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PROMOTE PROTECT PROSPER

Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environment

September 30, 2013

Mr. Gary Minck
Johnson Controls Battery Group, Inc.
1800 Paper Mill Road
Florence, SC 29501

Re: Charge Preparation and Melter Emissions Testing – Conducted January 12-13, 2013 – Revision 1

Dear Mr. Minck;

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

Charge Preparation and Melter (ID 06) Average Particulate Matter and Metals Emissions				
Pollutant	**Emission Concentration (gr/dscf)**	**Emission Rate (lb/hr)**	**Emission Limit**	**Modeled Emission Rate (lb/hr)**
Particulate Matter	0.00041	0.33	0.00101 gr/dscf 16.2 lb/hr[1]	----
Antimony	1.34E-08	1.10E-05	----	4.41E-03
Arsenic	2.10E-08	1.70E-05	----	2.20E-03
Beryllium	4.13E-09	3.30E-06	----	----
Cadmium	1.63E-08	1.30E-05	----	2.20E-03
Chromium	2.99E-08	2.4E-05	----	4.41E-04[2]
Lead	3.23E-07	2.6E-04	8.70E-04 gr/dscf	0.04
Mercury	<1.27E-07	<1.00E-04	----	3.08E-04[3]
Nickel	1.00E-07	8.10E-05	----	----
Selenium	7.02E-08	5.70E-05	----	----
Manganese	4.92E-07	4.00E-04	----	----

[1]Based on a production rate of 7.78 tph.
[2]Chromium results are reported as total chromium. Chromium modeled rate is based on CR^{+6} compounds.
[3]Emission rates may be used to demonstrate compliance with facility-wide emission limits in semiannual compliance reports.

Melter and Charge Prep (ID 06) Average Gaseous Pollutant Emissions			
Pollutant	**Emission Concentration (ppm)**	**Emission Rate[1] (lb/hr)**	**Modeled Emission Rates (lb/hr)**
Sulfur Dioxide	0.19	0.17	1.98
Oxides of Nitrogen	0.27	0.17	5.51
Carbon Monoxide	15.6	6.17	5.73

[1]Emission rates may be used to demonstrate compliance with TPY emission limits submitted in semiannual compliance reports.

Baghouse Operating Parameters									
Compartment		1	2	3	4	5	6	7	8
Module Differential Pressure (in. H_2O)	Range	1.52 – 1.83	1.65 – 1.95	1.57 – 2.01	1.28 – 2.41	2.27 – 2.61	1.71 – 2.06	1.68 – 2.07	1.70 – 2.05
	Average	1.709	1.814	1.877	1.912	2.447	1.913	1.912	1.864
HEPA Differential Pressure (in. H_2O)	Range	0.45 – 0.52	0.41 – 0.51	0.46 – 0.53	0.47 – 0.54	0.46 – 0.54	0.61 – 0.69	0.71 – 0.81	0.69 – 0.79
	Average	0.479	0.457	0.500	0.501	0.498	0.640	0.754	0.733
Overall Differential Pressure (in. H_2O)	Range	3.90 - 4.69							
	Average	4.310							
Flow (cfm)	Range	100,684 – 109,612							
	Average	104,378							

The baghouse begins the automatic cleaning cycle at an overall differential pressure of 8 in. w.c. and ceases at an overall differential pressure of 6 in. w.c.

Visible Emissions Summary	
	Method 9
Minutes of Observation	180
Highest 6 Minute Set	0%
Sets Greater Than Standard	0
Allowable Opacity Limit	20%

The EPA Method 9 opacity was at a static 0% during the test.

During the test, the melter production rate averaged 7.78 tph, 87 percent of the rated capacity of 8.93 tph. The melter production rate is calculated as one fourth of the CX plant production rate. The production rate for the charge preparation area averaged 34.9 tons per hour.

Building pressure ranged from -0.007 in w.c. to -0.023 in w.c. and averaged -0.017 in w.c. The building pressure monitors meet the sensitivity and accuracy requirements of 40 CFR §63.548. The building enclosure meets the requirements of 40 CFR §63.545.

Compliance Status:
Charge Preparation and Melter:
(Permit No. 1040-0129-CA).....**Compliance**
(40 CFR 63, Subpart X).....**Compliance**
CO (Permit No. 1040-0129-CA).....**Not Applicable***

***Note:** The CO emission rates from the Melter and the Charge Prep are higher than the Modeled Emission Rates in Attachment A of Permit 1040-0129-CA.

The next test for particulate matter, mercury, sulfur dioxide and lead for the melter and charge preparation shall be conducted no later than **January 31, 2015.**

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	Carol Boney	Dawn Jordan
Ted Ambrose	James Myers	Heinz Kaiser