



July 11, 2019

Ms. Pamela Keeney
 Johnson Controls Battery Group, LLC DBA Clarios
 1800 Paper Mill Road
 Florence, SC 29501

RE: CX Scrubber, CX FEU Vent, Melter, Furnaces, Foundry Ventilation, Refining, & Slag Warehouse Emissions Testing – Conducted December 10-18, 2018 - REDACTED Summary

Dear Ms. Keeney:

The Department has reviewed the referenced tests and the results are summarized below:

CX Scrubber Average Emissions Summary			
Pollutant	Emission Rate (lb/hr)	Emission Concentration	Emission Limits
Lead	4.93E-04	9.91E-03 mg/dscm 4.33E-06 gr/dscf	1.0 mg/dscm 4.3E-04 gr/dscf

CX Plant FEU Vent Average Emissions Summary*			
Pollutant	Emission Rate (lb/hr)	Emission Concentration	Modeled Emission Rates
Lead	5.47E-04	3.38E-03 mg/dscm 1.48E-06 gr/dscf	2.0E-03 lb/hr

*One FEU Vent was tested. These emission rates may be used as emission factors for all CX FEU Vents.

Melter and Charge Prep Average Emissions Summary			
Pollutant	Emission Rate (lb/hr)	Emission Concentration	Emission Limit
PM	0.389	4.54E-04 gr/dscf	15.5 lb/hr ¹
Lead	1.88E-04	4.98E-04 mg/dscm 2.17E-07 gr/dscf	1.0 mg/dscm 4.3E-04 gr/dscf
Mercury	3.99E-05	1.06E-04 mg/dscm	<12 lb/yr ²
Sulfur Dioxide	<0.0504	<0.05 ppm	<100 TPY ²

¹Based on SC Reg. 61-62.5, Standard No. 4, Section VIII.

²Facility-wide emission limit.

Furnace No. 1 Average Emissions			
Pollutant	Emission Concentration	Emission Rate (lb/hr)	Emission Limit
PM	7.77E-04 gr/dscf	0.341	9.62 lb/hr ¹
Lead	1.47E-06 gr/dscf 3.37E-03 mg/dscm	6.47E-04	4.3E-04 gr/dscf 1.0 mg/dscm
Mercury	1.92E-03 mg/dscm	3.68E-04	<12 lb/yr ²

¹Based on SC Reg. 61-62.5, Standard No. 4, Section VIII.

²Facility-wide emission limit.

Furnace No. 2 Average Emissions			
Pollutant	Emission Concentration	Emission Rate (lb/hr)	Emission Limit
PM	7.07E-04 gr/dscf	0.299	10.2 lb/hr ¹
Lead	9.24E-07 gr/dscf 2.11E-03 mg/dscm	3.88E-04	4.3E-04 gr/dscf 1.0 mg/dscm
Mercury	1.60E-03 mg/dscm	2.95E-04	<12 lb/yr ²

¹Based on SC Reg. 61-62.5, Standard No. 4, Section VIII.

²Facility-wide emission limit.

Furnace No. 3 Average Emissions			
Pollutant	Emission Concentration	Emission Rate (lb/hr)	Emission Limit
PM	1.62E-03 gr/dscf	0.571	12.2 lb/hr ¹
Lead	4.40E-07 gr/dscf 1.01E-03 mg/dscm	1.56E-04	4.3E-04 gr/dscf 1.0 mg/dscm
Mercury	2.57E-03 mg/dscm	3.94E-04	<12 lb/yr ²

¹Based on SC Reg. 61-62.5, Standard No. 4, Section VIII.

²Facility-wide emission limit.

Refining Kettles and Casting - Process Stack Average Emissions Summary			
Pollutant	Emission Concentration	Emission Rate (lb/hr)	Emission Limit
PM	7.39E-04 gr/dscf	0.511	15.1 lb/hr ¹
Lead	1.45E-06 gr/dscf 3.31E-03 mg/dscm	9.88E-04	4.3E-04 gr/dscf 1.0 mg/dscm
Mercury	6.16E-05 mg/dscm	1.89E-05	<12 lb/yr ²

¹Based on SC Reg. 61-62.5, Standard No. 4, Section VIII.

²Facility-wide emission limit.

Refining Ventilation (FEU 1) Average Emissions Summary*			
Pollutant	Emission Rate (lb/hr)	Emission Concentration	Emission Limit
PM	1.50E-02	3.84E-04 gr/dscf	-----
Lead	3.12E-04	7.89E-06 gr/dscf 1.80E-02 mg/dscm	4.3E-04 gr/dscf 1.0 mg/dscm

*One vent was sampled. Results may be used for calculating emissions from all refining vents.

Foundry Ventilation Average Emissions Summary			
Pollutant	Emission Rate (lb/hr)	Emission Concentration	Emission Limit
PM	0.281	4.83E-04 gr/dscf	-----
Lead	5.19E-04	8.96E-07 gr/dscf 2.05E-03 mg/dscm	4.3E-04 gr/dscf 1.0 mg/dscm


Slag Warehouse Average Emissions			
Pollutant	Emission Rate	Emission Concentration	Emission Limit
Lead	2.05E-04 lb/hr	7.99E-07 gr/dscf 1.83E-03 mg/dscm	4.3E-04 gr/dscf 1.0 mg/dscm

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Compliance Status: **Compliance**
(Permit No. 1040-0129-CA)..... **Compliance**
(40 CFR 63, Subpart X)..... **Compliance**

The next source test for PM and Hg for the Melter, Furnaces 1-3, Refining Process, Refining Ventilation, and the Foundry Ventilation shall occur no later than **December 31, 2020**. The next source test for lead for the Melter, Furnaces, and Refining Process shall occur no later than **December 18, 2019**.

If I can be of further assistance, please do not hesitate to call me at (803) 898-0834 or e-mail me at williadt@dhec.sc.gov.

Sincerely,

Derek T. Williams
Environmental Health Manager
Source Evaluation Section
SC DHEC Bureau of Air Quality

Cc: Compliance File 1040-0129

Ec: Michael Shroup, BAQ Dawn Jordan, BAQ Briana Foust, BAQ
 Brittany Staples, BAQ Bryan Nichols, BAQ
 Breanna Lindler, BAQ Bryan Baxley, Pee Dee Region - Florence BEHS