



Mitchell E. Daniels, Jr.
Governor

Thomas W. Easterly
Commissioner

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

TO: Interested Parties / Applicant

DATE: May 18, 2005

RE: Alcoa Advanced Transportation Systems / 033-20978-00056

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

Notice of Decision: Approval - Registration

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to IC 4-21.5-3-4(d) this order is effective when it is served. When served by U.S. mail, the order is effective three (3) calendar days from the mailing of this notice pursuant to IC 4-21.5-3-2(e).

If you wish to challenge this decision, IC 4-21.5-3-7 requires that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Room 1049, Indianapolis, IN 46204, **within eighteen (18) calendar days of the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

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

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

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

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

Enclosures
FN-REGIS.dot 1/10/05



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We make Indiana a cleaner, healthier place to live.

Mitchell E. Daniels, Jr.
Governor

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Commissioner

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May 18, 2005

Mr. Axel Heinrich
Alcoa Advanced Transportation Systems, Indiana Assembly and Fabricating Center
1101 Oren Drive
Auburn, Indiana 46706-2674

Re: Registration Revision
033-20978-00056

Dear Mr. Heinrich:

Alcoa Advanced Transportation Systems, Indiana Assembly and Fabricating Center, located at 1101 Oren Drive, Auburn, Indiana submitted an application on March 23, 2005 for the construction and operation of the following new emissions units along with existing permitted emission units used in the automotive aluminum parts production. Based on the data submitted the source will remain a registered source, pursuant to the provisions in 326 IAC 2-5.5:

New Emission Units:

- (a) GMX 365/367 Line Operation with a maximum throughput of 29,471 tons of aluminum per year, which includes the following operations:
 - (1) Four (4) robotic weld cells, with a maximum weld rod consumption of 273,750 pounds per year;
 - (2) Machining operation with a maximum throughput of 29,471 tons of aluminum per year. This operation includes CNC machines, metal saws, deburr machines, drill machines with dust collectors, and punch/shear presses;
 - (3) One (1) natural gas fired parts washer with a heat input capacity of 0.60 million British thermal units per hour (mmBtu/hr) which will utilize non VOC detergent and water only.

- (b) Karmann Parts Production Line with a maximum throughput of 832 tons of aluminum per year, which includes the following operations:
 - (1) Welding operation – one (1) robotic weld Cell and two (2) TIG welder cribs with a maximum total weld rod consumption of 4,710 pounds per year;
 - (2) Machining operation with a maximum throughput of 832 tons of aluminum per

year. This operation includes CNC machine, deburr machines, mill and grinding machines, drill machines, and press machine.

- (c) Solara Parts Production Line which includes pierce stations and mill machines for machining operation with a maximum throughput of 225 tons of aluminum per year.
- (d) Inalfa Parts Production Line which includes pierce and shear machines, saws and drill machines with a maximum throughput of 1,654 tons of aluminum per year.

Existing Permitted Emission Units:

- (a) One (1) natural gas-fired billet heater # 1 for aluminum press # 1, with a maximum heat input capacity 10.5 mmBtu/hr.
- (b) One (1) natural gas-fired billet oven # 2 for aluminum press # 2, with a maximum heat input capacity of 10.5 mmBtu/hr.
- (c) One (1) natural gas-fired billet heater # 3 for aluminum press # 2, with a maximum heat input capacity of 4.5 mmBtu/hr.
- (d) Twenty-two (22) natural gas-fired space heaters, with a total maximum heat input capacity of 16.44 mmBtu/hr.
- (e) An aluminum extrusion facility, including three (3) aluminum presses, involved in the following operations:
 - (1) Press saw machining, with a maximum total throughput of 32,360 tons of aluminum per year.
 - (2) Machining operations (currently on engine cradle parts), with a maximum total throughput of 34,633 tons of aluminum per year.
 - (3) Machining operations (currently on non-engine cradle parts), with a maximum total throughput of 11,323 tons of aluminum per year.
 - (4) One (1) "Toyota Bumperline" with a maximum production capacity of 12,600 bumpers per week, consisting of two (2) bending machines, a machining unit with two (2) aluminum piercing stations.
- (f) Welding operations, identified as 10A, 10B, 20A, 20B, 30A through 30D, 40A through 40D, and three (3) manual TIG repair welding booths, with a maximum total annual rod consumption of 319,127 lb (36.4 lb/hr).
- (g) Plant maintenance, quality control, and die correction facility (which includes a small non-production cold cleaner degreaser).
- (h) Two (2) pre-machining washers, identified as North Washer and South Washer, and one (1) parts washer, using 126 gallons per year of inorganic detergent.

The following conditions shall be applicable:

(1) Opacity Limitations [326 IAC 5-1-2]

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

- (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of 15 minutes (60 readings) in a 6-hour period 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.

(2) Cold Cleaner Degreaser Operation and Control [326 IAC 8-3-5]

- (a) Pursuant to 326 IAC 8-3-5 (Cold Cleaner Degreaser Operation and Control), the Permittee shall meet the following control equipment requirements when operating the organic solvent cleaning unit associated with the die correction facility:
- (1) equip the degreaser with a cover. The cover must be designed so that it can be easily operated with one (1) hand if:
 - (A) the solvent volatility is greater than two (2) kilopascals (fifteen (15) millimeters of mercury or three-tenths (0.3) pounds per square inch) measured at thirty-eight (38 0C) (one hundred degrees Fahrenheit (100 0F));
 - (B) the solvent is agitated; or
 - (C) the solvent is heated.
 - (2) Equip the degreaser with a facility for draining cleaned articles. If the solvent volatility is greater than four and three-tenths (4.3) kilopascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight (38 0C) (one hundred degrees Fahrenheit (100 0F) then the drainage facility must be internal such that articles are enclosed under the cover while draining. The drainage facility may be external for applications where an internal type cannot fit into the cleaning system.
 - (3) Provide a permanent, conspicuous label which lists the operating requirements outlined in subsection (b).
 - (4) The solvent spray, if used, must be a solid, fluid stream and shall be applied at a pressure which does not cause excessive splashing.
 - (5) Equip the degreaser with one (1) of the following control devices if the solvent volatility is greater than four and three -tenths (4.3) kilopascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight (38 0C) (one hundred degrees Fahrenheit (100 0F) or if the solvent is heated to a temperature greater than forty-eight and nine-tenths degrees Celcius (48.9 0C) (One hundred twenty degrees Fahrenheit (120 0F):
 - (A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.
 - (B) A water cover when solvent used is insoluble in, and heavier than, water.
 - (C) Other systems of demonstrated equivalent control such as a refrigerated chiller or carbon adsorption. Such systems shall be submitted to the U. S. EPA as a SIP revision.
- (b) The Permittee shall be required to meet the following operating requirements when operating the cold cleaning facility of a cold cleaner degreaser facility and shall ensure that the operating requirements are met:
- (1) close the cover whenever articles are not being handled in the degreaser.
 - (2) drain cleaned articles for at least fifteen (15) seconds or until dripping ceases.
 - (3) store waste solvent only in covered containers and prohibit the disposal or transfer of waste solvent in any manner in which greater than twenty percent (20%) of the waste solvent by weight could evaporate.

An authorized individual shall provide an annual notice to the Office of Air Quality that the source is in operation and in compliance with this registration pursuant to 326 IAC 2-5.5-4(a)(3). The annual notice shall be submitted to:

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

no later than March 1 of each year, with the annual notice being submitted in the format attached.

An application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Quality (OAQ) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

Sincerely,

Original signed by
Nisha Sizemore, Section Chief
Office of Air Quality

APD
cc: File - Dekalb County
Dekalb County Health Department
Air Compliance – Doyle Houser
Northern Regional Office
Permit Tracking
Technical Support and Modeling
Compliance Data Section

<h2>Registration Annual Notification</h2>

This form should be used to comply with the notification requirements under 326 IAC 2-5.5-4(a)(3).

Company Name: Alcoa Advanced Transportation Systems, Indiana Assembly and Fabricating Center
Address: 1101 Oren Drive
City: Auburn, IN 46706-2674
Authorized individual: Axel Heinrich
Phone #: (260) 925-7794
Registration Revision #: 033-20978-00056

I hereby certify that Alcoa Advanced Transportation Systems, Indiana Assembly and Fabricating Center is still in operation and is in compliance with the requirements of Registration Revision No. 033-20978-00056.

Name (typed):
Title:
Signature:
Date:

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

Technical Support Document (TSD) for a Registration Revision

Source Background and Description

Source Name:	Alcoa Advanced Transportation Systems, Indiana Assembly and Fabricating Center
Source Location:	1101 Oren Drive, Auburn, Indiana 46706
County:	Dekalb
SIC Code:	3354
Registration Revision No.:	033-20978-00056
Permit Reviewer:	Aida De Guzman

The Office of Air Quality (OAQ) has reviewed an application from Alcoa Advanced Transportation Systems, Indiana Assembly and Fabricating Center, formerly known as RAMCO Manufacturing Company, relating to the construction and operation of new and existing emission units used in the automotive aluminum parts production.

New Emission Units:

- (a) GMX 365/367 Line Operation with a maximum throughput of 29,471 tons of aluminum per year, which includes the following operations:
 - (1) Four (4) robotic weld cells, with a maximum weld rod consumption of 273,750 pounds per year;
 - (2) Machining operation with a maximum throughput of 29,471 tons of aluminum per year. This operation includes CNC machines, metal saws, deburr machines, drill machines with dust collectors, and punch/shear presses;
 - (3) One (1) natural gas fired parts washer with a heat input capacity of 0.60 million British thermal units per hour (mmBtu/hr) which will utilize non VOC detergent and water only.
- (b) Karmann Parts Production Line with a maximum throughput of 832 tons of aluminum per year, which includes the following operations:
 - (1) Welding operation – one (1) robotic weld Cell and two (2) TIG welder cribs with a maximum total weld rod consumption of 4,710 pounds per year;
 - (2) Machining operation with a maximum throughput of 832 tons of aluminum per year. This operation includes CNC machine, deburr machines, mill and grinding machines, drill machines, and press machine.
- (c) Solara Parts Production Line which includes pierce stations and mill machines for machining operation with a maximum throughput of 225 tons of aluminum per year.
- (d) Inalfa Parts Production Line which includes pierce and shear machines, saws and drill machines with a maximum throughput of 1,654 tons of aluminum per year.

Existing Permitted Emission Units:

- (a) One (1) natural gas-fired billet heater # 1 for aluminum press # 1, with a maximum heat input capacity 10.5 mmBtu/hr.
- (b) One (1) natural gas-fired billet oven # 2 for aluminum press # 2, with a maximum heat input capacity of 10.5 mmBtu/hr.
- (c) One (1) natural gas-fired billet heater # 3 for aluminum press # 2, with a maximum heat input capacity of 4.5 mmBtu/hr.
- (d) Twenty-two (22) natural gas-fired space heaters, with a total maximum heat input capacity of 16.44 mmBtu/hr.
- (e) An aluminum extrusion facility, including three (3) aluminum presses, involved in the following operations:
 - (1) Press saw machining, with a maximum total throughput of 32,360 tons of aluminum per year.
 - (2) Machining operations (currently on engine cradle parts), with a maximum total throughput of 34,633 tons of aluminum per year.
 - (3) Machining operations (currently on non-engine cradle parts), with a maximum total throughput of 11,323 tons of aluminum per year.
 - (4) One (1) "Toyota Bumperline" with a maximum production capacity of 12,600 bumpers per week, consisting of two (2) bending machines, a machining unit with two (2) aluminum piercing stations.
- (f) Welding operations, identified as 10A, 10B, 20A, 20B, 30A through 30D, 40A through 40D, and three (3) manual TIG repair welding booths, with a maximum total annual rod consumption of 319,127 lb (36.4 lb/hr).
- (g) Plant maintenance, quality control, and die correction facility (which includes a small non-production cold cleaner degreaser).
- (h) Two (2) pre-machining washers, identified as North Washer and South Washer, and one (1) parts washer, using 126 gallons per year of inorganic detergent.

Existing Approvals

The source has been operating under previous approvals including, but not limited to, the following:

- (a) Registration No.: 033-4962-00056, issued on November 21, 1995;
- (b) Re-Registration No.: 033-17352-00056, issued on July 23, 2003;
- (c) Re-Registration No.: 033-18079-00056, issued on October 3, 2003.

Enforcement Issue

There are no enforcement actions pending.

Recommendation

The staff recommends to the Commissioner that the construction and operation be approved. This recommendation is based on the following facts and conditions:

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

An application for the purposes of this review was received on March 23, 2005; with additional information received on April 20, 2005 and April 26, 2005.

Emission Calculations

See pages 1 through 7 TSD Appendix A for detailed emission calculations.

Potential to Emit of the Source Before Controls

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

Pollutant	Potential to Emit (tons/yr)
PM	2.92
PM-10	4.86
SO ₂	0.1
VOC	15.11
CO	15.6
NO _x	18.4

HAPs	Potential to Emit (tons/yr)
Hexane	3.3E-01
Formaldehyde	1.378E-02
Chromium	2.57E-04
Cadmium	2.02E-04
Nickel	3.85E-04
Manganese	8.0E-02
Worst Single HAP	3.3E-01
Total	4.2E-01

- (a) The source will remain a registered source, pursuant to 326 IAC 2-5.5, as the potential to emit (as defined in 326 IAC 2-7-1(29)) of VOC and NO_x are each greater than 10 tons per year but less than 25 tons per year. Therefore, a registration revision will be issued.

County Attainment Status

The source is located in Dekalb County.

Pollutant	Status
PM2.5	attainment
PM-10	attainment
SO ₂	attainment
NO ₂	attainment
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 emissions and NOx are considered when evaluating the rule applicability relating to the ozone standards. DeKalb County has been designated as attainment or unclassifiable for the ozone standards. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
- (b) DeKalb County has been classified as unclassifiable or attainment for PM2.5. U.S. EPA has not yet established the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 for PM 2.5 emissions. Therefore, until the U.S.EPA adopts specific provisions for PSD review for PM2.5 emissions, it has directed states to regulate PM10 emissions as surrogate for PM2.5 emissions. See the State Rule Applicability for the source section.
- (c) Dekalb County has been classified as attainment or unclassifiable for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability for the source section.

Source Status

Existing Source PSD Definition (emissions after controls, based on 8760 hours of operation per year at rated capacity):

Pollutant	Emissions (tons/yr)
PM	2.92
PM-10	4.86
SO ₂	0.1
VOC	15.11
CO	15.6
NO _x	18.4
Single HAP	3.3E-01
Combination HAPs	4.2E-01

Note: The dust collectors for the various equipment used in the machining operation were not considered in this PTE table since the PTE from this operation is so small. The dust collectors are installed to collect metal chips which do not get airborne because of their weight.

- (a) This existing source is **not** a major stationary source because no attainment pollutant is emitted at a rate of 250 tons per year or greater and it is not in one of the 28 listed source categories. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This existing source is not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

- (a) each criteria pollutant is less than 100 tons per year,
- (b) a single hazardous air pollutant (HAP) is less than 10 tons per year, and
- (c) any combination of HAPs is less than 25 tons per year.

This status is based on all the air approvals issued to the source.

Federal Rule Applicability

- (a) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included in this permit.

- (b) The National Emission Standards for Hazardous Air Pollutants (NESHAP) (326 IAC 12 and 40 CFR Part 63)

40 CFR Part 63, Subpart T Halogenated Solvent Cleaning (40 CFR 63, Subpart T). This rule is not applicable to this source since the source does not use any halogenated solvents for the degreasing operation.

State Rule Applicability – Entire Source

- (a) 326 IAC 2-2 (Prevention of Significant Deterioration)
The potential to emit of all criteria pollutants from this source is less than 250 tons per year, and it is not one of the twenty-eight (28) listed source categories. Therefore, 326 IAC 2-2 does not apply.
- (b) 326 IAC 2-6 (Emission Reporting)
This source is located in Dekalb County and the potential to emit of all pollutants are less than one hundred (100) tons per year. Therefore, 326 IAC 2-6 does not apply.
- (c) 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))
The operation of this aluminum parts production facility will emit less than 10 tons per year of a single HAP or 25 tons per year of a combination of HAPs. Therefore, 326 IAC 2-4.1 does not apply.
- (d) 326 IAC 5-1 (Visible Emissions 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

- (a) 326 IAC 6-3-2 (Process Operations)
- (1) The potential to emit of PM from the machining operations is less than 0.551 pounds per hour. Therefore, the various machining operations are exempt from the requirements of 326 IAC 6-3.
 - (2) The potential to emit of PM from the welding operation is less than 0.551 pounds per hour. Therefore, the welding operation is exempt from the requirements of 326 IAC 6-3.
- (b) 326 IAC 8-3-5 (Cold Cleaner Degreaser Operation and Control)
- (1) The new one (1) natural gas-fired parts washer for the GMX 365/367 Line is not subject to 326 IAC 8-3-5, as it will use non organic detergent and water for cleaning. Therefore, it is exempt from the requirements of 326 IAC 8-3-5.
 - (2) The two (2) existing pre-machining washers for the Toyota bumperline do not use organic solvents, and are not subject to the requirements of 326 IAC 8-3-5.
 - (3) The organic solvent cleaning operations associated with the plant maintenance, quality control, and die correction facility were installed after July 1, 1990, and are cold cleaner degreasers without remote solvent reservoirs. Therefore, these cleaning operations are subject to 326 IAC 8-3-5.

Pursuant to 326 IAC 8-3-5:

- (a) the Permittee shall meet the following control equipment requirements when operating the organic solvent cleaning unit associated with the die correction facility:
 - (A) Equip the degreaser with a cover. The cover must be designed so that it can be easily operated with one (1) hand if:
 - (i) the solvent volatility is greater than two (2) kilopascals (fifteen (15) millimeters of mercury or three-tenths (0.3) pounds per square inch) measured at thirty-eight (38 °C) (one hundred degrees Fahrenheit (100 °F));
 - (ii) the solvent is agitated; or
 - (iii) the solvent is heated.
 - (B) Equip the degreaser with a facility for draining cleaned articles. If the solvent volatility is greater than four and three-tenths (4.3) kilopascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight (38 °C) (one hundred degrees Fahrenheit (100 °F)) then the drainage facility must be internal such that articles are enclosed under the cover while draining. The drainage facility may be external for applications where an internal type cannot fit into the cleaning system.
 - (C) Provide a permanent, conspicuous label which lists the operating requirements outlined in subsection (b).
 - (D) The solvent spray, if used, must be a solid, fluid stream and shall be applied at a pressure which does not cause excessive splashing.
 - (E) Equip the degreaser with one (1) of the following control devices if the solvent volatility is greater than four and three-tenths (4.3) kilopascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight (38 °C) (one hundred degrees Fahrenheit (100 °F)) or if the solvent is heated to a temperature greater than forty-eight and nine-tenths degrees Celsius (48.9 °C) (One hundred twenty degrees Fahrenheit (120 °F)):
 - (i) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.
 - (ii) A water cover when solvent used is insoluble in, and heavier than, water.
 - (iii) Other systems of demonstrated equivalent control such as a refrigerated chiller or carbon adsorption.
- (b) The Permittee shall be required to meet the following operating requirements when operating the cold cleaning facility:
 - (A) Close the cover whenever articles are not being handled in the degreaser.
 - (B) Drain cleaned articles for at least fifteen (15) seconds or until dripping ceases.
 - (C) Store waste solvent only in covered containers and prohibit the disposal or transfer of waste solvent in any manner in which greater than twenty percent (20%) of the waste solvent by weight could evaporate.
- (c) 326 IAC 8-1-6 (VOC Rules: General Reduction Requirements)
The potential VOC emissions from all emission units at this source are less than 25 tons per year. Therefore, 326 IAC 8-1-6 does not apply.

Conclusion

The construction and operation of this aluminum parts production facility shall be subject to the conditions of the **Registration Revision No. 033-20978-00056**.

**Appendix A: Emissions Calculations
Machining Operation**

Company Name: Alcoa ATS Indiana AFC
Address City IN Zip: 1101 Oren Drive, Auburn, Indiana 46706
Registration Revision No.: 033-20978
Plt ID: 033-00056
Reviewer: Aida De Guzman
Date Application Received: 23-Mar-05

Operations	Max. Throughput	Unit	Emission Factor (lb/ton)	VOC PTE
Existing machining operations	78315	tons/yr	0.2478	9.70
New Machining operations				
GMX 365/367 machining	29471	tons/yr	0.2478	3.65
Karman part line machining	832	tons/yr	0.2478	0.10
Solara part line machining	225	tons/yr	0.2478	0.03
Inalfa part line amchining	1654	tons/yr	0.2478	0.20
Totals	110,497	tons/yr		13.69

Note: Ef was based on assuming 10% VOC is contained in all materials used in machining operations divided by the total aluminum machined in 2002. This 0.2478 lb/ton is worse than assuming 100% flash off from the VOC contained in the materials used in machining, since only 1 material contains VOC and other materials contain VOC at negligible amount (as stated in the Material Safety Data Sheets)

Appendix A: Emissions Calculations		Page 2 of 7 TSD App A	
	Machining Operation		
Company Name:	Alcoa ATS Indiana AFC		
Address City IN Zip:	1101 Oren Drive, Auburn, Indiana 46706		
Registration Revision No.:	033-20978		
Plt ID:	033-00056		
Reviewer:	Aida De Guzman		
Date Application Received:	23-Mar-05		
	Maximum	EMISSION FACTORS	EMISSIONS
	Throughput	(lb Al/ton)	(ton/yr)
PROCESSS	(tons Aluminum/yr)	PM = PM10	PM = PM10
Existing Emission Units			
Machining	78315	0.0045	0.176
New Emission Units			
GMX Parts Machining	29471	0.0045	0.066
Karmann Parts Machining	832	0.0045	0.002
Solara Parts Machining	225	0.0045	0.001
Inalfa Parts Machining	1654	0.0045	0.004
Potential Emissions tons/year			0.25
Note: Emission Factor was taken from USEPA Fire Database 3-04-003-60 PM/PM10 = 0.0045 lb al/ton			
METHODOLOGY			
PM/PM10, ton/yr = throughput, tons/yr * Ef lb/ton * ton/2000 lb			

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

Company Name: Alcoa ATS Indiana AFC
Address City IN Zip: 1101 Oren Drive, Auburn, IN 46706
Registration Revision No.: 033-20978
Pit ID: 033-00056
Reviewer: Aida De Guzman
Date Application Received: 23-Mar-05

Heat Input Capacity
MMBtu/hr

Potential Throughput
MMCF/yr

0.6

5.3

3 @ 0.2 mmBtu/hr wash unit dryers

Emission Factor in lb/MMCF	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
	1.9	7.6	0.6	100.0	5.5	84.0
Potential Emission in tons/yr	0.00	0.02	0.00	0.26	0.01	0.22

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)

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

See page 2 for HAPs emissions calculations.

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

Company Name: Alcoa ATS Indiana AFC
Address City IN Zip: 1101 Oren Drive, Auburn, IN 46706
Registration Revision No.: 033-20978
Pit ID: 033-00056
Reviewer: Aida De Guzman
Date: 23-Mar-05

0.6 mmBtu/hr
[3 @ 0.2 mmBtu/hr wssh unit dryers](#)

HAPs - Organics					
Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	5.519E-06	3.154E-06	1.971E-04	4.730E-03	8.935E-06
HAPs - Metals					
Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	1.314E-06	2.891E-06	3.679E-06	9.986E-07	5.519E-06

Methodology is the same as page 1.

The five highest organic and metal HAPs emission factors are provided above.
 Additional HAPs emission factors are available in AP-42, Chapter 1.4.

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

Company Name: Alcoa ATS Indiana AFC
Address City IN Zip: 1101 Oren Drive, Auburn, Indiana 46706
Registration Revision No: 033-20978
Pit ID: 033-00056
Reviewer: Aida De Guzman
Date Application Received: 23-Mar-05

Heat Input Capacity
MMBtu/hr

Potential Throughput
MMCF/yr

41.9

367.4

Existing Emission Units space heaters

Emission Factor in lb/MMCF	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
	1.9	7.6	0.6	100.0	5.5	84.0
				**see below		
Potential Emission in tons/yr	0.35	1.40	0.11	18.37	1.01	15.43

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)

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

See page 2 for HAPs emissions calculations.

**Appendix A: Emissions Calculations
 Natural Gas Combustion Only
 MM BTU/HR <100
 Small Industrial Boiler
 HAPs Emission**

Company Name: Alcoa ATS Indiana AFC
Address City IN Zip: 1101 Oren Drive, Auburn, Indiana 46706
Registration Revision No.: 033-20978
Pit ID: 033-00056
Reviewer: Aida De Guzman
Date: 23-Mar-05

Existing Emission Units space heaters

	HAPs - Organics				
Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	3.858E-04	2.204E-04	1.378E-02	3.307E-01	6.246E-04

	HAPs - Metals				
Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	9.185E-05	2.021E-04	2.572E-04	6.980E-05	3.858E-04

Methodology is the same as page 1.

The five highest organic and metal HAPs emission factors are provided above.
 Additional HAPs emission factors are available in AP-42, Chapter 1.4.

**Appendix A: Emissions Calculations
Welding and Thermal Cutting**

Company Name: Alcoa ATS Indiana AFC
Address City IN Zip: 1101 Oren Drive, Auburn, Indiana 46706
Registration Revision Number: 033-20978
Plt ID: 033-00056
Reviewer: Aida De Guzman
Date Application Received: 23-Mar-05

PROCESS	Number of Stations	Max. electrode consumption per station (lbs/hr)	EMISSION FACTORS* (lb pollutant/lb electrode)				EMISSIONS (ton/yr)				HAPS (ton/yr)
			PM = PM10	Mn	Ni	Cr	PM = PM10	Mn	Ni	Cr	
WELDING											
Existing Emission Units	319,127 lbs weld rod /yr										
Tungsten Inert Gas (TIG)(carbon steel)	1	36.4	0.0107	5.36E-06			1.706	0.001	0.000	0.000	0.001
New Emission Units											
GMX Welding Operation	273,750 lbs weld rod/yr		0.0107	5.35E-06			1.465	0.001			0.001
Karmann Welding Operation	4710 lbs rod/yr		0.0107	5.35E-06			0.025	0.000			0.000
Potential Emissions tons/year							3.20				0.00

Note: PM/PM10 Emission factor for the New Emission Units are from Air & Waste Management Association (AWMA) Publication 95-TP63A.02. HAPs was taken from the MSDS.
 See Below Notes for the Existing Emission Units.

*Emission Factors are default values for carbon steel unless a specific electrode type is noted in the Process column.

**Emission Factor for plasma cutting from American Welding Society (AWS). Trials reported for wet cutting of 8 mm thick mild steel with 3.5 m/min cutting speed (at 0.2 g/min emitted). Therefore, the emission factor for plasma cutting is for 8 mm thick rather than 1 inch, and the maximum metal thickness is not used in calculating the emissions.

Using AWS average values: (0.25 g/min)/(3.6 m/min) x (0.0022 lb/g)/(39.37 in./m) x (1,000 in.) = 0.0039 lb/1,000 in. cut, 8 mm thick

Plasma cutting emissions, lb/hr: (# of stations)(max. cutting rate, in./min.)(60 min./hr.)(emission factor, lb. pollutant/1,000 in. cut, 8 mm thick)

Cutting emissions, lb/hr: (# of stations)(max. metal thickness, in.)(max. cutting rate, in./min.)(60 min./hr.)(emission factor, lb. pollutant/1,000 in. cut, 1" thi

Welding emissions, lb/hr: (# of stations)(max. lbs of electrode used/hr/station)(emission factor, lb. pollutant/lb. of electrode used)

Emissions, lbs/day = emissions, lbs/hr x 24 hrs/day

Emissions, tons/yr = emissions, lb/hr x 8,760 hrs/year x 1 ton/2,000 lbs