AIR CR-100221472-RP-20170209_SEMIANNUAL

Alcoa USA Corp.
Alcoa Rockdale Operations
4069 Charles Martin Hall Road
Rockdale, TX 76567-0472 USA

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

February 9, 2017

Mr. Mike Wilson, P.E., Director
Air Permits Division (MC 162)
Texas Commission on Environmental Quality (TCEQ)
PO Box 13087
Austin, TX 78711-3087

Re: TCEQ Account No. MM0001T RN100221472
Semi-annual Report under Primary Aluminum MACT
Alcoa Rockdale Operations

Dear Mr. Wilson:

Alcoa Rockdale Operations is subject to the primary aluminum NESHAP as outlined in 40 CFR 63, Subparts A and LL. A requirement of this rule is the submittal of a semi-annual report providing the following information:

- The Performance Test Report, an annual report, as required by 40 CFR Part 63.850(b).
- The Startup, Shutdown, and Malfunction Report, a semi-annual report, as required by 40 CFR Part 63.10(d)(5)(i).
- The Excess Emissions Summary and Continuous Monitoring System Performance Summary Report, a semi-annual report, as required by 40 CFR Part 63.850(d).
- Statement of Accuracy as required for the above reports.

The attached report provides the above information. If any further information is required please call me at 512-446-8379.

Sincerely,

Terry L. Blodgett
Location Asset Manager

cc: Jason Neumann– TCEQ Waco
Steve Thompson– US EPA, Region VI

1. Performance Test Report

A. Name and address of owner or operator:

Alcoa Inc.
201 Isabella St.
Pittsburgh, PA 15212-5858

B. Address of the facility:

Alcoa Inc., Rockdale Operations
PO Box 472
4069 Charles Martin Hall Road
Rockdale, TX 76567

C. The standard subject to:

The anode baking furnace operations are subject to the requirements in 40 CFR Part 63.843 (c). The potlines are subject to the requirements in 40 CFR Part 63.843 (a). The paste production plant (green mill) is subject to the requirements in 40 CFR Part 63.843 (b).

D. Results of all performance tests conducted during the year:

Baking Furnaces
The annual total fluoride (TF) limit for Rockdale anode baking furnaces is 0.20 lbs TF/ton green anode baked (GAB).

The annual polycyclic organic matter (POM) limit for Rockdale anode baking furnaces is 0.18 lbs POM/ton green anode baked.

During the reporting period, no tests were conducted due to curtailment.

Potlines
Rockdale elects to average emissions in the existing potlines in compliance with 40 CFR 63.846 (b). For Rockdale's CWPB2 four operating potlines, the monthly TF limit (lb/ton) is 2.7 lb TF/ton Al. During the reporting period, no tests were conducted due to curtailment.

Month	Monthly TF (lbs TF/ton Al)	Lines Operating	(lb TF/ton Al Limit)
January	0	0	NA
February	0	0	NA
March	0	0	NA
April	0	0	NA
May	0	0	NA
June	0	0	NA
July	0	0	NA
August	0	0	NA
September	0	0	NA
October	0	0	NA
November	0	0	NA
December	0	0	NA
Average	**0**		

Green Mill

No emission limits are specified in the regulations for green mills.

2. Periodic Startup, Shutdown and Malfunction (SSM) Report

This Startup, Shutdown and Malfunction (SSM) Report is provided to meet the requirement of 40 CFR 63.10(d)(5)(i).

A. The company name and address of the affected source(s):

Plant Name:	Alcoa Inc. Rockdale Operations
Street Address:	4069 Charles Martin Hall Road
City, State, Zip Code:	Rockdale, TX 76567

B. Actions taken consistent with Startup, Shutdown and/or Malfunction Plan:

The facility did not experienced startup, shutdown and/or malfunction event(s) during the reporting period and actions taken during these events were consistent with the facility's Startup, Shutdown and Malfunction Plan (SSM Plan).

C. Actions not consistent with Startup, Shutdown and/or Malfunction, but emission limitation not exceeded:

There were no events during the reporting period that deviated from the Startup, Shutdown and/or Malfunction Plan.

D. Malfunctions that caused or may have caused a source to exceed applicable emission limitation:
There were no malfunctions during the reporting period that caused or may have caused a source to exceed applicable emission limitations.

E. Description of revisions made to the SSM Plan during this reporting period:
No other revisions were made to the SSM Plans during this reporting period.

F. The date and time of the startup, shutdown or malfunction.

Green Mill Pitch Fume Treatment System
No startup, shutdown or malfunctions to report.

Baking Furnace 162/164
No startup, shutdown or malfunctions to report.

Baking Furnace 160
No startup, shutdown or malfunctions to report.

Potline Emission Control Systems
No startup, shutdown or malfunctions to report.

G. Statement that actions were consistent with the procedures in the startup, shutdown, and malfunction plan.
All actions taken were consistent with the procedures in the startup, shutdown and malfunction plan(s).

3. Summary Report – Gaseous and Opacity Excess Emission and Continuous Monitoring System Performance

A. The company name and address of the affected source:

Alcoa Inc.
PO Box 472
4069 Charles Martin Hall Road
Rockdale, TX 76567

B. An identification of each hazardous air pollutant monitored at the affected source:

Total Fluoride – monitored at all Potline Primary Control Systems Outlets, Potline Roof Monitors and Anode Bake Furnace Outlets.

Method 315 POMs – monitored at Anode Bake Furnace Outlet

C. The beginning and ending dates of the reporting period:

Beginning: July 1, 2016
Ending: December 31, 2016

D. A brief description of the process units:

Paste Production (Green Mill) – Anodes are manufactured in an ancillary on-site paste production and anode forming plant. Coke and reusable spent anode material are crushed and sized. These materials are mixed together with pitch and formed into self supporting carbonaceous blocks called "green anodes". The green anodes are then cured and baked in the anode bake furnace.

Anode Bake Furnace(s) (Baking Furnace) – Anodes are baked in ring furnaces. The furnaces are a series of interconnected refractory flues connected to side main exhaust manifolds. Green anodes are stacked into the sub-surface pits formed by the interconnecting flues and covered with fluid calcined coke. Natural gas burners supply heat to the furnace and promote the combustion of organic constituents drawn into the

flues during the firing process. The baking process sequences through preheating, firing, and cooling as the green anodes are loaded in either a clockwise or counterclockwise direction around the furnaces. The baked anodes are rodded before being used in the aluminum reduction process.

Primary Aluminum Reduction Potline (Potline) – Aluminum is manufactured in the potline by the electrolytic reduction of alumina in center-worked pre-bake (CWPB2) cells. Direct electrical current passing between pre-baked anodes and the cathode electrically reduces the alumina to aluminum and oxygen. Molten aluminum accumulates on the cathode beneath a layer of molten cryolite bath. Periodically the molten aluminum product is siphoned from beneath the cryolite bath.

E. The emission and operating parameter limitations specified in the relevant standard(s):

The green mill is subject to the requirements in 63.843(b)(1) and (2) for dry coke scrubber equipment. No emission limits are established in the primary aluminum MACT. Continuous parametric monitoring of coke flow and air flow to the dry coke scrubber is required by the rule (63.848(f)).

The baking furnaces are subject to the requirements in 63.843(c)(1) and (2) for single control devices. The baking furnace primary control devices are subject to a total fluoride (TF) limit of 0.20 pound of total fluoride per ton of green anode baked and 0.18 pound of polycyclic organic matter (POM) per ton of green anode baked. Continuous parametric monitoring of alumina flow and air flow to the primary control device (A-446 dry alumina scrubber) is required by the rule (63.848(f)).

The potlines are subject to the requirements in 63.846 for existing potline sources using emission averaging. Based on Table 1 to Subpart LL, a CWPB2 type potline with four (4) lines operating is subject to an average monthly TF limit of 2.7 lb/ton. Subpart LL, 63.848(f) requires continuous parametric monitoring of alumina flow and air flow to the dry alumina scrubbers, water flow and air flow to the wet scrubbers and voltage and secondary current to the electrostatic precipitators.

F. The monitoring equipment manufacturer(s) and model number(s):

Green Mill - Procedair Dry Coke Injection Pitch Fume Scrubber – See Appendix A

Baking Furnaces - See Appendix B

Potlines – See Appendix C

G. The date of the latest CMS certification or audit:

N/A - Part 63.8(d) does not apply to this regulation.

H. The total operating time of the affected source during the reporting period:

Total Green Mill Pitch Fume Treatment System operating time was 0 hours for this reporting period (non-continuous operations).

Total Baking Furnace 162/164 operating time was 0 days or 0 hours for this reporting period.

Total Baking Furnace 160 operating time was 0 days or 0 hours for this reporting period.

Potline 5 operating time was 0 hours for this reporting period.
Potline 6 operating time was 0 hours for this reporting period.
Potline 7 operating time was 0 hours for this reporting period.
Potline 8 operating time was 0 hours for this reporting period.

I. Emission data summary:

Test Results: See Performance Test Report in Section 1.

No excess emissions were measured during the reporting period.

Duration and number of operating limit parametric deviations:

Green Mill
No parametric deviations occurred during the reporting period.

Baking Furnace 162/164, Reactor C1
No parametric deviations occurred during the reporting period.

Baking Furnace 162/164, Reactor C2
No parametric deviations occurred during the reporting period.

Baking Furnace 162/164, Reactor C3
No parametric deviations occurred during the reporting period.

Baking Furnace 162/164, Reactor C4
No parametric deviations occurred during the reporting period.

Baking Furnace 160, Reactor C2

No parametric deviations occurred during the reporting period.

Baking Furnace 160, Reactor C3
No parametric deviations occurred during the reporting period.

Potlines
No parametric deviations occurred during the reporting period.

Breakdown of operating limit parametric deviations:

None

J. CMS Performance summary:

Total CMS downtime during reporting period:

Green Mill - – 0% of the operating time

Baking Furnaces 162/164 – 0% of the operating time

Baking Furnaces 160 – 0% of the operating time

Potlines – 0% of the operating time

Breakdown of CMS downtime:

None

Description of any changes in CMS processes, or controls since the last reporting period:

None

K. The date of the report:

February 9, 2017

4. Statement of Accuracy

In accordance with the requirements of 40 CFR Part 63.10 and Part 63.850, I have reviewed the information contained in this Semi-annual Excess Emissions report in its entirety and to the best of my knowledge, and based on information and belief formed after reasonable inquiry, the statements and information contained in this report are true, accurate and complete.

The name, title, and signature of the responsible official who is certifying the accuracy of the report:

Robyn Gross	Eastern US Manager, Asset Planning & Management
Name of Responsible Official	Title of Responsible Official
Signature of Responsible Official	Date 2/7/2017

Appendix A

Green Mill Pitch Fume Treatment System

Coke Fines Injection System
Procedair Industries Sonair Pulse Jet (Project 10-0387)

Model Sonair 1015-690-10612

Baghouse Design Parameters	
- Design Gas volume at baghouse inlet	35,000 ACFM
- Gas Temperature	50 – 130°F
- Number of bags	690
- Cloth area	10,612 ft^2

Appendix B

Equipment Manufacturers and Model Numbers for Operating Parameter Monitoring

Carbon Bake Fume Treatment System

Furnaces 162/164

Fan Amps:

Square D Current Transformer; 600:5 Ratio, Type 74, Cat# 74-601
Acromag AC Current Transmitter, Model 1710/CAC-U-1
Allen Bradley Module, No. 1771- IFE
Allen Bradley PLC, Model 560

Alumina Feed:

Turck Proximity Switch, Model NI-20-CP40-FDZ30X2
Allen Bradley Module, No. 1778- IAC
Allen Bradley PLC, Model 560

Furnace 160

Fan Amps:

Square D Current Transformer; 600:5 Ratio, Type 74, Cat# 100R-601
Yokogawa/Juxta CT signal converter Cat# VJB1-016-BAN1
Logix Module No. 1756-IF16
Logix5562 PLC No. 1756-L62

Alumina Feed:

Turck Proximity Switch, Model NI-20-CP40-FDZ30X2
Logix Module No. 1756-IA161
Logix5562 PLC No. 1756-L62

Appendix C

Equipment Manufacturers and Model Numbers for Operating Parameter Monitoring

Potline Fume Treatment Systems

All Potlines

1. PC – SCADAlarm, Wonderware, Model 04-9009
2. PC – Database, Microsoft, Access 2000

Potline 5

Fan Amps:

1. Current Transformer 400:5 A, Instrument Transformers Inc., Model Cat. 56RBT-501
2. Current Transmitter, Acromag, Model 1701 CAC-U-1-C
3. PLC Input Module, Modicon, Model 140 ACI 030 00
4. PLC, Modicon, Model TRX Quantum 484

Alumina Feed:

1. Variable Frequency Drive, Allen-Bradley, Model 160-BA03NSF1P1
2. PLC Output Module, Modicon, Model 140 ACO 020 00
3. PLC, Modicon, Model TRX Quantum 484

Potline 6

Fan Amps:

1. Current Transformer 500:5 A, Instrument Transformers Inc., P/N Y25645-008-03
2. Current Transmitter, Acromag, Model 1701 CAC-U-1-C
3. PLC Input Module, Allen-Bradley, Model 1746-NI8
4. PLC, Allen-Bradley, Model SLC 5/04

Water Flow:

1. Flow Meter, Panametrics, Model XMT 868
2. PLC Input Module, Allen-Bradley, Model 1746-NI8
3. PLC, Allen-Bradley, Model SLC 5/04

ESP Primary Volts:

1. Controller, BHA, Model Power Guard SQ-300
2. Modem, BHA, Model LDM-70
3. PC Database, XYCOM, Model 9645 Industrial Workstation
4. PLC Input Module, Allen-Bradley, Model 1746-NI8
5. PLC, Allen-Bradley, Model SLC 5/04

ESP Secondary Current:

1. Controller, BHA, Model Power Guard SQ-300
2. Modem, BHA, Model LDM-70
3. PC Database, XYCOM, Model 9645 Industrial Workstation
4. PLC Input Module, Allen-Bradley, Model 1746-NI8
5. PLC, Allen-Bradley, Model SLC 5/04

Potline 7

Fan Amps:

1. Current Transformer 400:5 A Type CTR, Westinghouse, Model 608A542G02
2. Current Transmitter, Acromag, Model 1701 CAC-U-1-C
3. PLC Input Module, Modicon, Model 140 ACO 020 00
4. PLC, Modicon, Model TRX Quantum 484

Alumina Feed:

1. Variable Frequency Drive, Allen-Bradley, Model 160-BA03NSF1P1
2. PLC Output Module, Modicon, Model 140 ACO 020 00
3. PLC, Modicon, Model TRX Quantum 484

Potline 8

Fan Amps:

1. Current Transformer 500:5 A, Instrument Transformers Inc., Model 56RBT-501
2. Current Transmitter, Acromag, Model 1701 CAC-U-1-C
3. PLC Input Module, Modicon, Model 140 ACI 030 00
4. PLC, Modicon, Model TRX Quantum 484

Alumina Feed:

1. Variable Frequency Drive, Allen-Bradley, Model 160-BA03NSF1P1
2. PLC Output Module, Modicon, Model 140 ACO 020 00
3. PLC, Modicon, Model TRX Quantum 484

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