INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
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Joseph E. Kernan
Governor

Lori F. Kaplan
Commissioner

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

July 12, 2004

TO: Interested Parties / Applicant

RE: Superior Aluminum Alloys, LLC / MSM 003-19085-00286

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

Notice of Decision: Approval - Effective Immediately

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

If you wish to challenge this decision, IC 4-21.5-3-7 and IC 13-15-7-3 require that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office Environmental Adjudication, 100 North Senate Avenue, Government Center North, Room 1049, Indianapolis, IN 46204, **within eighteen (18) calendar days of the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

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

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

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

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

Enclosures
FNPER-MOD.dot 9/16/03

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July 12, 2004

Mr. Brian Winters
Superior Aluminum Alloys, L.L.C.
P.O.Box 678
New Haven, Indiana 46774

Re: 003-19085-00286
Second Minor Source Modification to:
Part 70 permit No.T003-11452-00286

Dear Mr. Winters:

Superior Aluminum Alloys was issued a Part 70 operating permit T003-11452-00286 on June 24, 2002 for a stationary secondary aluminum production plant. An application to modify the source was received on May 7, 2004. Pursuant to 326 IAC 2-7-10.5, the following emission units are approved for construction at the source:

One (1) natural gas-fired reverberatory furnace, identified as furnace #3, constructed in 2004, with a maximum capacity of 28,000 pounds of aluminum scrap per hour, chlorine flux of 10,233 pounds per eight-hour charge, and a heat input capacity of 28 MMBtu/hr, emissions controlled by one (1) fabric filter baghouse L with continuous lime injection, and exhausting to stack L.

The following construction conditions are applicable to the proposed project:

General Construction Conditions

1. The data and information supplied with the application shall be considered part of this source modification approval. Prior to any proposed change in construction which may affect the potential to emit (PTE) of the proposed project, the change must be approved by the Office of Air Quality (OAQ).

2. This approval to construct does not relieve the Permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

3. Effective Date of the Permit
Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.

4. Pursuant to 326 IAC 2-1.1-9 and 326 IAC 2-7-10.5(i), the Commissioner may revoke this approval if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

5. All requirements and conditions of this construction approval shall remain in effect unless modified in a manner consistent with procedures established pursuant to 326 IAC 2.

6. Pursuant to 326 IAC 2-7-10.5(l) the emission units constructed under this approval shall not be placed into operation prior to revision of the source's Part 70 Operating Permit to incorporate the required operation conditions.

The source may begin construction when the minor source modification has been issued. Operating conditions shall be incorporated into the Part 70 operating permit as a significant permit modification in accordance with 326 IAC 2-7-10.5(l)(2) and 326 IAC 2-7-12. Operation is not approved until the significant permit modification has been issued.

Pursuant to Contract No. A305-0-00-36, IDEM, OAQ has assigned the processing of this application to Eastern Research Group, Inc., (ERG). Therefore, questions should be directed to Yu-Lien Chu, ERG,1600 Perimeter Park Drive, Morrisville, North Carolina 27560, or call (919) 468-7871 to speak directly to Ms. Chu. Questions may also be directed to Duane Van Laningham at IDEM, OAQ, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana, 46206-6015, or call (800) 451-6027, and ask for Duane Van Laningham, or extension 3-6878, or dial (317) 233-6878.

Sincerely,

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

Attachments

ERG/YC

cc: File - Allen County
Allen County Health Department
Air Compliance Section Inspector - Jennifer Dorn
Compliance Data Section
Administrative and Development -Sara Cloe
Technical Support and Modeling - Michele Boner

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PART 70 OPERATING PERMIT
OFFICE OF AIR QUALITY

Superior Aluminum Alloys, L.L.C.
14214 Edgerton Road
New Haven, Indiana 46774

(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.

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.

Operation Permit No.: T003-11452-00286	
Issued by: Janet G. McCabe, Assistant Commissioner Office of Air Quality	Issuance Date: June 24, 2002 Expiration Date: June 24, 2007

First Administrative Amendment No. 003-16496-00286, issued November 27, 2002
First Significant Permit Modification No. 003-17183-00286, issued November 23, 2003
Second Administrative Amendment No. 003-18618-00286, issued April 15, 2004

Second Minor Source Modification No.: 003-19085-00286	
Issued by: Original signed by Paul Dubenetzky, Branch Chief Office of Air Quality	Issuance Date: July 12, 2004

SECTION A SOURCE SUMMARY

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

Responsible Official:	CEO & President, Superior Aluminum Alloys
Source Address:	14214 Edgerton Road, New Haven, Indiana 46774
Mailing Address:	P O Box 678, New Haven, IN 46774
Phone number:	(219) 749-7599
SIC Code:	3341
County Location:	Allen
Source Location Status:	Nonattainment for ozone under 8-hour standard Attainment for all other criteria pollutants
Source Status:	Part 70 Permit Program Minor Source, under PSD and Nonattainment NSR Rules Major Source, Section 112 of the Clean Air Act 1 of 28 Source Categories

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

This stationary source consists of the following emission units and pollution control devices:

(a) Four (4) natural gas-fired Reverberatory Furnaces, identified as furnace #1 (constructed in 2002), furnace #2 (constructed in 2001), furnace #3 (constructed in 2004) and furnace #4 (constructed in 2002), each with: a maximum capacity of 28,000 pounds of aluminum scrap per hour, chlorine flux of 10,233 pounds per eight-hour charge, and a heat input capacity of 28 MMBtu/hr, emissions controlled by four (4) fabric filter baghouses with continuous lime injection, with furnaces #1 and #2 exhausting to stacks E and F, furnace #3 exhausting to stack L, and furnace #4 exhausting to stack N, respectively.

(b) One (1) Scrap Shredder, identified as unit C, constructed in 1998, with a maximum capacity of 25,000 pounds aluminum scrap per hour, with emissions controlled by fabric filter baghouse C (exhausting indoors).

(c) One (1) natural gas-fired Thermal Chip Dryer, identified as unit D, constructed in 1998, with a nominal drying capacity of 12,000 pounds of uncoated aluminum chips per hour and heat input capacity of 6.0 MMBtu/hr, with emissions controlled by fabric filter baghouse D and a 12.0 MMBtu/hr afterburner, and exhausting to stack D.

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

This stationary source also includes the following insignificant activities which are specifically regulated, as defined in 326 IAC 2-7-1(21):

(a) Cleaners and solvents characterized as follows: A) having a vapor pressure equal to or less than 2kPa; 15 mm Hg; or 0.3 psi measured at 38 degrees C (100 degrees F) or; B) having a vapor pressure equal to or less than 0.7 kPa; 5 mm Hg; or 0.1 psi measured at 20 degrees C (68 degrees F); the use of which for all cleaners and solvents combined does not exceed 145 gallons per 12 months. [326 IAC 8-3-2]

(b) The following equipment related to manufacturing activities not resulting in the emission of HAPs; brazing equipment cutting torches, soldering equipment, welding equipment. [326 IAC 6-3-2]

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

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

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

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

SECTION D.1 FACILITY OPERATION CONDITIONS

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

(a) Four (4) natural gas-fired Reverberatory Furnaces, identified as furnace #1 (constructed in 2002), furnace #2 (constructed in 2001), furnace #3 (constructed in 2004) and furnace #4 (constructed in 2002), each with: a maximum capacity of 28,000 pounds of aluminum scrap per hour, chlorine flux of 10,233 pounds per eight-hour charge, and a heat input capacity of 28 MMBtu/hr, emissions controlled by four (4) fabric filter baghouses with continuous lime injection, with furnaces #1 and #2 exhausting to stacks E and F, furnace #3 exhausting to stack L, and furnace #4 exhausting to stack N, respectively.

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

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

D.1.1 Prevention of Significant Deterioration (PSD) and Nonattainment NSR Minor Limits [326 IAC 2-2] [326 IAC 2-1.1-5]

The following conditions apply to Reverberatory Furnaces #1 through #4.

(a) The combined input of aluminum scrap to reverberatory furnaces #1, #2, #3, and #4 shall not exceed 300,000,000 pounds per twelve consecutive month period with compliance determined at the end of each month. This aluminum feed/charge limit, in combination with the unlimited NO_x emissions from the Scrap Dryer, and Melt Pots, will effectively limit the source's potential to emit nitrogen oxides (NO_x) to less than 100 tons per twelve (12) consecutive month period.

(b) NO_x emissions from each of the reverberatory furnaces #1, #2, #3, and #4 shall not exceed 0.26 pounds per ton of aluminum scrap processed.

(c) The amount of flux used in each furnace shall be limited to 11,205,135 pounds per twelve consecutive month period with compliance determined at the end of each month.

(d) The PM emissions from each furnace (Reverberatory Furnaces #1 through #4) shall not exceed 0.1 pounds per ton aluminum melted.

(e) The PM10 emissions from each furnace (Reverberatory Furnaces #1 through #4) shall not exceed 0.1 pounds per ton aluminum melted.

Compliance with these limits render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) and 326 IAC 2-1.1-5 (Nonattainment NSR) not applicable.

D.1.2 General Provisions Relating to NESHAP [326 IAC 20-1][40 CFR Part 63, Subpart A]

The provisions of 40 CFR Part 63, Subpart A - General Provisions, which are incorporated by reference in 326 IAC 20-1, apply to reverberatory furnaces #1, #2, #3, and #4 except when otherwise specified in 40 CFR Part 63, Subpart RRR.

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

Pursuant to 40 CFR Part 63.1505, the following conditions shall apply to the reverberatory furnaces #1, #2, #3, and #4.

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

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

$$L_{cPM} = \frac{\sum_{i=l}^{n} \left(L_{tiPM} x T_{ti} \right)}{\sum_{i=l}^{\wedge} T_{ti}}$$

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

The PM emission limit (L_{cPM}) for a Group 1 furnace without an in-line fluxer (each reverberatory furnace) at a secondary aluminum production facility shall be 0.40 pounds per ton of feed/charge or per ton of aluminum produced. [40 CFR 63.1505(i)][40 CFR 63.1505(k)]

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

$$L_{cHCl} = \frac{\sum_{i=l}^{n} \left(L_{tiHcl} x T_{ti} \right)}{\sum_{i=l}^{\wedge} T_{ti}}$$

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

The HCl emission limit (L_{cHCl}) for a Group 1 furnace without an in-line fluxer (each reverberatory furnace) at a secondary aluminum production facility shall be 0.40 pounds per ton of feed/charge or per ton of aluminum produced. [40 CFR 63.1505(i)][40 CFR 63.1505(k)]

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

$$L_{cDF} = \frac{\sum_{i=l}^{n} \left(L_{tiDF} x T_{ti} \right)}{\sum_{i=l}^{\wedge} T_{ti}}$$

where

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

The D/F emission limit (L_{cDF}) for a Group 1 furnace without an in-line fluxer (Reverberatory Furnaces #1 through #4) at a secondary aluminum production facility shall be 15 micrograms of D/F TEQ per megagram (2.1×10^{-4} gr of D/F TEQ per ton) of feed/charge. Where TEQ is the toxicity equivalents for dioxins and furans as defined in 40 CFR 60.2125 (July 2001) [40 CFR 63.1505(i)][40 CFR 63.1505(k)]

(b) Identification, emission limits and means of compliance shall be posted on the reverberatory furnaces #1, #2, #3, #4.

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

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

(a) the type of affected source or emission unit (e.g., scrap dryer/delacquering kiln/decoating kiln, group 1 furnace, group 2 furnace, in-line fluxer); and

(b) the applicable operational standard(s) and control method(s) (work practice or control device). This includes, but is not limited to, the type of charge to be used for a furnace (e.g., clean scrap only, all scrap, etc.), flux materials and addition practices, and the applicable operating parameter ranges and requirements as incorporated in the OM&M plan.

D.1.5 Capture and Control Systems [40 CFR Part 63.1506(c)]

Pursuant to 40 CFR 63.1506(c), the owner or operator of the furnaces must:

(a) Design and install a system for the capture and collection of emissions to meet the engineering standards for minimum exhaust rates as published by the American Conference of Governmental Industrial Hygienists in chapters 3 and 5 of “Industrial Ventilation: A Manual of Recommended Practice” (incorporated by reference: 40 CFR 63.1502)

(b) Vent captured emissions through a closed system, except that dilution air may be added to emission streams for the purpose of controlling temperature at the inlet to a fabric filter; and

(c) Operate each capture/collection system according to the procedures and requirements in the OM&M plan.

D.1.6 Operation, Maintenance, and Monitoring (OM&M) Plan [63.1510(b)]

The owner or operator must prepare and implement for each furnace, a written operation, maintenance, and monitoring (OM&M) plan. The owner or operator must submit the plan to the applicable permitting authority within 90 days after a successful initial performance test under 40 CFR 63.1511(b). Any subsequent changes to the plan must be submitted to the applicable permitting authority for review and approval. Pending approval by the applicable permitting authority of an initial or amended plan, the owner or operator must comply with the provisions of the submitted plan. Each plan must contain the following information:

(a) Process and control device parameters to be monitored to determine compliance, along with established operating levels or ranges, as applicable, for each process and control device.

(b) A monitoring schedule for each affected source and emission unit.

(c) Procedures for the proper operation and maintenance of each process unit and add-on control device used to meet the applicable emission limits or standards in §63.1505.

(d) Procedures for the proper operation and maintenance of monitoring devices or systems used to determine compliance, including:

(1) Calibration and certification of accuracy of each monitoring device, at least once every 6 months, according to the manufacturer's instructions; and

(2) Procedures for the quality control and quality assurance of continuous emission or opacity monitoring systems as required by the general provisions in subpart A of this part.

(e) Procedures for monitoring process and control device parameters, including procedures for annual inspections of afterburners, and if applicable, the procedure to be used for determining charge/feed (or throughput) weight if a measurement device is not used.

(f) Corrective actions to be taken when process or operating parameters or add-on control device parameters deviate from the value or range established in 40 CFR 63.1510(b)(1), including:

(1) Procedures to determine and record the cause of an deviation or excursion, and the time the deviation or excursion began and ended; and

(2) Procedures for recording the corrective action taken, the time corrective action was initiated, and the time/date corrective action was completed.

(g) A maintenance schedule for each process and control device that is consistent with the manufacturer's instructions and recommendations for routine and long-term maintenance.

D.1.7 Particulate [326 IAC 6-3]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the allowable particulate emission rate from each reverberatory furnace shall not exceed 24.0 pounds per hour when operating at a process weight rate of 14.0 tons of per hour.

The pounds per hour limitations were calculated with the following equation:

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

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

D.1.8 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 their baghouses. If the OM&M plan required by condition D.1.6 is developed in accordance with Section B- Preventive Maintenance Plans, then after the OM&M plan has been approved, it shall satisfy the requirements of this condition.

Compliance Determination Requirements

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

(a) In order to demonstrate compliance with 40 CFR Part 63 Subpart RRR, 40 CFR 52.21, and 326 IAC 2-2, the Permittee shall, within 90 days after startup, perform PM and PM10 testing on baghouses E, F, and N, and NO_x, HCl, and D/F testing on reverberatory furnaces #1, #2, and #4, using methods as approved by the Commissioner, in accordance with the requirements in 40 CFR 63, Subpart A and 40 CFR 63, Subpart RRR. When testing baghouses E and F,reverberatory furnaces #1 and #2 shall be operated at 95% or more of their maximum design capacities. When testing baghouse N, reverberatory furnace #4 shall be operated at 95% or more of its maximum design capacity. PM10 includes filterable and condensible PM10. Testing shall be conducted in accordance with Section C- Performance Testing. These tests shall be repeated every two and one-half (2.5) years.

(b) The Permittee shall establish a minimum or maximum operating parameter value, or an operating parameter range for each parameter to be monitored as required by 40 CFR 63.1510 that ensures compliance with the applicable emission limit for D/F. The Permittee may use existing data in addition to the results of the performance test to establish operating parameter values for compliance monitoring provided the requirements of 40 CFR 63.1511(g) are met [63.1511(g)].

(c) In order to demonstrate compliance with Conditions D.1.1 and D.1.3, the Permittee shall perform PM, PM10, NO_x, HCl, and D/F testing for Furnace #3 within 180 days after initial startup, using methods as approved by the Commissioner. These test shall be repeated at least once every two and one-half (2.5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with Section C - Performance Testing. PM10 includes filterable and condensible PM10.

D.1.10 Particulate Matter (PM) and Capture/Collection Systems [40 CFR 63.1506(c)]

Pursuant to CP-003-9243-00286, issued on May 1, 1998, Source Modification 003-11927-00286, issued on June 7, 2000, and in order to comply with Conditions D.1.1, D.1.3, D.1.5, and D.1.7, the capture/control system (baghouses) for PM control shall be in operation and control emissions from the furnaces at all times that the furnaces are in operation according to the procedures and requirements of the OM&M plan. Baghouse L for PM control shall be in operation and control emissions from furnace #3 at all times when furnace #3 is in operation. Baghouse N for PM control shall be in operation and control emissions from furnace #4 at all times when furnace #4 is in operation. It is acceptable to operate only one of the baghouses E or F if only one of the two reverberatory furnaces #1 and #2 is operating. If both reverberatory furnaces #1 and #2 are operating, then both baghouses E and F must be operated.

D.1.11 Feed/Charge Determination [40 CFR 63.1506(d)]

Pursuant to 40 CFR 63.1506, the Permittee shall install and operate a device that measures and records or otherwise determine the weight of feed/charge (or throughput) for each operating cycle or time period used in the performance test. The Permittee shall operate each measurement system or other weight determination procedure in accordance with the Operation, Maintenance, and Monitoring Plan. Alternatively, the Permittee may choose to measure and record aluminum production weight from an affected emission unit rather than feed/charge weight provided that the aluminum production weight is measured for all emission units within a secondary aluminum processing unit and all calculations to demonstrate compliance with the emission limits for secondary aluminum processing units are based on aluminum production weight rather than feed/charge weight.

D.1.12 Secondary Aluminum Smelting Compliance Determination [40 CFR Part 63, Subpart RRR]

Pursuant to 40 CFR Part 63.1510, the following conditions shall apply to reverberatory furnaces #1, #2, #3, and #4:

(a) For each furnace, the Permittee shall [63.1506(m)]:

(1) Initiate corrective action within one (1) hour of a bag leak detection system alarm; complete the corrective action procedures in accordance with the Operation, Maintenance, and Monitoring Plan; and operate each fabric filter system such that the bag leak detection system alarm does not sound more than five (5) percent of the operating time during a six (6) month reporting period. In calculating this operating time fraction, if inspection of the fabric filter demonstrates that no corrective action is required, no alarm time is counted. If corrective action is required, each alarm shall be counted as a minimum of 1 hour. If the Permittee takes longer than one (1) hour to initiate corrective action, the alarm time shall be counted as the actual amount of time taken by the Permittee to initiate corrective action.

(2) Maintain the three (3) hour average inlet temperature for each fabric filter at or below the average temperature established during the performance test plus 25 degrees F.

(3) For a continuous-lime injection system, the Permittee shall maintain free-flowing alkaline agent in the hopper to the feed device at all times and maintain the alkaline agent feeder setting at the same level established during the performance test. For the purposes of this rule lime means calcium oxide or other alkaline reagent; and lime-injection means the continuous addition of lime upstream of the fabric filter.

(4) Maintain the total reactive 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.

(b) The Permittee shall use a continuous lime-injected fabric filter to comply with the requirements of 40 CFR 63, Subpart RRR; and therefore must [40 CFR 63.1510(i)]:

(1) Verify that the lime (or other alkaline agent) is always free-flowing by: Inspecting the feed hopper or silo at least once each eight (8) hour period and recording the results of each inspection. If the lime or other alkaline agent is found not to be free-flowing during any of the eight (8) hour periods, the Permittee shall increase the frequency of inspections to at least once every four (4) hour period for the next three (3) days. The Permittee may return to inspections at least once every eight (8) hour period if corrective action results in no further blockages of lime or other alkaline agent during the three (3) day period.

(2) The Permittee shall also record the feeder setting once each day of operation.

(c) Pursuant to 40 CFR 63.1510(j), for all furnaces at this source, the Permittee shall [40 CFR 63.1510(j)]:

(1) Install, calibrate, operate, and maintain a device to continuously measure and record the weight of gaseous or reactive liquid flux injected into each furnace. The monitoring system must record the weight for each fifteen (15) minute period, during which reactive fluxing occurs, over the same operating cycle or time period used in the performance test. The accuracy of the weight measurement shall be within one (1) percent of the weight of the reactive component of the flux being measured. The Permittee may apply to IDEM, OAQ to use a weight measurement device of alternative accuracy in cases where the reactive flux flow rates are so low as to make the use of a weight measurement device of within one (1) percent accuracy impracticable. The Permittee shall verify the calibration of the weight measurement device in accordance with the schedule specified by the manufacturer, or if no calibration schedule is specified, at least once every six (6) months.

(2) Calculate and record the flux injection rate (kg/Mg or lb/ton) for each operating cycle or time period used in the performance test using the procedure in 40 CFR 63.1512(o).

(3) Record, for each fifteen (15) minute time period during each operating cycle or time period used in the performance test during which reactive fluxing occurs, the time, weight, and type of flux for each addition of reactive flux.

(4) Calculate and record the total reactive flux injection rate for each operating cycle or time period used in the performance test.

(d) An owner or operator of a secondary aluminum processing unit at a facility must include, within the OM&M plan prepared in accordance with 40 CFR 63.1510(b), the following information [40 CFR 63.1510(s)(1)]:

(1) The identification of each emission unit in the secondary aluminum processing unit;

(2) The specific control technology of pollution prevention measure to be used for each emission unit in the secondary aluminum processing unit and the date of its installation or application;

(3) The emission limit calculated for each secondary aluminum processing unit and performance test result with supporting calculations demonstrating initial compliance with each applicable emission limit;

(4) Information and data demonstrating compliance for each emission unit with all applicable design equipment work practice or operational standards of Subpart RRR; and

(5) The monitoring requirements applicable to each emission unit in a secondary aluminum processing unit and the monitoring procedures for daily calculation of the 3-day, 24-hour rolling average using the procedure in 40 CFR 63.1510(t).

(e) The SAPU compliance procedures within the OM&M plan may not contain any of the information provided in 40 CFR 63.1510(s)(2)(i) through (iv). [40 CFR 63.1510(s)(2)]

The completion of the initial performance tests for the secondary aluminum processing units shall be considered to be the date of approval of the Operation, Maintenance and Monitoring Plan by IDEM, OAQ [63.1506(a)(2)].

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

D.1.13 Labeling [40 CFR 63.1510(c)]

The owner or operator shall, for each furnace, inspect the labels required in Condition D.1.4 at least once per calendar month to confirm that the posted labels as required by the operational standard in 40 CFR 63.1506(b) are intact and legible.

D.1.14 Capture/Collection System [63.1510(d)]

The owner or operator shall, for the furnaces, inspect each capture/collection and closed vent system at least once each calendar year to ensure that each system is operating in accordance with the operating requirements in 40 CFR 63.1506(c) and record the results of each inspection.

D.1.15 Feed/Charge Determination [40 CFR 63.1510(e)]

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

D.1.16 Fabric Filter Monitoring Requirements [40 CFR 63.1510(f)]

These requirements apply to the owner or operator of each reverberatory furnace listed in this section.

(a) The owner or operator must install and operate a bag leak detection system for each exhaust stack of a fabric filter.

(b) Each triboelectric bag leak detection system must be installed, calibrated, operated, and maintained according to the "Fabric Filter Bag Leak Detection Guidance," (September 1997).

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

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

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

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

(g) For negative pressure or induced air fabric filters, the bag leak detector must 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 must be established by adjusting the range and the averaging period of the device and establishing the alarm set points and the alarm delay time.

(j) Following initial adjustment of the system, the owner or operator must not adjust the sensitivity or range, averaging period, alarm set points, or alarm delay time except as detailed in the OM&M plan. In no case may the sensitivity be increased by more than 100 percent or decreased more than 50 percent over a 365-day period unless such adjustment follows a complete fabric filter inspection which demonstrates that the fabric filter is in good operating condition.

D.1.17 Fabric Filter Inlet Temperature Monitoring Requirements [40 CFR 63.1510(h)]

(a) The owner or operator must install, calibrate, maintain, and operate a device to continuously monitor and record the temperature of the fabric filter inlet gases entering baghouses E, F, L and N consistent with the requirements for continuous monitoring systems in 40 CFR Part 63, Subpart A.

(b) The temperature monitoring device must meet each of these performance and equipment specifications:

(1) The monitoring system must record the temperature in 15-minute block averages and calculate and record the average temperature for each 3-hour block period.

(2) The recorder response range must include zero and 1.5 times the average temperature established according to the requirements in 40 CFR 63.1512(n).

(3) The reference method must be a National Institute of Standards and Technology calibrated reference thermocouple-potentiometer system or alternate reference, subject to approval by the Administrator.

D.1.18 Corrective Action [40 CFR 63.1506(p)]

When a process parameter or add-on air pollution control device operating parameter deviates from the value or range established and incorporated in the OM&M plan, the owner or operator shall initiate corrective action. The corrective action taken, shall restore operation of the affected source or emission unit (including the process or control device) to its normal or usual mode of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions.

In addition, the corrective actions taken shall include follow-up actions necessary to return the process or control device parameter level(s) to the applicable value or range of values, and steps to prevent the likely recurrence of the cause of a deviation.

D.1.19 Compliance Monitoring Requirements [40 CFR 63.1510(t)] [40 CFR 63.1510(u)]

Pursuant to 40 CFR 63, Subpart RRR, on or after the date of the initial performance test is required to be completed, the Permittee shall monitor all emission units and control equipment according to the following requirements [63.1510(a)]:

(a) The Permittee shall calculate and record the 3-day, 24- hour rolling average emissions of PM, HCl, and D/F for each furnace 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 furnace for each 24-hour day of operation using the feed/charge weight data collected as required under Subpart RRR.

(2) To provide emissions for each furnace for the 24-hour period, in pounds: multiply the total feed/charge weight to the furnace or the weight of aluminum produced by the furnace for the 24-hour period, by the emission rate (in lb/ton of feed/charge) for that furnace (as determined during the emission test).

(3) 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.

(b) As an alternative to the procedures in (a)(1) above, the Permittee may demonstrate through performance tests, that each individual furnace is in compliance with the applicable emission limit [40 CFR 63.1510(u)].

D.1.20 Parametric Monitoring

The Permittee shall record the total static pressure drop across baghouses E, F, L, and N, used in conjunction with the furnaces, at least once per shift when any of the furnaces are in operation when venting to the atmosphere. When for any one reading, the pressure drop across the baghouse is outside the normal range of 1.0 and 8.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance with Section C- Compliance Response Plan - Preparation, Implementation, Records, and Reports. 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 - Compliance Response

Plan - Preparation, Implementation, Records, and Reports, shall be considered a deviation from this permit.

The instrument used for determining the pressure shall comply with Section C - Pressure Gauge and Other 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.1.21 Baghouse Inspections

An inspection shall be performed each calender quarter of all bags controlling the furnaces when venting to the atmosphere. A baghouse inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting indoors. All defective bags shall be replaced.

D.1.22 Broken or Failed Bag Detection

In the event that bag failure has been observed.

(a) For multi-compartment units, the affected compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) 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. If operations continue after bag failure is observed and 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.

(b) For single compartment baghouses, if failure is indicated by a significant drop in the baghouse's pressure readings with abnormal visible emissions or the failure is indicated by an opacity violation, or if bag failure is determined by other means, such as gas temperatures, flow rates, air infiltration, leaks, dust traces or triboflows, then failed units and 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 B - Emergency Provisions).

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

D.1.23 Record Keeping Requirements

(a) To document compliance with D.1.1, the Permittee shall maintain monthly records of the total scrap aluminum and flux charged to each reverberatory furnace.

(b) To document compliance with Condition D.1.20, the Permittee shall maintain records of the inlet and outlet differential static pressure once per shift during normal operation when venting to the atmosphere

(c) To document compliance with Condition D.1.21, the Permittee shall maintain records of the results of the inspections required under Condition D.1.21.

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

D.1.24 Secondary Aluminum Production Record Keeping Requirements [40 CFR Part 63, Subpart RRR]

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

(a) As required by 40 CFR 63.10(b), the owner or operator shall maintain files of all information (including all reports and notifications) required by the general provisions and Subpart RRR.

(b) The owner or operator must retain each record for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. The most recent 2 years of records must be retained at the facility. The remaining 3 years of records may be retained off site.

(c) The owner or operator may retain records on microfilm, computer disks, magnetic tape, or microfiche; and report required information on paper or on a labeled computer disk using commonly available and EPA-compatible computer software.

(d) In addition to the general records required by 40 CFR 63.1510(b), the owner or operator of a furnace with a lime-injected fabric filter must maintain records of:

(1) The number of total operating hours for the affected source or emission unit during each 6-month reporting period, records of each alarm, the time of the alarm, the time corrective action was initiated and completed, and a brief description of the cause of the alarm and the corrective action(s) taken.

(2) The following regarding lime injection:

Records of inspections at least once every 8-hour period verifying that lime is present in the feeder hopper or silo and flowing, including any inspection where blockage is found, with a brief explanation of the cause of the blockage and the corrective action taken, and records of inspections at least once every 4-hour period for the subsequent 3 days. If flow monitors, pressure drop sensors or load cells are used to verify that lime is present in the hopper and flowing, records of all monitor or sensor output including any event where blockage was found, with a brief explanation of the cause of the blockage and the corrective action taken;

(3) For each group 1 furnace at this source, records of 15-minute block average weights of gaseous or liquid reactive flux injection, total reactive flux injection rate and calculations (including records of the identity, composition, and weight of each addition of gaseous, liquid or solid reactive flux), including records of any period the rate exceeds the compliant operating parameter value and corrective action taken.

(4) For each continuous monitoring system, records required by 40 CFR 63.10(c).

(5) For each furnace, weights for each operating cycle or time period used in the performance test.

(6) Records of monthly inspections for proper unit labeling for each affected source and emission unit subject to labeling requirements.

(7) Records of annual inspections of emission capture/collection and closed vent systems.

(8) Records for any approved alternative monitoring or test procedure.

(9) Current copy of all required plans, including any revisions, with records documenting conformance with the applicable plan, including:

(i) Startup, shutdown, and malfunction plan;

(ii) For major sources, OM&M plan; and

(iii) Site-specific secondary aluminum processing unit emission plan.

(10) For each furnace, records of total charge weight for each 24-hour period and calculations of 3-day, 24-hour rolling average emissions.

D.1.25 Secondary Aluminum Production Reporting Requirements [40 CFR Part 63, Subpart RRR]

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

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

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

(2) The owner or operator must provide additional notifications for sources with continuous emission monitoring systems.

(b) Each owner or operator must submit a notification of compliance status report within 60 days after the compliance dates specified in 40 CFR 63.1501. The notification must be signed by the responsible official who must certify its accuracy. A complete notification of compliance status report must include the information specified in paragraphs (a)(1) through (10) of this section. The required information may be submitted in an operating permit application, in an amendment to an operating permit application, in a separate submittal, or in any combination. In a State with an approved operating permit program where delegation of authority under section 112(l) of the CAA has not been requested or approved, the owner or operator must provide duplicate notification to the applicable Regional Administrator. If an owner or operator submits the information specified in this section at different times or in different submittals, later submittals may refer to earlier submittals instead of duplicating and resubmitting the information previously submitted. A complete notification of compliance status report must include:

(1) All information required in 40 CFR 63.9(h). The owner or operator must provide a complete performance test report for each affected source and emission unit for which a performance test is required. A complete performance test report includes all data, associated measurements, and calculations (including visible emission and opacity tests).

(2) The approved site-specific test plan and performance evaluation test results for each continuous monitoring system.

(3) Unit labeling as described in 40 CFR 63.1506(b), including process type or furnace classification and operating requirements.

(4) The compliant operating parameter value or range established for each affected source or emission unit with supporting documentation and a description of the procedure used to establish the value (e.g., lime injection rate, total reactive chlorine flux injection rate, afterburner operating temperature, fabric filter inlet temperature), including the operating cycle or time period used in the performance test.

(5) Design information and analysis, with supporting documentation, demonstrating conformance with the requirements for capture/collection systems in 40 CFR 63.1506(c).

(6) If applicable, analysis and supporting documentation demonstrating conformance with EPA guidance and specifications for bag leak detection systems in 40 CFR 63.1510(f).

(7) Approved OM&M plan.

(8) Startup, shutdown, and malfunction plan, with revisions.

(c) The owner or operator must develop and implement a written plan that contains specific procedures to be followed for operating and maintaining the source during periods of startup, shutdown, and malfunction, and a program of corrective action for malfunctioning process and air pollution control equipment used to comply with the standard. The owner or operator shall also keep records of each event as required by 40 CFR 63.10(b) and record and report if an action taken during a startup, shutdown, or malfunction is not consistent with the procedures in the plan as described in 40 CFR 63.6(e)(3). In addition to the information required in 40 CFR 63.6(e)(3), the plan must include:

(1) Procedures to determine and record the cause of the malfunction and the time the malfunction began and ended; and

(2) Corrective actions to be taken in the event of a malfunction of a process or control device, including procedures for recording the actions taken to correct the malfunction or minimize emissions.

(d) The owner or operator must submit semiannual reports within 60 days after the end of each 6-month period. Each report must contain the information specified in 40 CFR 63.10(c). When no deviations of parameters have occurred, the owner or operator must submit a report stating that no excess emissions occurred during the reporting period.

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

(1) The corrective action specified in the OM&M plan for a bag leak detection system alarm was not initiated within 1 hour.

(2) An excursion of a compliant process or operating parameter value or range (e.g., lime injection rate or screw feeder setting, total reactive chlorine flux injection rate, afterburner operating temperature, fabric filter inlet temperature, definition of acceptable scrap, or other approved operating parameter).

(3) 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).

(4) An affected source (including an emission unit in a secondary aluminum processing unit) was not operated according to the requirements of Subpart RRR.

(5) A deviation from the 3-day, 24-hour rolling average emission limit for a secondary aluminum processing unit.

(e) The owner or operator must submit the results of any performance test conducted during the reporting period, including one complete report documenting test methods and procedures, process operation, and monitoring parameter ranges or values for each test method used for a particular type of emission point tested.

(f) For the purpose of annual certifications of compliance required by 40 CFR part 70 or 71, the owner or operator must certify continuing compliance based upon, but not limited to, the following conditions:

(1) Any period of excess emissions, as defined the semiannual report, that occurred during the year were reported as required by this subpart; and

(2) All monitoring, Record keeping, and reporting requirements were met during the year.

D.1.26 Reporting Requirements

A quarterly summary of the information to document compliance with Conditions D.1.1(a) and D.1.1(c) 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).

Indiana Department of Environmental Management
Office of Air Quality

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

Source Background and Description

Source Name:	Superior Aluminum Alloys, L.L.C.
Source Location:	14214 Edgerton Road, New Haven, Indiana 46774
County:	Allen
SIC Code:	3341
Operation Permit No.:	T003-11452-00286
Operation Permit Issuance Date:	June 24, 2002
Minor Source Modification No.:	003-19085-00286
Significant Permit Modification No.:	003-19149-00286
Permit Reviewer:	ERG/YC

The Office of Air Quality (OAQ) has reviewed a modification application from Superior Aluminum Alloys LLC relating to the construction and operation of the following emission units and pollution control devices:

One (1) natural gas-fired reverberatory furnace, identified as furnace #3, constructed in 2004, with a maximum capacity of 28,000 pounds of aluminum scrap per hour, chlorine flux of 10,233 pounds per eight-hour charge, and a heat input capacity of 28 MMBtu/hr, emissions controlled by one (1) fabric filter baghouse L with continuous lime injection, and exhausting to stack L.

History

On May 7, 2004, Superior Aluminum Alloys, L. L. C. submitted an application to the OAQ requesting to replace the existing reverberatory furnace #3 with a similar unit due to the failure of the existing furnace. Superior Aluminum Alloys, L. L. C. is an existing secondary aluminum production plant and a Part 70 permit (T003-11452-00286) was issued to this source on June 24, 2002.

On May 25, 2004, IDEM, OAQ received additional information from Superior Aluminum Alloys, L. L. C. requesting to revise the description for baghouses E and F, which are currently used to control furnaces #1 and #2. The source stated that these baghouse are now equipped with continuous lime injection, instead of manual lime injection. This modification to control devices does not affect the potential to emit of existing furnace #1 and #2, and is not considered modifications to the existing furnaces.

In addition, the source requested to revised Condition C.18 - Emission Statement to reflect the most recent version of 326 IAC 2-6. This source is located in Allen County and does not have potential to emit greater than 250 tons/yr for PM and all criteria pollutants. Therefore, this source is required to submit an emission statement triennially by July 1 staring in 2004, pursuant to 326 IAC 2-6-3(a)(2). Condition C.18 has been revised in SPM #003-19149-00286.

In accordance with the credible evidence rule (62 Fed. Reg. 8314, Feb 24, 1997); Section 113(a) of the Clean Air Act, 42 U.S. C. § 7413 (a); and a letter from the United States Environmental

Protection Agency (USEPA) to IDEM, OAQ dated May, 18 2004, all permits must address the use of credible evidence. Therefore, a new condition B.25 - Credible Evidence has been added to SPM #003-19149-00286.

Enforcement Issue

There are no enforcement actions pending.

Recommendation

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

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

An application for the purposes of this review was received on May 7, 2004. Additional information was received on June 25, 2004.

No notice of completeness was mailed to the source.

Emission Calculations

See Appendix A of this document for detailed emissions calculations (pages 1 and 2).

Potential To Emit of Modification

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

This table reflects the PTE of furnace #3 before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Pollutant	Potential To Emit (tons/year)
PM	3,065
PM-10	1,662
SO_2	6.75
VOC	20.9
CO	10.3
NO_x	15.9

Note: For the purpose of determining Title V applicability for particulates, PM-10, not PM, is the regulated pollutant in consideration.

*HAP’s	Potential To Emit (tons/year)
Antimony	0.17
Arsenic	0.04
Beryllium	0.01
Cadmium	0.06
Chlorine	0.18
*HAP’s	Potential To Emit (tons/year)
Chromium	0.07
Hydrogen Chloride	28.8

Lead	0.39
Manganese	0.20
Mercury	0.02
Nickel	0.05
Selenium	0.02
TOTAL	30.0

*Note: The potential to emit HAP of furnace #3 is from the TSD for the source's Part 70 permit (T003-11452-00286, issued June 24, 2002).

Justification for Modification

This modification is being performed through a Part 70 Minor Source Modification because this modification is to add an emission unit of the same type that is already permitted and that will comply with the same applicable requirements and permit terms, pursuant to 326 IAC 2-7-10.5 (d)(9). The permit modification is being performed through a Part 70 Significant Permit Modification pursuant to 326 IAC 2-7-12(d) because this is a modification under provisions of Title I of the CAA.

County Attainment Status

The source is located in Allen County.

Pollutant	Status
PM-10	Attainment
SO_2	Attainment
NO_2	Attainment
1-hour Ozone	Attainment
8-hour Ozone	Nonattainment
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. Allen County has been designated as nonattainment for the 8-hour ozone standard. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for nonattainment new source review.

(b) Allen County has been classified as attainment or unclassifiable in Indiana for all other criteria pollutants and lead. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), and 326 IAC 2-2.

(c) Fugitive Emissions
This type of operation is in one of the twenty-eight (28) listed source categories under 326 IAC 2-2; therefore, the fugitive emissions are counted toward determination of PSD and Emission Offset applicability.

Source Status

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

Pollutant	Emissions (tons/year)
PM	12.5
PM-10	12.3

SO_2	19.4
VOC	23.1
CO	32.3
NOx	58.8

(a) This existing source is not a Nonattainment NSR major stationary source because none of the nonattainment regulated pollutants are emitted at a rate of 100 tons per year or more, and it is in one of the 28 listed source categories.

(b) This existing source is not a PSD major stationary source because none of the attainment regulated pollutants are emitted at a rate of 100 tons per year or more, and it is in one of the 28 listed source categories.

(c) These emissions are based upon the potential to emit of the existing units in the Technical Support Document (TSD) for the MSM #003-15914-00286, issued November 18, 2002.

Potential to Emit After Issuance

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

	Potential to Emit (tons/year)						
Process/facility	PM	PM-10	SO_2	VOC	CO	NO_X	HAPs
Furnace #3	Less than 6.13	Less than 6.13	6.75	20.9	10.3	15.9	Less than 24.5
*Total PTE of Entire Source After this Modification	Less than 12.5	Less than 12.3	19.4	23.1	32.3	Less than 58.8	Less than 119
Nonattainment NSR and PSD Thresholds	100	100	100	100	100	100	NA

*Note: The PTE of the existing units is from the TSD for MSM #003-15914-00286, issued on November 18, 2002. The PTE of the entire source will remain the same after this replacement.

(a) This modification to an existing Nonattainment NSR minor stationary source is not major because the potential to emit of this modification is less than the Nonattainment NSR significant thresholds. Therefore, this modification is minor under Nonattainment NSR (326 IAC 2-1.1-5). The source remains a Nonattainment NSR minor source after this modification.

(b) This modification to an existing PSD minor stationary source is not major because the potential to emit of this modification is limited to less than the PSD significant thresholds. Therefore, the requirements of PSD (326 IAC 2-2) do not apply to this modification. The source remains a PSD minor source after this modification.

Federal Rule Applicability

(a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this proposed modification.

(b) The proposed reverberatory furnace #3 is a secondary aluminum production facility and this existing source is a HAP major source. Therefore, furnace #3 is subject to the

National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Secondary Aluminum Production (326 IAC 20, 40 CFR 63.1500-1504, Subpart RRR).

The proposed furnace #3 is considered a group 1 furnace as defined in 40 CFR 63.1503. Pursuant to 40 CFR 63.1505(i), the Permittee shall comply with the following emission limitations for furnaces without an in-line fluxer:

(1) 0.40 pounds of PM per ton of feed/charge or per ton of aluminum produced.

(2) 15 Fg of D/F TEQ per Mg (2.1×10^{-4} gr of D/F TEQ per ton) per ton of feed/charge or per ton of aluminum produced.

(3) 0.40 pounds of HCl per ton of feed/charge or per ton of aluminum produced.

The Permittee shall also comply with the operating requirements in 40 CFR 63.1506, the monitoring requirements in 40 CFR 63.1510, the testing requirements in 40 CFR 63.1511 and 63.1512, and the record keeping and reporting requirements in 40 CFR 63.1517 and 63.1517. These requirements have been included in the source's Part 70 Permit (T003-11452-00286, issued on June 24, 2002).

(c) This modification does involve a pollutant-specific emissions unit (furnace #3) as defined in 40 CFR 64.1:

(1) With the potential to emit before controls equal to or greater than the major source threshold.

(2) That is subject to an emission limitation or standard; and

(3) Uses a control device as defined in 40 CFR 64.1 to comply with that emission limitation or standard.

However, furnace #3 is subject to the NESHAP for Secondary Aluminum Production (40 CFR 63, Subpart RRR) and this NESHAP was promulgated after November 15, 1990. Pursuant to 40 CFR 64.2(b)(i), this unit is exempt from the requirements of 40 CFR 64 (Compliance Assurance Monitoring).

State Rule Applicability - Reverberatory Furnace #3

326 IAC 2-1.1-5 (Nonattainment NSR)

This source is located in Allen County, which has been redesignated as an nonattainment area for 8-hour ozone in June 2004. The potential to emit VOC and NOx from the existing units is each limited to less than 100 tons/yr. Pursuant to AA #003-18168-00286, issued on April 15, 2004, the existing furnaces shall comply with the following:

(a) The combined input of aluminum scrap to reverberatory furnaces #1, #2, #3, and #4 shall not exceed 300,000,000 pounds per twelve consecutive month period.

(b) NO_x emissions from each furnace shall not exceed 0.26 pounds per ton of aluminum scrap processed.

These limits are equivalent to 19.5 tons/yr of NOx emissions from furnaces #1, #2, #3, and #4. Combined with the NOx emissions from other existing units, the NOx emissions from the entire source are limited to less than 100 tons/yr. The source proposed to continue comply with these limits for the new furnace #3 after this modification. Therefore, the NOx emissions from the entire source will still be limited to less than 100 tons/yr after this modification and this source is a minor source under Nonattainment NSR.

326 IAC 2-2 (Prevention of Significant Deterioration)

The existing source was constructed in 2000 and is in one of 28 source categories. Pursuant to AA #003-18168-00286, issued on April 15, 2004, the existing furnaces shall comply with the following:

(a) The combined input of aluminum scrap to reverberatory furnaces #1, #2, #3, and #4 shall not exceed 300,000,000 pounds per twelve consecutive month period with compliance determined at the end of each month.

(b) The amount of flux used in each furnace shall be limited to 11,205,135 pounds per twelve consecutive month period with compliance determined at the end of each month.

(c) The PM emissions from each furnace shall not exceed 0.1 pounds per ton aluminum melted.

(d) The PM10 emissions from each furnace shall not exceed 0.1 pounds per ton aluminum melted.

This is equivalent to 7.5 tons/yr for PM/PM10 emissions from furnaces #1, #2, #3, and #4. Combined with the PM/PM10 emissions from other existing units, the PM/PM10 emissions from the entire source are limited to less than 100 tons/yr. Therefore, the existing source is a PSD minor source.

The proposed furnace #3 has potential to emit PM and PM10 greater than 100 tons/yr before control. The source proposed to comply with the limits above for the new furnace #3 through the use of baghouse L. Therefore, the PM/PM10 emissions from the entire source will still be limited to less than 100 tons/yr after this modification and the requirements of 326 IAC 2-2 (PSD) are not applicable.

326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants)

The potential to emit from the proposed furnace #3 is greater than 10 tons/yr for a single HAP and greater than 25 tons/yr for total HAPs. However, this furnace is subject to the provisions of 40 CFR 63, Subpart RRR (National Emission Standards for Hazardous Air Pollutants, for Secondary Aluminum Production). Therefore, the requirements of 326 IAC 2-4.1 are not applicable.

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 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%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

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

326 IAC 6-3 (Process Operations)

Particulate emissions from the proposed furnace, when operating at a process weight of 14 tons per hour, shall be limited to 24.0 pounds per hour based on the following equation:

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

326 IAC 7-1.1-2 (Sulfur Dioxide Emission Limitations)

The potential to emit SO_2 of the proposed furnace is less than 25 tons/yr. Therefore, the requirements of 326 IAC 7-1.1-2 are not applicable.

326 IAC 8-1-6 (Volatile Organic Compounds)

The potential VOC emissions of the proposed furnace are less than 25 tons/yr. Therefore, the requirements of 326 IAC 8-1-6 (BACT) are not applicable.

Testing Requirements

Within 180 days after initial startup, the Permittee shall perform PM, PM10, NOx, HCl, and D/F testing for Furnace #3 using methods as approved by the Commissioner, in order to demonstrate compliance with 40 CFR 63, Subpart RRR, 326 IAC 2-2, and 40 CFR 51, Appendix S. These test shall be repeated at least once every two and one-half (2.5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with Section C - Performance Testing. PM10 includes filterable and condensible PM10.

Compliance Requirements

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

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

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

1. The proposed furnace #3, which will be controlled by baghouse L, has applicable compliance monitoring conditions as specified below:

   (a) The Permittee shall record the total static pressure drop across the baghouse equipped with the furnace #3 at least once per shift when furnace #3 is in operation and venting to the atmosphere. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across the baghouse shall be maintained within the range of 1.0 to 8.0 inches of water or a range established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for any one reading.

   (b) An inspection shall be performed each calendar quarter of all bags controlling furnace #3. Inspections required by this condition shall not be performed in

consecutive months. All defective bags shall be replaced. In the event that bag failure has been observed:

(1) For multi-compartment units, the affected compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) business hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. 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. If operations continue after bag failure is observed and it will be 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.

(2) For single compartment baghouses, failed units and 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.

[Note: Visible emission notation is not required because the source is required to install, calibrate, maintain, and continuously operate a bag leak detection system with baghouse L, pursuant to 40 CFR 63.1510(f).]

These monitoring conditions are necessary because the baghouse used to control particulate emissions from furnace #3 must operate properly to ensure compliance with 40 CFR 63, Subpart RRR, 326 IAC 2-2 (PSD), and 326 IAC 6-3 (Process Operations).

Proposed Changes

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 a stationary, secondary aluminum production plant.

Responsible Official:	CEO & President, Superior Aluminum Alloys
Source Address:	14214 Edgerton Road, New Haven, Indiana 46774
Mailing Address:	P O Box 678, New Haven, IN 46774
Phone number:	(219) 749-7599
SIC Code:	3341
County Location:	Allen
Source Location Status:	**Nonattainment for ozone under the 8-hour standard** Attainment for all **other** criteria pollutants
Source Status:	Part 70 Permit Program Minor Source, under PSD **and Nonattainment NSR Rules**

...

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

This stationary source consists of the following emission units and pollution control devices:

(a) Four (4) natural gas-fired Reverberatory Furnaces, identified as furnace #1 (constructed in 2002), furnace #2 (constructed in 2001), furnace #3 (constructed in ~~2000~~**2004**) and furnace #4 (constructed in 2002), each with: a maximum capacity of 28,000 pounds of aluminum scrap per hour, chlorine flux of 10,233 pounds per eight-hour charge, and a heat input capacity of 28 MMBtu/hr, emissions controlled by four (4) fabric filter

baghouses with **continuous** lime injection ~~(baghouses E and F are manually lime injected, baghouses L and N are equipped with continuous lime injection)~~, with furnaces #1 and #2 exhausting to stacks E and F, furnace #3 exhausting to stack L, and furnace #4 exhausting to stack N, respectively.

. . . .

SECTION D.1 FACILITY OPERATION CONDITIONS

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

(a) Four (4) natural gas-fired Reverberatory Furnaces, identified as furnace #1 (constructed in 2002), furnace #2 (constructed in 2001), furnace #3 (constructed in ~~2000~~**2004**) and furnace #4 (constructed in 2002), each with: a maximum capacity of 28,000 pounds of aluminum scrap per hour, chlorine flux of 10,233 pounds per eight-hour charge, and a heat input capacity of 28 MMBtu/hr, emissions controlled by four (4) fabric filter baghouses with **continuous** lime injection ~~(baghouses E and F are manually lime injected, baghouses L and N are equipped with continuous lime injection)~~, with furnaces #1 and #2 exhausting to stacks E and F, furnace #3 exhausting to stack L, and furnace #4 exhausting to stack N, respectively.

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

D.1.1 Prevention of Significant Deterioration (PSD) **and Nonattainment NSR Minor Limits** [326 IAC 2-2] ~~[40 CFR 52.21]~~ **[326 IAC 2-1.1-5]**

The following conditions apply to Reverberatory Furnaces #1 through #4.

(a) The combined input of aluminum scrap to reverberatory furnaces #1, #2, #3, and #4 shall not exceed 300,000,000 pounds per twelve consecutive month period **with compliance determined at the end of each month**. This aluminum feed/charge limit, in combination with the unlimited NO_x emissions from the Scrap Dryer, and Melt Pots, will effectively limit the source's potential to emit nitrogen oxides (NO_x) to less than 100 tons per twelve (12) consecutive month period. ~~with compliance determined at the end of each month.~~

. . . .

Compliance with these limits render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) and ~~40 CFR 52.21~~ **326 2-1.1-5 (Nonattainment NSR)** not applicable.

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

. . . .

(c) In order to demonstrate compliance with Conditions D.1.1 and D.1.3, the Permittee shall perform PM, PM10, NO_x, HCl, and D/F testing for Furnace #3 within 180 days after initial startup, using methods as approved by the Commissioner. These test shall be repeated at least once every two and one-half (2.5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with Section C - Performance Testing. PM10 includes filterable and condensible PM10.

D.1.20 Parametric Monitoring

The Permittee shall record the total static pressure drop across baghouses E, F, L, and N, used in conjunction with the furnaces, at least once per shift when any of the furnaces are in operation when venting to the atmosphere. When for any one reading, the pressure drop across the baghouse is outside the normal range of 1.0 and 8.0 inches of water or a range established during the latest stack test, the Permittee shall take reasonable response steps in accordance

with Section C- Compliance Response Plan - Preparation, Implementation, Records, and Reports. 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 - Compliance Response Plan - Preparation, Implementation, Records, and Reports, shall be considered a ~~violation of~~ **deviation from** this permit.

D.1.22 Broken or Failed Bag Detection

In the event that bag failure has been observed.

(a) For multi-compartment units, the affected compartments will be shut down immediately until the failed units have been repaired or replaced. ~~Operations may continue only if there are no visible emissions or if the event qualifies as an emergency and the Permittee satisfies the emergency provisions of this permit (Section B- Emergency Provisions).~~ Within eight (8) hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) 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 ~~violation of~~ **deviation from** this permit. **If operations continue after bag failure is observed and 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.**

(b) For single compartment baghouses, **if failure is indicated by a significant drop in the baghouse's pressure readings with abnormal visible emissions or the failure is indicated by an opacity violation, or if bag failure is determined by other means, such as gas temperatures, flow rates, air infiltration, leaks, dust traces or triboflows, then** failed units and 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 B - Emergency Provisions).

D.1.23 Record Keeping Requirements

(a) To document compliance with D.1.1, the Permittee shall maintain **monthly** records of the total scrap aluminum and flux charged to each reverberatory furnace ~~for each 12 consecutive month period~~.

. . . . .

D.1.26 Reporting Requirements

A quarterly summary of the information to document compliance with Condition**s** D.1.1**(a) and D.1.1(c)** 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).

The following changes to general conditions were made to SPM # 003-19149-00286:

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

Notwithstanding the conditions of this permit that state specific methods that may be used to demonstrate compliance with, or a violation of, applicable requirements, any

person (including the Permittee) may also use other credible evidence to demonstrate compliance with, or a violation of, any term or condition of this permit.

C.18 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) **In accordance with the compliance schedule specified in 326 IAC 2-6-3(b)(1), starting in 2004 and every three (3) years thereafter, t**~~T~~he Permittee shall submit **by July 1** an ~~annual~~ emission statement **conveying the previous calendar year.**~~certified pursuant to the requirements of 326 IAC 2-6, that must be received by July 1 of each year and must comply with the~~**The emission statement shall contain, at a** minimum**, the information** requirements specified in 326 IAC 2-6-4**(c)**~~. The annual emission statement~~**and** shall meet the following requirements:

(1) Indicate estimated actual emissions of ~~criteria~~**all** pollutants **listed in 326 IAC 2-6-4(a)**~~from the source, in compliance with 326 IAC 2-6 (Emission Reporting)~~;

(2) Indicate estimated actual emissions of other regulated pollutants ~~(~~as defined by 326 IAC 2-7-1~~)~~ **("Regulated pollutant, which is used only for purposes of Section 19 of this rule")** from the source, for purposes of Part 70 fee assessment.

~~(b) The annual emission statement covers the twelve (12) consecutive month time period starting January 1 and ending December 31.~~ The ~~annual emission~~ statement must be submitted to:

Indiana Department of Environmental Management
Technical Support and Modeling Section, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

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

(~~c~~**b**) The ~~annual~~ 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.

Conclusion

The construction of this proposed modification shall be subject to the conditions of the attached proposed Part 70 Minor Source Modification No. 003-19085-00286. The operation of this proposed modification shall be subject to the attached proposed Part 70 Significant Permit Modification No. 003-19149-00286.

Appendix A: Emission Calculations
Emissions from the Smelting Process for
The 28 MMBtu/hr Reverberatory Furnace #3

Company Name: Superior Aluminum Alloys, LLC
Address: 14214 Edgerton Rd., New Haven, IN 46774
MSM: 003-19085-00286
Reviewer: ERG/YC
Date: May 21, 2004

Heat Input Capacity MMBtu/hr	Max. Al Input Capacity (lbs/hr)
28.0	28,000

	Pollutant					
	*PM	*PM10	**SO_2	***NO_x	*VOC	****CO
Emission Factor	4.3 (lbs/ton)	2.8 (lbs/ton)	0.09 (lbs/ton)	0.25 (lbs/ton)	0.2 (lbs/ton)	84.0 (lbs/MMCF)
Potential to Emit in tons/yr	**264**	**172**	**5.52**	**15.3**	**12.3**	**10.3**

*Emission factors for PM, PM10, and VOC are from FIRE, Version 6.23, SCC 3-04-001-03.
**Emission factor for SO_2 is from stack test results on January 10, 2000 for a similar unit.
***Emission factor for NOx is provided by the manufacturer, which is greater than the NOx emission factor in AP-42 for natural gas combustion.
**** Emission factor for CO is from AP-42, Chapter 1.4, Tables 1.4-1 (AP-42, 03/98)

Methodology

PTE of PM, PM10, SO_2, NOx, VOC (tons/yr) = Max. Al Input (lbs/hr) x 1 ton/2000 lbs x Emission Factor (lbs/ton) x 8760 hr/yr x 1 ton/2000 lbs
PTE of CO (tons/yr) = Max. Heat Input (MMBtu/hr) / 1,000 (MMCF/MMBtu) x Emission Factor (lbs/MMCF) x 8760 hr/yr x 1 ton/2000 lbs

Appendix A: Emission Calculations
Emissions from the Fluxing, Pouring, and Casting Processes for
The 28 MMBtu/hr Reverberatory Furnace #3

Company Name: Superior Aluminum Alloys, LLC
Address: 14214 Edgerton Rd., New Haven, IN 46774
MSM: 003-19085-00286
Reviewer: ERG/YC
Date: May 21, 2004

Max. Flux Usage (lbs/hr)	Max. Al Input Capacity (lbs/hr)
1,279	28,000

	Pollutant					
	*PM	*PM10	**SO_2	**NO_x	**VOC	CO
Emission Factor	1000 (lbs/ton of Flux)	532 (lbs/ton of Flux)	0.02 (lbs/ton of Al)	0.01 (lbs/ton of Al)	0.14 (lbs/ton of Al)	-
Potential to Emit in tons/yr	**2,801**	**1,490**	**1.23**	**0.61**	**8.58**	-

* Emission factors for PM and PM10 are from FIRE, Version 6.23, SCC 3-04-001-04, for secondary aluminum fluxing process.
** Emission factors for SO_2, NOx, and VOC are from FIRE, Version 6.23, SCC 3-04-001-14, for secondary aluminum pouring/casting process.

Methodology

PTE (tons/yr) = Max. Flux Usage (lbs/hr) x 1 ton/2000 lbs x Emission Factor (lbs/ton) x 8760 hr/yr x 1 ton/2000 lbs