Mr. Shuji Miyamoto
M.C.Aluminum America, Inc.
6875 South Inwood Drive
Columbus, IN 47201

Re:**SMF 005-8925-00043**
Significant Modification to Federally Enforceable State Operating Permit (FESOP) F-005-5548-00043

Dear Mr.Miyamoto:

On December 11, 1996, the Office of Air Management (OAM) issued a Construction and Operation Permit for a secondary aluminum smelting facility consisting of chip drying operations and reverbatory furnaces with associated processses. On August 27, 1997, OAM received a request to construct and operate an additional natural gas fired 30 MT reverbatory furnace (RF #3) with emissions controlled by an existing baghouse (BH #3).

There will be no increase in emissions above those presently allowed under the original FESOP Therefore FESOP F-005-5548-00043 is hereby modified by the addition of the attached pages. All other permit conditions and limitations shall remain unchanged and in force. Please attach a copy of this modification to the original FESOP.

Sincerely,

Paul Dubenetzky, Chief
Permits Branch
Office of Air Management

WEM
cc: File-Bartholomew County
Bartholomew County Health Department
Air Compliance Section Inspector D. J. Knotts
Compliance Data Section - Jerri Curless
Permit Branch Tracking - Janet Mobley
Technical Support and Modeling - Nancy Landau

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
and
Enhanced New Source Review

OFFICE OF AIR MANAGEMENT

M.C. Aluminum America, Inc.
6875 South Inwood Drive
Columbus, IN 47201

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

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 and contains the conditions and provisions specified in 326 IAC 2-8 and 40 CFR Part 70.6 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments) and IC 13-15 and IC 13-17 (prior to July 1, 1996, IC 13-1-1-4 and IC 13-7-10).

Operation Permit No.: F005-5548-00043	
Issued by: Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date: December 11, 1996

First Significant Permit Modification SMF 005-8925	Pages Affected: 3,4,21,28,

Issued by: Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date:

TABLE OF CONTENTS

Section	Description	Page No.
C	**SOURCE OPERATION CONDITIONS**	**16**
D.1	**FACILITY OPERATION CONDITIONS**	**21**
	One (1) natural gas-fired chip dryer (#1) rated at 1.59 million British thermal units per hour, known as EU-04, equipped with a 1.98 million British thermal units per hour afterburner and a cyclone/baghouse, capacity: 4,400 pounds per hour. One (1) natural gas-fired chip dryer (#2) rated at 3.26 million British thermal units per hour, known as EU-05, equipped with a 13.04 million British thermal units per hour afterburner, known as EU-01C, and a baghouse, capacity: 8,419 pounds per hour. One (1) natural gas-fired 20 metric ton burner rated at 15 million British thermal units per hour, known as EU-01A, capacity: 4,160 pounds per hour. One (1) natural gas-fired 40 metric ton burner rated at 18 million British thermal units per hour, known as EU-01B, capacity: 7,650 pounds per hour. One (1) 20 metric ton reverberatory furnace, known as EU-03, equipped with a baghouse, capacity: 4,260 pounds per hour. One (1) 40 metric ton reverberatory furnace, known as EU-02, equipped with a baghouse, capacity: 8,050 pounds per hour. One (1) rotary furnace, known as EU-06, equipped with a baghouse, capacity: 2,000 pounds per hour. One (1) holding furnace, known as EU-07, capacity: 40,000 pounds per hour poured. One (1) casting area, known as EU-08, capacity: 20,000 pounds per hour. ***One (1) 30 metric ton reverberatory furnace, known as RF #3, capacity: 6,150 pounds per hour.***	
	FORMS	
	Certification Form	**25**
	Deviation Reporting Forms (2)	**26, 27**
	Reporting Forms (2)	**28, 29**
	Total Number of Permit Pages	**29**
	Total Number of Forms	**5**
	Technical Support Document	**8**
	Emissions Calculations	

SECTION A SOURCE SUMMARY

A.1 General Information

The Permittee owns and operates a secondary aluminum smelting source.

Responsible Official:	Shuji Miyamoto
Source Address:	6875 South Inwood Drive, Columbus, Indiana 47201
Mailing Address:	6875 South Inwood Drive, Columbus, Indiana 47201
SIC Code:	3341
County Location:	Bartholomew
County Status:	Attainment for all criteria pollutants
Source Status:	Synthetic Minor Source, FESOP Program

A.2 Emission Units and Pollution Control Summary

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

a) One (1) natural gas-fired chip dryer (#1) rated at 1.59 million British thermal units per hour, known as EU-04, equipped with a 1.98 million British thermal units per hour afterburner and a cyclone/baghouse, capacity: 4,400 pounds per hour.

b) One (1) natural gas-fired chip dryer (#2) rated at 3.26 million British thermal units per hour, known as EU-05, equipped with a 13.04 million British thermal units per hour afterburner, known as EU-01C, and a baghouse, capacity: 8,419 pounds per hour.

c) One (1) natural gas-fired 20 metric ton burner rated at 15 million British thermal units per hour, known as EU-01A, capacity: 4,160 pounds per hour.

d) One (1) natural gas-fired 40 metric ton burner rated at 18 million British thermal units per hour, known as EU-01B, capacity: 7,650 pounds per hour.

e) One (1) 20 metric ton reverberatory furnace, known as EU-03, equipped with a baghouse, capacity: 4,260 pounds per hour.

f) One (1) 40 metric ton reverberatory furnace, known as EU-02, equipped with a baghouse, capacity: 8,050 pounds per hour.

g) One (1) rotary furnace, known as EU-06, equipped with a baghouse, capacity: 2,000 pounds per hour.

h) One (1) holding furnace, known as EU-07, capacity: 40,000 pounds per hour poured.

i) One (1) casting area, known as EU-08, capacity: 20,000 pounds per hour.

j) One (1) 30 metric ton reverberatory furnace, known as RF #3, capacity: 6,150 pounds per hour.

A.3 Insignificant Activities

This stationary source also includes the following insignificant activities, as defined in 326 IAC 2-7-1(20):

a) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) British thermal units per hour.

b) A petroleum fuel, other than gasoline, dispensing facility, having a storage capacity of less than or equal to 10,500 gallons, and dispensing less than or equal to 230,000 gallons per month.

SECTION D.1

FACILITY OPERATION CONDITIONS

One (1) natural gas-fired chip dryer (#1) rated at 1.59 million British thermal units per hour, known as EU-04, equipped with a 1.98 million British thermal units per hour afterburner and a cyclone/baghouse, capacity: 4,400 pounds per hour.

One (1) natural gas-fired chip dryer (#2) rated at 3.26 million British thermal units per hour, known as EU-05, equipped with a 13.04 million British thermal units per hour afterburner, known as EU-01C, and a baghouse, capacity: 8,419 pounds per hour.

One (1) natural gas-fired 20 metric ton burner rated at 15 million British thermal units per hour, known as EU-01A, capacity: 4,160 pounds per hour.

One (1) natural gas-fired 40 metric ton burner rated at 18 million British thermal units per hour, known as EU-01B, capacity: 7,650 pounds per hour.

One (1) 20 metric ton reverberatory furnace, known as EU-03, equipped with a baghouse, capacity: 4,260 pounds per hour.

One (1) 40 metric ton reverberatory furnace, known as EU-02, equipped with a baghouse, capacity: 8,050 pounds per hour.

One (1) rotary furnace, known as EU-06, equipped with a baghouse, capacity: 2,000 pounds per hour.

One (1) holding furnace, known as EU-07, capacity: 40,000 pounds per hour poured.

One (1) casting area, known as EU-08, capacity: 20,000 pounds per hour.

One (1) 30 metric ton reverberatory furnace, known as RF #3, capacity: 6,150 pounds per hour.

Emissions Limitations [326 IAC 2-8-4(1)]

D.1.1 Volatile Organic Compound

a) Pursuant to 326 IAC 8-1-6 (Best Available Control Technology), and CP-005-4005, issued on December 30, 1994, the afterburners shall be in operation at all times that the chip dryers are in operation.

b) The volatile organic compound (VOC) emissions from the secondary aluminum smelting processes shall be limited to 8.25 tons per month. Therefore, the requirements of 326 IAC 2-7 do not apply. Initially emission shall be determined based on the emission factors provided. Upon completion of an acceptable test of the thermal oxidizer these shall be revised accordingly.

D.1.2 Hazardous Air Pollutants

The hazardous air pollutant emissions shall be limited as follows:

The amount of flux added to each of the ***three (3)*** reverberatory furnaces shall not exceed 16.7 tons per month and the amount of chlorine added to the ***30 and*** 40 metric ton reverberatory furnace***s*** shall not exceed 11.8 tons per month.

a) A single hazardous air pollutant (HAP) emissions shall not exceed 0.75 tons per month.

b) Any combination of HAPs emissions shall not exceed 2.00 tons per month.

Therefore, the requirements of 326 IAC 2-7 do not apply.

D.1.3 Particulate Matter

a) Pursuant to 326 IAC 6-3 (Process Operations), the particulate matter emissions from the secondary aluminum smelting shall not exceed 13.9 pounds per hour.

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

FESOP Quarterly Report

Source Name: M.C. Aluminum America, Inc.
Source Address: 6875 South Inwood Drive, Columbus, Indiana 47201
FESOP No.: F 005-5548-00043
Parameter: HAPs
Limit: 0.75 tons per month for individual HAP
2.00 tons per month for combination of HAPs
Equivalent to 33.4 tons per month of flux and 11.8 tons per month of chlorine

Year: _____

Month	Total Flux Added to Reverberatory Furnaces (tons)	Chlorine Added to ***30 and*** 40 MT Reverberatory Furnace***s*** (tons)

9 No deviation occurred in this quarter.

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

Submitted by: _____

Title/Position: _____

Signature: _____

Date: _____

Indiana Department of Environmental Management (IDEM)
Office of Air Management

Technical Support Document (TSD) for a Significant Modification to a FESOP

Source Background and Description

Source Name: M.C.Aluminum America, Inc.
Source Location: 6875 South Inwood Drive, Columbus, IN 47201
County: Bartholomew
Construction Permit No.: 005-8925
SIC Code: 3341
Permit Reviewer: W.E.McPhail

The Office of Air Management (OAM) has reviewed an application from M.C.Aluminum America, Inc. relating to the construction and operation of one (1) reverbatory furnace, consisting of the following equipment:

(a) One (1) 17.2 MMBtu/hr natural gas fired 30 MT reverbatory furnace with a maximum process rate of 6155 lb Al/hr.

As provided for in 326 IAC 2-1-3.2, this modification is undergoing Enhanced New Source Review to meet the requirements of 326 IAC 2-1-3 and 326 IAC 2-8.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (Inches)	Flow Rate (acfm)	Temperature (^{0}F)
S-6	Baghouse	45	42	31,000	255

Recommendation

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

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

A complete application for the purposes of this review was received on August 27, 1997.

Emissions Calculations

See Appendix A for detailed calculations (2 pages).

Total Potential and Allowable Emissions

Pollutant	Allowable Emissions		Potential Emissions	
	(lb/day)	(ton/yr)	(lb/day)	(ton/yr)
PM	209.04	38.15	384.0	70.0
SO_2	0.25	0.045	0.25	0.045
VOC	negligible	negligible	negligible	negligible
CO	14.45	2.64	14.45	2.64
NOx	57.80	10.55	57.80	10.55
Single HAP	35.92	6.55	35.92	6.55
Combination of HAPs	36.01	6.57	36.01	6.57

(a) Allowable emissions are determined from the applicability of rule 326 IAC 326 IAC 6-3-2.
Allowable PM emissions = $4.10 * P^{0.67} = 4.10 * (3.08^{0.67})$ = 8.71 lb/hr
= 209.04 lb/day
= 38.15 ton/yr

(b) The allowable emissions based on the rules cited are less than the potential emissions, therefore, the allowable emissions are used for the permitting determination..

County Attainment Status

(a) Volatile organic compounds (VOC) and oxides of nitrogen are precursors for the formation of ozone. Therefore, VOC and NOx emissions are considered when evaluating the rule applicability relating to the ozone standards. Bartholomew County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

(b) Bartholomew County has been classified as attainment or unclassifiable for all pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

Part 70 Permit Determination

326 IAC 2-8 (FESOP) and 326 IAC 2-7 (Part 70 Permit Program)
This existing source has been issued a FESOP (F-005-5548-00043) on December 11, 1996.

Federal Rule Applicability

There are no New Source Performance Standards, 326 IAC 12, (40 CFR Part 60) applicable to this facility.

There are no New Source Toxics Control 326 IAC 2-1-3.4, (40 CFR Part 63) applicable to this facility.

State Rule Applicability

326 IAC 5-1-2 (Visible Emission Limitations)

Pursuant to this rule, the visible emissions shall meet the following:

(a) visible emissions shall not exceed an average of 40% opacity in 24 consecutive readings.

(b) visible emissions shall not exceed 60% opacity for more than a cumulative total of 15 minutes (60 readings) in a 6-hour period.

326 IAC 6-4 (Fugitive Dust Emissions)

Pursuant to this rule, if fugitive dust is visible crossing the boundary or property line of the source, the source is in violation of this fugitive dust rule. Observations of visible emissions crossing the property line of the source at or near ground level must be made by a qualified representative of IDEM.

326 IAC 6-3 (Process Operations)

This facility is subject to 326 IAC 6-3 (Process Operations), because it is not one of the listed exempted processes.

P = process weight in ton/hr = 10,000 gal/day * 8.33 lb/gal * day/24 hr = 1.74 ton/hr

Allowable PM emissions $= 4.10 * P^{0.67} = 4.10 * (3.08^{0.67})$ = 8.71 lb/hr
= 209.04 lb/day
= 38.15 ton/yr

Based on this calculations, the controlled potential emissions are less than the allowable emissions, therefore, this process complies with the rule.

Air Toxic Emissions

Indiana presently requests applicants to provide information on emissions of the 187 hazardous air pollutants set out in the Clean Air Act Amendments of 1990. These pollutants are either carcinogenic or otherwise considered toxic and are commonly used by industries. They are listed as air toxics on the Office of Air Management (OAM) Construction Permit Application Form Y.

(a) This permit modification will emit levels of air toxics less than those which constitute a major source according to Section 112 of the 1990 Amendments to Clean Air Act.

(b) See attached spreadsheets for detailed air toxic calculations.

Conclusion

The construction of this reverbatory furnace will be subject to the conditions of the attached proposed **Significant Modification No. SMF-005-8925, Plt ID No. 005-00043.**

Indiana Department of Environmental Management (IDEM)
Office of Air Management

Appendix A
to the
Technical Support Document (TSD) for a Significant Modification to a FESOP

Source Name: M.C.Aluminum America, Inc.
Source Location: 6875 South Inwood Drive, Columbus, IN 47201
County: Bartholomew
Construction Permit No.: 005-8925
SIC Code: 3341
Permit Reviewer: W.E.McPhail

Emission Calculations

PM

EF = 0.96 lb PM/hr * hr/7404 lb Al * 2000 lb Al/ton Al = 0.26 lb PM/ton Al

Emissions after controls

0.26 lb PM/ton Al * 6155 lb Al/hr * ton Al/2000 lb Al * 24 hr/day = 0.8 lb/hr
= 19.2 lb/day
= 3.5 ton/yr

Emissions before controls

0.8 lb/hr * 1/.05 = 16.0 lb/hr
19.2 lb/day * 1/.05 = 384.0 lb/day
3.5 ton/yr * 1/.05 = 70.0 ton/yr

Allowable emissions

$E = 4.10 * P^{0.67} = 4.10 * (3.08^{0.67}) = 8.71$ lb/hr
= 209.04 lb/day
= 38.15 ton/yr

SO2

0.6 lb/MMCF * 0.0172 MMCF/hr = 0.01 lb/hr
= 0.25 lb/day
= 0.045 ton/yr

NOx

140 lb/MMCF * 0.0172 MMCF/hr =2.41 lb/hr
= 57.80 lb/day
= 10.55 ton/yr

CO

35.0 lb/MMCF * 0.0172 MMCF/hr = 0.60 lb/hr
= 14.45 lb/day
= 2.64 ton/yr

HCl

3.519 lb/hr * 31.3 lb/hr / 73.6 lb/hr = 1.50 lb/hr
= 35.92 lb/day
= 6.55 ton/yr

Cl2

0.009 lb/hr * 31.3 lb/hr / 73.6 lb/hr = 0.004 lb/hr
= 0.09 lb/day
= 0.02 ton/yr