Facility Name: Tifton Aluminum Company, Inc.
City: Tifton
County: Tift
AIRS #: 04-13-277-00012 Application #: TV- 9368

Date Application Received: October 23, 1996, updated August 27, 1998
Date Application Deemed Administratively Complete: April 16, 1997
Date of Draft Permit:
Permit No: 3354-277-0012-V-01-0

Program	Review Engineers	Review Managers
SSPP/ASU	Pamela Mallari	James Capp
SSCP/ASU	Richard McDonald	Lou Musgrove
ISMP	Deanna Garrison	Michael Fogle
TOXICS	Karen Hays	Neeraj Verma

Introduction

This narrative is being provided to assist the reader in understanding the content of the attached draft Title V operating permit. Complex issues and unusual items are explained in simpler terms and/or greater detail than is sometimes possible in the actual permit. This permit is being proposed pursuant to: (1) Section 391-3-1-.03(10) of the Georgia Rules for Air Quality Control, (2) Part 70 of Chapter I of Title 40 of the Code of Federal Regulations, and (3) Title V of the Clean Air Act Amendments of 1990. The primary purpose of this permit is to consolidate and identify existing state and federal air requirements applicable to Tifton Aluminum Company, Inc. and to provide practical methods for determining compliance with these requirements. The following narrative is designed to accompany the draft permit and is presented in the same general order as the permit. It initially describes the facility receiving the permit, then the applicable requirements and their significance, and finally the methods for determining compliance with those applicable requirements. This narrative is intended only as an adjunct for the reviewer and has no legal standing. Any revisions made to the permit in response to comments received during the public participation process will be described in an addendum to this narrative.

I. Facility Description

1. Facility Name: Tifton Aluminum Company, Inc.

2. Parent/Holding Company Name: Aluminum Company of America

3. Previous and/or Other Name(s): No previous names identified.

4. Facility Location: 250 Southwell Boulevard
   Tifton, Georgia 31794

5. Attainment or Non-attainment Area Location

   The facility is located in Tifton County, Georgia, which is in attainment for all criteria pollutants.

6. Class I Area Impacts

   The facility is not located within 100 km of a Class I area.

B. Site Determination

There are no applicable issues with regard to site determination. There are no other facilities which could possibly be contiguous or adjacent and under common control.

C. Existing Permits

Table 1 below lists all current permits (including Part 71 permits), as amended, issued to the facility. Based on a comparative review of Item 19 in Section 1.10 of the Title V application and the "Permit" file(s) on the facility found in the Air Branch office, there are no comments.

Table 1: List of Current Permits, as Amended

Permit Number and/or Purpose of Issuance	Date of Issuance and Date of Amendments (if any)	Comments	
		Yes	No
3354-137-3383-O Operation of a paint line	May 1, 1975		✓
3354-137-9298 Operation of an aluminum extrusion plant	April 1, 1986		✓
3354-137-9298 Amended to allow the construction and operation of a die cleaning process, an anodizing process, and the associated scrubbers for the control of air pollution	May 27, 1993		✓
3354-137-9298 Amended to allow a switch from sulfur hexafluoride in the degassing process to chlorine flux	May 15, 1998		✓

D. Process Description

1. SIC Code(s): Major - 3354
   Other - none

2. Description of Product(s)

This facility produces extruded aluminum architectural and other building products.

3. Overall Facility Process Description

The facility receives aluminum ingots or logs and steel blanks. The ingots are melted in one of two melting or reverberatory furnaces. A degassing flux is used during the melting process to remove soluble gases and then the aluminum is cast into logs. Dyes are cut from the steel blanks in the die manufacture area, and then heated prior to extrusion. The logs are also heated and then extruded through steel dyes into aluminum parts. A portion of these extruded aluminum parts are sold. Another portion of the aluminum parts are painted in two large paint booths. The balance of the parts are surface treated in a series of anodizing baths to give the surfaces different finishes.

4. Overall Process Flow Diagram (optional)

Received as a hard copy attachment with the application.

E. Regulatory Status

1. PSD/NSR

The facility is a true minor source under PSD/NSR regulations.

2. Title V Major Source Status by Pollutant

Table 3: Title V Major Source Status

Pollutant	Is the Pollutant Emitted?	If emitted, what is the facility's Title V status for the Pollutant?		
		Major Source Status	Major Source Requesting SM Status	Non-Major Source Status
PM	yes			✓
PM_{10}	yes			✓
SO_2	yes			✓
VOC	yes			✓
NO_x	yes	✓		
CO	yes			✓
TRS	yes			✓
H_2S	yes			✓
Individual HAP	yes	✓		
Total HAPs	yes	✓		

. 3. MACT Standards

This facility is not subject to a current MACT standard, nor are they potentially subject to a scheduled future MACT standard.

4. Program Applicability

Program Code	Applicable (Yes/No)
Program Code 6 - PSD	No
Program Code 8 - Part 61 NESHAP	No
Program Code 9 - NSPS	No
Program Code M - Part 63 NESHAP	No
Program Code V - Title V	Yes

Regulatory Analysis

II. Facility Wide Requirements

A. Emission and Operating Caps:

Tifton Aluminum has no facility-wide emissions or operating caps.

B. Applicable Rules and Regulations

- Rules and Regulations Assessment - Tifton Aluminum is not subject to any facility-wide air quality rules other than the general provisions in Section VIII.

- Emission and Operating Standards - Not applicable

C. Compliance Status - See Section VII.F.

D. Operational Flexibility - See Section VII.A.

E. Permit Conditions - Not applicable

III. Regulated Equipment Requirements

A. Brief Process Description

The facility receives aluminum ingots or logs and steel blanks. The ingots are melted in one of two melting or reverberatory furnaces. A degassing flux is used during the melting process to remove soluble gases and then the aluminum is cast into logs. Dyes are cut from the steel blanks in the die manufacture area, and then heated prior to extrusion. The logs are also heated and then extruded through steel dyes into aluminum parts. A portion of these extruded aluminum parts are sold. Another portion of the aluminum parts are painted in two large paint booths. The balance of the parts are surface treated in a series of anodizing baths to give the surfaces different finishes.

B. Equipment List for the Process

Emission Units		Specific Limitations/Requirements	Air Pollution Control Devices	
ID No.	Description	Applicable Requirements / Standards	ID No.	Description
F115	Reverberatory Melt Furnace No. 1	GA Rule 391-3-1-.02(2)(e) GA Rule 391-3-1-.02(2)(b)	N/A	N/A
F125	Reverberatory Melt Furnace No. 2	GA Rule 391-3-1-.02(2)(e) GA Rule 391-3-1-.02(2)(b)	N/A	N/A
D205	Die Cleaner Caustic Bath No. 1	GA Rule 391-3-1-.02(2)(e) GA Rule 391-3-1-.02(2)(b)	D829	Die Cleaner Scrubber
D206	Die Cleaner Caustic Bath No. 2	GA Rule 391-3-1-.02(2)(e) GA Rule 391-3-1-.02(2)(b)	D829	Die Cleaner Scrubber

Emission Units		Specific Limitations/Requirements	Air Pollution Control Devices	
ID No.	**Description**	**Applicable Requirements / Standards**	**ID No.**	**Description**
P430	Paint Booths	GA Rule 391-3-1-.02(2)(e) GA Rule 391-3-1-.02(2)(b)	N/A	N/A
A561	Sulfuric Acid Anodizing Bath-Stage No. 1	GA Rule 391-3-1-.02(2)(e) GA Rule 391-3-1-.02(2)(b)	A851	Sulfuric Acid Packed Bed Scrubber No. 1
A562	Sulfuric Acid Anodizing Bath-Stage No. 2	GA Rule 391-3-1-.02(2)(e) GA Rule 391-3-1-.02(2)(b)	A852	Sulfuric Acid Packed Bed Scrubber No. 2
A563	Sulfuric Acid Anodizing Bath-Stage No. 3	GA Rule 391-3-1-.02(2)(e) GA Rule 391-3-1-.02(2)(b)	A853	Sulfuric Acid Packed Bed Scrubber No. 3
A564	Sulfuric Acid Anodizing Bath-Stage No. 4	GA Rule 391-3-1-.02(2)(e) GA Rule 391-3-1-.02(2)(b)	A854	Sulfuric Acid Packed Bed Scrubber No. 4

C. Equipment & Rule Applicability

F115 and F125:

The two open hearth reverberatory furnaces melt aluminum ingots. Small amounts of chlorine flux and additives are incorporated into the molten metal in the furnaces to remove soluble gases, such as hydrogen. Heat is produced by a 15 MMBtu/hr natural gas burner, with liquified petroleum gas backup. While these equipment burn fuel, a GA DNR memo dated June 12, 1997 clarified the application of Georgia Rule 391-3-1-.02(2)(d) "Fuel Burning Equipment" to include "equipment which furnish process heat indirectly, through transfer by fluids or transmission through process vessel walls." Because the combustion gases in these furnaces come in contact with the aluminum, or process materials, these pieces of equipment are subject to Georgia Rule 391-3-1-.02(2)(e) "Particulate Emission from Manufacturing Processes" based on the following equation:

$$E = 4.1P^{0.67}$$

where E = the allowable PM emission rate in pounds per hour
P = the total dry process weight input rate in ton per hour

These furnaces are also subject to Georgia Rule for Air Quality Control 391-3-1-.02(2)(b). Georgia Rule (b) applies to all sources that are subject to at least one other emission limitation and are not subject to any other, more stringent, opacity standard. Georgia Rule (b) limits visible emissions to 40 percent opacity.

The facility is currently required by their SIP permit to maintain monthly records of chlorine used in the furnaces for compliance with the Georgia Toxics Guideline.

D205 and D206:

Dies are cleaned in these caustic baths, which remove impurities. Both baths are controlled by one die cleaner scrubber. These baths are subject to Georgia Rule 391-3-1-.02(2)(e) "Particulate Emission from Manufacturing Processes" based on the following equation:

$$E = 4.1P^{0.67}$$

where E = the allowable PM emission rate in pounds per hour
P = the total dry process weight input rate in ton per hour

The input rate is based on the input of the dies. According to the facility, the maximum input rate of dies to the baths is 50 dies per hour. The dies range in weight from 40 to 300 pounds, so the average weight of one die is 170 pounds, and the maximum input weight rate to these baths is 4.25 tph. The allowable PM emission rate based on Georgia Rule (e) is 10.81 lb/hr or 47.35 tpy. Actual emissions of 0.18 tpy are calculated based on the input of caustic flakes of 183.6 tpy, 10% loss to the scrubber and 99% control efficiency.

The facility is currently required by their SIP permit to perform monthly inspections of each of the scrubbers that control these baths and to maintain weekly records of the flow rate to the scrubber for compliance with the Georgia Toxics Guideline.

P430:

Electrostatic spray painting of extruded aluminum parts occurs in these two paint booths. The Title V permit application also includes the paint kitchen, flash-off conveyor, and paint bake oven as emission units in this operations group and assigns a source code to each emission unit. However, the paint kitchen and flash-off conveyor are sources of fugitive emissions, and the VOC emissions from all three are accounted for by calculating emissions from the paint booths, the points of application of the paint.

These paint booths are subject to Georgia Rule 391-3-1-.02(2)(e) "Particulate Emission from Manufacturing Processes" based on the following equation:

$$E = 4.1P^{0.67}$$

where E = the allowable PM emission rate in pounds per hour
P = the total dry process weight input rate in ton per hour

These furnaces are also subject to Georgia Rule for Air Quality Control 391-3-1-.02(2)(b). Georgia Rule (b) applies to all sources that are subject to at least one other emission limitation and are not subject to any other, more stringent, opacity standard. Georgia Rule (b) limits visible emissions to 40 percent opacity.

The total potential VOC emissions from these booths are calculated to be 93 tpy. These paint booths are not subject to Georgia Rule for Air Quality Control 391-3-1-.02(2)(ii) because total VOC emissions from this process are less than 100 tpy and the facility is located in an attainment area.

A561, A562, A563, and A564:

The extruded aluminum parts are anodized in these baths by immersion in electrolytic solutions of sulfuric acid. Each bath is controlled by a sulfuric acid packed bed scrubber. These anodizing baths are subject to Georgia Rule 391-3-1-.02(2)(e) "Particulate Emission from Manufacturing Processes" based on the following equation:

$$E = 4.1P^{0.67}$$

where E = the allowable PM emission rate in pounds per hour
P = the total dry process weight input rate in ton per hour

These furnaces are also subject to Georgia Rule for Air Quality Control 391-3-1-.02(2)(b). Georgia Rule (b) applies to all sources that are subject to at least one other emission limitation and are not subject to any other, more stringent, opacity standard. Georgia Rule (b) limits visible emissions to 40 percent opacity.

The facility is currently required by their SIP permit to perform monthly inspections of each of the scrubbers that control these baths and to maintain weekly records of the flow rate to the scrubber for compliance with the Georgia Toxics Guideline.

D. Compliance Status: See Section VII.F

E. Operational Flexibility: See Section VII.A

F. Permit Conditions

Condition 3.4.1 limits the visible emissions from the furnaces, caustic baths, paint line, and anodizing baths (Source Codes F115, F125, D205, D206, OG01, A561, A562, A563, and A564) each to 40 percent opacity based on Georgia Rule (b).

Condition 3.4.2 limits the PM emissions from the reverberatory melt furnaces (Source Codes F115 and F125) each based on Georgia Rule (e).

Condition 3.4.3 limits the PM emissions from the die cleaner caustic baths, the paint booths, and the die cleaner caustic baths (Source Codes D205, D206, P430, A561, A562, A563, and A564) each based on Georgia Rule (e).

IV. Testing Requirements (with Associated Record keeping and Reporting)

A. General Testing Requirements:

This facility is not currently required to perform any emissions testing. However, a condition specifying that the Division can require emissions testing on any emissions unit is included. The test methods to be used to determine compliance with the limitations in Part 3 are listed and a general condition requiring notification of any test and submission of a test plan are also provided.

B. Specific Testing Requirements:

This facility is not currently required to perform any emissions testing.

V. Monitoring Requirements (with Associated Record keeping and Requirements)

A. General Monitoring Requirements:

The standard general monitoring requirements have been included in the permit.

B. Specific Monitoring Requirements:

The Die Cleaner Caustic Baths (Source Codes D205 and D206) and the Sulfuric Acid Anodizing Baths (Source Codes A561, A562, A563, and A564) are subject to Georgia Rules 391-3-1-.02(b) for Visible Emissions and (e) for Particulate Matter. Inconsequential levels of particulate matter are emitted from these sources. Both the Caustic Baths and the Anodizing Baths have packed tower scrubbers (Source Codes D829, A851, A852, A853, and A854, respectively) which were installed primarily for fume control (based upon Georgia Toxics Guideline) and monitoring of scrubber parameters was required in the previous operating permit to track proper operation of the scrubbers. This monitoring is retained and no additional monitoring is required for these sources since it is very unlikely that the applicable emissions limitations will be exceeded.

The Reverberatory Melt Furnaces (Source Codes F115 and F125) are subject to Georgia Rules 391-3-1-.02(b) for Visible Emissions and (e) for Particulate Matter. The furnaces use natural gas; emissions tests for particulate matter showed rates less than 1 pound per hour which is approximately 14 percent of the allowable emissions limit. There is little probability that emissions will exceed the applicable limitations and no periodic monitoring is required.

The Electric Spray Paint Line (Source Code P430) is subject to subject to Georgia Rules 391-3-1-.02(b) for Visible Emissions and (e) for Particulate Matter. The estimated emissions for this line are insignificant (only 4.1 percent of the allowable); therefore, no monitoring is prescribed by the permit.

C. Record Keeping and Reporting Requirements:

Records are required to be kept in a form suitable for inspection or submittal and are required to be maintained for a period of at least five years.

A requirement is included to maintain a record of the monthly usage of chlorine in each of the furnaces (Source Codes F115 and F125).

VI. Other Record Keeping and Reporting Requirements

General Record Keeping and Reporting Requirements:

General requirements for the retention of all records for a period of five years are included and a requirement for prompt reporting shall be as described in Condition 6.1.2.

VII. Specific Requirements

A. Operational Flexibility

Other than the standard conditions (7.1.1, 7.2.1, and 7.2.2), operational flexibility provisions have not been incorporated into this Title V Permit. The applicant did not include any alternative operating scenarios in their Title V Application or request any specific operational flexibility conditions.

B. Alternative Requirements

There are no alternative requirements that need to be incorporated into the Title V Permit.

C. Insignificant Activities

A list of insignificant activities is attached at the end of the Title V Permit. These insignificant emission units may also be seen in Sections 4.10 and 4.50 of the Title V permit application.

D. Temporary Sources

This section is not applicable to this facility. 40 CFR 70.6(e) requires Georgia EPD to provide for the permitting of certain types of temporary sources. This facility currently has no such sources and is unlikely to have such sources in the future.

E. Short-Term Activities

Tifton Aluminum did not report any short-term activities.

F. Compliance Schedule/Progress Reports

The facility is in compliance with all Air Quality Regulations. Therefore, no compliance schedule or progress reports are necessary.

G. Emissions Trading - Not Applicable

H. Acid Rain Requirements

This facility is not subject to any requirements in Title IV of the Clean Air Act.

I. Prevention of Accidental Releases - Not applicable

J. Stratospheric Ozone Protection Requirements

The standard permit condition pursuant to 40 CFR 82 Subpart F has been included in the Title V Permit. These Title VI requirements apply to all air conditioning and refrigeration units containing ozone-depleting substances regardless of the size of the unit or of the source. Since Tifton Aluminum has at least some air conditioners, chillers, and refrigerators, Subpart F is an applicable requirement.

K. Pollution Prevention

This facility is not subject to any specific pollution prevention requirements. Therefore, this section is not applicable.

L. Specific Conditions

This section is included in the permit just in case there are applicable requirements, which need to be included in the Title V Permit, that do not fit in any other section of the permit. No such conditions were identified for this facility, and therefore, this section is not applicable.

VIII. General Provisions

Generic provisions have been included in this permit to address the requirements in 40 CFR Part 70 that apply to all Title V sources, and the requirements in Chapter 391-3-1 of the Georgia Rules for Air Quality Control that apply to all stationary sources of air pollution.

Closing Block: We have reviewed and recommend issuance of draft Permit No. 3354-277-0012-V-01-0

Program	Review Engineers	Dates	Review Managers	Dates
SSPP/ASU				
SSCP/ASU				
ISMP				
TOXICS				

Stationary Source Permitting Program Manager Date

ADDENDUM TO NARRATIVE

Comments from the facility were received regarding extremely minor administrative changes to the permit, which were made. No comments were received from EPA. It should be noted that the facility is potentially subject to the future MACT standard for secondary aluminum manufacturers.