment System, constructed in 1999, with a treatment capacity of 52.5 tons of green anodes per hour, with an airflow rate of 70,000 acfm at 100^{o}F and exhausting at Stack 254.13. The pitch fume treatment system has a minimum feed rate, as specified in the approved parametric monitoring plan, of 3.6 tons per hour of calcined petroleum coke;

(12) Two (2) hydraulic presses, identified as North and South Anode Press, constructed in 1959, with a maximum formation rate of 52.5 tons per hour, controlled by Pitch Fume Treatment System, and exhausting at Stack 254.13;

(13) One (1) carbon Press Feed Conveyor, identified as 618 B, constructed in 1959, with a maximum throughput of 52.5 tons per hour, controlled by Pitch Fume Treatment System, and exhausting at Stack 254.13;

(14) Three (3) cooling belts, identified as fans No. 1-3, constructed in 1959, with a maximum throughput of 52.5 tons per hour, controlled by Pitch Fume Treatment System, and exhausting at Stack 254.13;

(15) One (1) coal tar pitch tank, identified as Pitch Storage Tank, constructed in 1959, with a maximum capacity of 4.65 tons per hour, with no control, and exhausting inside the green anode plant; and

(16) Three (3) fixed roof pitch storage tanks, identified as Pitch Tanks 251A, 251B, and 251C, constructed in 1959, with a combined maximum storage capacity of 666,000 gallons, using natural draft displacement as control, and exhausting to atmosphere.

Insignificant Activities

None

Existing Approvals

With respect to the green anode plant, the source has been operating under the following previous approvals.

Description	Permit #	Date
Operating Permits		
	OP 87-07-83-0061	Expired
Preconstruction Approvals		
Pitch Fume Treatment System	SSM 173-15661-00007	Issued on August 23, 2002
Bagleak detection systems on Pitch Fume Treatment System)	SSM 173-17780-00007	Issued on July 21, 2004
Alternative Monitoring for daily visible emissions observations and inspections	SPM 173-21948-00007	Issued on March 17, 2006

The following table describes those permit terms which were either modified or not incorporated into the Title V operating permit. Operation Permits issued by IDEM pursuant to 326 IAC 2-1-4 (now repealed) are not federally enforceable permits, nor are the terms of such permit "applicable requirements" which must be incorporated into the Title V permit.

Term Identification	Original Term Language	Proposed Term Language	Explanation/Comment
SSM 173-17780-00007	D.1.9 Preventive Maintenance Plan [326 IAC 2-7-5(13)] A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities and any control devices.	Deleted	The Permittee has chosen to have a more general condition appear in Section B of the permit instead of an individual PMP condition in every D Section. A general PMP condition has been included in Section B of the permit.
SSM 173-21948-00007	D.1.16(d) Pursuant to 40 CFR 63.848(g) and 40 CFR 63.8(f), the Permittee shall operate the bag leak detection systems installed on each stack of each baghouse of the pitch fume treatment system pursuant to Condition D.1.17.	D.3.8(a) Pursuant to 40 CFR 63.848(g), ~~and~~ 40 CFR 63.8(f), **and Condition D.3.9,** the Permittee shall operate the **continuous** bag leak detection systems installed on **the** ~~each stack~~ **exhaust duct of** each baghouse of the pitch fume treatment system ~~pursuant to Condition D.1.17.~~	The bag leak detectors are installed on the exhaust duct of each baghouse.

Term Identification	Original Term Language	Proposed Term Language	Explanation/Comment
SSM 173-21948-00007	D.1.17 The Permittee shall install and operate a continuous bag leak detection system for each baghouse of the pitch fume treatment system. The bag leak detection system shall meet the following requirements:	D.3.9 The Permittee shall ~~install and~~ operate ~~a~~ **the** continuous bag leak detection system **installed on the exhaust duct of** ~~for~~ each baghouse of the pitch fume treatment system. The bag leak detection system shall meet the following requirements:	The bag leak detectors are already installed on the exhaust duct of each baghouse.
SSM 173-17780-00007	D.1.18(a) Each electrodynamic bag leak detection system shall be installed, calibrated, operated, and maintained according to the "Fabric Filter Bag Leak Detection Guidance," (September 1997).	D.3.9(a) Each electrodynamic bag leak detection system shall be ~~installed~~, calibrated, operated, and maintained according to the ~~"Fabric Filter Bag Leak Detection Guidance," (September 1997).~~ **manufacturer's recommendations**;	The broken bag detectors at Alcoa Inc. - Warrick Operations operate on the electrodynamic principle of operation. As such, they are not adequately covered by the 1997 EPA Guidance Document on Broken Bag Detectors, because that document is based on triboelectric detectors. For other type of detectors, the guidance document defers to manufacturer recommendations. The bag leak detector has already been installed, therefore "installed" has been deleted from Condition D.3.9(a).
SSM 173-17780-00007	D.1.18(f) For negative pressure or induced air fabric filters, the bag leak detector shall be installed downstream of the fabric filter.	D.3.9(f) ~~For negative pressure or induced air fabric filters, t~~**T**he bag leak detector shall be installed downstream of the fabric filter.	This baghouse is negative pressure baghouse.
SSM 173-17780-00007	D.1.18(i) Following initial adjustment of the system, the Permittee shall not adjust the sensitivity or range, averaging period, alarm set points, or alarm delay time except as detailed in the Compliance Response Plan.	D.3.9(i) Following initial adjustment of the system, the Permittee shall not adjust the sensitivity or range, averaging period, alarm set points, or alarm delay time except as detailed in the ~~Compliance Response Plan~~ **PMP.**	Alarm adjustment procedures should be specified in the Preventive Maintenance Plan (PMP), since the SSM plan only describes how excess emissions from start-up, shutdowns, and malfunctions should be addressed. The language regarding making alarm set points as detailed in the PMP allows the Permittee to make alarm adjustments as indicated by calibrations.

Term Identification	Original Term Language	Proposed Term Language	Explanation/Comment
SSM 173-17780-00007	D.1.18(j)(5) If abnormal emissions are observed from the pitch fume treatment system, the Permittee shall take reasonable response steps in accordance with Section C – Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.	~~D.1.18(j)(5) If abnormal emissions are observed from the pitch fume treatment system, the Permittee shall take reasonable response steps in accordance with Section C – Response to Excursions or Exceedances. Failure to take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.~~	The pitch fume treatment system has specific requirements under 40 CFR 63, Subpart LL. In case abnormal emissions are observed, the Permittee is required to take corrective actions within an hour; otherwise it will be a deviation. Proper language in Condition D.3.8(c) has been developed as per 40 CFR 63.848(h).
SSM 173-17780-00007	D.1.19 Bag Leak Detection Alarm Activation In the event that a bag leak detection system alarm is activated for any reason, the same corrective actions specified in the CRP for use during periods of startup, shutdown, and malfunction, shall be followed to correct the cause for the alarm. Regardless of whether the alarm is caused by a malfunction as defined, the Permittee shall take the following response steps: (a) For the pitch fume treatment pollution control system, which are multi-reactor units, corrective actions shall be initiated in accordance with the CRP (SSM and Parametric Monitoring) plan within one (1) hour. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) business hours of discovery of the failure and shall include a timetable for completion. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be	~~D.1.19 Bag Leak Detection Alarm Activation~~ ~~In the event that a bag leak detection system alarm is activated for any reason, the same corrective actions specified in the CRP for use during periods of startup, shutdown, and malfunction, shall be followed to correct the cause for the alarm. Regardless of whether the alarm is caused by a malfunction as defined, the Permittee shall take the following response steps:~~ ~~(a) For the pitch fume treatment pollution control system, which are multi-reactor units, corrective actions shall be initiated in accordance with the CRP (SSM and Parametric Monitoring) plan within one (1) hour. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) business hours of discovery of the failure and shall include a timetable for completion. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.~~	The pitch fume treatment system is regulated by NESHAP 40 CFR 63, Subpart LL. IDEM no longer requires sources to develop and follow a Compliance Response Plan. In the event of bag leak detection alarm activation, the Permittee is required to follow the SSM plan and take corrective actions within 1 hour, as required by 40 CFR 63.848(h).

Term Identification	Original Term Language	Proposed Term Language	Explanation/Comment
	considered a deviation from this permit. (1) ……………….. (2) If operations continue at the baghouse portion of the pitch fume treatment system after bag failure is observed, the failure shall be addressed by conducting visible emissions notations once per day or by calculating daily particulate concentrations. If it will be ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.	~~(1) ………………..~~ ~~(2) If operations continue at the baghouse portion of the pitch fume treatment system after bag failure is observed, the failure shall be addressed by conducting visible emissions notations once per day or by calculating daily particulate concentrations. If it will be ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.~~	

Federal Rule Applicability

(a) New Source Performance Standards (NSPS) for Primary Aluminum Reduction Plants [326 IAC 12] [40 CFR 60 Subpart S]

The Green Anode plant is not subject to the requirements of New Source Performance Standards (NSPS) for Primary Aluminum Reduction Plants (40 CFR 60 Subpart S), because a green anode production plant is not an affected facility under this NSPS. Therefore, the requirements of 40 CFR 60 Subpart S are not included in this permit for the Green Anode plant.

(b) National Emission Standards for Hazardous Air Pollutants (NESHAP) [326 IAC 14 and 40 CFR Part 61]

There are no National Emission Standards for Hazardous Air Pollutants (NESHAP)(326 IAC 14 and 40 CFR Part 61) included in the permit for this source.

(c) Those portions of the Green Anode plant, where coal tar pitch is mixed with petroleum coke, are subject to the National Emission Standards for Hazardous Air Pollutants for Primary Aluminum Reduction Plants, 326 IAC 20-24, and 40 CFR 63, Subpart LL. The affected source is subject to the following portions of Subpart LL.

40 CFR 63.840(a)

40 CFR 63.841

40 CFR 63.842

40 CFR 63.843(b)(1)-(2)

40 CFR 63.847(a)(1)
40 CFR 63.847(f)
40 CFR 63.847(h)(2)-(3)

40 CFR 63.848(f)(2)
40 CFR 63.848(h)-(i)
40 CFR 63.848(k)-(m)

40 CFR 63.850(a)(2), (6), (8)
40 CFR 63.850(c)(1)-(2)
40 CFR 63.850(d)
40 CFR 63.850(e)(1)-(3)
40 CFR 63.850(e)(4)(iii), (iv), (xiii)

40 CFR 63.851(a)(2), (5)
40 CFR 63.851(b)

40 CFR 63.852

40 CFR 63.853(a)-(b)
40 CFR 63.853(c)(1)-(4)

Appendix A

The provisions of 40 CFR 63 Subpart A – General Provisions, which are incorporated as 326 IAC 20-1-1, apply to the facility described in this section except when otherwise specified in 40 CFR 63, Subpart LL.

(d) Pursuant to 40 CFR 63.840, the pitch storage tanks are not subject to the emission limit for POM, because they are not new pitch storage tanks.

(e) New Source Performance Standards (NSPS) for Primary Aluminum Reduction Plants [326 IAC 12] [40 CFR 60 Subpart S]

The anode paste production plant is not subject to the requirements of New Source Performance Standards (NSPS) for Primary Aluminum Reduction Plants [326 IAC 12] [40 CFR 60 Subpart S], because a green anode production plant is not an affected facility under this NSPS. Therefore, the requirements of 40 CFR 60 Subpart S are not included in this permit for the Green Anode plant.

(f) New Source Performance Standards (NSPS) for Storage Vessels for Petroleum Liquids [326 IAC 12] [40 CFR 60 Subparts K]

Pitch Storage Tank, Pitch Tank 251A, Pitch Tank 251B, and Pitch Tank 251C are not subject to the requirements of the New Source Performance Standard, 326 IAC 12 (40 CFR 60. Subpart K), because the Permittee uses coal tar pitch, which is a petroleum liquid as defined by 40 CFR 60.111, and the tanks were constructed in 1959, which is before June 12, 1973, the earliest applicabilty date of this standard.

(g) New Source Performance Standards (NSPS) for Storage Vessels for Petroleum Liquids [326 IAC 12] [40 CFR 60 Subparts Ka]

Pitch Storage Tank, Pitch Tank 251A, Pitch Tank 251B, and Pitch Tank 251C are not subject to the requirements of the New Source Performance Standards, 326 IAC 12 (40 CFR 60. Subpart Ka), because the Permittee uses coal tar pitch, which is a petroleum liquid as defined by 40 CFR 60.111a, and because the tanks were constructed in 1959, which is before May 19, 1978, the earliest applicabilty date of this standard.

(h) New Source Performance Standards (NSPS) for Volatile Organic Liquid Storage Vessels for (Including Petroleum Liquid Strage Vessels) [326 IAC 12] [40 CFR 60 Subpart Kb]

Pitch Storage Tank, Pitch Tank 251A, Pitch Tank 251B, and Pitch Tank 251C are not subject to the requirements of the New Source Performance Standard, 326 IAC 12 (40 CFR 60, Subpart Kb), because they were constructed in 1959, which is before July 24, 1984, the applicability date of this standard.

(i) Compliance Assurance Monitoring (CAM) [40 CFR 64]

This initial Part 70 operating permit application has been determined to be complete by April 20, 1998. Therefore, the Permittee is not required to prepare and submit a Compliance Assurance Monitoring (CAM) plan during the review of the initial Part 70 permit.

The CAM rule does not apply to emissions units and pollutants regulated under a NSPS and NESHAP that was promulgated after November 15, 1990.

(j) The National Emission Standards for Hazardous Air Pollutants (NESHAP) for Secondary Aluminum Production [40 CFR Part 63, Part RRR]

The National Emission Standards for Hazardous Air Pollutants (NESHAP) for Secondary Aluminum Production (40 CFR Part 63, Part RRR) are not included in this permit for the anode paste production plant, because the Green Anode plant is not one of the emission units regulated by this NESHAP.

State Rule Applicability - Individual Facilities

(a) Primary Aluminum Reduction Plants [326 IAC 20-24]
The paste plant is subject to 326 IAC 20-24-1 (Primary Aluminum Reduction Plants). 326 IAC 20-24 incorporates by reference 40 CFR 63, Subpart LL. The Permittee will comply with the provisions of 40 CFR 63, Subpart LL as detailed in the Federal Rule Applicability section.

40 CFR 63, Subpart LL was amended November 2, 2005 under Federal Register notice 70 FR 66280. However, pursuant to 326 IAC 1-1-3, the version of the rule referenced by 326 IAC 20-24 is the version in existence on July 1, 2005. Therefore, the amendments

are not included in the state rules, and the paste plant at this source is subject to both versions of the rule. The amendments revised the compliance provisions to clarify the dates by which all plants must meet the NESHAP requirements, and to specify the time allowed to demonstrate initial compliance for a pitch storage tank. Pursuant to 40 CFR 63.840, the pitch storage tank is not subject to the requirements of this NESHAP as it is an existing pitch storage tank.

All the requirements of 326 IAC 20-24 applicable to paste plant are the same as the requirements listed under Federal Rule Applicability.

(b) Particulate Emissions from Manufacturing Operations [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the below listed processes shall be limited as follows:

Process	**Control Equipment**	**Maximum Process Weight Rate (tons/hr)**	**PM Emission Limit (lbs/hr)**
Petroleum coke filling and unfilling	None	138	54.6
Size classifying equipment	DC-218 baghouse	16.7	27
153 Hammermill	DC-153 baghouse	21	31.5
Intermediate Classifier CL-82	DCF-221A baghouse	15.4	25.6
BM-112 Ball mill grinding operation	DCF-221B baghouse	18	28.4
Weighting facility	Check-Weigh Scale Baghouse	43.6	43.3
Anode Forming	Pitch Fume Treatment System	52.5	45

The above particulate emissions rates were determined from the following formulae:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour by use of the equation:

$E = 4.10\ P^{0.67}$

where:

E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour by use of the equation:

$E = 55.0\ P^{0.11} - 40$

where:

E = rate of emission in pounds per hour; and

P = process weight rate in tons per hour.

(c) PSD Minor Limitation [326 IAC 2-2]

Pursuant to SSM 173-17780-00007, issued on July 21, 2004, the following limits shall apply to the pitch fume treatment system:

(1) The emission rate of PM shall not exceed 0.070 pounds of PM per ton of green anode;

(2) The emission rate of PM_{10} shall not exceed 0.050 pounds of PM_{10} per ton green anode; and

(3) The emission rate of VOC shall not exceed 0.030 pounds of VOC per ton of green anode.

Compliance with these limits together with the throughput and emission limits on the anode ring baking furnace, the throughput and emission limits on the dross cooling operation, and the emission limits on the anode butt blast machine render the requirements of 326 IAC 2-2 not applicable to the green anode plant.

Testing Requirements

Within 36 months after issuance of this Part 70 permit or 5 years from the date of the last valid compliance test, whichever is later, the Permittee shall perform PM, PM_{10}, and VOC testings for the pitch fume treatment system, utilizing methods as approved by the Commissioner. These tests shall be repeated at least once every five (5) years from the date of the valid compliance demonstration. PM_{10} includes filterable and condensable PM_{10}. Testing shall be conducted in accordance with Section C- Performance Testing. During the stack test, the Permittee shall determine the sensitivity of the bag leak detection system and calibrate the particulate concentration readings of the bag leak detector in order to provide an output relative to outlet grain loading levels.

Compliance Monitoring Requirements [326 IAC 2-7-6 (1)] [326 IAC 2-7-5 (1)]

Permits issued under 326 IAC 2-7 are required to ensure that source can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions; however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs, IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that if violated serve as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source’s failure to take the appropriate corrective actions within a specific time period.

The monitoring requirements applicable to the green anode plant control system are as follows:

(a) For pitch fume treatment system baghouses with bag leak detectors:

(1) Each electrodynamic bag leak detection system shall be calibrated, operated, and maintained according to the manufacturer's recommendations; and

(2) The Permittee shall continuously record output signal from the sensor. If the leak detection system is inoperable, the facility shall perform visible emissions notations once per day.

(b) The following table shows the applicable compliance monitoring requirements:

Control	Parameter	Frequency	Range	Excursions and Exceedances
DC-218 baghouse	Water Pressure Drop	Daily	2 to 5 inches	Response Steps
	Visible Emissions		Normal-Abnormal	
DC-153 baghouse	Water Pressure Drop	Daily	3 to 6 inches	Response Steps
	Visible emissions		Normal-Abnormal	
DCF-221A baghouse	Water Pressure Drop	Daily	3 to 6 inches	Response Steps
	Visible Emissions		Normal-Abnormal	
DCF-221B baghouse	Water Pressure Drop	Daily	3 to 6 inches	Response Steps
	Visible Emissions		Normal-Abnormal	
Weigh scale facility baghouse	Water Pressure Drop	Daily	3 to 6 inches	Response Steps
	Visible Emissions		Normal-Abnormal	
Pitch fume treatment system consisting of two dry coke scrubbers and two baghouses,	Fan motor Amperes	Hourly Average of Per Minute Readings	Lower	Response Steps
	Coke feeder rpm	Hourly Average of Per Minute Readings	Lower	

The approved parametric monitoring plan for the pitch fume treatment system authorizes fan amperes and coke feeder rpm's above the lower limit on an hourly average basis. There is no upper limit.

These monitoring conditions are necessary because the baghouses, and dry coke scrubbers, must operate properly to comply with 326 IAC 6-3-2, 326 IAC 12 and 40 CFR 63, Subpart LL, and 326 IAC 2-7.

Conclusion

The operation of this Green Anode plant shall be subject to the conditions of this Part 70 permit 173-6627-00007**.**

Technical Support Documentation for Anode Baking Plant

D.4 Anode Baking Plant

Background and Description

After green anodes are manufactured in the paste production plant, they are baked in the anode-baking furnace. The anode baking furnace is comprised of one above ground green anode ring baking furnace controlled by Alcoa designed A-446 emission control device. Green anodes are stacked into pits formed by the interconnecting flue structures connected to side main exhaust manifolds and covered with petroleum coke. The baking process is operated to allow recently filled pits to be preheated before being removed and used in the smelting process. Likewise, after firing, baked anodes are allowed to cool in the pits before being removed and used in the smelting process. Natural gas burners supply heat to the furnace and promote the combustion of organic constituents drawn into the flues during the baking process. Products of combustion and other baking furnace emissions are drawn into the refractory flues and exhausted to the emission control equipment, which consists of a three fluid bed reactor type systems operating in parallel, with fabric filtration downstream of the reactor beds.

Reacted alumina is conveyed pneumatically from a maximum of two dense phase units to a storage tank. Periodically, the storage tank is unloaded by gravity into pneumatic trucks for transfer into storage tanks that ultimately feed reacted alumina into the aluminum reduction cells.

Unreacted alumina is transferred by truck, and pneumatically unloaded into a storage tank that feeds alumina into the A-446 pollution control system.

Types of Emission Units and Pollution Control Equipment

(1) One (1) above-ground, natural gas-fired, green anode baking ring furnace, known as Bldg. 295 Anode Baking Ring Furnace, constructed in 2003, with a maximum capacity of 21.42 tons of green anodes per hour, equipped with an A-446 pollution control system consisting of three (3) reactor sections with baghouses for PM and PM_{10} control and dry alumina scrubbers for TF and SO_2 control which operate at a minimum of two (2) reactor sections at any one (1) time, exhausting through Stacks 265D.1, 265D.2, 265D.3, 265D.4, 265D.5, 265D.6, 265D.8, and 265J.1 (which is the diesel-fired emergency bypass engine stack used for venting ring furnace exhaust gases during emergency periods of unexpected loss of power to the A-446 dry scrubber fans);

(2) One (1) diesel-fired emergency bypass engine, constructed in 1990, with a maximum output capacity of 200 horsepower, with a bypass duct and an emergency bypass fan, and venting to an emergency bypass Stack 265J.11;

(3) One (1) reacted alumina storage tank, constructed in 1981, with a maximum loading capacity of 7.5 tons/hr, pneumatically loading, controlled by the bin vent filter, and exhausting at Stack 265D.7.

One (1) reacted alumina storage tank baghouse, identified as bin vent filter, constructed in 1981, with an air flow rate of 30 acfm at 77^{o}F, and control efficiency of 99%, and exhausting at Stack 265D.7;

(4) One (1) reacted alumina truck loadout, constructed in 1981, with a maximum loading capacity of 21.0 tons/hr, controlled by the reacted alumina truck loadout baghouse, and exhausting at Stack 265D.9.

One (1) reacted alumina truck loadout baghouse, constructed in 1981, with an air flow rate of 1,750 acfm at 77°F, maximum outlet grain loading of 0.005 gr/dscf, and control efficiency of 99.5%, and exhausting at Stack 265D.9;

(5) One (1) un-reacted alumina storage tank/truck unloading, constructed in 1981, with a maximum loading capacity of 21.0 tons/hr, controlled by the un-reacted alumina storage tank/truck unloading baghouse, and exhausting at Stack 265D.10.

One (1) un-reacted alumina storage tank/truck unloading baghouse, constructed in 1981, with an air flow rate of 50 acfm at 77°F, and control efficiency of 99%, and exhausting at Stack 265D.10;

(6) One (1) Building 265 baked anode vacuum system, constructed in 1981, with a maximum capacity of 20.25 tons of baked anodes per hour, controlled by the baked anode vacuum system baghouse, and exhausting at Stack 265D.11; and

One (1) baked anode vacuum system baghouse, constructed in 1981, with an air flow rate of 4,300 dscfm and maximum grain loading of 0.002 gr/dscf, and exhausting at Stack 265D.11.

Insignificant Activities

(1) Anode baking ring furnace north and south ECL cranes

(2) Anode baking ring furnace packing petroleum coke storage tank

Existing Approvals

With respect to the anode baking plant, the source has been operating under the following previous approvals.

Description	Permit #	Date
Operating Permits		
	OP 87-07-83-0111	Expired
Preconstruction Approvals		
	PSD (87) 1766	Issued on November 3, 1989
Emergency bypass system	PC (87) 1840	Issued on February 26, 1990
Baking ring furnace	CP 173-15661	Issued on August 23, 2002
Baghouse leak detection systems	SSM 173-17780	Issued on July 21, 2004
Alternative Monitoring for daily visible emissions observations and inspections	SPM 173-21948-00007	Issued on March 17, 2006

The following table describes those permit terms which were either modified or not incorporated into the Title V operating permit. Operation Permits issued by IDEM pursuant to 326 IAC 2-1-4 (now repealed) are not federally enforceable permits, nor are the terms of such permit "applicable requirements" which must be incorporated into the Title V permit.

Term Identification	Original Term Language	Proposed Term Language	Explanation/Comments
SSM 173-17780-00007	D.1.3(a)(6) Any change or modification that increases net lead emissions of this modification to greater than PSD Significant levels, shall require prior IDEM, OAQ, approval.	Deleted	The term is redundant with an existing regulatory requirement, and will be addressed in Condition B.16 of the permit.
SSM 173-17780-00007	D.1.4 Pursuant to Operation Condition 4 of PC (87) 1840, issued on February 26, 1990: (a) The Permittee shall only operate the emergency bypass engine during emergency periods of unexpected loss of power to the A-446 dry scrubber fans or for short periods during readiness testing. (b) The emergency bypass engine shall be limited to 300 hours per twelve (12) consecutive month period with compliance determined at the end of each month.	Deleted; Also deleted D.1.21(c) Recordkeeping Requirements, and Reporting requirement in Condition D.1.22	Operation Condition 4 of PC (87) 1840 does not allow the operation of the emergency bypass engine during periods of readiness testing. The NESHAP 40 CFR 63.843 – (Emission limits for existing anode baking furnaces) rule does not allow operating the anode baking ring furnace without control equipment. Therefore, the auxiliary generator shall not be operated except in the case of emergency or malfunction. During readiness testing, the Permittee may not vent the emissions from the anode baking ring furnace to the exhaust stack through which the emergency generator is venting. The PTE of the highest emitting pollutant, NOx, is 27 tons per year, which is less than 40 tons per year, the significant level for NOx. There are no other permit conditions in any of the permits, where its emissions are limited.
SSM 173-17780-00007	D.1.16 Emergency Bypass Engine Operation In order to document compliance with Condition D.1.4, the following requirements shall apply to operation of the	D.4.15 Emergency Bypass Engine Operation ~~In order to document compliance with Condition D.1.4, the following requirements shall apply to operation of the~~	The NESHAP 40 CFR 63.843 – (Emission limits for existing anode baking furnaces) rule does not allow operating the anode baking furnace without control equipment. Therefore, the auxiliary

Term Identification	Original Term Language	Proposed Term Language	Explanation/Comments
	emergency bypass engine: (a) Pursuant to Operation Condition 3 of PC (87) 1840, issued on February 26, 1990, the emergency bypass engine shall be operated in accordance with manufacturer's specifications. (b) Pursuant to Operation Condition 4 of PC (87) 1840, issued on February 26, 1990, the A-446 dry alumina scrubbers shall only be bypassed and untreated ring furnace flue gas vented through the emergency bypass stack during emergency periods and not during weekly readiness testing periods.	~~emergency bypass engine:~~ ~~(a)~~ Pursuant to Operation Condition 3 of PC (87) 1840, issued on February 26, 1990, the emergency bypass engine shall be operated in accordance with manufacturer's specifications. ~~(b) Pursuant to Operation Condition 4 of PC (87) 1840, issued on February 26, 1990, the A-446 dry alumina scrubbers shall only be bypassed and untreated ring furnace flue gas vented through the emergency bypass stack during emergency periods and not during weekly readiness testing periods.~~	generator shall not be operated except in the case of emergency or malfunction.
SSM 173-17780-00007	D.1.8 Pursuant to Condition 17 of 87-08-91-0111, issued November 4, 1989, natural gas throughput to the green anode baking ring furnace shall be limited to 75 million cubic feet per month and 600 million cubic feet per twelve (12) consecutive month period with compliance determined at the end of each month.	D.4.4(c) Pursuant to ~~Condition 17 of 87-08-91-0111, issued November 4, 1989,~~ **Construction Permit PSD (87) 1766, issued on November 3, 1989, the** natural gas throughput to the green anode baking ring furnace shall be ~~limited to~~ **less than** 75 million cubic feet per month and 600 million cubic feet per twelve (12) consecutive month period with compliance determined at the end of each month.	Changed "shall be limited" to "shall be less than". This way the emission limit will be below the PSD significant level. Also changed citation from operation permit to construction permit. This condition originated from the construction permit.
SSM 173-17780-00007	D.1.9 Preventive Maintenance Plan [326 IAC 2-7-5(13)] A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities and any control devices.	Deleted	The Permittee has chosen to have a more general condition appear in Section B of the permit instead of an individual PMP condition in every D Section. A general PMP condition has been included in Section B of the permit.
SSM 173-17780-00007	D.1.15(c)(2) The daily average pounds per reactor alumina feed rate shall be used to determine the daily average percent SO_2 removal.	D.4.12(c)(2) The daily average pounds per reactor alumina feed rate shall be used to determine the daily average percent SO_2 removal~~.~~ **based on**	The existing condition does not state as to what equation or curve to use to determine the SO_2 efficiency. Therefore, the reference to Figure 1 is

Term Identification	Original Term Language	Proposed Term Language	Explanation/Comments
		Figure 1 (Feedrate vs. SO_2 Percent Removal – as submitted by Alcoa in their February 28, 1989, response letter);	included in the permit condition.
SSM 173-17780-00007	D.1.18(a) Each electrodynamic bag leak detection system shall be installed, calibrated, operated, and maintained according to the "Fabric Filter Bag Leak Detection Guidance," (September 1997).	D.4.17(a) Each electrodynamic bag leak detection system shall be ~~installed,~~ calibrated, operated, and maintained according to the ~~"Fabric Filter Bag Leak Detection Guidance," (September 1997).~~ **manufacturer's recommendations**;	The broken bag detectors at Alcoa Inc. - Warrick Operations operate on the electrodynamic principle of operation. As such, they are not adequately covered by the 1997 EPA Guidance Document on Broken Bag Detectors, because that document is based on triboelectric detectors. For other type of detectors, the guidance document defers to manufacturer recommendations. The bag leak detector has already been installed, therefore "installed" has been deleted from Condition D.3.9(a).
SSM 173-17780-00007	D.1.18(f) For negative pressure or induced air fabric filters, the bag leak detector shall be installed downstream of the fabric filter.	Deleted	These baghouses are positive pressure baghouses. Subsequent Conditions have been renumbered.
SSM 173-17780-00007	D.1.18(i) Following initial adjustment of the system, the Permittee shall not adjust the sensitivity or range, averaging period, alarm set points, or alarm delay time except as detailed in the Compliance Response Plan.	D.4.17(h) Following initial adjustment of the system, the Permittee shall not adjust the sensitivity or range, averaging period, alarm set points, or alarm delay time except as detailed in the ~~Compliance Response Plan~~ **PMP.**	Alarm adjustment procedures should be specified in the Preventive Maintenance Plan (PMP), since the SSM plan only describes how excess emissions from start-up, shutdowns, and malfunctions should be addressed. The language regarding making alarm set points as detailed in the PMP allows the Permittee to make alarm adjustments as indicated by calibrations.
SSM 173-17780-00007	D.1.18(j)(5) If abnormal emissions are observed from the pitch fume treatment system, the Permittee shall take reasonable response steps in accordance with Section C – Response to Excursions or Exceedances. Failure to	~~D.1.18(j)(5) If abnormal emissions are observed from the pitch fume treatment system, the Permittee shall take reasonable response steps in accordance with Section C – Response to Excursions or Exceedances. Failure to~~	The green anode baking ring furnace has specific requirements under 40 CFR 63, Subpart LL. In case abnormal emissions are observed, the Permittee is required to take corrective actions within an hour; otherwise it will be a deviation. Proper

Term Identification	Original Term Language	Proposed Term Language	Explanation/Comments
	take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.	~~take response steps in accordance with Section C - Response to Excursions or Exceedances, shall be considered a deviation from this permit.~~	language in Condition D.3.8(c) has been developed as per 40 CFR 63.848(h).
SSM 173-17780-00007	D.1.19 Bag Leak Detection Alarm Activation In the event that a bag leak detection system alarm is activated for any reason, the same corrective actions specified in the CRP for use during periods of startup, shutdown, and malfunction, shall be followed to correct the cause for the alarm. Regardless of whether the alarm is caused by a malfunction as defined, the Permittee shall take the following response steps: (a) For the pitch fume treatment pollution control system, which are multi-reactor units, corrective actions shall be initiated in accordance with the CRP (SSM and Parametric Monitoring) plan within one (1) hour. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) business hours of discovery of the failure and shall include a timetable for completion. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Imple-mentation, Records, and Reports, shall be considered a deviation from this permit. (1) ………………..	~~D.1.19 Bag Leak Detection Alarm Activation~~ ~~In the event that a bag leak detection system alarm is activated for any reason, the same corrective actions specified in the CRP for use during periods of startup, shutdown, and malfunction, shall be followed to correct the cause for the alarm. Regardless of whether the alarm is caused by a malfunction as defined, the Permittee shall take the following response steps:~~ ~~(a) For the pitch fume treatment pollution control system, which are multi-reactor units, corrective actions shall be initiated in accordance with the CRP (SSM and Parametric Monitoring) plan within one (1) hour. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) business hours of discovery of the failure and shall include a timetable for completion. Failure to take response steps in accordance with Section C - Compliance Response Plan - Preparation, Imple-mentation, Records, and Reports, shall be considered a deviation from this permit.~~ ~~(1) ………………..~~ ~~(2) If operations continue at the baghouse portion of~~	The green anode baking ring furnace is regulated by NESHAP 40 CFR 63, Subpart LL. IDEM no longer requires sources to develop and follow a Compliance Response Plan. In the event of bag leak detection alarm activation, the Permittee is required to follow the SSM plan and take corrective actions within 1 hour, as required by 40 CFR 63.848(h).

Term Identification	Original Term Language	Proposed Term Language	Explanation/Comments
	(2) If operations continue at the baghouse portion of the pitch fume treatment system after bag failure is observed, the failure shall be addressed by conducting visible emissions notations once per day or by calculating daily particulate concentrations. If it will be ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.	~~the pitch fume treatment system after bag failure is observed, the failure shall be addressed by conducting visible emissions notations once per day or by calculating daily particulate concentrations. If it will be ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.~~	

Federal Rule Applicability

(a) New Source Performance Standards (NSPS) for Primary Aluminum Reduction Plants [326 IAC 12] [40 CFR 60 Subpart S]

The green anode baking ring furnace is subject to the requirements of New Source Performance Standards (NSPS) for Primary Aluminum Reduction Plants [326 IAC 12] [40 CFR 60 Subpart S]. Pursuant to 40 CFR 60.190(c), the source may elect to comply with the requirements of this subpart or the requirements of Subpart LL of Part 63.The applicant has elected to comply with the requirements of National Emission Standards for Hazardous Air Pollutants for Primary Aluminum Reduction Plants (326 IAC 20-24, and 40 CFR 63, Subpart LL). Therefore, the requirements of 40 CFR 60 Subpart S will not apply to this furnace.

(b) National Emission Standards for Hazardous Air Pollutants (NESHAP) [326 IAC 14 and 40 CFR Part 61]

There are no National Emission Standards for Hazardous Air Pollutants (NESHAP) (326 IAC 14 and 40 CFR Part 61) included in the permit for this source.

(c) The green anode baking ring furnace is subject to the National Emission Standards for Hazardous Air Pollutants for Primary Aluminum Reduction Plants, 326 IAC 20-24, and 40 CFR 63, Subpart LL.

(d) The green anode baking ring furnace is subject to the National Emission Standards for Hazardous Air Pollutants for Primary Aluminum Reduction Plants, 326 IAC 20-24, and 40 CFR 63, Subpart LL. The green anode baking ring furnace is subject to the following portions of Subpart LL:

40 CFR 63.840(a)

40 CFR 63.841

40 CFR 63.842

40 CFR 63.843(c)(1)-(2)

40 CFR 63.847(a)(1)
40 CFR 63.847(b)(1)-(2)
40 CFR 63.847(c)(1)
40 CFR 63.847(d)(4)
40 CFR 63.847(e)(3), (4), (5), (7)
40 CFR 63.847(h)(1), (3)

40 CFR 63.848(c)
40 CFR 63.848(f)(1)
40 CFR 63.848(h)-(l)

40 CFR 63.849(a)(1)-(4), (6)

40 CFR 63.850(a)(2), (5), (6), (8)
40 CFR 63.850(b)
40 CFR 63.850(c)(1)-(2)
40 CFR 63.850(d)
40 CFR 63.850(e)(1)-(3)
40 CFR 63.850(e)(4)(ii)-(iii), (xiii), (xv)

40 CFR 63.851(a)(1)-(2), (4)-(5)
40 CFR 63.851(b)

40 CFR 63.852

40 CFR 63.853(a)-(b)
40 CFR 63.853(c)(1)-(4)

Appendix A

The provisions of 40 CFR 63, Subpart A – General Provisions, which are incorporated as 326 IAC 20-1-1, apply to the green anode baking ring furnace except when otherwise specified in Appendix A of 40 CFR 63, Subpart LL.

(e) Compliance Assurance Monitoring (CAM) [40 CFR 64]

This initial Part 70 operating permit application has been determined to be complete by April 20, 1998. Therefore, the Permittee is not required to prepare and submit a Compliance Assurance Monitoring (CAM) plan during the review of the initial Part 70 permit.

The CAM rule does not apply to emissions units and pollutants regulated under a NSPS and NESHAP that was promulgated after November 15, 1990.

(f) The National Emission Standards for Hazardous Air Pollutants (NESHAP) for Secondary Aluminum Production [40 CFR Part 63, Part RRR]

The National Emission Standards for Hazardous Air Pollutants (NESHAP) for Secondary Aluminum Production (40 CFR Part 63, Subpart RRR) are not included in this permit for the green anode baking ring furnace, because the green anode baking ring furnace is not one of the emission units regulated by this NESHAP.

State Rule Applicability - Individual Facilities

(a) Primary Aluminum Reduction Plants [326 IAC 20-24]

The anode baking ring furnace is subject to 326 IAC 20-24-1 (Primary Aluminum Reduction Plants). 326 IAC 20-24 incorporates by reference 40 CFR 63, Subpart LL. The Permittee will comply with the provisions of 40 CFR 63, Subpart LL as detailed in the Federal Rule Applicability section.

40 CFR 63, Subpart LL was amended November 2, 2005 under Federal Register notice 70 FR 66280. However, pursuant to 326 IAC 1-1-3, the version of the rule referenced by 326 IAC 20-24 is the version in existence on July 1, 2005. Therefore, the amendments are not included in the state rules, and the anode baking ring furnace at this source is subject to both versions of the rule. The amendments revised the compliance provisions to clarify the dates by which all plants must meet the NESHAP requirements, and to specify the time allowed to demonstrate initial compliance for a new or reconstructed anode bake furnace, as well as an existing anode bake furnace that has been shutdown and subsequently restarted. The anode baking ring furnace at this source is not a new or reconstructed anode baking furnace, have already met the NESHAP requirements, and the anode baking ring furnace has not been shutdown, and restarted.

All the requirements of 326 IAC 20-24 applicable to the anode baking ring furnace are the same as the requirements listed under Federal Rule Applicability.

(b) Particulate Emissions from Manufacturing Operations [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the below listed processes shall be limited as follows:

Facility	Control Equipment	Maximum Process Weight Rate (tons/hr)	PM Emission Limit (lbs/hr)
Green anode baking ring furnace	A-446 pollution control system	21.4	31.9
Reacted alumina storage tank	Reacted alumina storage tank baghouse	7.5	15.8
Reacted alumina truck loadout	Reacted alumina truck loadout baghouse	21.00	31.5
Unreacted alumina storage tank/truck unloading	Un-reacted alumina storage tank/truck unloading baghouse	21.00	31.5
Baked anode vacuum system	Baked anode vacuum system baghouse	20.25	30.8

The above particulate emissions rates were determined from the following formula:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour by use of the equation:

$$E = 4.10\, P^{0.67}$$

where:

E = Rate of emission in pounds per hour; and
P = process weight rate in tons per hour.

(c) PSD Minor Limit [326 IAC 2-2]

Pursuant to SSM 173-17780-00007, issued on July 21, 2004, the following limits shall apply to the green anode baking ring furnace:

(1) The input of green anodes to the green anode baking ring furnace shall be limited to 187,645 tons per twelve (12) consecutive month period with compliance determined at the end of each month;

(2) The emission rate of PM shall not exceed 0.676 pounds of PM per ton of green anode;

(3) The emission rate of PM_{10} shall not exceed 3.92 pounds of PM_{10} per ton of green anode;

(4) The emission rate of SO_2 shall not exceed 1.11 pounds of SO_2 per ton of green anode; and

(5) The emission rate of CO shall not exceed 3.57 pounds of CO per ton of green anode.

Compliance with these limits together with the emission limits on the pitch fume treatment system, the throughput and emission limits on dross cooling, and the emission limits on the anode butt blast machine render the requirements of 326 IAC 2-2 not applicable to the green anode baking ring furnace.

(d) PSD Minor Limit [326 IAC 2-2]

The combined PM and PM_{10} emissions from the reacted alumina storage tank baghouse, the reacted alumina truck loadout baghouse, the un-reacted alumina storage tank/truck unloading baghouse, and the baked anode vacuum system baghouse shall be less than 5.7 and 3.4 pounds per hour, respectively. Compliance with these emissions limits shall ensure that the potential PM and PM_{10} emissions from the emissions units associated with these baghouses shall be less than 25 and 15 tons per year, respectively, which renders the requirements of PSD rule 326 IAC 2-2 not applicable.

(e) PSD BACT [326 IAC 2-2-3]

Pursuant to Construction Permit PSD (87) 1766, issued on November 3, 1989:

(1) Sulfur dioxide emissions from the A-446 dry alumina scrubbers shall be limited to 1.13 tons per day, and 35 tons per month, and 412 tons per twelve (12) consecutive month period with compliance determined at the end of each month;

(2) Alcoa shall use the lowest sulfur content coal tar pitch commercially available. This shall be limited to a maximum of 0.80% sulfur;

(i) The Permittee shall use the lowest sulfur content coal tar pitch commercially available. The sulfur content of coal tar pitch shall not exceed 0.80%;

(ii) Should pitch with a sulfur content of 0.80% become unavailable and the monthly average pitch sulfur content exceed this limit, then Alcoa shall have thirty (30) days from the end of the month in violation to provide to the OAQ documentation that lower sulfur pitch is not available and documentation for a new proposed pitch sulfur content BACT limit. The BACT limit in (1) above shall remain in effect until such time as the Commissioner approves a revised pitch sulfur content BACT limit. However, enforcement action will not be taken until such time as Alcoa has been given the opportunity to support, request and obtain approval for a revised BACT limit as described above. Testing to establish a new A-446 inlet SO_2 emission rate, similar to that described in (1), will be required as part of any revised BACT limit approval;

(iii) If the monthly average sulfur content of the pitch used in the anodes exceeds 0.75% for any calendar month, then the Permittee shall report this to OAQ within thirty (30) days. This notification shall include a discussion of the reason the pitch sulfur content has increased and whether Alcoa has been able, or will be able, to obtain pitch with sulfur content below 0.75%. If pitch with a sulfur content of less than 0.75% is not available, then Alcoa shall submit documentation of this and, within ninety (90) days of the notification, conduct an A-446 dry scrubber SO2 inlet (ring furnace outlet) test to reestablish the SO2 inlet emission rate pursuant to 326 IAC 7-4-10(a)(4)(H), previously established in Condition No. 6 of Construction permit No. PSD (87) 1766, issued November 3, 1989. This test shall be conducted pursuant to 326 IAC 3-6-2 at the current maximum achievable anode production rate and the result will be used to determine compliance; and

(3) The natural gas throughput to the green anode baking ring furnace shall be less than 75 million cubic feet per month and 600 million cubic feet per twelve (12) consecutive month period with compliance determined at the end of each month.

(f) Warrick County Sulfur Dioxide Emission Limitations [326 IAC 7-4-10]

(1) Compliance with the 94.1 pounds per hour limitation specified in 326 IAC 7-4-10(a)(4) shall be based on a stack test pursuant to 326 IAC 7-2-1(b).

(2) Compliance with the 412 tons per year limitation specified in 326 IAC 7-4-10(a)(4) shall be based on emission total from a twelve- (12) consecutive month period with compliance determined at the end of each month. Quarterly reports shall be submitted to the department containing the calendar month and rolling twelve (12) month sulfur dioxide emissions from the anode bake ring furnace. The report shall include documentation of the data and methodology used to calculate the monthly sulfur dioxide emissions and shall be submitted by the end of the month following the end of the quarter.

Testing Requirements

(a) Within 36 months after issuance of this Part 70 permit or within 5 years from the date of the last valid compliance test, whichever is later, the Permittee shall perform PM, PM_{10}, SO_2, and CO testing for the anode baking ring furnace, utilizing methods as approved by the Commissioner. These tests shall be repeated at least once every five (5) years from the date of the valid compliance demonstration. PM_{10} includes filterable and condensable PM_{10}. Testing shall be conducted in accordance with Section C- Performance Testing. During the stack test, the Permittee shall determine the sensitivity of the bag leak detection system and calibrate the particulate concentration readings of the electrodynamic bag leak detector in order to provide an output relative to outlet grain loading levels.

(b) Using the procedures in 40 CFR 63.847 and in the approved test plan, the Permittee shall monitor TF and POM emissions from the anode bake furnace on an annual basis. The Permittee shall compute and record the annual average of TF and POM emissions from at least three runs to determine compliance with the emission limits. The Permittee shall include all valid runs in the annual average.

Compliance Monitoring Requirements [326 IAC 2-7-6 (1)] [326 IAC 2-7-5 (1)]

Permits issued under 326 IAC 2-7 are required to ensure those sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions; however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs, IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that if violated serve as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source’s failure to take the appropriate corrective actions within a specific time period.

Compliance with green anode limit of 187,645 tons per 12 consecutive month and SO_2 emissions limit of 1.11 lb/ton of green anode shall satisfy the SO_2 emissions limit of 94.1 lbs/hr and 412 tons per twelve (12) consecutive month, the limits prescribed in Construction Permit PSD (87) 1766, issued November 3, 1989; and SO_2 emissions limit of 412 tons per twelve (12) consecutive month period from 326 IAC 7-4-10(a)(4)(H) Warrick County sulfur dioxide emissions.

The monitoring requirements applicable to the anode baking plant control system are as follows:

(a) For A-446 pollution control baghouses with bag leak detectors:

    (1) Each electrodynamic bag leak detection system shall be calibrated, operated, and maintained according to the manufacturer's recommendations; and

    (2) The Permittee shall continuously record output signal from the sensor. If the leak detection system is inoperable, the Permittee shall perform visible emissions notations once per day.

(b) Reacted alumina storage tank baghouse, reacted alumina truck loadout baghouse, and un-reacted and alumina storage tank/truck unloading baghouse Emissions Determination:

Baghouse	Baghouse airflow rate	PM/PM_{10} Emissions based on manufacturer's specification or test (lbs/hr)	Combined allowable emissions (lbs/hr)
Reacted alumina storage tank baghouse	30 acfm @ 99% control efficiency	0.03	< 3.4
Reacted alumina truck loadout baghouse	1,750.acfm 005 gr/dscf	0.08	
Un-reacted and alumina storage tank/truck unloading baghouse	50 acfm @ 99% control efficiency	0.08	
Baked anode vacuum system baghouse	4,300 dscfm	0.11 (From unofficial test)	

No compliance monitoring is required for the reacted alumina storage tank baghouse, reacted alumina truck loadout baghouse, and baked anode vacuum system baghouse, because the controlled particulate emissions are relatively low.

Compliance monitoring is required for the baked anode vacuum system baghouse, because it is a large baghouse, and the PM/PM_{10} emissions are higher than the other three baghouses.

Control	Parameter	Frequency	Range	Excursions and Exceedances
A-446 pollution control system consisting of three (3) reactor sections with a baghouse for PM, and PM_{10} control and a dry alumina scrubber for TF and SO_2 control	Fan motor amperes	24-Hour average of per minute readings	Lower	Response Steps
	Reacted alumina dense phase unit dumps	Cumulative 24-hour dense phase unit dumps	Lower	
Baked anode vacuum system baghouse	Water Pressure Drop	Daily	3 to 6 inches	Response Steps
	Visible Emissions		Normal-Abnormal	

The approved parametric monitoring plan for the anode baking ring furnace A-446 authorizes fan amps above the lower limit on a 24-hour average basis, and dense phase unit dumps above the lower limit on a 24-hour cumulative basis. There is no upper limit.

These monitoring conditions are necessary because the baghouses and the alumina scrubbers for the anode baking ring furnace A-446, and baked anode vacuum system baghouse must operate properly to comply with 326 IAC 6-3-2, 326 IAC 7-4-10(a)(4)(H), and 326 IAC 2-7 (Part 70).

Conclusion

The operation of this Green Anode Baking Plant shall be subject to the conditions of this Part 70 permit 173-6627-00007.

Technical Support Documentation for Anode Assembly and Spent Anode Plant

D.5 Anode Assembly & Spent Anode Plant

Background and Description

Baked Anodes are assembled with copper rods for use in the primary aluminum reduction process. Spent anodes are cleaned, separated from cast iron rod, and made ready for reuse in a freshly baked anode.

Types of Emission Units and Pollution Control Equipment

(1) One (1) mechanical blasting operation, identified as Anode Butt Blast Machine, constructed in 2001, with a maximum process weight rate of 181 tons of spent anode assemblies per hour, controlled by Anode Butt Blast Machine Baghouse, and exhausting at Stack 132.9.

One (1) baghouse, identified as Anode Butt Blast Machine Baghouse, with a gas flow rate of 12,000 acfm at 70°F, and exhausting at Stack 132.9;

(2) One (1) mechanical blasting operation, identified as Tumbleblast, constructed in 1979, with a maximum process weight rate of 60 tons of loose butts or cast iron pigs per hour, controlled by Tumbleblast Baghouse, and exhausting at Stack 132.7.

One (1) baghouse, identified as Tumbleblast Baghouse, with a gas flow rate of 27,000 acfm at 70°F, and exhausting at Stack 132.7;

(3) One (1) Impactor, constructed in 1979, with a maximum process weight rate of 176 tons of loose butts per hour, controlled by Impactor Baghouse, and exhausting at Stack 132.7.

One (1) baghouse, identified as Impactor Baghouse, with a gas flow rate of 27,930 acfm at 70° F, and exhausting at Stack 132.7;

(4) One (1) Rod Cleaning Machine, constructed in 1996, with a maximum rod process rate of 200 rods per hour, with a maximum process weight rate of 5.23 tons of rods per hour, controlled by the rod brush cleaning baghouse and exhausting at Stack 132.3;

(5) One (1) Butt Storage Tank, constructed in 1979, with a maximum process weight rate of 174 tons of loose butts per hour, controlled by Tumbleblast baghouse, and exhausting at Stack 132.7;

(6) One (1) iron casting station, identified as In-Line Caster, constructed in 1979, with a maximum process rate of 54 tons of new anodes per hour, 2.28 tons of iron per hour, and 5.23 tons of rods per hour, emissions uncontrolled, and exhausting at Stack 132.8;

(7) Two (2) Induction Furnaces, constructed in 1982, with a maximum process weight rate of 1.14 tons of iron per hour each, controlled by Induction Furnace Baghouse, and exhausting at Stack 132.6.

One (1) baghouse, identified as Induction Furnace Baghouse, with a gas flow rate of 10,200 acfm at 100°F, and exhausting at Stack 132.6; and

(8) One (1) Spent Anode Storage Pad, constructed in 1979, with a maximum process weight rate of 1.32 tons per hour, and emissions uncontrolled.

The following emissions units have been removed from service since the initial Title V permit application was submitted to IDEM:

Building	Emission Unit ID	Emission Unit Description	Stack/Vent ID
	Butt Storage Tank Baghouse		132.12

Insignificant Activities

Stripping Presses (2)

Pontiac Saw & Friction Welder

Air Arc Welder

Stub Hole Cleaner

Straightening Press

Magnetic Cast Iron Separator

Secondary Magnetic Separator

Cast Fe Storage Hopper

Cast Iron Pouring Ladle

Existing Approvals

With respect to the Anode Assembly and Spent Anode Plant, the source has been operating under the following previous approvals:

Description	Permit #	Date
Operating Permits		
	OP 87-07-83-0059	Expired
Preconstruction Approvals		
	Registration	Issued on July 1, 1982.
Anode rod cleaning machine	CP 173-6325	Issued on August 28, 1996
Anode rod cleaning machine	Amendment 173-11403 to CP 173-6325	Issued on January 28, 2000
Anode Butt Blast Machine	CP 173-14145	Issued on July 7, 2001
Anode shot blasting machine	SSM 173-17780-00007	Issued on July 21, 2004

The following table describes those permit terms which were either modified or not incorporated into the Title V operating permit. Operation Permits issued by IDEM pursuant to 326 IAC 2-1-4 (now repealed) are not federally enforceable permits, nor are the terms of such permit "applicable requirements" which must be incorporated into the Title V permit.

Term Identification	Original Term Language	Proposed Term Language	Explanation/Comments
SSM 173-17780-00007	D.1.3(d) The following limits shall apply to the anode butt blast machine: (1) The PM emission rate shall not exceed 1.029 pounds per hour, equivalent to 0.01 grains per dry standard cubic foot at a flow rate of 12,000 actual cubic feet per minute. (2) The PM10 emission rate shall not exceed 0.857 pounds per hour, equivalent to 0.0083 grains per dry standard cubic foot at a flow rate of 12,000 actual cubic feet per minute.	D.5.2 **Pursuant to SSM 173-17780-00007, issued on July 21, 2004,** ~~T~~**t**he following limits shall apply to the anode butt blast machine~~:~~**:** (**a** ~~1~~) The PM emission rate shall not exceed 1.029 pounds per hour~~, equivalent to 0.01 grains per dry standard cubic foot at a flow rate of 12,000 actual cubic feet per minute.~~**; and** (**b** ~~2~~) The PM_{10} emission rate shall not exceed 0.857 pounds per hour~~, equivalent to 0.0083 grains per dry standard cubic foot at a flow rate of 12,000 actual cubic feet per minute~~.	There is no need to establish grain loading and airflow rates in the condition. Therefore, the PM and PM_{10} are shown in lbs/hr only.
SSM 173-17780-00007	D.1.9 Preventive Maintenance Plan [326 IAC 2-7-5(13)] A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities and any control devices.	Deleted	The applicant has opted to have a general preventive maintenance plan in Section B instead of in each individual Section D of the permit. A general condition has been placed in Section B of the permit, which will apply to the entire source.
SSM 173-17780-00007	D.1.18(a) Each electrodynamic bag leak detection system shall be installed, calibrated, operated, and maintained according to the "Fabric Filter Bag Leak Detection Guidance," (September 1997).	D.5.5(a) Each electrodynamic bag leak detection system shall be ~~installed~~, calibrated, operated, and maintained according to the ~~"Fabric Filter Bag Leak Detection Guidance," (September 1997).~~ **manufacturer's recommendations**;	The broken bag detectors at Alcoa Inc. - Warrick Operations operate on the electrodynamic principle of operation. As such, they are not adequately covered by the 1997 EPA Guidance Document on Broken Bag Detectors, because that document is based on triboelectric detectors. For other type of detectors, the guidance document defers to manufacturer

Term Identification	Original Term Language	Proposed Term Language	Explanation/Comments
			recommendations. The bag leak detector has already been installed, therefore "installed" has been deleted from Condition D.3.9(a).
SSM 173-17780-00007	D.1.18(f) For negative pressure or induced air fabric filters, the bag leak detector shall be installed downstream of the fabric filter.	D.5.5(f) ~~For negative pressure or induced air fabric filters,~~ ~~t~~**T**he bag leak detector shall be installed downstream of the fabric filter~~.~~;	This is a negative pressure baghouse.
SSM 173-17780-00007	D.1.18 (i) Following initial adjustment of the system, the Permittee shall not adjust the sensitivity or range, averaging period, alarm set points, or alarm delay time except as detailed in the Compliance Response Plan.	D.5.5 (i) Following initial adjustment of the system, the Permittee shall not adjust the sensitivity or range, averaging period, alarm set points, or alarm delay time except as detailed in the ~~Compliance Response Plan~~ **PMP.**	Alarm adjustment procedures should be specified in the Preventive Maintenance Plan (PMP), since the SSM plan only describes how excess emissions from start-up, shutdowns, and malfunctions should be addressed. The language regarding making alarm set points as detailed in the PMP allows the Permittee to make alarm adjustments as indicated by calibrations.

Federal Rule Applicability

(a) New Source Performance Standards (NSPS) for Primary Aluminum Reduction Plants [326 IAC 12] [40 CFR 60 Subpart S]

The spent anode plant is not subject to the requirements of New Source Performance Standards (NSPS) for Primary Aluminum Reduction Plants (326 IAC 12) (40 CFR 60, Subpart S), because this facility is not one of the facilities covered by this NSPS.

(b) National Emission Standards for Hazardous Air Pollutants (NESHAP) [326 IAC 14 and 40 CFR Part 61]

There are no National Emission Standards for Hazardous Air Pollutants (NESHAP)(326 IAC 14 and 40 CFR Part 61) included in the permit for this source.

(c) National Emission Standards for Hazardous Air Pollutants for Primary Aluminum Reduction Plants [326 IAC 20-24, and 40 CFR 63, Subpart LL]

The National Emission Standards for Hazardous Air Pollutants for Primary Aluminum Reduction Plants (326 IAC 20-24, and 40 CFR 63, Subpart LL) are not included in this permit for the spent anode plant, because the spent anode plant is not one of the emission units regulated by this NESHAP.

(d) Compliance Assurance Monitoring (CAM) [40 CFR 64]

This initial Part 70 operating permit application has been determined to be complete by April 20, 1998. Therefore, the Permittee is not required to prepare and submit a Compliance Assurance Monitoring (CAM) plan during the review of the initial Part 70 permit.

(e) The National Emission Standards for Hazardous Air Pollutants (NESHAP) for Secondary Aluminum Production [40 CFR Part 63, Part RRR]

The National Emission Standards for Hazardous Air Pollutants (NESHAP) for Secondary Aluminum Production (40 CFR Part 63, Part RRR) are not included in this permit for the spent anode plant, because the spent anode plant is not one of the emission units regulated by this NESHAP.

(f) The National Emission Standards for Hazardous Air Pollutants (NESHAP) for Iron and Steel Foundries [40 CFR Part 63, Part EEEEE]

The anode rod insertion process does not create an independent casting. It provides the bond between the carbon block and copper bus bar. Because the anode assembly plant is not producing a cast final product for introduction into commerce, the melt furnaces and pouring stations are not regulated by this NESHAP.

State Rule Applicability - Individual Facilities

(a) Particulate Emissions from Manufacturing Operations [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the below listed processes shall be limited as follows:

Facility	Maximum Process Weight Rate (tons/hr)	PM Emission Limit (lbs/hr)
Anode butt blast machine	142.4 tons (121 tons of steel and 21.4 tons of green anodes)	54.9
Tumbleblast blasting and butt storage tank operation	234	60.2
Impactor	176	57.1
Rod cleaning machine	5.23	12.4
Iron casting	61.5	46.5
Induction furnaces	2.28	7.12

The above particulate emissions rates were determined from the following formulae:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour by use of the equation:

$E = 4.10\ P^{0.67}$

where:

E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour.

Or

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour by use of the equation:

$E = 55.0\ P^{0.11} – 40$

where:

E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour.

When the process rate exceeds two hundred (200) tons per hour, the allowable emission may exceed the emission limits shown in the above table; provided the concentration of particulate in discharge gases to the atmosphere is less than one-tenth (0.10) pound per thousand (1,000) pounds of gases.

(b) Pursuant to SSM 173-17780-00007, issued on July 21, 2004, the following limits shall apply to the anode butt blast machine:

(1) The PM emission rate shall not exceed 1.029 pounds per hour; and

(2) The PM_{10} emission rate shall not exceed 0.857 pounds per hour.

Compliance with these limits together with the emission limits on the pitch fume treatment system, the throughput and emission limits on the anode ring baking furnace, and the throughput and emission limits on the dross cooling operation render the requirements of 326 IAC 2-2 not applicable to the anode butt blast machine.

(c) Rod cleaning machine was constructed in 1996. Pursuant to Amendment 173-11403 to CP 173-6325, issued on January 28, 2000, the tested uncontrolled emissions of PM and PM_{10} from the anode rod cleaning machine, were found to be less than 25 and 15 tons/yr, respectively, which are less than the PSD significant levels for PM and PM_{10}. Therefore, PSD minor limits for PM and PM_{10} are not required.

(d) Induction furnaces were constructed in 1982. The uncontrolled emissions of PM from the two induction furnaces, were found to be less than 8.99 tons per year, which is less than the PSD significant level for PM. PM_{10} was not regulated at that time. Therefore, a PSD minor limit is not required for PM.

Testing Requirements

Within 36 months after issuance of this Part 70 permit or within 5 years from the date of the last valid compliance test, whichever is later, the Permittee shall perform PM, and PM_{10} testing for the anode butt blast machine, utilizing methods as approved by the Commissioner. These tests shall be repeated at least once every five (5) years from the date of the valid compliance demonstration. PM_{10} includes filterable and condensable PM_{10}. Testing shall be conducted in accordance with Section C- Performance Testing. During the stack test, the Permittee shall determine the sensitivity of the bag leak detection system and calibrate the particulate concentration readings of the electrodynamic bag leak detector in order to provide an output relative to outlet grain loading levels.

Compliance Monitoring Requirements [326 IAC 2-7-6 (1)] [326 IAC 2-7-5 (1)]

Permits issued under 326 IAC 2-7 are required to ensure those sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions; however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs, IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that if violated serve as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source’s failure to take the appropriate corrective actions within a specific time period.

The monitoring requirements applicable to the spent anode plant control system are as follows:

(a) For anode butt blast machine baghouse with bag leak detector:

    (1) Each electrodynamic bag leak detection system shall be calibrated, operated, and maintained according to the manufacturer's recommendations; and

    (2) The Permittee shall continuously record output signal from the sensor. If the leak detection system is inoperable, the Permittee shall perform visible emissions notations once per day.

(b) The following table shows applicable compliance monitoring requirements:

Control	**Parameter**	**Frequency**	**Range**	**Excursions and Exceedances**
Tumbleblast Baghouse	Water Pressure Drop	Daily	2 to 5 inches	Response Steps
	Visible emissions		Normal-Abnormal	
Impactor Baghouse	Water Pressure Drop	Daily	3 to 6 inches	Response Steps
	Visible Emissions		Normal-Abnormal	

(c) No compliance monitoring is required for the induction furnaces baghouse as the allowable particulate emissions are relatively small.

These monitoring conditions are necessary because the baghouses must operate properly to comply with 326 IAC 6-3-2, 326 IAC 2-7 (Part 70), and 326 IAC 2-2 avoidance.

Conclusion

The operation of this Anode Assembly and Spent Anode Plant shall be subject to the conditions of this Part 70 permit 173-6627-00007.

Technical Support Documentation for Ingot Plant and Support

D.6 Ingot Plant and Support

Background and Description

The ingot plant is composed of the following areas:

Melting/casting area

This area is composed of a series of furnace complexes. Except for the #7 complex, each complex is composed of two or three melt furnaces and two or three holding furnaces, where metal is melted, mixed, and alloyed (the #7 complex consists of a single melt furnace and holding furnace). All of the complexes have melting and holding furnaces. The #1 and #8 complexes also cast. For these complexes, molten metal is transferred from holding furnaces to in-line degas units, where final chlorine fluxing and degassing takes place. The molten metal is then transferred to casting pits in the #8 complex, or to strip casters in the #2 complex. The #5 complex was formerly capable of casting ingots by transferring molten metal from both of its holders to an in-line degas unit. However, this degas unit was decommissioned when the second in-line degas unit (1WHACD) was permitted. All of these furnaces are defined as Group 1 furnaces in 40 CFR 63, Subpart RRR.

Offline Furnace Complex Area

The #2 offline complex consists of storage silos, pneumatic transport systems, melt furnaces, and holding furnaces. The #7 complex consists of a melter and a holder. The furnaces in the #2 offline complex are defined as Group 2 furnaces in 40 CFR 63, Subpart RRR, because they only melt clean charge and do not perform reactive fluxing. The furnaces in the #7 complex are Group 1 furnaces, because they are capable of reactive fluxing.

Coated Scrap Shredder

This unit shreds coated scrap produced from coil coating operations. The shredded coils are baled and shipped to off-site facilities for subsequent re-melting.

Skim Room

Dross removed from the melt and holding furnaces is transported to a separate room, allowed to cool, then is dumped onto the floor, then loaded into trucks for off-site processing. This room is equipped with baghouse emissions control.

Types of Emission Units and Pollution Control Equipment

Under NESHAP Subpart RRR the following emissions units are considered an existing secondary aluminum processing unit (SAPU):

#1 Coil Casting Complex

(1) Three (3) group 1 furnaces, identified as #1 Casting Complex 1M1, 1M2 and 1M3, constructed in 1973, with a maximum aluminum production rate of 6.85 tons per hour each, when used for producing cast coils and 49 tons per hour, when used as off-line

melters, emissions uncontrolled, and exhausting at Stacks 134.62, 134.64, and 134.67, respectively;

(2) Two (2) group 1 furnaces, identified as #1 Casting Complex East Holder 1EH and West Holder 1WH, constructed in 1973, with maximum aluminum production rates of 10.27 tons per hour each, when used for producing cast coils and 49 tons per hour each, when used as off-line holders, emissions uncontrolled, and exhausting at Stacks 134.63 and 134.66, respectively;

#5 Furnace Complex

(3) Three (3) group 1 furnaces, identified as Melters 5M1, 5M2 and 5M3, constructed in 1966, with a maximum aluminum production rate of 97.5 tons per hour each, emissions uncontrolled, and exhausting at Stacks 134.33, 134.36, and 134.39, respectively;

(4) Two (2) group 1 furnaces, identified as #5 HDC Complex East Holder 5EH and West Holder 5WH, constructed in 1966, with maximum aluminum production rate of 97.5 tons per hour each, emissions uncontrolled, and exhausting at Stacks 134.35 and 134.38, respectively;

#6 Furnace Complex

(5) Three (3) group 1 furnaces, identified as Melters 6M1, 6M2, and 6M3, constructed in 1966, with a maximum aluminum production rate of 12 tons per hour each, emissions uncontrolled, and exhausting at Stacks 134.40, 134.42, and 134.44, respectively;

(6) Two (2) group 1 furnaces, identified as #6 Furnace Complex East Holder 6EH and West Holder 6WH, constructed in 1966, with maximum aluminum production rate of 16 tons per hour each, emissions uncontrolled, and exhausting at Stacks 134.41 and 134.43, respectively;

#8 EMC Ingot Casting Complex

(7) Three (3) group 1 furnaces, each with a Pyrotek HD-2000 flux gas injector, identified as #8 EMC Complex Melters 8M1, 8M2 and 8M3, constructed in 1985, with a maximum aluminum production rate of 47 tons per hour each, emissions uncontrolled, and exhausting at Stacks 134.80, 134.84, and 134.89, respectively;

(8) Two (2) group 1 furnaces, identified as #8 EMC Complex East Holder 8EH and West Holder 8WH, constructed in 1985, with a maximum aluminum production rate of 70 tons per hour each, emissions uncontrolled, and exhausting at Stacks 134.83 and 134.87, respectively;

#7 Offline Complex

(9) One (1) group 1 furnace, identified as #7 Offline #1 Melter 7M1, constructed in 1991, with a maximum aluminum production rate of 6.03 tons per hour, emissions uncontrolled, and exhausting at Stack 134.45;

(10) One (1) group 1 furnace, identified as #7 Offline East Holder 7EH, constructed in 1991, with a maximum aluminum production rate of 6.03 tons per hour, emissions uncontrolled, and exhausting at Stack 134.46;

Under NESHAP Subpart RRR the following emissions units are considered a new secondary aluminum processing unit (SAPU):

(11) Two (2) degassing units, identified as Alcan Compact Degassing (ACD) units, constructed in 2003 in conjunction with #1 east holding furnace and #1 west holding furnace in the #1 casting complex, with a maximum capacity 10 tons of molten aluminum per hour each, emissions uncontrolled, and exhausting at Stacks 134.63 and 134.66, respectively;

(12) One (1) in-line fluxer, identified as 8EMC 8EH 4-rotor A622 in-line degassing unit replacing the one (1) 8EMC 8EH Alcan compact degassing ACD unit, constructed in 2005, with a maximum aluminum production rate of 70 tons of molten aluminum per hour, emissions uncontrolled, and exhausting at Stack 134.83;

(13) One (1) in-line fluxer, identified as 8EMC 8WH 4-rotor A622 in-line degassing unit, replacing the one (1) 8EMC 8WH 3-rotor A662 in-line degassing unit, constructed in 2005, with a maximum aluminum production rate of 70 tons per hour, emissions uncontrolled, and exhausting at Stack 134.87;

Group 2 Furnaces, not included in the existing SAPU:

#2 Offline Furnace Complex

(14) Two (2) group 2 furnaces, identified as #2 Offline East Melter and West Melter, constructed in 1976, each with a maximum aluminum production rate of 12 tons per hour, emissions uncontrolled, and exhausting at Stacks 134.71 and 134.76, respectively;

(15) Two (2) group 2 furnaces, identified as #2 Offline East Holder and West Holder, constructed in 1976, each with a maximum aluminum production rate of 12 tons per hour, emissions uncontrolled, and exhausting at Stacks 134.73 and 134.75, respectively;

(16) One (1) natural gas fired, group 2 furnace, identified as RSI Furnace #10, constructed in 1991, with a maximum heat input of 41 MMBtu per hour and a maximum capacity of 15 tons per hour, emissions uncontrolled, exhausting at Stack 134.15;

Aluminum Shredder

(17) One (1) aluminum shredder/bailer, identified as Coated Scrap Shredder, constructed in 1999, with a maximum throughput of 25,000 pounds per hour, emissions uncontrolled, and exhausting inside the building. Under NESHAP Subpart RRR this is considered an existing aluminum scrap shredder;

The following emissions units are not regulated under NESHAP Subpart RRR:

(18) One (1) aluminum pneumatic transport system, identified as #2 Offline East Melter Charging, constructed in 1976, with a maximum production rate of 12 tons per hour, controlled by Rotoclone #3, and exhausting at Stack 134.68.

One (1) wet scrubber, identified as Rotoclone #3, with a gas flow rate of 21,000 acfm at 70°F, and exhausting at Stack 134.68;

(19) One (1) aluminum pneumatic transport system, identified as #2 Offline West Melter Charging, constructed in 1976, with a maximum production rate of 12 tons per hour, controlled by Rotoclone #4, and exhausting at Stack 134.77.

One (1) wet scrubber, identified as Rotoclone #4, with a gas flow rate of 12,000 acfm at 70°F, and exhausting at Stack 134.77;

(20) One (1) aluminum pneumatic transport system and silo, identified as #2 Offline East Melter West Chip Silo Input, constructed in 1976, with a maximum production rate of 13.76 tons per hour, controlled by Rotoclone #1, and exhausting at Stack 134.69.

One (1) wet scrubber, identified as Rotoclone #1, with a gas flow rate of 4,500 acfm at 70°F, and exhausting at Stack 134.69;

(21) One (1) aluminum pneumatic transport system and silo Input, identified as #2 Offline East Melter East Chip Silo, constructed in 1976, with a maximum production rate of 13.76 tons per hour, controlled by Rotoclone #2, and exhausting at Stack 134.70.

One (1) wet scrubber, identified as Rotoclone #2, with a gas flow rate of 4,500 acfm at 70°F, and exhausting at Stack 134.70;

(22) One (1) skim/dross operation, identified as 133 Skim/Dross Building, with a maximum dross throughput of 66 tons per hour, controlled by the 133 Skim/Dross Building baghouses, and exhausting at Stacks 133D.1, 133D.2, 133D.3, and 133D.4.

One (1) 133 Skim/Dross Building baghouses, consisting of:

(a) Two (2) small baghouses, identified as No.1 and No.2 Skim Cooling Baghouses, each with an air flow rate of 18,000 acfm at 150°F, and exhausting at Stacks 133D.1 and 133D.2, respectively; and

(b) Two (2) big baghouses identified as No.3 and No.4 Skim Cooling Baghouses, each with an air flow rate of 40,000 acfm at 150°F, and exhausting at Stacks 133D.3 and 133D.4;

Fuel Oil Storage, consisting of:

(23) Four (4) 143,000 gallon tanks, identified as Ingot Tanks 170A, 170B, 170C, and 170D, storing No. 2 fuel oil, constructed in 1974, and exhausting to Stacks 170A, 170B, 170C, and 170D, respectfully;

(24) Two (2) 143,000 gallon tanks, identified as Ingot Tanks 170E and 170F, storing No. 2 fuel oil, constructed in 1977, and exhausting to Stacks 170E and 170F, respectively; and

(25) Two (2) Emergency intermittent duty-cycled, diesel-fired, reciprocating internal combustion engines, identified as Water Pump Diesel Engines #1 and #2, constructed in December, 2005, with a maximum capacity of 460 brake horsepower each, exhausting at Stacks 134.E1 and 134.E2.

The following emissions units have been removed from service since the initial Title V permit application was submitted to IDEM:

Building	Emission Unit ID	Emission Unit Description	Stack/Vent ID
Ingot	#4 HDC Complex West Holder	Holding Furnace	134.31
Ingot	#4 HDC Complex East Holder	Holding Furnace	134.28

Building	Emission Unit ID	Emission Unit Description	Stack/Vent ID
Ingot	#4 HDC Complex In-Line Degas Unit	In-line Degas Unit	134.29 and 134.30
Ingot	#4 HDC Complex West Melter	Melt Furnace	134.32
Ingot	#4 HDC Complex East Melter	Melt Furnace	134.27
Ingot	#5 HDC Complex In-Line Degas Unit	In-line Degas Unit	134.35
Ingot	#6 HDC Complex In-Line Degas Unit	In-line Degas Unit	134.41
Ingot	Hammer Shredder	Scrap shredder	134.V1
Ingot	#1 Delacquering Furnace	Delacquering furnace	134.11
Ingot	#3 Delacquering Furnace	Delacquering furnace	134.24
Ingot	#4 Delacquering Furnace	Delacquering furnace	134.10
Ingot	Scrap metal handling	Pneumatic conveyors	134V.2
Ingot	#11 RSI Furnace	Melt Furnace	134.22
Ingot	#12 RSI Furnace	Melt Furnace	134.16
Ingot	#13 RSI Furnace	Melt Furnace	134.16
Ingot	#14 RSI Furnace	Melt Furnace	134.30

Insignificant Activities

Natural Gas Fired Units as Follows:

2 dry-out wagons, heat input capacity of 8 MM Btu/hr and 15 MM Btu/hr (The 15 MM Btu unit only operates to assist in furnace refractory dry-outs after a furnace re-build is completed.)

5 Filter box pre-heaters, 3 MM Btu/hr, each

17 ingot air make-up heaters, 6 MM Btu, each

8W filter Selee pre-heater, heat input less than 10 MM Btu/hr

3 Bldg. 133F Mold Shop heaters, heat input less than 10 MM Btu/hr, each

2 crucible heating stations, 6 MM Btu/hr, each

6 Bldg. 133F Mold Shop Storage area heaters, heat input less than 10 MM Btu/hr, each

2 Bldg. 134D Filter box rebuild room heaters, heat input less than 10 MM Btu/hr, each

1 Bldg. 134 Refractory storage area heater, heat input less than 10 MM Btu/hr

3 RSI Maintenance Area Heaters, heat input than 10 MM Btu/hr, each

Furnace Door heating furnace, 4 MM Btu/hr

Chlorine Bldg. Boiler, 2 MM Btu/hr. heat input capacity

Activities that are not Combustion

Two non-contact water cooling towers

Wood saw baghouse, less than 4000 cfm capacity

Refractory shop baghouse, believed to be less than 4000 cfm capacity

Refractory storage

Periodic bag replacements for the dross baghouses, wood saw baghouse, and refractory shop baghouse

Coated scrap shredder/baler hydraulic oil storage room

Quantometer laboratory

Portable castable refractory mixer

With respect to the Ingot Plant and Support operations, the source has been operating under the following previous approvals:

Description	Permit #	Date
Operating Permits		
	OP 87-07-83-0063	Expired
	OP 87-07-91-0112	Expired
	OP 87-07-91-0113	12/15/99
	OP 87-07-91-0114	Expired
	OP 87-07-91-0115	10/1/99
	OP 87-07-91-0116	10/1/99
Preconstruction Approvals		
	Registration CP 173-2063	July 9, 1991
	Registration	March 28, 1991
	PC (87) 925	Issued January 1976
	Reg. CP 173-2166	Issued December 5, 1991
	CP 173-3769	Issued on September 12, 1994
	CP173-2348	Issued February 4, 1992
	Amendment 173-6196	Issued September 27, 1996
	Amendment 173-10913	Issued October 1, 1999
	Amendment 173-11414	Issued December 15, 1999
	MSM173-10959	Issued July 15, 1999
	Amendment 173-11419	Issued on June 9, 2000
	MSM 173-12588	Issued on October 10, 2000
	MSM 173-15352	Issued on April 23, 2002
	SSM 173-16034	Issued on March 28, 2003
	SPM 173-18905	Issued on September 28, 2004
	SPM 173-20246	Issued on March 3, 2005
	MSM 173-20390	Issued on December 14, 2004
	SPM 173-21817-00007	Issued in May 2006
	SPM 173-21948-00007	Issued on March 17, 2006

The following table describes those permit terms which were either modified or not incorporated into the Title V operating permit. Operation Permits issued by IDEM pursuant to 326 IAC 2-1-4 (now repealed) are not federally enforceable permits, nor are the terms of such permit "applicable requirements" which must be incorporated into the Title V permit.

Term Identification	Original Term Language	Proposed Term Language	Explanation/ Comments
SSM 173-12588	D.1.4 The emissions from the aluminum shredder shall be limited to 24.0 tons of PM and 14.0 tons of PM_{10}. This limit is required to limit the potential to emit of PM_{10} to less than 25 tons of PM and 15 tons of PM_{10} per 12 consecutive month period. Compliance with this limit makes 326 IAC 2-2 (Prevention of Significant Deterioration) and 40 CFR 52.21 not applicable.	Deleted	The PM and PM_{10} PTEs are less than the PM and PM_{10} PSD significant levels. Based on the August, 2005 stack tests, the uncontrolled PM or PM_{10} emission rate was 0.0065 lb/ton. The PM or PM_{10} PTE is 0.36 ton/yr.
	D.1.7 Visible Emissions Notations (a) Visible emission notations of the aluminum shredder/baler stack exhaust shall be performed once per shift during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal. (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time. (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions. (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.	Deleted	The Coated Scrap Shredder now vents inside the building. MACT requires monitoring of some type. Based on the August, 2005 stack tests, the 25,000 lbs/hr limit could be increased to 238,095 lbs/hr, so as to equal a grain loading of 0.01 gr/dscf at the baghouse inlet. However, Alcoa still accepts the 25,000 lbs/hr limit and Alcoa will be monitoring this lbs/hr throughput limit.

Term Identification	Original Term Language	Proposed Term Language	Explanation/ Comments
	(e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed. D.1.8 Compliance Monitoring [40 CFR 63, Subpart RRR] Pursuant to 40 CFR 63.1510 and Condition C.7 (Compliance Monitoring Plan – Failure to take Response Steps) of this approval, the Permittee shall submit an Operation, Maintenance and Monitoring (OM&M) Plan to the IDEM, OAM for review and approval and consist of information outlined in 40 CFR 63.1510(b)(1-8).	 Deleted	 There is no control equipment. It meets the emission limit without control.
Registration October 24, 1979	Annual oil consumption shall be limited to 341,000 gallons per year. (No. 2 fuel oil in Furnace no. 35)	Deleted	It does not have oil burning capability.
SSM 173-17780-00007	D.1.9 Preventive Maintenance Plan [326 IAC 2-7-5(13)] A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities and any control devices.	Deleted	The applicant has opted to have a general preventive maintenance plan in Section B instead of in each individual Section D of the permit. A general condition has been placed in Section B of the permit, which will apply to the entire source.
SSM 173-17780-00007	D.1.18(a) Each electrodynamic bag leak detection system shall be installed, calibrated, operated, and maintained according to the "Fabric Filter Bag Leak Detection Guidance," (September 1997).	D.6.15(a) Each electrodynamic bag leak detection system shall be ~~installed~~, calibrated, operated, and maintained according to the ~~"Fabric Filter Bag Leak Detection Guidance," (September 1997).~~ **manufacturer's recommendations**;	The broken bag detectors at Alcoa Inc. - Warrick Operations operate on the electrodynamic principle of operation. As such, they are not adequately covered by the 1997 EPA Guidance Document on Broken Bag Detectors, because that document is based on triboelectric detectors. For other type of detectors, the guidance document defers to manufacturer recommendations. The bag leak detector has already been installed, therefore

Term Identification	Original Term Language	Proposed Term Language	Explanation/ Comments
			"installed" has been deleted from Condition D.3.9(a).
SSM 173-17780-00007	D.1.18(f) For negative pressure or induced air fabric filters, the bag leak detector shall be installed downstream of the fabric filter.	D.6.15(f) ~~For negative pressure or induced air fabric filters,~~ ~~t~~**T**he bag leak detector shall be installed downstream of the fabric filter.	This is a negative pressure baghouse.
SSM 173-17780-00007	D.1.18(i) Following initial adjustment of the system, the Permittee shall not adjust the sensitivity or range, averaging period, alarm set points, or alarm delay time except as detailed in the Compliance Response Plan.	D.6.15(i) Following initial adjustment of the system, the Permittee shall not adjust the sensitivity or range, averaging period, alarm set points, or alarm delay time except as detailed in the ~~Compliance Response Plan~~ **PMP.**	Alarm adjustment procedures should be specified in the Preventive Maintenance Plan (PMP), since the SSM plan only describes how excess emissions from start-up, shutdowns, and malfunctions should be addressed. The language regarding making alarm set points as detailed in the PMP allows the Permittee to make alarm adjustments as indicated by calibrations.
SSM 173-21817-00007	D.1.1 (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. D.1.1(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. D.1.1(c)(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.	Deleted D.6.2(a) The total natural gas usage of ~~m~~**M**elters 8M1, 8M2, and 8M3 shall not exceed 915 MMCF per ~~year~~ **twelve consecutive month period**, with compliance demonstrated at the end of each month.**;** D.6.2(b)(1) The PM emissions from ~~m~~**M**elters 8M1, 8M2, and 8M3 shall not exceed 0.118 ~~pounds per ton~~ **lbs/ton** of **feed/**charge ~~each~~ for combined chlorine and flux salt input rates less than or equal to 1.29 ~~pounds per ton~~ **lbs/ton** of ~~aluminum~~ **feed/charge** and for charges that contain 12,000	With the new Conditions D.6.2(b)(5) and (c)(5), this feed/charge limit is not required. Replaced "year" with "twelve consecutive month period". Replaced "aluminum" to "feed/charge". The tested limit is based on feed/charge

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		pounds or less of purchased oily scrap~~.~~**;**	
	D.1.1(c)(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.	D.6.2(b)(2) The PM emissions from ~~m~~**M**elters 8M1, 8M2, and 8M3 shall not exceed 0.16 ~~pounds per ton~~ **lbs/ton** of **feed/**charge ~~each~~ for combined chlorine and flux salt input rates greater than 1.29 ~~pounds~~ **lbs/ton** of ~~aluminum~~ **feed/charge**, but less than 2.35 ~~pounds per ton~~ **lbs/ton** of ~~aluminum~~ **feed/charge**, for charges that contain no purchased oily scrap~~.~~**;**	Replaced "aluminum" to "feed/charge". The tested limit is based on feed/charge
	D.1.1(c)(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.	D.6.2(b)(4) The combined chlorine and flux salt input rates shall not exceed 2.35 ~~pounds per ton~~ **lbs/ton** of ~~aluminum~~ **feed/charge** for charges that contain no purchased oily scrap~~.~~**;**	Replaced "aluminum" to "feed/charge". The tested limits are based on feed/charge
	D.1.1(c)(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.6.2(b)(3) The PM emissions from ~~m~~**M**elters 8M1, 8M2, and 8M3 shall not exceed the allowable **PM** emission rate **of 0.40 lbs/ton of feed/charge, as** specified by 40 CFR 63.1505(k)(1) each, for combined chlorine and flux input rates greater than 1.29 ~~pounds per ton~~ **lbs/ton** of ~~aluminum~~ **feed/charge** but less than 2.27 ~~pounds per ton~~ **lbs/ton** of ~~aluminum~~ **feed/charge that includes purchased oily scrap or** for charges that contain greater than 12,000 pounds of purchased oily scrap but less than or equal to 26,667 pounds of purchased oily scrap~~.~~**;**	Replaced "aluminum" to "feed/charge". The limit is based on feed/charge. Also specified the PM limit allowed by 40 CFR 63.1505(k)(1).
	D.1.1(c)(4) The total PM emissions from all the three melters shall not exceed 49.57 tons per year.	D.6.2(b)(5) The total PM emissions from all ~~the three melters~~ **Melters 8M1, 8M2, and 8M3** shall not exceed 49.57 tons per ~~year~~ **twelve consecutive month period, with compliance demonstrated at the end of each month**. **The**	Condition D.1.1 as written, will allow PM_{10} emissions to exceed the PM_{10} limit in Condition D.1.1(d)(4), and the PM_{10} limit is not practically enforceable. It is made enforceable by including this new

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		following equation shall be utilized to demonstrate compliance: **PM Emissions = (X1*A1 + X2*A2 + X3*A3)/2,000** **Where:** **X1 = tons of charges that contain 12,000 pounds or less of purchased oily scrap and utilize combined chlorine and salt input rates less than or equal to 1.29 lbs/ton of feed;** **A1 = the PM emission factor for the X1 operating condition, as provided in the most recently approved Operating, Monitoring, and Maintenance plan (Per the 10/05 OMM, this factor is 0.0943 lb/ton);** **X2 = tons of charges that contain no purchased oily scrap, and utilize combined chlorine and salt input rates less than or equal to 2.35 lbs/ton of feed and greater than 1.29 lbs/ton of feed;** **A2 = the PM emission factor for the X2 operating condition, as provided in the most recently approved Operating, Monitoring, and Maintenance plan (Per the 10/05 OMM, this factor is 0.127 lb/ton);** **X3 = tons of charges that contain greater than 12,000 pounds of purchased oily scrap but less than 26,667 pounds of purchased oily scrap, or contain purchased oily scrap and utilize combined chlorine and salt input rates less than or equal to 2.27 lbs/ton of feed and greater than 1.29**	condition.

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		lbs/ton of feed; and **A3 = the PM emission factor for the X3 operating condition, as provided in the most recently approved Operating, Monitoring, and Maintenance plan (Per the 10/05 OMM, this factor is 0.297 lb/ton).**	
	D.1.1(d)(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.	D.6.2(c)(1) The PM_{10} emissions from ~~m~~**M**elters 8M1, 8M2, and 8M3 shall not exceed 0.127 ~~pounds per ton~~ **lbs/ton** of **feed/**charge ~~each~~ for combined chlorine and flux salt input rates less than or equal to 1.29 ~~pounds per ton~~ **lbs/ton** of ~~aluminum~~ **feed/charge**~~.~~**;**	Replaced "aluminum" to "feed/charge". The tested limits are based on feed/charge
	D.1.1(d)(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.	D.6.2(c)(2) The PM_{10} emissions from ~~m~~**M**elters 8M1, 8M2, and 8M3 shall not exceed 0.17 ~~pounds per ton~~ **lbs/ton** of **feed/**charge ~~each~~ for combined chlorine and flux salt input rates greater than or equal to 1.29 ~~pounds per~~ **lbs/ton** of ~~aluminum~~ **feed/charge**, but less than 2.35 ~~pounds per ton~~ **lbs/ton** of ~~aluminum~~ **feed/charge** for charges that contain no purchased oily scrap~~.~~;	Replaced "aluminum" to "feed/charge". The tested limits are based on feed/charge.
	D.1.1(d)(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.	D.6.2(c)(4) The combined chlorine and flux salt input rates shall not exceed 2.35 ~~pounds per ton~~ **lbs/ton** of ~~aluminum~~ **feed/charge** for charges that contain no purchased oily scrap~~.~~**;**	Replaced "aluminum" to "feed/charge". The tested limits are based on feed/charge.
	D.1.1(d)(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	D.6.2(c)(3) The PM_{10} emissions from m**M**elters 8M1, 8M2, and 8M3 shall not exceed the allowable **PM** emission rate **of 0.40 lbs/ton of feed/charge, as** specified by 40 CFR 63.1505(k)(1), multiplied by 1.08 ~~each~~ for combined chlorine and flux input rates	Replaced "aluminum" to "feed/charge". The limit is based on feed/charge. Also specified the PM limit allowed by 40 CFR 63.1505(k)(1).

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	contain greater than 12,000 pounds of purchased oily scrap but less than or equal to 26,667 pounds of purchased oily scrap.	greater than 1.29 ~~pounds per ton~~ **lbs/ton** of ~~aluminum~~ **feed/charge** but less than 2.27 ~~pounds per ton~~ **lbs/ton** of ~~aluminum~~ **feed/charge that includes purchased oily scrap, or** for charges that contain greater than 12,000 pounds of purchased oily scrap but less than or equal to 26,667 pounds of purchased oily scrap~~.~~**;**	
	D.1.1(d)(4) The total PM10 emissions from all the three melters shall not exceed 53.54 tons per year.	D.6.2(c)(5) The total PM_{10} emissions from ~~all the three melters~~ **Melters 8M1, 8M2, and 8M3** shall not exceed 53.54 tons per ~~year~~ **twelve consecutive month period, with compliance demonstrated at the end of each month**. **The following equation shall be utilized to demonstrate compliance:** **PM_{10} Emissions = 1.08[(Y1*A1 + Y2*A2+ Y3*A3)]/2,000** **Where:** **Y1 = tons of charges that contain 12,000 pounds or less of purchased oily scrap and utilize combined chlorine and salt input rates less than or equal to 1.29 lbs/ton of feed;** **A1 = the PM emission factor for the Y1 operating condition, as provided in the most recently approved Operating, Monitoring, and Maintenance plan (Per the 10/05 OMM, this factor is 0.0943 lb/ton);** **Y2 = tons of charges that contain no purchased oily scrap, and utilize combined chlorine and salt input rates less than or equal to 2.35 lbs/ton of feed and greater than 1.29 lbs/ton of feed;**	Condition D.1.1 as written, will allow PM_{10} emissions to exceed the PM_{10} limit in Condition D.1.1(d)(4), and the PM_{10} limit is not practically enforceable. It is made enforceable by including this new condition.

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		A2 = the PM emission factor for the Y2 operating condition, as provided in the most recently approved Operating, Monitoring, and Maintenance plan (Per the 10/05 OMM, this factor is 0.127 lb/ton); **Y3 = tons of charges that contain greater than 12,000 pounds of purchased oily scrap but less than 26,667 pounds of purchased oily scrap, or contain purchased oily scrap and utilize combined chlorine and salt input rates less than or equal to 2.27 lbs/ton of feed and greater than 1.29 lbs/ton of feed; and** **A3 = the PM emission factor for the Y3 operating condition, as provided in the most recently approved Operating, Monitoring, and Maintenance plan (Per the 10/05 OMM, this factor is 0.297 lb/ton).**	
	D.1.1(e) The NOx emissions from melters 8M1, 8M2, and 8M3 shall not exceed 138.1 lbs per MMCF of natural gas each and the total NOX emissions from all the three melters shall not exceed 63.18 tons per year.	6.2(d) The NOx emissions from ~~m~~**M**elters 8M1, 8M2, and 8M3 shall not exceed 138.1 lbs per MMCF of natural gas ~~each~~**. Compliance with this limit and the limit on the total amount of natural gas in Condition D.6.2(a) shall ensure that** the total NOx emissions from all ~~the~~ three melters ~~shall~~ **do** not exceed 63.18 tons per year~~.~~**;**	Condition D.1.1(e) does not say how it will comply with the limit. It has been revised to make it clear.
	D.1.1(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.	Deleted	With the new Conditions D.6.2(f)(5) and (g)(5), this feed/charge limit is not required.
	D.1.1(g) The total natural gas usage of the 8EMC east holding	D.6.2(e) The total natural gas usage of the 8EMC east	Replaced "year" with "twelve consecutive

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	furnace and the 8EMC west holding furnace shall not exceed 216 MMCF per year, with compliance demonstrated at the end of each month.	holding furnace and the 8EMC west holding furnace shall not exceed 216 MMCF per ~~year~~ **twelve consecutive month period**, with compliance determined at the end of each month~~.~~**;**	month period**"**,
	D.1.1(h)(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.	D.6.2(f)(1) The PM emissions from the 8EMC east holding furnace and the 8EMC west holding furnace shall be limited to 0.083 lbs/ton of charge for **combined** chlorine **and flux salt** input rates less than or equal to ~~0.51~~ **1.14** lbs/ton of ~~aluminum~~ **feed/charge**~~.~~**;**	Replaced "aluminum" to "feed/charge". 0.51 lb chlorine per ton of feed was established as part of the initial Secondary MACT tests. During those same tests, the input of flux salt was 50 lbs. For the 3-run average, the combined chlorine and salt input was 1.14 lbs. per ton of feed.
	D.1.1(h)(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.	D.6.2(f)(2) The PM emissions from the 8EMC east holding furnace and the 8EMC west holding furnace shall be limited to 0.165 lbs/ton of **feed/**charge for **combined** chlorine **and flux salt** input rates greater than ~~0.51~~ **1.14** lbs/ton of ~~aluminum~~ **feed/charge** but less than ~~1.76~~ **1.20** ~~pounds per ton~~ **lbs/ton** of ~~aluminum~~ **feed/charge**~~.~~**;**	See above.
	D.1.1(h)(3) In no event shall chlorine exceed a maximum input rate of 1.76 lbs/ton of aluminum.	Deleted	There is no need to have two conditions
	D.1.1(h)(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.	D.6.2(f)(3) The PM emissions from the 8EMC east holding furnace and the 8EMC west holding furnace shall be limited to the allowable **PM** emission rate **of 0.40 lbs/ton of feed/charge, as** specified by 40 CFR 63.1505 (k)(1) each, for combined chlorine and flux salt input rates greater than 1.2 ~~pounds per ton~~ **lbs/ton** of ~~aluminum~~ **feed/charge**, but less than 1.76 ~~pounds per ton~~ **lbs/ton** of ~~aluminum~~ **feed/charge**~~.~~**;**	Replaced "aluminum" to "feed/charge". The limit is based on feed/charge. Also specified the PM limit allowed by 40 CFR 63.1505(k)(1).

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	D.1.1(h)(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.	D.6.2(f)(4) In no event shall the combined chlorine and flux salt rate exceed a maximum input rate of 1.76 ~~pounds per ton~~ **lbs/ton** of ~~aluminum~~ **feed/charge**~~.~~**;**	Replaced "aluminum" to "feed/charge". The tested limits are based on feed/charge.
	D.1.1(h)(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.	D.6.2(f)(5) The total PM emissions from both holding furnaces (8EMC east holding furnace and the 8EMC west holding furnace) shall be limited to 34.17 tons per ~~year~~ **twelve consecutive month period with compliance demonstrated at the end of each month. The following equation shall be utilized to demonstrate compliance:** **PM Emissions = (X1*A1 + X2*A2 + X3*A3)/2,000** **Where:** **X1 = tons of charges fluxed with combined chlorine and flux salt input rates less than or equal to 1.14 lbs/ton of feed/charge;** **A1 = the PM emission factor for the X1 operating condition, as provided in the most recently approved Operating, Monitoring, and Maintenance plan (Per the 10/05 OMM, this factor is 0.0592 lb/ton);** **X2 = tons of charges fluxed with combined chlorine and salt input rates less than or equal to 1.20 lbs/ton of feed/charge and greater than 1.14 lbs/ton of feed/charge;** **A2 = the PM emission factor for the X2 operating condition, as provided in the most recently approved Operating, Monitoring, and Maintenance plan (Per the 10/05 OMM, this factor is**	Condition D.1.1 as written, will allow PM_{10} emissions to exceed PM_{10} limit in Condition D.1.1(j)(6), and the PM_{10} limit is not practically enforceable. It is made enforceable by including this new condition in terms of the equation.

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		0.165 lb/ton); **X3 = tons of charges fluxed with combined chlorine and salt input rates less than or equal to 1.76 lbs/ton of feed/charge and greater than 1.20 lbs/ton of feed/charge; and** **A3 = the PM emission factor for the X3 operating condition, as provided in the most recently approved Operating, Monitoring, and Maintenance plan (Per the 10/05 OMM, this factor is 0.228 lb/ton).**	
	D.1.1(i)(1) The PM10 emissions from the 8EMC east holding furnace and the 8EMC west holding furnace shall be limited to 0.121 pounds per ton of charge for chlorine input rates less than or equal to 0.51 pounds per ton of aluminum.	D.6.2(g)(1) The PM_{10} emissions from the 8EMC east holding furnace and the 8EMC west holding furnace shall be limited to 0.121 ~~pounds per ton~~ **lbs/ton** of **feed/**charge for **combined** chlorine **and flux salt** input rates less than or equal to ~~0.51~~ **1.14** ~~pounds per ton~~ **lbs/ton** of ~~aluminum~~ **feed/charge**~~.~~**;**	Replaced "aluminum" to "feed/charge". 0.51 lb chlorine per ton of feed was established as part of the initial Secondary MACT tests. During those same tests, the input of flux salt was 50 lbs. For the 3-run average, the combined chlorine and salt input was 1.14 lbs. per ton of feed.
	D.1.1(i)(2) The PM10 emissions from the 8EMC east holding furnace and the 8EMC west holding furnace shall be limited to 0.241 pounds per ton of charge for chlorine input rates greater than 0.51 lbs/ton of aluminum but less than 1.76 pounds per ton of aluminum.	D.6.2(g)(2) The PM_{10} emissions from the 8EMC east holding furnace and the 8EMC west holding furnace shall be limited to 0.241 ~~pounds per ton~~ **lbs/ton** of **feed/**charge for **combined** chlorine **and flux salt** input rates greater than ~~0.51~~ **1.14** lbs/ton of ~~aluminum~~ **feed/charge** but less than **or equal to** ~~1.76~~ **1.20** ~~pounds per ton~~ **lbs/ton** of ~~aluminum~~ **feed/charge**~~.~~**;**	See above
	D.1.1(i)(3) In no event shall chlorine exceed a maximum input rate of 1.76 lbs/ton of aluminum.	D.6.2(g)(4) In no event shall **combined** chlorine **and flux salt** rate exceed a maximum input rate of 1.76 lbs/ton of ~~aluminum~~ **feed/charge**~~.~~**;**	Replaced "aluminum" to "feed/charge". The tested limits are based on feed/charge. "Chlorine" should have been "combined chlorine and flux salt".
	D.1.1(i)(4) The PM10 emissions from the 8EMC east holding	D.6.2(g)(3) The PM_{10} emissions from the 8EMC	Replaced "aluminum" to "feed/charge". The limit

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	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 per ton of aluminum, but less than 1.76 pounds per ton of aluminum.	east holding furnace and the 8EMC west holding furnace shall be limited to the allowable **PM** emission rate **of 0.40 lbs/ton of feed/charge, as** specified by 40 CFR 63.1505(k)(1), multiplied by 1.46 ~~each~~ for combined chlorine and flux salt input rates greater than 1.20 ~~pounds per ton~~ **lbs/ton** of ~~aluminum~~ **feed/charge**, but less than **or equal to** 1.76 ~~pounds per ton~~ **lbs/ton** of ~~aluminum~~ **feed/charge**~~.~~**;**	is based on feed/charge. Also specified the PM limit allowed by 40 CFR 63.1505(k)(1).
	D.1.1(i)(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.	Deleted	Replaced "aluminum" to "feed/charge". The tested limits are based on feed/charge. Conditions D.1.1(i)(3) and D.1.1(i)(5) are the same conditions.
	D.1.1(i)(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.	D.6.2(g)(5) The total PM_{10} emissions from both holding furnaces (8EMC east holding furnace and the 8EMC west holding furnace) shall be limited to 49.89 tons per ~~year~~ **twelve consecutive month period, with compliance demonstrated at the end of each month. The following equation shall be utilized to demonstrate compliance;** **PM_{10} Emissions = 1.46[(Y1*A1 + Y2*A2+ Y3*A3)]/2,000** **Where:** **Y1 = tons of charges fluxed with combined chlorine and flux salt input rates less than or equal to 1.14 lbs/ton of feed/charge;** **A1 = the PM emission factor for the Y1 operating condition, as provided in the most recently approved Operating, Monitoring, and Maintenance plan (Per the**	Condition D.1.1 as written, will allow PM_{10} emissions to exceed PM_{10} limit in Condition D.1.1(j)(6), and the PM_{10} limit is not practically enforceable. It is made enforceable by including this new condition in terms of the equation.

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		10/05 OMM, this factor is 0.0592 lb/ton); **Y2 = tons of charges fluxed with combined chlorine and flux salt input rates greater than 1.14 lbs/ton of feed/charge but less than or equal to 1.20 lbs/ton of feed/charge;** **A2 = the PM emission factor for the Y2 operating condition, as provided in the most recently approved Operating, Monitoring, and Maintenance plan (Per the 10/05 OMM, this factor is 0.165 lb/ton);** **Y3 = tons of charges fluxed with combined chlorine and salt input rates greater than 1.20 lbs/ton of feed/charge, but less than or equal to 1.76 lbs/ton of feed/charge; and** **A3 = the PM emission factor for the Y3 operating condition, as provided in the most recently approved Operating, Monitoring, and Maintenance plan (Per the 10/05 OMM, this factor is 0.228 lb/ton).**	
	D.1.1(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.	D.6.2(h) The NOx 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~~**. Compliance with this limit and the limit on the total amount of natural gas in Condition D.6.2(e) shall ensure that** the total NOx emissions from both holding furnaces ~~shall be limited~~ **do not exceed** 15.89 tons per year~~.~~**;**	Condition D.1.1(j) does not say how it will comply with the limit. It has been revised to make it clear.
	D.1.1(k) The annual feed/charge rate to the two (2) 8EMC 4-rotor A622 in-line degassing units shall each not exceed 411,720	D.6.2(i) The ~~annual~~ **total** feed/charge rate to ~~the two (2)~~ 8EMC **8EHA622 and 8EMC 8WH** ~~4-rotor~~ A622 in-	The total throughput should be 823,440 tons per twelve consecutive month period for both

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	tons per twelve (12) consecutive month period with compliance determined at the end of each month.	line degassing units shall ~~each~~ not exceed ~~411,720~~ **823,440** tons per twelve (12) consecutive month period with compliance determined at the end of each month~~.~~**;**	degassing units. There is no need to establish separate throughput limits.
	D.1.1(l) The PM emissions from the 8EMC 8EH 4-rotor A622 in-line degassing unit shall not exceed 0.002 lbs/ton of feed/charge. The total PM emissions shall not exceed 0.412 tons per year.	D.6.2(j) The PM emissions from the 8EMC 8EH **A622 and 8EMC 8WH** ~~4-rotor~~ A622 in-line degassing unit**s** shall not exceed 0.002 lbs/ton of feed/charge **for chlorine input rates of 0.11 lbs/ton of feed/charge or less**. **Compliance with this limit and the feed/charge limit in Condition D.6.2(i) shall ensure that** ~~T~~**t**he total PM emissions **from the 8EMC 8EH A622 and 8EMC 8WH A622 in-line degassing units** ~~shall~~ **do** not exceed ~~0.412~~ **0.824** tons per year;	Combined PM emissions from Conditions D.1.1(l) and (m) into one Condition D.6.2(j) to make consistent with Condition D.1.1(n). There is no need to establish separate limits. Conditions D.1.1(l), and (m) by themselves may not comply with the limit. It has been revised to make it clearer.
	D.1.1(m) The PM emissions from the 8EMC 8WH 4-rotor A622 in-line degassing unit shall not exceed 0.002 lbs/ton of feed/charge for chlorine input rates of 0.11 pounds per ton of aluminum or less. The total PM emissions shall not exceed 0.412 tons per year.	Deleted	See explanation above.
	D.1.1(n) The PM10 emissions from the two (2) 8EMC 4-rotor A622 in-line degassing units shall each not exceed 0.00208 pounds per ton of feed per/charge. The total PM10 emissions shall not exceed 0.856 tons per year.	D.6.2(k) The PM_{10} emissions from the ~~two (2)~~ 8EMC **8EH A622 and 8EMC 8WH** ~~4-rotor~~ A622 in-line degassing units shall ~~each~~ not exceed 0.00208 ~~pounds per ton~~ **lbs/ton** of feed ~~per~~/charge **for chlorine input rates of 0.11 lbs/ton of feed/charge or less**. **Compliance with this limit and the feed/charge limit in Condition D.6.2(i) shall ensure that** ~~T~~**t**he total PM_{10} emissions **from 8EMC 8EH A622 and 8 EMC 8WH A622 in-line degassing units** ~~shall~~ **do** not exceed 0.856 tons per year~~.~~**;**	Condition D.1.1 (n) does not say how it will comply with the limit. It has been revised to make it clear. Condition D.1.1 (n) does not specify the chlorine input rates.
	D.1.1(o) The feed/charge rate of each of the #1 complex ACD units shall not exceed 86,000	D.6.2(l) The **total** feed/charge rate ~~of each of the~~ **to the two (2)** #1	The total throughput should be 172,000 tons per twelve consecutive

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	tons per year, with compliance demonstrated at the end of each month.	complex ACD units shall not exceed ~~86,000~~ **172,000** tons per ~~year~~ **twelve consecutive month period**, with compliance demonstrated at the end of each month~~.~~**;**	month period for the ACD units. There is no need to establish separate throughput limits.
	D.1.1(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.	D.6.2(m) The PM emissions from the **two (2)** #1 complex ACD units shall not exceed 0.026 ~~lbs per ton~~ **lbs/ton** of ~~molten metal~~ **feed/charge.** ~~and~~ **Compliance with this limit and the feed/charge limit in Condition D.6.2(l) shall ensure that** the total PM emissions **from** the two (2) #1 complex ACD units ~~shall~~ **do** not exceed ~~0.94~~ **2.24** tons per year~~.~~**;**	The error in calculation was corrected and the resulting PM emissions limit is 2.24 tons per year. Condition D.1.1 (p) by itself can not comply with the limit. It has been revised to make it clearer.
	D.1.1(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.	D.6.2(n) The PM_{10} emissions from the **two (2)** #1 complex ACD units shall not exceed 0.027 ~~lbs per ton~~ **lbs/ton** of **feed/**charge ~~each and~~**. Compliance with this limit and the feed/charge limit in Condition D.6.2(l) shall ensure that** ~~T~~**t**he total PM_{10} emissions from both #1 complex ACD units ~~shall~~ **do** not exceed ~~0.97~~ **2.32** tons per year~~.~~**;**	Original calculation was incorrect, revised the calculation from 0.97 lbs/ton to 2.32 lbs/ton. Condition D.1.1(q) by itself can not comply with the limit. It has been revised to make it clear.
	D.1.1(r) The total feed/charge of the #1 complex east holding furnace and the #1 complex west holding furnace shall not exceed 172,000 tons per year, with compliance demonstrated at the end of each month.	D.6.2.(r) The total feed/charge of the #1 complex east holding furnace and the #1 complex west holding furnace shall not exceed 172,000 tons per ~~year~~ **twelve consecutive month period**, with compliance demonstrated at the end of each month~~.~~**; and**	This limit is only useful for Condition D.6.2(s).
	D.1.1(s) The PM emissions from the #1 complex east holding furnace and #1 complex west holding furnace shall not exceed 0.045 pounds per ton of charge each for flux salt input rates less than or equal to 0.85 pounds per ton of aluminum. The PM emissions from the #1 complex east holding furnace and #1 complex west holding furnace shall not exceed 0.084 pounds	D.6.2(o) The PM emissions from the #1 complex east holding furnace and #1 complex west holding furnace shall not exceed 0.045 ~~pounds per ton~~ **lbs/ton** of charge ~~each~~ for flux salt input rates less than or equal to 0.85 ~~pounds per ton~~ **lbs/ton** of ~~aluminum~~ **feed/charge**. The PM emissions from the #1	Condition D.1.1(s) together with Condition D.1.1(r), will allow PM emissions to exceed the PM limit of 3.87 tons/yr and the condition is not practically enforceable. It is made enforceable by including this new condition in terms of the equation.

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	per ton of charge each for flux salt input rates greater than 0.85 pounds per ton of aluminum but less than 3.25 pounds per ton of aluminum. The total PM emissions from these furnaces shall not exceed 3.87 tons per year.	complex east holding furnace and #1 complex west holding furnace shall not exceed 0.084 ~~pounds per ton~~ **lbs/ton** of feed/charge ~~each~~ for flux salt input rates greater than 0.85 ~~pounds per ton~~ **lbs/ton** of ~~aluminum~~ **feed/charge** but less than 3.25 ~~pounds per ton~~ **lbs/ton** of ~~aluminum~~ **feed/charge**. The total PM emissions from these furnaces shall not exceed 3.87 tons per ~~year~~ **twelve consecutive month period, with compliance determined at the end of each month**. **The following equation shall be utilized to demonstrate compliance:** **PM Emissions = [X1*0.045 + X2*0.084]/2,000** **Where:** **X1 = tons of charge for flux salt input rates less than or equal to 0.85 lbs/ton of feed/charge; and** **X2 = tons of charge for flux salt input rates greater than 0.85 lbs/ ton of feed/charge but less than or equal to 3.25 lbs/ton of feed/charge.**	
	D.1.1(t) The PM10 emissions from the #1 complex east holding furnace and #1 complex west holding furnace shall not exceed 0.066 pounds per ton of charge each for flux salt input rates less than or equal to 0.85 pounds per ton of aluminum. The PM10 emissions from the #1 complex east holding furnace and #1 complex west holding furnace shall not exceed 0.123 pounds per ton of charge each for flux salt input rates greater than 0.85 pounds per ton of aluminum but less than 3.25 pounds per ton of aluminum. The total PM10 emissions from these furnaces	D.6.2(p) The PM_{10} emissions from the #1 complex east holding furnace and #1 complex west holding furnace shall not exceed 0.066 ~~pounds per ton~~ **lbs/ton** of charge ~~each~~ for flux salt input rates less than or equal to 0.85 ~~pounds per ton~~ lbs/ton of ~~aluminum~~ **feed/charge**. The PM_{10} emissions from the #1 complex east holding furnace and #1 complex west holding furnace shall not exceed 0.123 ~~pounds per ton~~ **lbs/ton** of charge ~~each~~ for flux salt input rates	Condition D.1.1(t) together with Condition D.1.1(r), will allow PM_{10} emissions to exceed the PM_{10} limit of 5.65 tons/yr and the condition is not practically enforceable. It is made enforceable by including this new condition in terms of the equation.

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	shall not exceed 5.65 tons per year.	greater than 0.85 ~~pounds per ton~~ **lbs/ton** of ~~aluminum~~ **feed/charge** but less than 3.25 ~~pounds per ton~~ **lbs/ton** of ~~aluminum~~ **feed/charge**. The total PM_{10} emissions from these furnaces shall not exceed 5.65 tons per ~~year~~ **twelve consecutive month period, with compliance determined at the end of each month**. **The following equation shall be utilized to demonstrate compliance:** **PM_{10} Emissions = [Y1*0.066 + Y2*0.123] / 2,000** **Where:** **Y1 = tons of feed/charge for flux salt input rates less than or equal to 0.85 lbs/ton of feed/charge; and** **Y2 = tons of feed/charge for flux salt input rates greater than 0.85 lbs/ton of feed/charge but less than 3.25 lbs/ton of feed/charge.**	
	D.1.1(u) In no event shall flux salt exceed a maximum input rate of 3.25 pounds per ton of aluminum.	D.6.2(q) In no event shall flux salt exceed a maximum input rate of 3.25 lbs/ton of **feed/charge**~~.~~**;**	Replaced "aluminum" to "feed/charge". The tested limits are based on feed/charge.
	D.1.1(v) The NO_x emissions from the #1 complex east holding furnace and #1 complex west holding furnace 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.	D.6.2(s) The NOx emissions from the #1 complex east holding furnace and #1 complex west holding furnaces shall not exceed 0.148 lbs per ton of **feed/**charge and **compliance with this limit and the feed/charge limit in Condition D.6.2(r) shall ensure that** the total NOx emissions from these furnaces ~~shall~~ **do** not exceed 12.58 tons per year.	Condition D.1.1(v) does not say how it will comply with the limit. It has been revised to make it clear.
	D.1.5 .... The owner or operator must submit the plan to the applicable	D 6.14(a) .... **If IDEM, OAQ determines at any time after receipt of**	NESHAP RRR does not require the Permittee to

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	permitting authority for review and approval as part of the application for a part 70 or part 71.	**the OM&M plan that any revisions of the plan are necessary to satisfy the requirements of 40 CFR 63.1510 or subpart RRR, the Permittee shall promptly make all necessary revisions and resubmit the revised plan.**	get approval from IDEM for its OM&M Plan. Also the Permittee has to submit its OM&M Plan by the compliance date, not to be submitted with the Part 70 application. Alcoa has already submitted its OM&M Plan before March 24, 2003. Proper language is included in Condition D.6.13(a).
MSM 173-20390-00007	D.1.1Nitrogen Oxides (NO_X) and Hazardous Air Pollutants (HAPs) [326 IAC 2-2] [326 IAC 2-1.1-5] [326 IAC 2-7-10.5(d)(4)(B)] The number of hours that Water Pump Diesel Engines #1 and #2 operate shall not exceed 108 hours per twelve (12) consecutive month period each, with compliance determined at the end of each month. Compliance with this limitation shall render the requirements of major new source review and 326 IAC 2-7-10.5(f) not applicable.	Deleted	Based on EPA guidance issued on September 6, 1995, the limits for these types of emergency generators or facilities PTE should not be based on 8760 hours of operation. The limit in this permit was extrapolated from an assumed uncontrolled PTE based on 3000 hours per year instead of 500 hours or 8760 hours. This equipment is needed only in case of emergency.
	D.1.2 Record Keeping Requirements To document compliance with Condition D.1.1, the Permittee shall maintain monthly records of the actual number of hours that each engine operates.	Deleted	Based on 500 hours of operation, the NOx PTE is 7.1 tons/yr.
	D.1.3 Reporting Requirements 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).	Deleted	

Federal Rule Applicability

(a) New Source Performance Standards (NSPS) for Primary Aluminum Reduction Plants [326 IAC 12] [40 CFR 60 Subpart S]

The Ingot plant and support is not subject to the requirements of New Source Performance Standards (NSPS) for Primary Aluminum Reduction Plants (326 IAC 12) (40 CFR 60, Subpart S), because the emission units are not one of the facilities regulated by this NSPS.

(b) New Source Performance Standards (NSPS) for Storage Vessels for Petroleum Liquids [326 IAC 12] [40 CFR 60 Subpart Ka]

The requirements of the New Source Performance Standard, 326 IAC 12 (40 CFR 60.110a, subpart Ka), are not included in the permit application for the Tanks 170A, 170B, 170C, and 170D, storing No. 2 fuel oil. Construction of these units commenced prior to May 18, 1978.

(c) New Source Performance Standards (NSPS) for Volatile Organic Liquids Storage Vessels [326 IAC 12] [40 CFR 60 Subpart Kb]

The requirements of the New Source Performance Standard, 326 IAC 12 (40 CFR 60.110b, Subpart Kb, are not included in the permit application for the Tanks 170E and 170F storing No. 2 fuel oil. Construction of these units commenced prior to July 23, 1984.

(d) National Emission Standards for Hazardous Air Pollutants (NESHAP) [326 IAC 14, and 40 CFR Part 61]

There are no National Emission Standards for Hazardous Air Pollutants (NESHAP) (326 IAC 14 and 40 CFR Part 61) included in the permit application for this source.

(e) National Emission Standards for Hazardous Air Pollutants for Primary Aluminum Reduction Plants [326 IAC 20-24, and 40 CFR 63, Subpart LL]

The Ingot plant and support is not subject to the requirements of the National Emission Standards for Hazardous Air Pollutants for Primary Aluminum Reduction Plants (326 IAC 20-24, and 40 CFR 63, Subpart LL), because the emission units are not one of the facilities regulated by this NESHAP.

(f) Compliance Assurance Monitoring (CAM) [40 CFR 64]

This initial Part 70 operating permit application has been determined to be complete by April 20, 1998. Therefore, the Permittee is not required to prepare and submit a Compliance Assurance Monitoring (CAM) plan during the review of the initial Part 70 permit.

The CAM rule does not apply to emissions units and pollutants regulated under a NSPS and NESHAP that was promulgated after November 15, 1990.

(g) This source is subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) 40 CFR Part 63, Subpart RRR.

The aluminum scrap shredder, group 1 furnaces, in-line fluxers, and secondary aluminum processing units are subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) 40 CFR Part 63, Subpart RRR. Nonapplicable portions of the NESHAP will not be included in the the permit. The affected source is subject to the following portions of Subpart RRR:

40 CFR 63.1500(a)
40 CFR 63.1500(b)(1), (4), (8)
40 CFR 63.1500(c)(4)

40 CFR 63.1501(a)

40 CFR 63.1502

40 CFR 63.1503

40 CFR 63.1505(a)
40 CFR 63.1505(b)(1)

40 CFR 63.1505(i)(1), (3), (4)
40 CFR 63.1505(j)(1)-(2)
40 CFR 63.1505(k)(1)-(3)

40 CFR 63.1506(a)(1), (4)
40 CFR 63.1506(b)
40 CFR 63.1506(d)(1), (2)
40 CFR 63.1506(n)(1), (2)
40 CFR 63.1506(o)
40 CFR 63.1506(p)

40 CFR 63.1510(a)-(c)
40 CFR 63.1510(e)
40 CFR 63.1510(j)
40 CFR 63.1510(o)(1)-(3), (8)
40 CFR 63.1510(q)-(t)

40 CFR 63.1511(a)-(b)
40 CFR 63.1511(c)(1)-(5), (7), (9)
40 CFR 63.1511(e)-(g)

40 CFR 63.1512(a), (e), (h)
40 CFR 63.1512(j)(1)(i), (j)(2)(i)
40 CFR 63.1512(j)(3)
40 CFR 63.1512(k), (o), (r)

40 CFR 63.1513(d) and (e)

40 CFR 63.1515
40 CFR 63.1516(a)
40 CFR 63.1516(b)
40 CFR 63.1516(c)

40 CFR 63.1517(a), (b)(5)-(9), (12), (13), (16), (17)

40 CFR 63.1518

Table 1

Table 2

Table 3

Appendix A

The provisions of 40 CFR 63 Subpart A – General Provisions, which are incorporated as 326 IAC 20-1-1, apply to the facilities described in this section except when otherwise specified in 40 CFR 63, Subpart RRR.

State Rule Applicability – Individual Facilities

(a) SPM 173-21817-00007 PSD (Prevention of Significant Deterioration) Minor Limit [326 IAC 2-2]. Condition D.1.1 has been revised by this permit.

(b) SPM 173-20246-00007 was issued on March 3, 2005.

IDEM issued an operating permit in July, 1990. This operating permit established that the PM emissions of the casting complexes was 292.1 tons/yr before the No.1 EMC Casting Complex (later re-named the No. 8 EMC Casting complex) was installed, and that all casting complexes, including the EMC Complex, would have to meet an annual limit of 292.1 tons/yr.

SPM 173-20246-00007 established separate PM limits for all furnaces and in-line degas units in the no. 8 EMC complex, and the holding furnaces and in-line degas units in the #1 Casting Complex. For the furnaces in SPM 173-20246-00007, the annual PM limit was established at 89.37 tons/yr.

The furnaces not included in SPM 173-20246-00007 would then be limited to annual PM emissions of (292.1-89.37 = 202.77 tons/yr) ~ 202 tons/year. Those furnaces are the #1 Casting Complex melters, and the #5 and #6 Furnace Complex melters and holders. The #4 Casting Complex has been permanently idled.

<u>New Condition, which is replacing Condition 9 of Attachment A of OP 87-07-91-0115</u>

Pursuant to SPM 173-20246-00007, the amount of material charged into the furnace complexes No. 5 and 6; and the melting furnaces in casting complex No.1, shall be limited such that:

$$\sum_{i=l}^{n}(\text{OLG1 tons charged X OLG1 PM Ef/2000}) < 202 \text{ tons/year;}$$

where:

OLG1 = Off-line Group 1, including all melting and holding furnaces in the #5 and #6 furnace complexes, and the melt furnaces in the #1 casting complex.

Tons charged = Off line group 1 furnace charging rate, individual OLG1 basis, and are on a tons per 12 consecutive month period basis.

OLG1 PM Ef is the pounds particulate matter (PM) per ton of material charged emission factor, each individual OLG1 furnace basis, as provided in the most recently approved Operating, Monitoring, and Maintenance plan.

<u>New Condition, which is replacing Condition 7 of Attachment A of OP 87-07-91-0115</u>

IDEM issued operating permit in July, 1990. This operating permit established that the natural gas usage of the casting complexes was 3,156.3 million cubic feet per 12 consecutive month period before the No. 1 EMC Casting Complex (later re-named the No. 8 EMC Casting complex) was installed, and that all casting complexes, including the EMC Complex, would have to meet a natural gas usage limit of 3,156.3 million cubic feet per 12 consecutive month period. This natural gas usage limit is equivalent to an annual NOx emission rate of 221 tons/yr. This provides a NOx emission factor of 140 lbs/MM cubic feet (221 tons*(2,000 lbs/ton)/3,156.3 mm cubic feet).

SPM 173-20246-00007 limits NOx emissions for the 8EMC complex and the #1 Complex holders to 91.7 tons per year. This leaves an available NOx emission baseline of 129.3 tons per year for OLG1 furnaces. Use of the 140 lb/MM cubic ft. emission factor yielded the revised natural gas usage limit of 1,847 million cubic feet for the furnaces not included in SSM 173-18905-00007.

The amount of natural gas usage for the OLG1 furnaces shall be less than 1,847 million cubic feet (MMCF) per twelve (12) consecutive month period, with compliance determined at the end of each month.

(c) PSD Minor Limit [326 IAC 2-2]

Pursuant to SSM 173-17780-00007, issued on July 21, 2004, the following limits shall apply to the dross cooling operation:

(1) The throughput of dross through the dross cooling operation shall be limited to 38,000 tons per twelve (12) consecutive month period with compliance determined at the end of each month;

(2) The emission rate of PM shall not exceed 0.440 pounds of PM per ton of dross throughput; and

(3) The emission rate of PM_{10} shall not exceed 0.454 pounds of PM_{10} per ton of dross throughput.

Compliance with these limits together with the emission limits on the pitch fume treatment system, the throughput and emission limits on the anode ring baking furnace, and the emission limits on the anode butt blast machine render the requirements of 326 IAC 2-2 not applicable to the dross cooling operation.

(d) Particulate Emissions from Manufacturing Operations [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the below listed processes shall be limited as follows:

Facility	Control Equipment	Maximum Process Weight Rate (tons/hr)	NESHAP PM Emission Limit (lbs/hr)	Allowable PM Emissions Calculated by Equations in 326 IAC 6-3-2 (lbs/hr)
#1 Complex Melter 1M1	None	49	19.6	44.4
#1 Complex Melter 1M2	None	49	19.6	44.4
#1 Complex Melter 1M3	None	49	19.6	44.4
#1 Casting Complex East Holder 1EH	None	49	19.6	44.4
#1 Casting Complex West Holder 1WH	None	49	19.6	44.4
#1 East holding furnace Alcan Compact Degassing (ACD) Unit	None	10	4	19.2
#1 West holding furnace Alcan Compact Degassing (ACD) Unit	None	10	4	19.2
#5 Furnace Complex Melter 5M1	None	97.5	39	51
#5 Furnace Complex Melters 5M2	None	97.5	39	51
#5 Furnace Complex Melter 5M3	None	97.5	39	51
#5 HDC Complex East Holder 5EH	None	97.5	39	51
#5 HDC Complex West Holder 5WH	None	97.5	39	51
#6 HDC Ingot Casting Complex Melter 6M1	None	12	4.8	21.7
#6 HDC Ingot Casting Complex Melter 6M2	None	12	4.8	21.7
#6 HDC Ingot Casting Complex Melter 6M3	None	12	4.8	21.7
#6 Furnace Complex East Holder 6EH	None	16	6.4	26.3
#6 Furnace Complex West Holder 6WH	None	16	6.4	26.3

Facility	Control Equipment	Maximum Process Weight Rate (tons/hr)	NESHAP PM Emission Limit (lbs/hr)	Allowable PM Emissions Calculated by Equations in 326 IAC 6-3-2 (lbs/hr)
#6 Complex In-line Filter Box A622	None	21	8.4	31.5
#8 EMC Complex Melter 8M1	None	47	18.8	44
#8 EMC Complex Melter 8M2	None	47	18.8	44
#8 EMC Complex Melter 8M3	None	47	18.8	44
#8 EMC Complex East Holder 8EH	None	70	28	47.8
#8 EMC Complex West Holder 8WH	None	70	28	47.8
8EMC 8EH 4-rotor A622 in-line Degassing Unit	None	70	28	47.8
8EMC 8WH 4-rotor A622 in-line Degassing Unit	None	70	28	47.8
#7 Offline #1 Melter 7M1	None	6.03	2.41	13.7
#7 Offline East Holder 7EH	None	6.03	2.41	13.7
#2 Offline East Melter	None	12	NA	21.7
#2 Offline West Melter	None	12	NA	21.7
#2 Offline East Holder	None	12	NA	21.7
#2 Offline West Holder	None	12	NA	21.7
#2 Offline East Melter Charging	Rotoclone #3	12	NA	21.7
#2 Offline West Melter Charging	Rotoclone #4	12	NA	21.7
#2 Offline East Melter East Chip Silo Input	Rotoclone #2	13.76	NA	23.8
#2 Offline West Chip Silo Input	Rotoclone #1	13.76	NA	23.8
Coated Scrap Shredder	None	12.5	0.082	22.3
133 Skim/Dross Operation	Nos. 1, 2, 3, and 4 Skim Cooling Baghouses	66	NA	47.2

The above particulate emissions rates were determined from the following formulae:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour by use of the equation:

$E = 4.10\ P^{0.67}$

where:

E = Rate of emission in pounds per hour; and
P = process weight rate in tons per hour.

Or

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour by use of the equation:

$E = 55.0\ P^{0.11} - 40$

where:

E = Rate of emission in pounds per hour; and
P = process weight rate in tons per hour.

Pursuant to 326 IAC 6-3-1(c), the requirements of 326 IAC 6-3-2 do not apply to processes that are required to comply with particulate limitations under 326 IAC 20 that are more stringent than particulate limitations in 326 IAC 6-3-2. Therefore, the requirements of 326 IAC 6-3-2 do not apply to the those emission units, which have more stringent particulate limitations under NESHAP than that in 326 IAC 6-3-2.

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the Ingot plant and Support, shall be limited as follows:

Facility	Control Equipment	Maximum Process Weight Rate (tons/hr)	Allowable PM Emissions (lbs/hr)
#2 Offline East Melter	None	12	21.7
#2 Offline West Melter	None	12	21.7
#2 Offline East Holder	None	12	21.7
#2 Offline West Holder	None	12	21.7
#2 Offline East Melter Charging	Rotoclone #3	12	21.7
#2 Offline West Melter Charging	Rotoclone #4	12	21.7
#2 Offline East Melter East Chip Silo Input	Rotoclone #2	13.76	23.8
#2 Offline West Chip Silo Input	Rotoclone #1	13.76	23.8

Facility	Control Equipment	Maximum Process Weight Rate (tons/hr)	Allowable PM Emissions (lbs/hr)
133 Skim/Dross Operation	Nos. 1, 2, 3, and 4 Skim Cooling Baghouses	66	47.2

Where controlled by control equipment, the respective control equipment shall be in operation at all times the facilities are in operation, in order to comply with the allowable limits by 326 IAC 6-3-2.

(e) 326 IAC 7-1.1-2 (Sulfur Dioxide Emission Limitations)

The requirements of 326 IAC 7-1.1-2 are not applicable to melters 8M1, 8M2, 8M3, the two A622 units, and the two ACD units, because these emissions units do not have a potential to emit sulfur dioxide (SO_2) equal to or more than twenty-five (25) tons per year each.

(f) Alternative Opacity Limitation [326 IAC 5-1-5(b)] [U.S. EPA SIP Revisions Revised Opacity Limits]

Pursuant to 326 IAC 5-1-5(b) and U.S. EPA SIP Revisions Revised Opacity Limits, Federal Register: July 5, 2000:

(1) #1 Complex East and West holding furnace

The opacity of emissions may exceed 40 percent during the fluxing portion of the production cycle up to 80 percent from the East and West holding furnace exhaust stacks at the #1 Complex. This opacity shall be allowed for no more than 6 six-minute averaging periods, and only during fluxing. For all other portions of the production cycle, the opacity limit shall remain at 40 percent from the East and West holding furnace exhaust stacks at the #1 Complex;

(2) #8 Complex (EMC)

For the East and West holding furnace exhaust stacks at the #8 Complex (EMC), the opacity of emissions may exceed 40 percent during fluxing portion of the production cycle up to 85 percent for 2 six-minute averaging periods, and up to 80 percent opacity for 4 additional six-minute averaging periods. During all other portions of the production cycle, the opacity of emissions from the EMC shall be limited to 40 percent; and

(3) #5 Complex East and West holding furnace

For the East and West holding furnace exhaust stacks at the #5 Complex, the opacity of emissions may exceed 40 percent during fluxing portion of the production cycle up to 80 percent for 3 six-minute averaging periods, 75 percent opacity for 1 six-minute averaging period, 65 percent opacity for 1 six-minute averaging period, and 55 percent opacity for 1 six-minute averaging period. During all other portions of the production cycle, the opacity of emissions from the #5 complex East and West holding furnace shall be limited to 40 percent.

(g) National Emission Standards for Secondary Aluminum Production [326 IAC 20-70]

The secondary aluminum production is subject to 326 IAC 20-70-1 (Secondary Aluminum Production). 326 IAC 20-70 incorporates by reference 40 CFR 63, Subpart RRR. The Permittee will comply with the provisions of 40 CFR 63, Subpart RRR as detailed in the Federal Rule Applicability section.

40 CFR 63, Subpart RRR was amended on October 3, 2005, and December 19, 2005 under Federal Register notices 70 FR 57513, and 70 FR 75320. However, pursuant to 326 IAC 1-1-3, the version of the rule referenced by 326 IAC 20-70 is the version in existence on July 1, 2005. Therefore, the amendments are not included in the state rules, and the secondary aluminum production at this source is subject to the version in existence on July 1, 2005, and the amendments of October 3, 2005 and December 19, 2005. The amendments of October 3, 2005 corrected a punctuation error in the definition of "clean charge" previously promulgated in the December 30, 2002 amendments and a typographical error in the operating temperature of a scrap dryer/delacquering kiln/decoating kiln afterburner. The Permittee will use the definition of the clean charge as stated in October 3, 2005 amendments. The source does not have any scrap dryer or delacquering kiln or decoating kiln afterburner. The amendments of December 19, 2005 finalized permanent exemptions from the title V operating permit program for five categories of nonmajor (area) sources that are subject to national emission standards for hazardous air pollutants (NESHAP). This source is not one of the listed categories of nonmajor area sources.

All the requirements of 326 IAC 20-70 applicable to the secondary aluminum production are the same as the requirements listed under Federal Rule Applicability.

Testing Requirements

Within 36 months after issuance of this Part 70 permit or within 5 years from the date of the last valid compliance test, whichever is later, the Permittee shall perform PM, and PM_{10} testing for the dross cooling operation, utilizing methods as approved by the Commissioner. These tests shall be repeated at least once every five (5) years from the date of the valid compliance demonstration. PM_{10} includes filterable and condensable PM_{10}. Testing shall be conducted in accordance with Section C- Performance Testing. During the stack test, the Permittee shall determine the sensitivity of the bag leak detection system and calibrate the particulate concentration readings of the bag leak detector in order to provide an output relative to outlet grain loading levels.

Within 36 months after issuance of this Part 70 permit or 5 years from the date of the last valid compliance test, whichever is later, the Permittee shall 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), utilizing methods as approved by the Commissioner. These tests shall be repeated at least once every five (5) years from the date of the valid compliance demonstration.

Compliance Monitoring Requirements [326 IAC 2-7-6 (1)] [326 IAC 2-7-5 (1)]

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAQ in conjunction with the source, shall develop specific conditions to satisfy 326 IAC 2-7-5. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that if violated serve as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

<u>Emission units not subject to 40 CFR 63, subpart RRR</u>.

The monitoring requirements applicable to the ingot and support plant control systems are as follows:

(a) For dross cooling baghouses with bag leak detector:

(1) Each electrodynamic bag leak detection system shall be calibrated, operated, and maintained according to the manufacturer's recommendations; and

(2) The Permittee shall continuously record output signal from the sensor. If the leak detection system is inoperable, the Permittee shall perform visible emissions notations once per day.

(b)

Control	Parameter	Frequency	Range	Excursions and Exceedances
Rotoclone #1	Water level	Daily	Lower	Response Steps
	Complete clean out of the unit at one month minimum intervals	One month intervals		
Rotoclone #2	Water level	Daily	Lower	Response Steps
	Complete clean out of the unit at one month minimum intervals	One month intervals		
Rotoclone #3	Water level	Daily	Lower	Response Steps
	Complete clean out of the unit at one month minimum intervals	One month intervals		
Rotoclone #4	Water level	Daily	Lower	Response Steps
	Complete clean out of the unit at one month minimum intervals	One month intervals		

Conclusion

The operation of this Ingot Plant and Support shall be subject to the conditions of this Part 70 permit 173-6627-00007.

Technical Support Documentation
For Rolling Mills Plant

D.7 Rolling Mills Plant

Background and Description

This part of the plant produces different thickness sheets from the aluminum ingot. The rolled sheets are also annealed in this part of the plant.

Types of Emission Units and Pollution Control Equipment

Rolling Mills

(1) One (1) gauge reduction of aluminum facility, identified as hot reversing mill, constructed in 1964, with a maximum capacity production of aluminum ingot of 225 tons per hour, controlled by a mist eliminator, and exhausting to Stack 811.1;

(2) One (1) gauge reduction of aluminum facility, identified as continuous hot mill, constructed in 1964, with a maximum capacity production of aluminum ingot of 225 tons per hour, controlled by a mist eliminator, and exhausting to Stack 814.1;

(3) One (1) gauge reduction of aluminum facility, identified as cold mill #2, constructed in 1963, with a maximum capacity production of aluminum sheet of 75 tons per hour, uncontrolled, and exhausting to Stack 816.21;

(4) One (1) gauge reduction of aluminum facility, identified as cold mill #4, constructed in 1970, with a maximum capacity production of aluminum sheet of 88.6 tons per hour, controlled by a mist eliminator, and exhausting to Stacks 816.23 and 816.24.

One (1) mist eliminator, constructed in 1970, and exhausting to Stacks 816.23 and 816.24;

Annealing furnaces (Under NESHAP subpart DDDDD, all of the annealing furnaces described below are considered existing large gaseous fuel units):

(5) One (1) annealing furnace, identified as annealing furnace #5, constructed in 1964, using natural gas with a maximum heat input rate of 15 MMBtu/hr, exhausting to Stack 816.4;

(6) One (1) annealing furnace, identified as annealing furnace #6, constructed in 1964, using natural gas with a maximum heat input rate of 15 MMBtu/hr, exhausting to Stack 816.5;

(7) One (1) annealing furnace, identified as annealing furnace #7, constructed in 1964, using natural gas with a maximum heat input rate of 15 MMBtu/hr, exhausting to Stack 816.6;

(8) One (1) annealing furnace, identified as annealing furnace #8, constructed in 1964, using natural gas with a maximum heat input rate of 15 MMBtu/hr, exhausting to Stack 816.7;

(9) One (1) annealing furnace, identified as annealing furnace #9, constructed in 1964, using natural gas with a maximum heat input rate of 15 MMBtu/hr, exhausting to Stack 816.8;

(10) One (1) annealing furnace, identified as annealing furnace #10, constructed in 1967, using natural gas with a maximum heat input rate of 15 MMBtu/hr, exhausting to Stack 816.9;

(11) One (1) annealing furnace, identified as annealing furnace #11, constructed in 1967, using natural gas with a maximum heat input rate of 15 MMBtu/hr, exhausting to Stack 816.10;

(12) One (1) annealing furnace, identified as annealing furnace #12, constructed in 1969, using natural gas with a maximum heat input rate of 15 MMBtu/hr, exhausting to Stack 816.11;

(13) One (1) annealing furnace, identified as annealing furnace #13, constructed in 1969, using natural gas with a maximum heat input rate of 15 MMBtu/hr, exhausting to Stack 816.12;

(14) One (1) annealing furnace, identified as annealing furnace #14, constructed in 1970, using natural gas with a maximum heat input rate of 48 MMBtu/hr, exhausting to Stack 816.13;

(15) One (1) annealing furnace, identified as annealing furnace #15, constructed in 1970, using natural gas with a maximum heat input rate of 48 MMBtu/hr, exhausting to Stack 816.14;

(16) One (1) annealing furnace, identified as annealing furnace #16, constructed in 1970, using natural gas with a maximum heat input rate of 48 MMBtu/hr, exhausting to Stack 816.15;

(17) One (1) annealing furnace, identified as annealing furnace #17, constructed in 1972, using natural gas with a maximum heat input rate of 48 MMBtu/hr, exhausting to Stack 816.16;

Preheat furnaces (Under NESHAP subpart DDDDD, all of the preheat furnaces described below are considered existing large gaseous fuel units):

(18) Five (5) preheat furnaces, identified as preheat furnace #2 - #6, constructed in 1975, using natural gas with a maximum heat input rate of 18 MMBtu/hr each, and exhausting to Stacks 811.2 thru 811.6;

(19) Ten (10) preheat furnaces, identified as preheat furnace #7 - #10, #28-#29, #31-#34, constructed in 1966, using natural gas with a maximum heat input rate of 18 MMBtu/hr each, and exhausting to Stacks #811.7- #811.10, #811.28-#811.29, and #811.31-#811.34;

(20) One (1) preheat furnaces, identified as preheat furnace #35, constructed in 1966, using natural gas with a maximum heat input rate of 18 MMBtu/hr, and exhausting to Stack 811.35;

(21) Eleven (11) preheat furnaces, identified as preheat furnace #12 - #19, #22, #24, and #26, constructed in 1965, using natural gas with a maximum heat input rate of 18 MMBtu/hr each, and exhausting to Stacks #811.12- #811.19, #811.22, #811.24, and #811.26;

(22) Five (5) preheat furnaces, identified as preheat furnace #36 - #40, constructed in 1978, using natural gas with a maximum heat input rate of 18 MMBtu/hr each, and exhausting to Stacks #811.36- #811.40;

(23) Three (3) preheat furnaces, identified as preheat furnace #41 - #43, constructed in 1973, using natural gas with a maximum heat input rate of 18 MMBtu/hr each, and exhausting to Stacks #811.41- #811.43;

(24) Seven (7) preheat furnaces, identified as preheat furnace #11, #20, #21, #23, #25, #27, and #30, constructed in 1990, using natural gas with a maximum heat input rate of 18 MMBtu/hr each, and exhausting to Stacks #811.11, #811.20, #811.21, #811.23, #811.25, #811.27, and #811.30;

Boilers (Under NESHAP subpart DDDDD, all of the boilers described below are considered existing large gaseous fuel units):

(25) One (1) natural gas fired boiler, identified as Castrol reprocessing system boiler #1, constructed in 1998, with a maximum heat input rate of 12 MMBtu/hr, exhausting to Stack 816B1;

(26) One (1) natural gas fired, boiler, identified as Castrol reprocessing system boiler #2, constructed in 1998, with a maximum heat input rate of 12 MMBtu/hr, exhausting to Stack 816B2; and

(27) One (1) natural gas fired, boiler, identified as Castrol reprocessing system boiler #3, constructed in 1998, with a maximum heat input rate of 12 MMBtu/hr, exhausting to Stack 816B3.

The following emissions units have been removed from service since the initial Title V permit application was submitted to IDEM:

Building	Emission Unit ID	Emission Unit Description	Stack/Vent ID
Rolling Mills	#1 Cold Mill	Cold Mill	816.19 & 816.20

Insignificant Activities

Cold Mill Rolling Oil Storage Tanks D1-D11

Rolling Mill Hydraulic Oil Storage Tanks

Reversing Mill Kerosene storage tanks

Cold Mill roll grinders #6-#7, using aqueous cutting fluid that continuously floods the machine interface

Hot mill roll grinders #1-#5, using aqueous cutting fluid that continuously floods the machine interface

Hot mill oil recovery system

Castrol oil recovery system

Cold mill #2 oil recovery system

Cold mill #4 oil recovery system

Wastewater system for treatment of wastewater streams with an oil and grease content less than 1% by volume. The system consists of waste oil storage tanks, waste oil pump house, clarifier, rotoscreen, inclined plate separator, and dissolved air flotation unit.
Non-contact cooling water tower

scalper step cutter

Hot Ingot Oxide Brushing System

West Silo No. 1

East Silo No. 2

Existing Approvals

With respect to the Rolling mills operations, the source has been operating under the following previous approvals.

Description	Permit #	Date
Operating Permits		
Preconstruction Approvals		
	PC (87) 777	Issued November 19, 1974
	Registration	Issued October 24, 1979
	CP 173-2648	Issued November 23, 1993
	A 173-5524	May 6, 1996
	CP173-9574-00007	Issued August 6, 1998
	MSM No: 173-12676-00007	Issued October 2, 2000
	MSM No: 173-20390-00007	Issued December 4, 2004
	MSM No.173-12886-00007	Issued February 1, 2001
	MSM No.173-14944-00007	Issued December 5, 2001
	AA 173-16685-00007	Issued December 27, 2002
	AA 173-16991-00007	Issued January 30, 2003

The following table describes those permit terms which were either modified or not incorporated into the Title V operating permit. Operation Permits issued by IDEM pursuant to 326 IAC 2-1-4 (now repealed) are not federally enforceable permits, nor are the terms of such permit "applicable requirements" which must be incorporated into the Title V permit.

Term Identification	Original Term Language	Proposed Term Language	Explanation/ Comments
MSM 173-12676-00007 and A173-16685-00007	D.1.2 Emissions Limitations - The hot ingot oxide brushing system shall not operate at a throughput of greater than 300, 000 pounds of aluminum ingot per hour. Compliance with this limit satisfies the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) and 40 CFR 52.21. D.1.3 Prevention of Significant Deterioration [326 IAC 2-2] [40 CFR 52.21] Any change or modification to the hot ingot oxide brushing system, that will cause potential emissions of (1) 25.0 tons per year or more of particulate matter (PM), or (2) 15.0 tons per year or more of particulate matter less than ten (10) microns (PM10), must have prior approval from the Office of Air Management, pursuant to 326 IAC 2-2 (40 CFR 52.21).	Deleted. Record keeping and reporting requirements also deleted. Deleted	The ingot brush exhaust was tested on December 16, 2004. Results indicated that this unit qualifies as an insignificant activity. This makes the PTEs of PM and PM_{10} less than the PSD significant levels. Therefore, PSD minor limits are not required. This condition is addressed by Conditions B.18 and/or B.21 in B Section.
MSM 173-14944 - 00007	D.1.2 PSD Limit [326 IAC 2-2] [40 CFR 52.21] (a) The metal scalped off ingot shall be limited to 60,000 tons per year. This limit equates to PM and PM-10 emissions of 4.28 tons per year based on the emission factor of 0.1427 pound of PM per ton of metal scalped. Compliance with this limit shall render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) and 40 CFR 52.21 not applicable and also satisfy the requirement of Condition D.1.1. (b) Any change or modification to the scalper step cutter system that may increase potential emissions to twenty-five (25) tons per year of PM, or fifteen (15) tons per year of PM-10, must have prior approval from the Office of Air Quality.	Deleted	The uncontrolled PM and PM_{10} emissions are less than 25, and 15 tons per year, respectively. The calculation indicates that this unit qualifies as an insignificant activity. Therefore, PSD minor limit is not required. (*1) See the calculation in the paragraph below the table.

Term Identification	Original Term Language	Proposed Term Language	Explanation/ Comments
	D.1.3 Visible Emissions Notations: (a) Visible emission notations of the scalper step cutter stack exhaust shall be performed once per shift during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal. (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time. (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions. (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process. (e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.		
Registration dated October 24, 1979	Prevention of Significant Deterioration (PSD) Minor Limit [326 IAC 2-2] Pursuant to the following conditions shall apply: The total amount of No. 2 fuel oil used by No. 35 preheat furnace shall be less than 341,000 gallons per twelve consecutive month period, with compliance demonstrated at the end of each month. This will limit the sulfur dioxide emissions from all the modifications incurred since January 6, 1975 to less than 40 tons per year.	Deleted	The No. 35 preheat furnace does not have the capability to burn no. 2 fuel oil.
	Pursuant to 326 IAC 7-1.1, the SO_2 emissions from the eighteen (18) MMBtu per hour oil-fired preheat furnace #35 shall not exceed five tenths (0.5) pound per MMBtu heat input. Pursuant to 326 IAC 7-2-1, compliance shall be demonstrated on a monthly average.	Deleted	The No. 35 preheat furnace does not have the capability to burn no. 2 fuel oil.

Term Identification	Original Term Language	Proposed Term Language	Explanation/ Comments
CP 173-9574-00007	Pursuant to 326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating), the particulate matter (PM) emissions from each of the three 12 MMBtu per hour natural gas fired boilers shall be limited to 0.57 pounds per MMBtu heat input.	**D.7.3 Particulate Emissions Limitations for Sources of Indirect Heating [326 IAC 6-2-4]** Pursuant to 326 IAC 6-2-4 (Particulate Emissions Limitations for Sources of Indirect Heating), the **allowable** particulate matter (PM) emissions from ~~each of the three 12 MMBtu per hour natural gas fired~~ **boiler #1, boiler #2, and boiler #3** shall be limited to ~~0.57~~ **0.176** lb/MMBtu each. **The above particulate emissions rates were determined from the following formula:** $Pt = \frac{1.09}{Q^{0.26}}$ **Where:** **Pt = Pounds of particulate matter emitted per million Btu (lb/MMBtu) heat input; and** **Q = Total source maximum operating capacity rating in million Btu per hour (MMBtu/hr) heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used.**	IDEM determined that annealing furnaces, and preheat furnaces are sources of indirect heating, and therefore are subject to the requirements of 326 IAC 6-2. The new calculation is based on a total heat input rate of 1,119 MMBtu/hr.

*1 Step Cutter Scalper's PTE of PM and PM_{10}:

The ingot scalping operation was tested in 1990's at an Alcoa competitor's plant in Kentucky. This official test was witnessed by Kentucky Division for Air Quality. This official test report measured the scalper emissions from the tested plant to be 0.07 lb/ton. This emission factor was from a permit application on which Kentucky Division for Air Quality acted and accepted as an emission factor. This test performed at Kentucky plant, was also accepted as valid test by IDEM, OAQ. The following calculation is based on the Kentucky emissions factor of 0.07 lbs/ton of chips scalped.

The capacity of the step cutter scalper is 27,512 lbs/hr.

Maximum uncontrolled PM, or PM_{10} emissions, using the official Kentucky emission factor	= 0.07 lbs/ton * 27,512 lbs/hr * 1 ton/2000 lbs = 0.96 lbs/hr
	= < 5 lbs/hr
	= (0.96 lbs/hr)*(24 hrs/day)
	= 23.0 lbs/day
	= < 25 lbs/day
	= (0.96 lbs/hr) * (8760 hr/yr)*(1 ton/2000 lbs)
	= 4.22 tons/yr

Pursuant to 326 IAC 2-7-1(21)(B), the Step Cutter Scalper unit qualifies as an insignificant activity.

Federal Rule Applicability

(a) The boilers, annealing furnaces and preheat furnaces are subject to 326 IAC 12 (Standards of Performance for Small Industrial - Commercial - Instituational Steam Generating Units) incorporates by reference 40 CFR 60, Subpart Dc. The Permittee will comply with the provisions of 40 CFR 60, Subpart Dc as detailed in the Federal Rule Applicability section.

Nonapplicable portions of the NSPS will not be included in the permit. The boilers are subject to the following portions of Subpart Dc:

(1) 40 CFR 60.40c (a)

(2) 40 CFR 60.41c

(3) 40 CFR 60.48c (g), and (i)

The provisions of 40 CFR 60, Subpart A – General Provisions, which are incorporated as 326 IAC 12-1, apply to the boilers described in this section except when otherwise specified in 40 CFR 60, Subpart Dc.

40 CFR 60, Subpart Dc was amended February 27, 2006 under Federal Register notice 71 FR 9884. However, pursuant to 326 IAC 1-1-3, the version of the rule referenced by 326 IAC 12 is the version in existence on July 1, 2005. Therefore, the amendments are not included in the state rules, and the boilers at this source are subject to both versions of the rule. All the requirements of 326 IAC 12 are the same as the requirements listed under Federal Rule Applicability except 40 CFR 60.48c(g).

Since the requirement of the old version of rule 40 CFR 60.48c(g) is more stringent than the amended version of rule 40 CFR 60.48c(g), the old rule 40 CFR 60.48c(g) will be also applicable to the boilers. The condition to comply with the requirements of the old rule 40 CFR 60.48c(g) shall expire when the revisions made to 40 CFR 60 Subpart Dc, as amended on February 27, 2006, become effective as Indiana Law. This condition is not federally enforceable.

(b) New Source Performance Standards (NSPS) for Primary Aluminum Reduction Plants [326 IAC 20] [40 CFR 60 Subpart S]

The Rolling mills emission units are not subject to the requirements of New Source Performance Standards (NSPS) for Primary Aluminum Reduction Plants [326 IAC 12] [40 CFR 60, Subpart S], because the emission units are not one of the listed affected facilities.

(c) National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Primary Aluminum Reduction Plants [326 IAC 20-24] [40 CFR 60, Subpart LL]

The Rolling mills emission units are not subject to the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) [326 IAC 20-24 and 40 CFR Part 63], Subpart RRR, because the emission units are not one of the listed affected facilities.

(d) National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Secondry Aluminum Reduction Plants [40 CFR 60, Subpart RRR].

The Rolling mills emission units are not subject to the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) (40 CFR Part 63), Subpart RRR, because the emission units are not one of the listed affected facilities.

(e) National Emission Standards for Hazardous Air Pollutants (NESHAP) [326 IAC 14, and 40 CFR Part 61]

There are no National Emission Standards for Hazardous Air Pollutants (NESHAP) (326 IAC 14 and 40 CFR Part 61) included in the permit for this source.

(f) Compliance Assurance Monitoring (CAM) [40 CFR 64]

This initial Part 70 operating permit application has been determined to be complete by April 20, 1998. Therefore, the Permittee is not required to prepare and submit a Compliance Assurance Monitoring (CAM) plan during the review of the initial Part 70 permit.

(g) This source is subject to the National Emission Standards for Hazardous Air Pollutants, 40 CFR 63, Subpart DDDDD.

The existing boilers, annealing furnaces, and preheat furnaces are subject to only the initial notification requirements in 40 CFR 63.9(b) (i.e., they are not subject to the emission limits, work practice standards, performance testing, monitoring, SSMP, site-specific monitoring plans, recordkeeping and reporting requirements of this subpart or any other requirements in subpart A of this part).

(1) 40 CFR 63.7485
(2) 40 CFR 63.7490(a)(1) and (d)
(3) 40 CFR 63.7495(b) and (d)
(4) 40 CFR 63.7499

(5) 40 CFR 63.7506(b)(1)
(6) 40 CFR 63.7545(a) & (b)(1)
(7) 40 CFR 63.7575

The Permittee has already complied with the initial notification.

State Rule Applicability – Individual Facilities

(a) Organic Solvent Emission Limitations [326 IAC 8-6-1]

The requirements of the RACT standard, 326 IAC 8-6-1, are not included in the permit application for the Rolling mills emissions units, because the construction of these units commenced prior to October 7, 1974.

(b) Particulate Emissions from Manufacturing Operations [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from the below listed processes shall be limited as follows:

Facility	Maximum Process Weight Rate (tons/hr)	PM Emission Limit (lbs/hr)
Ingot scalping	13.76	23.75
Ingot preheating operation	172	56.9
Ingot brush	225	59.8
Reversing mills	172	56.9
Continuous hot mills	172	56.9
Annealing furnaces	172	56.9
Ingot cold rolling	172	56.9

The above particulate emissions rates were determined from the following formulae:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour by use of the equation:

$E = 4.10\ P^{0.67}$

Where:

E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour.

Or

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour by use of the equation:

$E = 55.0\ P^{0.11} - 40$

Where:

E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour.

When the process rate exceeds two hundred (200) tons per hour, the allowable emission may exceed the emission limits shown in the above table; provided the concentration of particulate in discharge gases to the atmosphere is less than one-tenth (0.10) pound per thousand (1,000) pounds of gases.

(c) Particulate Emissions Limitations for Sources of Indirect Heating [326 IAC 6-2-3] [326 IAC 6-2-4]

(1) Boiler #1, boiler #2, and boiler #3 were constructed after September 21, 1983. Therefore, boiler #1, boiler #2, and boiler #3 are subject to the requirements of 326 IAC 6-2-4.

The particulate matter (PM) emissions from boiler #1, boiler #2, and boiler #3 shall be limited to 0.176 lb/MMBtu each. The above particulate emissions rate was determined from the following formula:

$$Pt = \frac{1.09}{Q^{0.26}}$$

Where:

Pt = Pounds of particulate matter emitted per million Btu (lb/MMBtu) heat input; and

Q = Total source maximum operating capacity rating in million Btu per hour (MMBtu/hr) heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used.

(2) Annealing furnaces #5-#16, and preheat furnaces #7-#10, #12-#19, #22, #24, #26, #28-#29 and #31-#35 were constructed before June 8, 1972. Therefore, annealing furnaces #5-#16, and preheat furnaces #7-#10, #12-#19, #22, #24, #26, #28-#29 and #31-#35 are subject to the requirements of 326 IAC 6-2-3(b).

The particulate matter (PM) emissions from annealing furnaces #5-#16, and preheat furnaces #7-#10, #12-#19, #22, #24, #26, #28-#29 and #31-#35, shall be limited to 0.078 lb/MMBtu each. The above particulate emissions rate was determined from the following formula:

$$Pt = \frac{C * a * h}{76.5 * Q^{0.75} * N^{0.25}}$$

Where:

C = Maximum ground level concentration with respect to distance from the point source at the critical wind speed for level terrain. This shall equal 50 micrograms per cubic meter (μ/m^3) for a period not to exceed a sixty (60) minute time period;

Pt = Pounds of particulate matter emitted per million Btu heat input (lb/MMBtu);

Q = Total source maximum operating capacity rating in million Btu per hour (MMBtu/hr) heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's operation permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used;

N = Number of stacks in fuel burning operation;

a = Plume rise factor which is used to make allowance for less than theoretical plume rise. The value 0.67 shall be used for Q less than or equal to 1,000 MMBtu/hr heat input; and

h = Stack height in feet. If a number of stacks of different heights exist, the average stack height to represent N stacks shall be calculated by weighing each stack height with its particulate matter emission rate as follows:

$$h = \frac{\sum_{i=1}^{N} H_i * pa_i * Q}{\sum_{i=1}^{N} pa_i * Q}$$

Where:

pa = the actual controlled emission rate in lb/MMBtu using the emission factor from AP-42 or stack test data. Stacks constructed after January 1, 1971, shall be credited with GEP stack height only. GEP stack height shall be calculated as specified in 326 IAC 1-7.

Q, N, and h shall include the parameters for all facilities in operation on June 8, 1972. The resulting Pt is the emission limitation for Q, N, and h shall include the parameters for all facilities in operation on June 8, 1972. The resulting Pt is the emission limitation for annealing furnaces #5-#16, and preheat furnaces #7-#10, #12-#19, #22, #24, #26, #28-#29 and #31-#35 and will not be affected by the addition of any subsequent facility.

(3) Annealing furnace #17 was constructed before September 21, 1983 and after June 8, 1972. Therefore, annealing furnace #17 is subject to the requirements of 326 IAC 6-2-3(a).

The particulate matter (PM) emissions from annealing furnace #17 shall be limited to 0.074 lb/MMBtu. The above particulate emissions rate was determined from the following formula:

$$Pt = \frac{C * a * h}{76.5 * Q^{0.75} * N^{0.25}}$$

Where:

C = Maximum ground level concentration with respect to distance from the point source at the critical wind speed for level terrain. This shall equal 50 micrograms per cubic meter (μ/m^3) for a period not to exceed a sixty (60) minute time period;

Pt = Pounds of particulate matter emitted per million Btu heat input (lb/MMBtu);

Q = Total source maximum operating capacity rating in million Btu per hour (MMBtu/hr) heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's operation permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used;

N = Number of stacks in fuel burning operation;

a = Plume rise factor which is used to make allowance for less than theoretical plume rise. The value 0.67 shall be used for Q less than or equal to 1,000 MMBtu/hr heat input; and

h = Stack height in feet. If a number of stacks of different heights exist, the average stack height to represent N stacks shall be calculated by weighing each stack height with its particulate matter emission rate as follows:

$$h = \frac{\sum_{i=1}^{N} H_i * pa_i * Q}{\sum_{i=1}^{N} pa_i * Q}$$

Where:

pa = the actual controlled emission rate in lb/MMBtu using the emission factor from AP-42 or stack test data. Stacks constructed after January 1, 1971, shall be credited with GEP stack height only. GEP stack height shall be calculated as specified in 326 IAC 1-7.

Q, N, and h shall include the parameters for all facilities in operation before 1973. The resulting Pt is the emission limitation for annealing furnace #17 and will not be affected by the addition of any subsequent emissions unit.

(4) Preheat furnaces #41 - #43 were constructed before September 21, 1983 and after June 8, 1972. Therefore, preheat furnaces #41 - #43 are subject to the requirements of 326 IAC 6-2-3(a).

The particulate matter (PM) emissions from preheat furnaces #41 - #43 shall be limited to 0.069 lb/MMBtu each. The above particulate emissions rate was determined from the following formula:

$$Pt = \frac{C * a * h}{76.5 * Q^{0.75} * N^{0.25}}$$

Where:

C = Maximum ground level concentration with respect to distance from the point source at the critical wind speed for level terrain. This shall equal 50 micrograms per cubic meter (μ/m^3) for a period not to exceed a sixty (60) minute time period;

Pt = Pounds of particulate matter emitted per million Btu heat input (lb/MMBtu);

Q = Total source maximum operating capacity rating in million Btu per hour (MMBtu/hr) heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's operation permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used;

N = Number of stacks in fuel burning operation;

a = Plume rise factor which is used to make allowance for less than theoretical plume rise. The value 0.67 shall be used for Q less than or equal to 1,000 MMBtu/hr heat input; and

h = Stack height in feet. If a number of stacks of different heights exist, the average stack height to represent N stacks shall be calculated by weighing each stack height with its particulate matter emission rate as follows:

$$h = \frac{\sum_{i=1}^{N} H_i * pa_i * Q}{\sum_{i=1}^{N} pa_i * Q}$$

Where:

pa = the actual controlled emission rate in lb/MMBtu using the emission factor from AP-42 or stack test data. Stacks constructed after January 1, 1971, shall be credited with GEP stack height only. GEP stack height shall be calculated as specified in 326 IAC 1-7.

Q, N, and h shall include the parameters for all facilities in operation before 1973. The resulting Pt is the emission limitation for preheat furnaces #41 - #43 and will not be affected by the addition of any subsequent emissions unit.

(5) Preheat furnaces #2 - #6 were constructed before September 21, 1983 and after June 8, 1972. Therefore, preheat furnaces #2 - #6 are subject to the requirements of 326 IAC 6-2-3(a).

The particulate matter (PM) emissions from preheat furnaces #2 - #6 shall be limited to 0.062 lb/MMBtu each. The above particulate emissions rate was determined from the following formula:

$$Pt = \frac{C * a * h}{76.5 * Q^{0.75} * N^{0.25}}$$

Where:

C = Maximum ground level concentration with respect to distance from the point source at the critical wind speed for level terrain. This shall equal 50 micrograms per cubic meter (μ/m^3) for a period not to exceed a sixty (60) minute time period;

Pt = Pounds of particulate matter emitted per million Btu heat input (lb/MMBtu);

Q = Total source maximum operating capacity rating in million Btu per hour (MMBtu/hr) heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's operation permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used;

N = Number of stacks in fuel burning operation;

a = Plume rise factor which is used to make allowance for less than theoretical plume rise. The value 0.67 shall be used for Q less than or equal to 1,000 MMBtu/hr heat input; and

h = Stack height in feet. If a number of stacks of different heights exist, the average stack height to represent N stacks shall be calculated by weighing each stack height with its particulate matter emission rate as follows:

$$h = \frac{\sum_{i=1}^{N} H_i * pa_i * Q}{\sum_{i=1}^{N} pa_i * Q}$$

Where:

pa = the actual controlled emission rate in lb/MMBtu using the emission factor from AP-42 or stack test data. Stacks constructed after January 1, 1971, shall be credited with GEP stack height only. GEP stack height shall be calculated as specified in 326 IAC 1-7.

Q, N, and h shall include the parameters for all facilities in operation before 1975. The resulting Pt is the emission limitation for preheat furnaces #2 - #6 and will not be affected by the addition of any subsequent emissions unit.

(6) Preheat furnaces #36 - #40 were constructed before September 21, 1983 and after June 8, 1972. Therefore, preheat furnaces #36 - #40 are subject to the requirements of 326 IAC 6-2-3(a).

The particulate matter (PM) emissions from preheat furnaces #36 - #40 shall be limited to 0.056 lb/MMBtu each. The above particulate emissions rate was determined from the following formula:

$$Pt = \frac{C * a * h}{76.5 * Q^{0.75} * N^{0.25}}$$

Where:

C = Maximum ground level concentration with respect to distance from the point source at the critical wind speed for level terrain. This shall equal 50 micrograms per cubic meter (μ/m^3) for a period not to exceed a sixty (60) minute time period;

Pt = Pounds of particulate matter emitted per million Btu heat input (lb/MMBtu);

Q = Total source maximum operating capacity rating in million Btu per hour (MMBtu/hr) heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's operation permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used;

N = Number of stacks in fuel burning operation;

a = Plume rise factor which is used to make allowance for less than theoretical plume rise. The value 0.67 shall be used for Q less than or equal to 1,000 MMBtu/hr heat input; and

h = Stack height in feet. If a number of stacks of different heights exist, the average stack height to represent N stacks shall be calculated by weighing each stack height with its particulate matter emission rate as follows:

$$h = \frac{\sum_{i=1}^{N} H_i * pa_i * Q}{\sum_{i=1}^{N} pa_i * Q}$$

Where:

pa = the actual controlled emission rate in lb/MMBtu using the emission factor from AP-42 or stack test data. Stacks constructed after January 1, 1971, shall be credited with GEP stack height only. GEP stack height shall be calculated as specified in 326 IAC 1-7.

Q, N, and h shall include the parameters for all facilities in operation before 1978. The resulting Pt is the emission limitation for preheat furnaces #36 - #40 and will not be affected by the addition of any subsequent emissions unit.

(7) Preheat furnaces #11, #20-#21, #23, #25, #27, and #30 were constructed after September 21, 1983. Therefore, preheat furnaces #11, #20-#21, #23, #25, #27, and #30 are subject to the requirements of 326 IAC 6-2-4.

The particulate matter (PM) emissions from preheat furnaces #11, #20-#21, #23, #25, #27, and #30 shall be limited to 0.177 lb/MMBtu each. The above particulate emissions rate was determined from the following formula:

$$Pt = \frac{1.09}{Q^{0.26}}$$

Where:

Pt = Pounds of particulate matter emitted per million Btu (lb/MMBtu) heat input; and

Q = Total source maximum operating capacity rating in million Btu per hour (MMBtu/hr) heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used.

Conclusion

The operation of this rolling mills plant shall be subject to the conditions of this Part 70 permit 173-6627-00007.

Technical Support Documentation
For Coating Plant

D.8 Coating Plant

Background and Description

This part of the plant coats the aluminum coils.

Types of Emission Units and Pollution Control Equipment

(1) One (1) electro coat coil coating line no. 6, identified as CPL6, constructed in 1995, with emissions uncontrolled and exhausting to Stacks 819.7, and 819.13-819.15;

(2) One (1) coil coating line no. 2, identified as CCL2, constructed in 1984, with an enclosure system, controlled by a thermal oxidizer, exhausting to Stacks 826.5 and 826.6.

One (1) thermal oxidizer system exhausting to Stacks 826.5 and 826.6;

(3) One (1) coil coating line no. 3, identified as CCL3, constructed in 1987, with an enclosure system, controlled by a thermal oxidizer, exhausting to Stacks 826.1 and 826.2.

One (1) thermal oxidizer system exhausting to 826.1 and 826.2;

Mix room

(4) One (1) mixing room of solvents for coil coating lines process vats, installed in 1985, with a maximum of coating and solvents usage of 240,000 tons per year, with no control, and exhausting to Stack 847.2;

(5) Ten (10) coating mix stations, identified as Mix Room Stations #1- #10, with a total of fourteen (14)-400 gallon tanks with flat lids. Each of the fourteen (14) total tanks is vertical fixed roof tank located inside Building 847 with no control devices;

Above ground tank farm

(6) Two (2) fixed roof above ground tanks, identified as tanks, 01 and 02, installed in 1997, with a maximum capacity of coatings or solvents storing 16,000 gallons, with no control, exhausting to Stacks 849.1 and 849.2;

(7) Six (6) fixed roof above ground tanks, identified as tanks, 03, 04, 05, 06, 07, and 08, installed in 1997, with a maximum capacity of coatings or solvents storing of 9,700 gallons, with no control, exhausting to Stacks 849.3 – 849.8;

(8) Four (3) fixed roof above ground tanks, identified as tanks, B, C, D, and E, installed in 1997, with a maximum capacity of coatings or solvents storing of 7,800 gallons, with no control, exhausting to Stacks 849.B – 849.E;

Process Support

(9) One (1) underground storage tank, identified as Hazardous Waste Storage Tank, installed in 1992 with a maximum capacity of 7,500 gallons with no control, exhausting to Stack 847.1;

(10) Two (2) fixed roof above ground tanks, identified as clear and gold electrocoat coating Dump Tanks, installed in 1984, with a maximum capacity of 20,000 gallons each, with no control, exhausting to Stacks 819.16 and 819.17;

(11) One (1) fixed roof above ground tank, identified as gold electrocoat coating Unload Tank, installed in 1984, with a maximum capacity of 8,000 gallons, with no control, exhausting to Stack 819.18;

(12) One (1) fixed roof above ground tank, identified as clear electrocoat coating Day Tank, installed in 1984, with a maximum capacity of 3,500 gallons, with no control, exhausting inside the building;

(13) One (1) fixed roof above ground tank, identified as experimental electrocoat coating Day Tank, installed in 1984, with a maximum capacity of 3,500 gallons, with no control, exhausting inside the building;

(14) One (1) fixed roof above ground tank, identified as gold electrocoat coating Day tank, installed in 1984, with a maximum capacity of 3,500 gallons, with no control, exhausting to Stack 819.19; and

(15) One (1) carbon silo, identified as 879 Carbon Silo, installed in 1998 with a maximum capacity of 50,000 pounds and a fill rate of 12.66 tons per hour, with no control, exhausting to Stack 877.4.

The following emissions units have been removed from service since the initial Title V permit application was submitted to IDEM:

Building	Emission Unit ID	Emission Unit Description	Stack/Vent ID
	None		

Insignificant Activities

Non-Combustion Units

Coil prep lines nos. 3, 4, 5, and 7, and wash and acid sections of coil coating lines CCL2 and CCL3

Coating operations 400 gallon capacity portable tote tanks

Coil coating lines CCL2 and CCL3 waxers, applied as temporary protective coatings

Acid and wash wastewater treatment from coil prep lines nos. 3, 4, 5, and 7, and coil coating lines CCL2 and CCL3

Lime silo associated with acid and wash wastewater treatment from coil prep lines nos. 3, 4, 5, and 7, and coil coating lines CCL2 and CCL3

Finishing department trim scrap recovery Finishing Ingot Scrap Collection System

Coating rubber roll grinder dust collector believed to be less than 4000 cfm capacity

Building 824 quality assurance laboratory

Combustion Units

4 Building 829 Finishing Make-up air heaters heat input less than 10 MMBtu/hr, each

2 Building 827 Finishing Make-up air heaters heat input less than 10 MMBtu/hr, each

Existing Approvals

With respect to the coil coating operations, the source has been operating under the following previous approvals.

Description	Permit #	Date
Operating Permits		
	OP 87-07-83-0060	Expired
Preconstruction Approvals		
	PSD (87) 1549	Issued on May 29, 1984
	CP 173-3276	Issued on July 14, 1994
	Amendment to CP 173-3276	Issued on December 22, 1994
	CP 173-4501	Issued on June 15, 1995
	A173-5524 to CP 173-4501	Issued on May 6, 1996
	SSM 173-11598-00007	Issued on February 3, 2000
	Registration CP 173-8193-00007	Issued on May 13, 1997
	A173-8566 to CP 173-8193	Issued on May 29, 1997
	SSM 173-18465-00007	Issued on March 16, 2004

The following table describes those permit terms which were either modified or not incorporated into the Title V operating permit. Operation Permits issued by IDEM pursuant to 326 IAC 2-1-4 (now repealed) are not federally enforceable permits, nor are the terms of such permit "applicable requirements" which must be incorporated into the Title V permit.

Term Identification	Original Term Language	Proposed Term Language	Explanation/ Comments
SSM 173-11598-00007	D.1.1 Reporting Requirements Pursuant to 326 IAC 8-9-6 (Volatile Organic Liquid Storage Vessels), the Permittee shall maintain a record and submit to the IDEM a one time report containing the following information: (1) The vessel identification number. (2) The vessel dimensions. (3) The vessel Capacity D.1.2 Record Keeping Requirements Pursuant to 326 IAC 8-9-6 (Volatile Organic Liquid Storage Vessels), the Permittee shall keep the records in Condition D.1.1 for the life of the vessel.	Deleted Deleted	This rule does not apply in Warrick county.
CP 173-3276	Operation Condition No. 8 The total amount of volatile organic compounds (VOC) delivered to the coater head of the coil coating line No. 2 shall not exceed 7,675 tons per year, calculated on a 365 day rolling average. The overall reduction efficiency shall not be less than 96%.	D.8.2(a**) Pursuant to CP 173-3276, issued on July 14, 1994,** ~~T~~**t**he total amount of volatile organic compounds (VOC) delivered to the coater head of the coil coating line ~~No. 2~~ **CCL2** shall ~~not exceed~~ **be less than** 7,675 tons per ~~year, calculated on a~~ 365 **consecutive** day **period** ~~rolling average~~, **with compliance demonstrated at the end of each day and** ~~T~~the overall ~~reduction~~ **control** efficiency **of the VOC capture and control system** shall ~~not~~ be **no** less than 96%. Compliance with these **VOC** limits **and the thermal oxidizer's control efficiency of 96% shall render the requirements of Prevention of Significant Deterioration (PSD) rule, 326 IAC 2-2, not applicable for the coil coating line CCL2.**	Changed "shall not exceed" to "shall be less than" so that the emissions remain below the PSD significant level. Also identified the requirements of Operation conditions #6 through #8.

Term Identification	Original Term Language	Proposed Term Language	Explanation/ Comments
A173-5524 Amendments to CP 173-4501, Plt ID No. 173-00007	Operation Condition 9 That the total amount of volatile organic compounds delivered to the Coil Coating Line #3 coater head applicator ("Input") shall be limited as determined by equation 1 using parameters from Table 1. In addition, the total amount of volatile organic compounds delivered to the coater head applicator shall be limited such that the calculated volatile organic compound emissions, calculated using equation 2, shall not exceed 112 tons per 365-day period based on a rolling total.	D.8.2(b) **Pursuant to Amendment A 173-5524 to CP 173-4501 issued on May 6, 1996:** **(1)** ~~That t~~**T**he total amount of volatile organic compounds delivered to the ~~C~~**c**oil ~~C~~**c**oating ~~L~~**l**ine ~~#3~~ **CCL3** coater head applicator ("Input") shall be ~~limited as~~ **less than the amount** determined by equation 1 using parameters from Table 1. In addition, the total amount of volatile organic compounds delivered to the coater head applicator shall be limited such that the calculated volatile organic compound emissions, calculated using equation 2, shall ~~not exceed~~ **be less than** 112 tons per 365-~~day period based on a rolling total~~ **consecutive day period, with compliance demonstrated at the end of each day**. **...** **(2) The enclosure room, the capture system, and the capture system fan's measuring and recording devices shall be operating properly at all times during actual coating operations, at an electrical current across one or more of the fans that provide ventilation exhaust from the coating enclosure that has been demonstrated to maintain an average facial velocity of at least 200 feet per minute across all natural draft openings as measured by EPA Method 204, Equation 204-3. All doors and windows not classified as natural draft openings remain closed at all times during actual coating operations except for brief periods to allow personnel entrance to and exit from the enclosure room.**	Changed "shall not exceed" to "shall be less than" so that the emissions remain below the PSD significant level. Also added the condition for the enclosure room to comply with the limits.
PSD (87) 1549	Findings (1) The emissions increase of 404 tons of VOCs per year is significant for this	D.8.3 **Pursuant to PSD Permit PSD (87) 1549 issued on May 29, 1984:** **(a) The total amount of VOC**	Restated the PSD requirements in an enforceable condition.

Term Identification	Original Term Language	Proposed Term Language	Explanation/ Comments
	modification at a major stationary source. Therefore, according to Rule 325 IAC 2-2, the PSD requirements do apply. (2) At its March 7, 1984, meeting, the Board approved the determination of a water based coating as BACT for this operation.	**usage from the electro coat coil coating line CPL6 minus the VOC lost to the wastewater, shall not exceed 404 tons per twelve consecutive month period with compliance demonstrated at the end of each month;** **(b) The Permittee shall measure the wastewater flow from the electro coat line (CPL6) continuously and record the flow totalizing meter each week. The Permittee shall procure VOC samples of the wastewater each week and analyze for VOC content in the wastewater. The VOC lost to the wastewater shall be calculated monthly by multiplying the monthly average VOC content of the wastewater by the total monthly metered flow; and** **(c) The Permittee shall only use water based coatings in coil coating line CPL6.**	

Federal Rule Applicability

(a) New Source Performance Standards (NSPS) for Volatile Organic Liquid Storage Vessels [40 CFR 60 Subpart Kb]

This NSPS is not included in this permit for any of the coating or solvent storage tanks, because the capacity of each of the solvent storage tanks is less than 75 cubic meters.

(b) New Source Performance Standards (NSPS) for Primary Aluminum Reduction Plants [326 IAC 12] [40 CFR 60 Subpart S]

The coil coating emission units are not subject to the requirements of New Source Performance Standards (NSPS) for Primary Aluminum Reduction Plants [326 IAC 12] [40 CFR 60, Subpart S], because the emission units are not one of the listed affected facilities.

(c) National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Primary Aluminum Reduction Plants [326 IAC 20-24] [40 CFR 60, Subpart LL]

The coil coating emission units are not subject to the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) [326 IAC 20-24 and 40 CFR Part 63], Subpart RRR, because the emission units are not one of the listed affected facilities.

(d) National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Secondary Aluminum Production [326 IAC 70] [40 CFR 60, Subpart RRR].

The coating line emission units are not subject to the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) (40 CFR Part 63), Subpart RRR, because the emission units are not one of the listed affected facilities.

(e) National Emission Standards for Hazardous Air Pollutants (NESHAP)[326 IAC 14, and 40 CFR Part 61]

There are no National Emission Standards for Hazardous Air Pollutants (NESHAP)(326 IAC 14, and 40 CFR Part 61) applicable to this part of the source, because the Coil Coating emission units do not emit any of the pollutants regulated by this NESHAP.

(f) Compliance Assurance Monitoring (CAM) [40 CFR 64]

This initial Part 70 operating permit application has been determined to be complete by April 20, 1998. Therefore, the Permittee is not required to prepare and submit a Compliance Assurance Monitoring (CAM) plan during the review of the initial Part 70 permit.

(g) General Provisions Relating to HAPs [326 IAC 20-1][40 CFR Part 63, Subpart A] [Table 2 to 40 CFR Part 63, Subpart SSSS]

The provisions of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 20-1-1, apply to the affected source, except when otherwise specified by Table 2 to 40 CFR Part 63, Subpart SSSS.

(h) General Provisions Relating to HAPs [326 IAC 20-1][40 CFR Part 63, Subpart A] [Table 12 to 40 CFR Part 63, Subpart EEEE]

(1) The provisions of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 20-1-1, apply to the affected source, except when otherwise specified by Table 12 to 40 CFR Part 63, Subpart EEEE. The Permittee must comply with these requirements on and after Feb. 5, 2007, unless a 1 year extension is obtained pursuant to 40 CFR 63.6.

(2) Since the applicable requirements associated with the compliance options are not included and specifically identified in this permit application, the permit shield authorized by the B section of this permit in the condition titled Permit Shield, and set out in 326 IAC 2-7-15 does not apply to paragraph (1) of this condition, except as otherwise provided in this condition.

(i) National Emission Standards for Hazardous Air Pollutants (NESHAP) for Surface Coating of Metal Coil [326 IAC 64] [40 CFR Part 63, Subpart SSSS]

All three coil coating lines CCL2, CCL3, and CPL6 are the affected facilities. Nonapplicable portions of the NESHAP will not be included in the the permit. The affected source is subject to the following portions of Subpart SSSS:

(1) 40 CFR 63.5080
(2) 40 CFR 63.5090(a)
(3) 40 CFR 63.5100
(4) 40 CFR 63.5110
(5) 40 CFR 63.5120(a) and (b)
(6) 40 CFR 63.5130
(7) 40 CFR 63.5140
(8) 40 CFR 63.5150(a)(3), (4), and (b)

(9) 40 CFR 63.5160, Table 1, (b) (1), and (4), (c), (d), and (e)
(10) 40 CFR 63.5170
(11) 40 CFR 63.5180
(12) 40 CFR 63.5190

Tables 1 and 2

(j) New Source Performance Standards (NSPS) for Metal Coil Surface Coating [326 IAC 12] [40 CFR Part 60, Subpart TT]

All three coating lines are subject to this rule, because these coil coating lines were constructed after the applicability date of January 5, 1981.

Nonapplicable portions of the NSPS will not be included in the permit. The affected source is subject to the following portions of Subpart TT:

(1) 40 CFR 60.460
(2) 40 CFR 60.461
(3) 40 CFR 60.463(a)
(4) 40 CFR 60.463
(5) 40 CFR 60.464
(6) 40 CFR 60.465
(7) 40 CFR 60.466

State Rule Applicability – Individual Facilities

(a) 326 IAC 6-3-1 [Particulate Emission Limitations for Manufacturing Processes]

The three coil coating lines are not subject to this RACT rule, because #6 coil coating line uses flow coating method, and #2 and 3 use roll coating method to apply coating materials to the coils. Therefore, pursuant to 326 IAC 6-3-1(b) the coating operation is exempt from this rule.

(b) 326 IAC 6-3-2 [Particulate Emission Limitations for Manufacturing Processes]

The particulate emissions rate from Carbon Silo shall be limited to 2.25 lbs/hr.

The above particulate emissions rate was determined from the following formula:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour 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.

(c) 326 IAC 8-2-4 [Surface Coating Emissions Limitations: Coil Coating Operations]

The three coil coating lines are subject to this RACT rule, because they each will coat the flat metal sheet that comes in a coil.

(d) 326 IAC 8-9-6 [Volatile Liquid Storage Vessels]

Fourteen (14) coating mix stations tanks are not subject to this rule, because the source is not located in one of the listed counties.

(e) Prevention of Significant Deterioration (PSD) Minor Limit [326 IAC 2-2]

Pursuant to CP 173-3276, issued on July 14, 1994, the total amount of volatile organic compounds (VOC) delivered to the coater head of the coil coating line CCL2 shall be less than 7,675 tons per 365 consecutive day period, with compliance demonstrated at the end of each day and the overall control efficiency of the VOC capture and control system shall be no less than 96%. Compliance with these VOC limits and the thermal oxidizer's control efficiency of 96% shall render the requirements of Prevention of Significant Deterioration (PSD) rule, 326 IAC 2-2, not applicable for the coil coating line CCL2.

(f) Prevention of Significant Deterioration (PSD) Minor Limit [326 IAC 2-2]

Pursuant to Amendment A173-5524 to CP 173-4501 issued on May 6, 1996,

(1) The total amount of volatile organic compounds delivered to the coil coating line CCL3 coater head applicator ("Input") shall be less than the amount determined by equation 1 using parameters from Table 1. In addition, the total amount of volatile organic compounds delivered to the coater head applicator shall be limited such that the calculated volatile organic compound emissions, calculated using equation 2, shall be less than 112 tons per 365 consecutive day period, with compliance demonstrated at the end of each day.

Equation 1:

$$\text{Input Limit (tons/365 days)} = \sum_{y=1}^{365}\left(\frac{I_y}{365}\right)$$

Where:

I = the VOC input parameter from Table 1 on day y;

y = the day number in the 365-day roll;

Equation 2:

$$\text{Emission (tons/365 days)} = \frac{\sum_{y=1}^{365}(100\% - R)_y * \sum^{j}(L_i D_i W)_y}{(2{,}000\ \text{lbs/ton})}$$

Where:

y = the day number in the 365-day roll;

j = each subsequent coating and solvent consumed per day;

R = the most recently demonstrated overall reduction efficiency (ORE) on day 1;

L = the quantity of the coating/solvent consumed per day (gallons/day);

D = the density of the coating/solvent consumed (lb/gallon); and

W = the weight percent VOC content of the coating/solvent consumed (as a decimal fraction).

The Permittee may select alternate overall reduction efficiency/ VOC input parameter combinations from the following list of compliance options (Table 1):

Compliance Option	Required ORE (%)	VOC input parameter (tons/365-days)
1	98.0	5,600
2	98.25	6,400
3	98.5	7,467
4	98.75	8,960
5	99.0	11,200
6	99.25	14,933
7	99.5	22,400

The Permittee indicated its selection of Option #4, commencing on May 1, 2004. The Permittee may establish an alternate option through written notification to OAQ at least 14 days prior to the calendar month in which an alternate option is to begin being used for compliance purposes. This notification shall include the following:

(i) The compliance option presently being used, and the new option to be used;

(ii) The date on which the new compliance option is to take effect;

(iii) Documentation showing that the required ORE associated with the new compliance option is less than or equal to the most recently demonstrated ORE in testing conducted pursuant to 326 IAC 3-2.1 (Source Sampling Procedures) using test methods acceptable to the Commissioner; and

(iv) Calculated VOC emissions for the 365 – day period ending prior to submission of the notification.

(2) The enclosure room, the capture system, and the capture system fan's measuring and recording devices shall be operating properly at all times during actual coating operations, at an electrical current across one or more of the fans that provide ventilation exhaust from the coating enclosure that has been demonstrated to maintain an average facial velocity of at least 200 feet per minute across all natural draft openings as measured by EPA Method 204, Equation 204-3. All doors and windows not classified as natural draft openings remain closed at all times during actual coating operations except for brief periods to allow personnel entrance to and exit from the enclosure room.

Compliance with these limits shall render the requirements of PSD rule 326 IAC 2-2 not applicable for the No. 3 coil coating line.

(g) Prevention of Significant Deterioration (PSD) [326 IAC 2-2]

Pursuant to PSD Permit PSD (87) 1549 issued on May 29, 1984, the total amount of VOC emissions from the electro coat coil coating line CPL6 shall not exceed 404 tons per twelve consecutive month period with compliance demonstrated at the end of each month, reported quarterly. These quarterly reports shall include the calendar month average VOC emission rate in kilograms of VOC per liter of coating minus water.

(h) New Source Performance Standards (NSPS) for Volatile Organic Liquid Storage Vessels [326 IAC 12]

Both electrocoat 20,000 gallons dump tanks were constructed in May, 1984, before the applicability date of July 23, 1984. Therefore, the two electrocoat 20,000 gallons tanks are not subject to this rule.

This rule does not apply to all other remaining coating or solvent storage tanks, because the capacity of each of the tanks is less than 40 cubic meters.

Federal and State Rule Applicability/Streamlining Strategy

The thermal oxidizer control system, water based coatings , and limiting the volatile organic compounds (VOC) in the as purchased or as applied basis are the primary mechanism for Alcoa – Warrick operations to comply with multiple state and federal air pollution control requirements, including National Emission Standards for Hazardous Air Pollutants (NESHAP) MACT standard, RACT rule, and New Source Performance Standard. These rules have similar standards and performance objectives which provide an opportunity for the Part 70 permit to consolidate the requirements into streamlined permit terms that comprehensively address all the requirements. Streamlining of overlapping requirements is authorized pursuant to 326 IAC 2-7-24.

Applicability

The following streamlining table applies to coil coating lines CCL2, CCL3 and CPL6. The additional requirement on the coil coating line CPL6 is to comply with NSPS requirement, because the NESHAP MACT rule regulates on the basis of pounds of HAPs per gallon of solids, whereas the NSPS regulates on the basis of kg. VOC per liter of solids. It may happen that although it may meet the streamlined requirement, it may not meet the NSPS, because there may be some VOCs which are not HAPs.

Overview of applicable requirements

The coil coating lines have to comply with the requirements of 326 IAC 8-2-4 [an Indiana RACT rule applicable to Surface Coating Emission Limitations: Coil Coating Operations]; 40 CFR Part 60, Subpart TT [the NSPS for metal coil coating]; and 40 CFR Part 63, Subpart SSSS [the NESHAP for metal coil coating]. Upon issuance of this permit, the Permittee will be subject to only one permit requirement established in this permit except for no. 6 coil coating line which will have an additional requirement for NSPS.

Comparison of applicable requirements

Pursuant to 326 IAC 2-7-24(b), any Permittee that seeks to streamline multiple applicable requirements must present a side-by-side comparison of the requirements and the streamlined requirement. The following streamlining table presents a comparison of 326 IAC 8-2-4; 40 CFR Part, 60, Subpart TT; and 40 CFR Part 63, Subpart SSSS; and includes the IDEM approved streamlined requirements established in the Part 70 permit. The streamlining table contains the following sections:

Emission Limits and Standards

Compliance Determination Methods

Testing

Monitoring Methods

Record Keeping and Reporting Requirements

Affected Units	Requirements			Streamlined Requirement (326 IAC 8-2-4), (40 CFR Part 60, Subpart TT) (40 CFR Part 63, Subpart SSSS)
	326 IAC 8-2-4	40 CFR Part 60, Subpart TT	40 CFR Part 63, Subpart SSSS	
(1) One (1) coil coating line CCL2 with an enclosure system, controlled by a thermal oxidizer (2) One (1) coil coating line CCL3 with an enclosure system, controlled by a thermal oxidizer (3) One (1) Electro coat line CPL6	VOC emissions limited to 0.31 kilogram per liter of coating excluding water, delivered to the coating applicator from topcoat or single coat operations	10 percent of the VOCs applied for each calendar month that continuously uses the thermal oxidizer at the most recently demonstrated overall efficiency. Or 0.14 kg of VOC per liter of coating solids applied for each calendar month that continuously uses the thermal oxidizer at the most recently demonstrated overall efficiency. Or 0.28 kg of VOC per liter of coating solids applied for each calendar month that does not use an emission control device	No more than 2 percent of the organic HAP applied for each month during each 12-month compliance period (98 percent reduction); Or No more than 0.046 kilogram-HAP per liter of solids applied during each 12-month compliance period; The coil coating lines CCL2 and CCL3 shall be in compliance with the standards in paragraph (a) at all times, except during periods of start-up, shutdown, and malfunction of the capture system and the control device used to comply with the standards	The Permittee has chosen to comply with a single emission limit of 0.046 kilogram-HAP per liter of solids applied during each 12-month compliance period from coil coating lines CCL2, CCL3, and CPL6. The Permittee has estimated that coil coating lines CCL2 and CCL3 must have an overall control efficiency of 99.2 and 99.5 %, respectively, to comply with the NESHAP emission limit of 0.046 kg per liter. The NESHAP limit is more stringent than the NSPS limit. Also the NSPS limit is more stringent than the limit of 326 IAC 8-2-4. For coating line CPL6, it may happen that although it may meet the streamlined requirement, it may not meet the NSPS limit, because there may be some VOCs which are not HAPs. Pursuant to 40 CFR 60.462, each coating line can not average the emissions among all coil coating lines, therefore coil coating line CPL6, in addition to NESHAP limit, shall also meet the 0.28 kg of VOC per liter of coating solids applied for each calendar month. Streamlined Emission Limit [D.8.5] (a) The Permittee shall limit organic HAP emissions from coil coating lines CCL2, CCL3, and CPL6 to the level specified in paragraphs (a)(1) of this condition, and also limit VOC emissions from coating line CPL6 to the level specified in (a)(2) of this condition: (1) No more than 0.046 kilogram (kg) of organic HAP per liter of solids applied during each 12 - month compliance period; and (2) The Permittee shall also limit volatile organic compounds (VOC) emissions from coil coating line CPL6 to 0.28 kilogram (kg) per liter of solids for each calendar month. (b) The coil coating lines CCL2 and CCL3 shall be in compliance with the standards in paragraph (a) at all times, except during periods of start-up, shutdown, and malfunction of the capture system and the control device used to comply with the standards.

	326 IAC 8-2-4	40 CFR 60, Subpart TT	40 CFR 63, Subpart SSSS	Streamlined Compliance Determination
Compliance Determination				
(1) One (1) coil coating line CCL2 with an enclosure system, controlled by a thermal oxidizer (2) One (1) coil coating line CCL3 with an enclosure system, controlled by a thermal oxidizer (3) One (1) electro coat line CPL6	Pursuant to 326 IAC 8-1-2(b) the equivalent emission limit, expressed as kilograms of VOC per liter of solids, is determined as follows: $E = \frac{L}{1 - \frac{L}{D}}$ Where: L = Applicable emission limit from this rule in kilograms per liter of coating D = Density of VOC in coating in kilograms per liter of VOC E = Equivalent emission limit in kilograms of VOC per liter of coating solids as applied. A solvent density of 0.882 kgs of VOC per liter of coating shall be used to determine equivalent kgs of VOC per liter of solids for the applicable emission limit contained in this article. Actual solvent density shall be used to determine compliance of surface coating operations using the compliance methods contained in subsection (a) or section 5 of this rule. Therefore $E = \frac{0.31}{1 - (0.31/0.82)}$	(1) For CCL2 and CCL3 coil coating lines (i) Determine the overall reduction efficiency as given below: (A) Determine the amount of total VOCs applied at the coaters of each line as specified by EPA Methods 204A and 24 (B) Verify that the enclosures at CCL2 and CCL3 meet the criteria of a total enclosure using EPA Method 204. (C) Determine the VOC emissions from the exit of the control device and any captured emission streams not vented to a control device as specified by EPA Method 204B. (D) Determine the overall reduction efficiency by subtracting the sum of VOC emissions measured from the exit of the control device and any captured emission	(1) Use of ``as purchased" - Each coating material used during the 12-month compliance period does not exceed 0.046 kg HAP per liter solids, as purchased.  (2) Use of ``as applied" compliant coatings - Each coating material used does not exceed 0.046 kg HAP per liter solids on a rolling 12-month average as applied basis, determined monthly. Or Average of all coating materials used does not exceed 0.046 kg HAP per liter solids on a rolling 12-month average as applied basis, determined monthly. (3) Use of a capture system and control device - Overall organic HAP control efficiency is at least 98 percent on a monthly basis for individual or groups of coil coating lines. (4) Use of a combination of compliant coatings and control devices and maintaining an acceptable equivalent emission rate - Average equivalent emission rate does not exceed 0.046 kg HAP per liter solids on a rolling 12-month average as applied basis, determined	(a) Use of a combination of "as applied" coatings and control devices and maintaining an acceptable equivalent emission rate of 0.046 kg. HAP per liter solids on a rolling 12-month average as applied basis, determined monthly. The compliance procedures in 40 CFR 63.5170 shall satisfy the emission limit of 0.046 kg. HAP per liter solids on a rolling 12-month average as applied basis, determined monthly. 40 CFR 63.5170 requires the Permittee to comply with the procedures in 40 CFR 63.5170(g)(3) through (8), 40 CFR 63.5170(e)(1)(ix), 40 CFR 63.5170(f)(i) through (ix). The stream lined compliance demonstration procedures to meet the emission limit of 0.046 kg. HAP per liter solids on a rolling 12-month average as applied basis are given below: (1) For each oxidizer used to control emissions from coil coating lines CCL2 and CCL3, the Permittee shall perform tests of capture efficiency, and control device efficiency, and ensure compliance through continuous monitoring of capture system and control device operating parameters, each month of the 12-month compliance period. The Permittee shall meet the requirements of 40 CFR 63.5170 (g)(3)(i), (ii), and (iii)(A); (i) Monitor combustion temperature of each thermal oxidizer as an operating parameter established in 40 CFR 63.5150(a)(3) to ensure that control device destruction is maintained;

	326 IAC 8-2-4	40 CFR 60, Subpart TT	40 CFR 63, Subpart SSSS	Streamlined Compliance Determination
Compliance Determination				
	= 0.477 kg of VOC per liter coating solids as applied. Pursuant to 326 IAC 8-1-2(c) the overall control efficiency of the thermal oxidizer shall be no less than the equivalent overall efficiency calculated by the following equation: $O = \frac{V - E}{V} \times 100$ Where: V = The actual VOC content of the coating or, if multiple coatings are used, the daily weighted average VOC content of all coatings, as applied to the subject coating line as determined by the applicable test methods and procedures specified in 326 IAC 8-1-4 in units of kgs of VOC per liter of coating solids as applied. E = Equivalent emission limit in kgs of VOC per liter of coating solids as applied. O = Equivalent overall efficiency of the capture system and control device as a percentage. For this case, select the worst case VOC content coating, which is calculated as follows: Pursuant to 326 IAC 8-1-2(a)(7), using a volume weighted average of coatings on a daily basis. This volume weighted average shall be	streams not vented to a control device from the applied VOC's, dividing the subtract by the applied VOC's, then multiplying the dividend by 100. If the overall reduction efficiency is equal to or greater than 90%, the affected coating line is in compliance. If the overall reduction efficiency is less than 90%, then (ii) calculate the volume weighted average of the total mass of VOC per unit of coating solids applied during each calendar month for each line using equations in 40 CFR 60.463(c)(1)(i)(A), (B), and (C). (iii) Calculate the volume weighted average of VOC emissions to the atmosphere during each calendar month by 40 CFR 60.463(c)(2)(iii). (iv) If the volume	monthly.	(ii) For each capture system delivering emissions to that oxidizer, monitor fan motor current (amperes) of each fan of each capture system established in 40 CFR 63.5150(a)(4) to ensure capture efficiency; (iii) Determine the organic HAP emissions for coil coating lines CCL2 and CCL3 by each capture system delivering emissions to that oxidizer according to paragraphs 40 CFR 5170(f)(1)(i) through (ix); (iv) For coil coating line CPL6, each month of the 12-month compliance period, determine the organic HAP applied using Equation 9 of 40 CFR 63.5170(g)(5); (v) Determine the solids content of each coating material applied during the month following the procedure in 40 CFR 63.5160(c) for each month of the 12-month compliance period; (vi) Determine the organic HAP emissions for each 12-month compliance period by summing all monthly organic HAP emissions calculated for coating lines CCL2, CCL3, and CPL6; (vii) Calculate the organic HAP emission rate based on solids applied for the 12-month compliance period, LANNUAL, using Equation 6 of 40 CFR 63.5170(e)(1)(ix); and (vii) Coating lines CCL2, CCL3, and CPL6 are in compliance with the emission limit for the 12-month compliance period if all operating parameters required to be monitored were maintained at the values established by performance tests; and the total mass of organic HAP emitted by coating lines CCL2,

	326 IAC 8-2-4	40 CFR 60, Subpart TT	40 CFR 63, Subpart SSSS	Streamlined Compliance Determination
Compliance Determination				
	determined by the following equation: $A = \frac{\sum (C \times U)}{\sum U}$ Where: A is the volume weighted average in kgs VOC per liter less water as applied; C is the VOC content of the coating in kgs VOC per liter less water as applied; and U is the usage rate of the coating in liters per hour. Transfer efficiency is assumed to be 100% since the Permittee uses roll or flow coating applicators on the coil coating lines. Example: Worst case coating for CCL2 is V = 31320 lb. VOC /hr. applied at coaters E= 219.24 lb. VOC /hr. (V) reduced by 99.3%, based on the most recent stack test) O = [(31320-219.24)/31320] X 100 = 99.3%	weighted average mass of VOCs emitted for each calendar month is less than or equal to 0.14 kg/l of coating solids applied, the coil coating line is in compliance. Each monthly calculation is a performance test.		CCL3, and CPL6 was not more than 0.046 kg HAP per liter of solids applied for the 12-month compliance period. (b) Volatile organic compounds (VOC) emissions of 0.28 kilogram (kg) per liter of solids for each calendar month fro coil coating line CPL6 shall be determined according to procedure in 40 CFR 60.463(c)(1). Detailed streamlined compliance determination methods for procedures (a) and (b) are included in Condition D.8.10.

	326 IAC 8-2-4	40 CFR 60, Subpart TT	40 CFR 63, Subpart SSSS	Streamlined Testing
Testing				
(1) One (1) coil coating line CCL2 with an enclosure system, controlled by a thermal oxidizer (2) One (1) coil coating line CCL3 with an enclosure system, controlled by a thermal oxidizer (3) One (1) electro coil prep coating line CPL6	When demonstrating compliance with the Testing or DRE standard, facilities subject to NSPS or NESHAP shall be tested under conditions specified in that applicable provision [326 IAC 3-6]	(1) Method 24 - For coatings, determine the total volatile matter content using Method 24 of 40 CFR part 60, appendix A. The Method 24 determination may be performed by the manufacturer of the coating and the results provided to the applicant. (2) The overall reduction efficiency shall be determined as prescribed in 40 CFR 60.463(c) (2)(i)(A), (B), and (C). Establish the thermal oxidizer's and capture system's VOC emissions as specified by EPA Method 204B Establish overall coating line VOC removal efficiency by comparing the sum of thermal oxidizer and capture system VOC emissions to applied VOC May use the most recently determined overall reduction efficiency for the performance test, providing control system and capture system operating conditions have not changed.	(1) 40 CFR 63.5160(b) - For coatings, determine the total organic HAP and solid contents, using the methods and procedures in 40 CFR 63.5160(b). The 40 CFR 63.5160(b) determination may be performed by the manufacturer of the coating and the results provided to the applicant. (2) Thermal Oxidizer - Conduct a performance test to establish the destruction efficiency of the thermal oxidizer according to the methods and procedures in 40 CFR 63.5160 (d) (iii). Use the data collected during the performance test to calculate and record the average combustion temperature maintained during the performance test. This average combustion temperature is the minimum operating limit for the thermal oxidizer. (3) Conduct a performance test to determine the performance of the capture system according to 40 CFR 63.5160(d)(iii).	(1) 40 CFR 63.5160(b) - For coatings, determine the total organic HAP and solid contents, using the methods and procedures in 40 CFR 63.5160(b). The 40 CFR 63.5160(b) determination may be performed by the manufacturer of the coating and the results provided to the applicant. (2) 40 CFR 63.5160(c) – For coatings, determine the solids content, using 40 CFR 63.5160(c) The 40 CFR 63.5160(c) determination may be performed by the manufacturer of the coating and the results provided to the applicant. (3) Thermal Oxidizer - Conduct a performance test to establish the destruction efficiency of the thermal oxidizer according to the methods and procedures in 40 CFR 63.5160 (d). Use the data collected during the performance test to calculate and record the average combustion temperature maintained during the performance test. This average combustion temperature is the minimum operating limit for the thermal oxidizer. (3) Conduct a performance test to determine the capture efficiency of each capture system according to 40 CFR 63.5160(e). Use the data collected during the performance test to calculate and record the average combustion temperature maintained during the performance test. This average combustion temperature is the minimum operating limit for the thermal oxidizer. Detailed streamlined testing requirements are included in Condition D.8.11 of the permit.

	326 IAC 8-2-4	40 CFR 60, Subpart TT	40 CFR 63, Subpart SSSS	Streamlined Monitoring
Monitoring				
(1) One (1) coil coating line CCL2 with an enclosure system, controlled by a thermal oxidizer (2) One (1) coil coating line CCL3 with an enclosure system, controlled by a thermal oxidizer	When demonstrating compliance with the Monitoring, facilities subject to NSPS or NESHAP shall be monitored under conditions specified in that applicable provision [326 IAC 3-5-1]	(1) A continuous monitoring system shall be installed, calibrated, maintained, and operated on the thermal oxidizer for continuously record the combustion temperature. This system shall have an accuracy of ±2.5oC or ±0.75 percent of the temperature being measured expressed in degrees Celsius, whichever is greater. (2) Record all periods (during actual coating operations) in excess of 3 hours during which the average temperature in the thermal oxidizer used to control VOC emissions from an affected facility remains more than 28oC (50oF) below the temperature at which compliance with the limit was demonstrated during the most recent measurement of thermal oxidizer efficiency. (3) The records required by 40 CFR 60.7 shall identify each such occurrence and its duration.	(1) Thermal oxidizer - Install, calibrate, maintain, and operate temperature monitoring equipment according to manufacturer's specifications. Each temperature monitoring device must be equipped with a continuous recorder. The device must have an accuracy of 1 percent of the temperature being monitored in degrees Celsius, or 1 deg. Celsius, whichever is greater. (2) Capture system monitoring - Develop a capture system monitoring plan containing the information specified in 40 CFR 63.5150(a)(4)(i) and (ii). Monitor the capture system in accordance with CFR 63.5150 (a)(4)(iii). The monitoring plan shall be available for inspection by the IDEM/OAQ upon request. (i) The monitoring plan must identify the operating parameter to be monitored to ensure that the capture efficiency measured during the initial compliance test is maintained, explain why this parameter is appropriate for demonstrating ongoing compliance, and identify the specific monitoring procedures. (ii) The plan also must specify operating limits at the capture system operating parameter value, or range of values, that demonstrates compliance with the standards in 40 CFR 63.5120. The operating limits must represent the conditions indicative of proper operation and maintenance of the capture system. (iii) Conduct monitoring in accordance with the plan. (3) Any deviation from the required operating parameters which are monitored in accordance with 40 CFR 63.5150 (a)(3) and (4), unless otherwise excused, will be considered a deviation from the operating limit.	(1) Thermal oxidizer - Calibrate, maintain, and operate temperature monitoring equipment according to manufacturer's specifications. Each temperature monitoring device must be equipped with a continuous recorder. The device must have an accuracy of 0.75 percent of the temperature being monitored in degrees Celsius, or 1 deg. Celsius, whichever is greater.[40 CFR 63.5150(a)(3)(i)] The Permittee shall collect the combustion temperature data according to 40 CFR 3.5150(a)(3); reduce the data to 3-hour block averages; and maintain the 3-hour average combustion temperature at or above the temperature limit. (2) Capture system monitoring - Develop a capture system monitoring plan containing the information specified in 40 CFR 63.5150(a)(4)(i) and (ii). Monitor the capture system in accordance with CFR 63.5150 (a)(4)(iii). The monitoring plan shall be available for inspection by the IDEM/OAQ upon request. (i) The monitoring plan must identify the operating parameter to be monitored to ensure that the capture efficiency measured during the initial compliance test is maintained, explain why this parameter is appropriate for demonstrating ongoing compliance, and identify the specific monitoring procedures. (ii) The plan also must specify operating limits at the capture system operating parameter value, or range of values, that demonstrates compliance with the standards in 40 CFR 63.5120. The operating limits must represent the conditions indicative of proper operation and maintenance of the capture system. (iii) Conduct monitoring in accordance with the plan.

	326 IAC 8-2-4	40 CFR 60, Subpart TT	40 CFR 63, Subpart SSSS	Streamlined Monitoring
Monitoring				
				(3) Any deviation from the required operating parameters which are monitored in accordance with 40 CFR 63.5150 (a)(3) and (4), unless otherwise excused, will be considered a deviation from the operating limit. Detailed streamlined monitoring requirements are included in Condition D.8.12 of the permit.

	326 IAC 8-2-4	40 CFR 60, Subpart TT	40 CFR 63, Subpart SSSS	Streamlined Record Keeping
Record Keeping				
(1) One (1) coil coating line CCL2 with an enclosure system, controlled by a thermal oxidizer (2) One (1) coil coating line CCL3 with an enclosure system, controlled by a thermal oxidizer (3) One (1) electro coil prep coating line CPL6	When demonstrating compliance with the Monitoring, facilities subject to NSPS or NESHAP shall be monitored under conditions specified in that applicable provision [326 IAC 3-5-1]	(1) The VOC content of each coating material and solvent used less water. (2) The amount of coating material and solvent used on a monthly basis. (3) The total VOC usage for each month. (4) The continuous temperature records (on a three hour average basis) for the thermal oxidizer and the average temperature used to demonstrate compliance during the most recent compliance stack test. (5) Maintain at the source for a period of at least two years records of all data and calculation used to determine monthly VOC emissions from each affected source and to determine the monthly emission limit, where applicable. (6) Maintain at the source daily records of the	Maintain the records in accordance with 40 CFR 63.10(b)(1): (1) Records of compliance option used on each of the coating lines and the time periods (beginning and ending dates and times) used each option. (2) Records specified in 40 CFR 63.10(b)(2) of all measurements needed to demonstrate compliance, including: (i) Control device and capture system operating parameter data in accordance with 40 CFR 63.5150(a)(3), and (4); (ii) Organic HAP content data for the purpose of demonstrating compliance in accordance with 40 CFR 63.5160(b); (iii) Solids content data for the purpose of demonstrating compliance in accordance with 40 CFR 63.5160(c); (iv) Overall control efficiency determination using a comparison of capture system and thermal oxidizer VOC emissions to applied VOC in accordance with 40 CFR 63.5160(d) (iii), and (v) Material usage, HAP usage, and solids usage and compliance demonstrations using these data in accordance with 40 CFR 63.5170(a), (b), and (d); and (3) Records specified in 40 CFR 63.10(b)(3).	Maintain the records in accordance with 40 CFR 63.10(b)(1): (1) Records of compliance option used on each of the coating lines and the time periods (beginning and ending dates and times) used each option. (2) Records specified in 40 CFR 63.10(b)(2) of all measurements needed to demonstrate compliance, including: (i) Control device and capture system operating parameter data in accordance with 40 CFR 63.5150(a)(3), and (4); (ii) Organic HAP content data for the purpose of demonstrating compliance in accordance with 40 CFR 63.5160(b); (iii) Solids content data for the purpose of demonstrating compliance in accordance with 40 CFR 63.5160(c); (iv) Overall control efficiency determination using a comparison of capture system and thermal oxidizer VOC emissions to applied VOC in accordance with 40 CFR 63.5160(d) (iii), and (v) Material usage, HAP usage, and solids usage and compliance demonstrations using these data in accordance with 40 CFR 63.5170(a), (b), and (d); and (3) Records specified in 40 CFR 63.10(b)(3).

	326 IAC 8-2-4	40 CFR 60, Subpart TT	40 CFR 63, Subpart SSSS	Streamlined Record Keeping
Record Keeping				
		incinerator combustion temperature.		Detailed streamlined record keeping requirements are included in Condition D.8.13 of the permit.

	326 IAC 8-2-4	40 CFR 60, Subpart TT	40 CFR 63, Subpart SSSS	Streamlined Reporting
Reporting				
(1) One (1) Electro coil prep coating line CPL6 (2) One (1) coil coating line CCL2 with an enclosure system, controlled by a thermal oxidizer (3) One (1) coil coating line CCL3 with an enclosure system, controlled by a thermal oxidizer	When demonstrating compliance with the Monitoring, facilities subject to NSPS or NESHAP shall be monitored under conditions specified in that applicable provision [326 IAC 3-5-1]	(1) Identify, record and submit a written report to the U.S.E.P.A Administrator every calendar quarter of each instance in which the volume weighted average of the total mass of the VOCs emitted per volume of applied coating solids is greater than the limit specified under 40 CFR 60.462. If no such instances have occurred during a particular quarter, a report stating this shall be submitted to the U.S.E.P.A Administrator semiannually. (2) Submit reports at the frequency specified in 40 CFR 60.7(c) when the incinerator temperature drops as defined under 40 CFR 60.464c). If no such periods occur state this in the report.	(1) Submit a Notification of Performance Test as specified in 40 CFR 63.7 and 63.9(e) if complying with the emission standard using a control device. This notification and the site-specific test plan required under 40 CFR 63.7(c)(2) must identify the operating parameter to be monitored to ensure that the capture system performance measured during the performance test is maintained. (2) Submit a Notification of Compliance Status as specified in 40 CFR 63.9(h). Submit the Notification of Compliance Status no later than 30 calendar days following the end of the initial 12-month compliance period described in 40 CFR 63.5130. (3) Submit performance test reports as specified in 40 CFR 63.10(d)(2) if using a control device to comply with the emission standards (4) Submit start-up, shutdown, and malfunction reports as specified in 40 CFR 63.10 (d) (5) if using a control devices to comply with 40 CFR 63, subpart SSSS. Separate start-up, shutdown, or malfunction reports are not required if the information is included in the report specified in the following paragraph (5) (5) Submit semi-annual compliance reports containing the information specified in 40 CFR 63.5180(g)(i) and (ii). (6) Submit, for each deviation occurring at an affected source where CEMS is not used to comply with the standards, the semi-annual compliance report containing the information in paragraphs 40 CFR 63.5180(g)(2)(i) through (iv) and the information in 40 CFR	(1) Submit a Notification of Performance Test as specified in 40 CFR 63.7 and 63.9(e). This notification and the site-specific test plan required at 40 CFR 63.7(c)(2) shall identify the operating parameter to be monitored to ensure that the capture system performance measured during the performance test is maintained. (2) Submit a Notification of Compliance Status as specified in 40 CFR 63.9(h). Submit the Notification of Compliance Status no later than 30 calendar days following the end of the initial 12-month compliance period described in 40 CFR 63.5130. (3) Submit performance test reports as specified in 40 CFR 63.10(d)(2). (4) Submit start-up, shutdown, and malfunction reports as specified in 40 CFR 63.10 (d) (5) if using a control device to comply with emission standards. Separate start-up, shutdown, or malfunction reports are not required if the information is included in the report specified in the following paragraph (5). (5) Submit semi-annual compliance reports containing the information specified in 40 CFR 63.5180(g)(i) and (ii). (6) Submit, for each deviation occurring at a coil coating line, the semi-annual compliance report containing the information in paragraphs 40 CFR 63.5180(g)(2)(i) through (iv) and the information in 40 CFR 63.5180 (h)(1)through (3). (7) Identify, record and submit a written report to the U.S.E.P.A Administrator every calendar quarter of each instance in which the volume weighted average of the total mass of the VOCs emitted per volume of applied coating solids fro coil coating line is greater than the limit specified under 40

			63.5180 (h)(1)through (3).	CFR 60.462. If no such instances have occurred during a particular quarter, a report stating this shall be submitted to the U.S.E.P.A Administrator and IDEM, OAQ semiannually. Detailed streamlined reporting requirements are included in Condition D.8.14 of the permit.

Additional Conditions Applicable for the coil coating line CPL6, with respect to 40 CFR 60, Subpart TT

(a) The Permittee shall compute and record the average VOC content of coating applied based on either formulation data supplied by the manufacturer, by an analysis of each coating as per EPA Method 24, or by other means approved by the Board, or according to 40 CFR 60.464(a).

(b) The Permittee shall determine the average mass of VOC's used per unit volume of coating solids applied (kilograms VOC per liter of coating solids) for each calendar month. These monthly rates shall be documented by a material balance based on records of the formulation of the coating received, hours of operation, actual coating usage, and an analysis of the amount of VOC removed in the wastewater, according to 40 CFR 60.463. The material balance data may include emissions data, provided the requirements of Condition C.8 are met.

(c) **Applicability of 40 CFR 63, Subpart EEEE**

This NESHAPS becomes applicable, effective February 5, 2007, unless a 1 year extension is obtained pursuant to 40 CFR 63.6. The emission units to which this standard will apply, will be the 13 storage tanks in the above ground tank farm, the underground waste solvents and coatings storage tank, and the unload, dump, and day tanks for the gold electrocoat coating. The Pemittee is presently evaluating strategies for complying with this NESHAP.

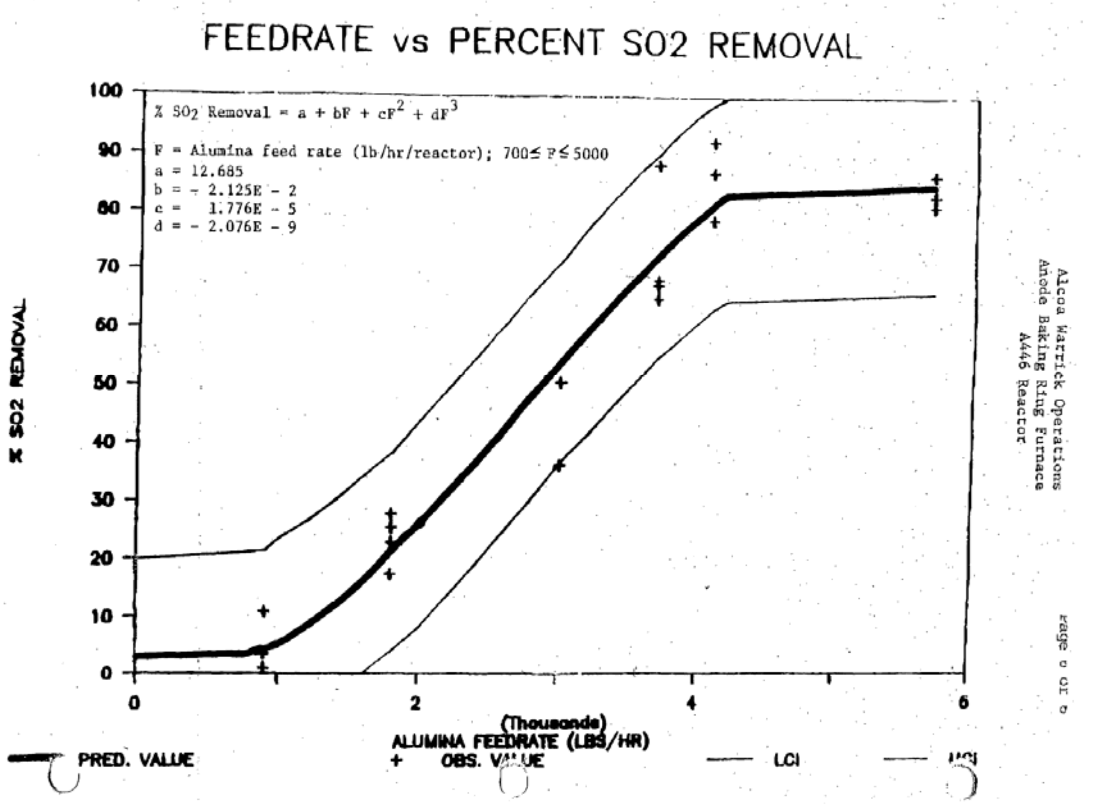
The significant permit modification application shall be submitted no later than 45 days after IDEM grants the extension for the compliance deadline as provided by 40 CFR 63.6.

Conclusion

The operation of this Coating plant shall be subject to the conditions of this Part 70 permit 173-6627-00007.

ATTACHMENT A (See Condition D.4.12(c)(2)

FIGURE 1



APPENDIX B — Stack Parameters for Title V Permit Emission Units

D Section	Emission Unit ID #	Stack Height (ft.)	Stack diameter (ft.)	Exhaust Gas Flowrate ACFM	Exhaust Gas Temperature F
Alumina Handling	60.2	Ground Level	1.5	8400	120
	60.3	Ground Level	1.5	8400	120
	60.8	47	1.5	2200	80
	61A.1	83	1X1.17	3500	80
	Tank 62	90	1.17 X 1.33	3300	70
	BC-24	25	0.33	710	70
	61B.1	7	0.38	1000	70
	140.1	13	0.83	1000	70
	104.1	39	2	10000	70
	141A NE	13	1.5	2400	70
	141A NW	13	1.5	1250	70
	141A SE	13	1.5	2400	70
	141A SW	13	1.5	1900	70
	141B	97	1	2400	120
	141C	97	1	2400	120
	144.1	82	4.58	14800	70
	160B2.16	30	1.75	1500	70-120
					To be verified later.
	160C1.37	14	1.68	6400	70-120
	112A.1	53	3.4	26900	70
	161B5.37	17	1.6	6400	70-120
	16B6.16	17	1.6	6400	70-120
	166	86	2.65	7000	70
Potlines and potline support	160B2.1-160B2.14	82	See comments	490000	200
		There are 14 stacks occupying a 2400 square ft. area. Each stack is 6.3 ft.dia)			
	101M.1	72	1100 X 60	2,080,000	155
	102M.1	72	1100 X 60	2,080,000	155
	160C1.1-160C1.36	71	See comments	480000	200
		There are 36 stacks occupying a 8100 square ft. area. Each stack is 3.59 ft.dia)			
	103M.1	72	1100 X 60	2,080,000	155
	104M.1	72	1100 X 60	2,080,000	155
	GTC	199	20	1,000,000	170

	105M.1	72	1100 X 60	2,242,000	155
	106M.1	72	1100 X 60	2,242,000	155
	107M.1	72	1100 X 60	2,180,000	155
	108M.1	72	1100 X 60	2,180,000	155
	161B5.1-161B5.36	71	See comments	490000	200
	There are 36 stacks occupying a 17,000 square ft. area. Each stack is 3.59 ft.dia)				
	109M.1	72	1100 X 60	2,124,000	155
	110M.1	72	1100 X 60	2,124,000	155
	161B6.1-161B6.36	71	See comments	480000	200
	There are 36 stacks occupying a 17,000 square ft. area. Each stack is 3.59 ft.dia.)				
	111M.1	72	1100 X 60	2,786,000	155
	112M.1	72	1100 X 60	2,786,000	155
	136.4	60	6	70000	70
	110.1	45	1.7	10000	100
	110.2	70	4	55000	70
Green anode plant	254.7	94	2.5	18000	70
	254.4	94	1.5	8000	70
	254.5	94	1.5	1200	70
	254.6	94	1.25	4500	70
	254.8	103	1.25	3000	70
	254.13	70	5.47	70000	100
	251A	40	0.5	NA	77
	251B	40	0.5	NA	77
	251C	40	0.5	NA	77
Anode bake furnace	265D.1 - D.3	95	See comments	34,000	172
	There are 3 stacks occupying a 1,244 square ft. area. Each stack is 2.19 ft.dia.)				
	265D.4 - D.6	95	See comments	34,000	172
	There are 3 stacks occupying a 1,244 square ft. area. Each stack is 2.19 ft.dia.)				
	265D.8	95	3.85	34,000	172
	265D.7	78	1.08 X 1.42	30	100
	265D.9	32	0.58 X 0.88	1750	70
	265D.10	106	1.17 X 1.33	50	70
	265D.11	5	0.92 X 1.08	4300	120
	265J.1	105	3.83	34000	450
Spent anode plant	132.9	40	2	12500	70
	132.7	40	4.75	56,980	70

	132.6	36	1.55	10,200	100
Ingot plant	134.62	126	5.21	36,300	390
	134.63	126	4	19800	342
	134.64	126	5.21	36,300	390
	134.66	126	4	19800	342
	134.67	126	5.21	36,300	390
	134.33	126	4	37,600	590
	134.35	126	4.5	29,280	380
	134.36	126	4	37,600	590
	134.38	126	4.5	29,280	380
	134.39	126	4	37,600	590
	134.4	126	4	37,600	590
	134.41	126	4.5	29,280	380
	134.42	126	4	37,600	590
	134.43	126	4.5	29,280	380
	134.44	126	4	37,600	590
	134.8	126	5.7	39,850	655
	134.83	126	3	12,800	540
	134.84	126	5.7	39,850	655
	134.87	126	3	12,800	540
	134.89	126	5.7	39,850	655
	134.45	126	5.33	37,600	590
	134.46	126	2.42	29,280	380
	134.71	101	3.42	37,600	590
	134.73	101	5	12,800	540
	134.75	101	5	12,800	540
	134.76	101	3.42	37,600	590
	134.15	96	5	36,700	600
	134.16	96	2.5	100,000	600
	134.22	96	2.5	55,000	1000
	134.3	96	2.5	55,000	1000
	134.68	101	2	21,000	70

	134.77	101	2	12,000	70
	134.69	50	5	4500	70
		To be verified			
	134.7	50	2	4500	70
	134V.1	62	3	27,000	70
	134V.2	62	3	36,000	70
	134.11	83	4.4	28,500	440
	134.24	83	4.4	28,500	440
	133D.1	88	2.58	22,150	85
	133D.2	88	2.58	22,150	85
	133D.3	78	4.81	41,250	70
	133D.4	78	4.63	41,250	70
Rolling	811.2 to 811.43	74	3.67	15,435	550
	(See comments)	Stack parameters given are typical for one of the 42 pre-heat furnaces			
	811.1	77	5	139,000	90
	814.1	76	8	114,000	90
	816.4 to 816.16	63	3	34,000	130
	(See comments)	Stack parameters given are typical for one of the 13 annealing furnaces			
	816.21	61	6.5	192,000	90
	816.23	61	6.5	207,000	70
	816.24	85	3.5	15,000	110
	820.4 to 820.6	82	2.67	34,000	130
	816B1, 816B2, and 816B3	50	1.83	69,000	500
	(See comments)	Stack parameters given are typical for one of the 3 boilers			
Coil Coating	819.7	116	1.67	1000	90
	819.13 - 819.15	93	4	18,000	100
	819.16 to 816.19				
	(See comments)	Storage tank exhausts			
	826.1	116	8	176,525	800
	826.2	116	5	28,000	90
	826.5	116	8	184,355	833
	826.6	116	5.38	26,400	90
	847.2 & 847.3	20	2	6300	77
	847.1	25	0.25		77
		(Storage tank)			

	849.8	51			77
and 849B to 849E	Storage tank exhausts				
	879	35	1	565	77