

# EES Coke Battery, LLC

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February 10, 2017

Ms. Katie Koster  
Environmental Engineer  
MDEQ - Air Quality Division  
Cadillac Place  
3058 West Grand Boulevard, Suite 2-300  
Detroit, MI 48202-6058

**RE: Response to January 20, 2017 Violation Notice**

Dear Ms. Koster:

EES Coke Battery, LLC (EES Coke) is in receipt of a Violation Notice (VN) issued by the Michigan Department of Environmental Quality (MDEQ), Air Quality Division (AQD). The VN, dated January 20, 2017 alleges that EES Coke exceeded the 1-hour limit on sulfur dioxide (SO<sub>2</sub>) contained in PTI No. 51-08C as reported in EES Coke's excess emission report for the third calendar quarter of 2016.

The SO<sub>2</sub> mass emission rate (lb/hr) remained well within compliance during the 3<sup>rd</sup> quarter. The highest hourly mass emission rate was 482.1 lb/hr on September 13, 2016. However there were a total of 16 hours in the month of July during which the CEMS and fuel flow monitor exceeded the performance limit of 0.702 lb/kscf. The highest mass emission rate during the month of July was 326.9 lb/hr on July 31. The incidents where emission rates exceeded the permitted limits are listed below:

Date/Time	Emissions (lb/kscf)	Date/Time	Emissions (lb/kscf)
8 July 16 - 0200	0.704	22 July 16 - 0100	0.728
9 July 16 - 0700	0.704	22 July 16 - 0200	0.724
11 July 16 - 1000	0.733	22 July 16 - 1600	0.703
14 July 16 - 0400	0.705	23 July 16 - 2200	0.720
14 July 16 - 2200	0.718	27 July 16 - 1800	0.713
21 July 16 - 2200	0.713	27 July 16 - 1900	0.726
21 July 16 - 2300	0.709	31 July 16 - 2100	0.706
22 July 16 - 0000	0.724	31 July 16 - 2200	0.727

## Root Cause Investigation

Due to the unusual emissions data observed in July, EES contracted with Control Analytics to perform a thorough inspection and repair program on the entire CEMS system. Control Analytics performed this work during the week of August 15, 2016. Control Analytics reported an excessively dirty sample filter on the SO<sub>2</sub> analyzer which was replaced. In addition, Control Analytics re-calibrated the SO<sub>2</sub> analyzer before placing it back into service.

An evaluation of the CEMS hourly concentration data for the month of August shows an average SO<sub>2</sub> stack concentration of 326.5 ppm prior to the Control Analytics maintenance and an average SO<sub>2</sub> stack concentration of 286.4 ppm following the Control Analytics maintenance. This step function decrease in average SO<sub>2</sub> concentration following maintenance indicates the unit was reading high prior to the maintenance work. Four weeks following this maintenance, on September 13, 2016, the CEMS passed its annual RATA demonstrating the accuracy of the post-maintenance SO<sub>2</sub> analyzer.

The concentration change observed before and after the Control Analytics maintenance represents a decrease of approximately twelve percent. This indicates the SO<sub>2</sub> analyzer had been over reporting SO<sub>2</sub> emissions prior to the Control Analytics maintenance. Adjusting the July data by this approximate twelve percent over-reporting eliminates all of the observed emissions rates that had exceeded permitted limits.

EES' conclusion regarding the observed emission rates that had exceeded permitted limits during the month of July is that they are false positive values corrected by the maintenance and recalibration performed by Control Analytics on August 16, 2016.

EES has concluded the dirty sample filter played a role in altering the calibrations performed by EES CEMS technicians. A plugged filter could delay the arrival of the calibration gas at the analyzer. This could result in a lean calibration gas being used to set the calibration. Such a calibration would make the analyzer overly sensitive to the actual pollutant concentrations (i.e., would read higher than the actual concentration). The recalibration performed by Control Analytics following replacement of the plugged filter would have corrected this error resulting in the step function decrease actually observed. Due to the plugged filter, manufacturer specified procedures could result in an inaccurate calibration because of the longer time needed for the calibration gas to stabilize at the analyzer.

Corrective Measures

CEMS manufacturer's Operations and Maintenance Manual (O&M Manual) specifies the analyzer filter be replaced quarterly. In response to this event, EES has changed its maintenance procedures to replace the SO2 analyzer filter monthly in order to avoid a recurrence.

Further, EES has reviewed the calibration procedures in the O&M Manual to confirm EES' CEMS Technicians are following proper procedures. The Manual specifies that the analyzer be stable for a full two minutes before performing the calibration. As previously communicated, EES sent the CEMS Technicians to a week-long training during the week of November 14, 2016 provided by ThermoScientific to perform analyzer specific training (i.e., CEMS Boot Camp).

EES SO2 emissions has been in compliance since July 2016. If you have any questions, please feel free to call me at 313.216.2535.

Sincerely,



Mike Krchmar  
Plant Manager

cc: Mina McLemore, MDEQ-AQD  
Brenna Harden, DTEES  
Todd Richards, DTEES

Fadi Mourad, DTEES  
Robert Sanch, DTEES