

# EES Coke Battery, LLC

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December 5, 2014

Mr. Jonathan Lamb  
Senior Environmental Quality Analyst  
MDEQ - Air Quality Division  
Cadillac Place  
3058 West Grand Boulevard, Suite 2-300  
Detroit, MI 48202-6058

## **RE: Response to November 7, 2014 Notice of Violation**

Dear Mr. Lamb:

The purpose of this letter is to respond to the November 7, 2014 Violation Notice, hereafter the "Notice," in which the Michigan Department of Environmental Quality Air Quality Division ("MDEQ") alleges violations of Permit to Install ("PTI") 51-08, Renewable Operating Permit ("ROP") No. 199600132d, and 40 CFR Part 60 due to improper operation of the Continuous Emission Rate Monitoring System ("CERMS") and excess sulfur dioxide emissions. Both of these allegations are based on EES Coke's quarterly excess emissions report ("EER") submitted on October 30, 2014.

### **BACKGROUND**

EES Coke Battery, L.L.C. ("EES Coke") conducted the required annual Relative Accuracy Test Audit ("RATA") of its CERMS on June 12, 2014. As previously reported to MDEQ, the June 12<sup>th</sup> RATA did not produce valid results. Until a successful RATA could be performed, the CERMS was operating in a "monitor out of control" (MOC) mode. A successful RATA was performed on October 8, 2014 ("October RATA").

The output of the CERMS between June 12 and October 8, 2014 included a high bias which overstated emissions. The October RATA identified a high bias correction factor of 0.738 needed for the CERMS to accurately measure pollutant emission rates. This high bias correction factor is identical to the previous high bias correction factor identified during the 2013 RATA. Therefore, during the entirety of the period between June 12 and October 8, 2014 (which includes the third quarter 2014), the CERMS overstated emissions by a factor of 1/0.738, or 1.355.

In addition to the missing high bias correction factor, during the third quarter, beginning on September 16, 2014 the flow monitor readings began to dramatically increase. Prior to this event (September 1 through 15), hourly average exhaust flow readings were between 90,000 and 120,000 scfm. From September 16<sup>th</sup> to the 24<sup>th</sup> flow monitor readings climbed to over 300,000 scfm. Figure 1 in Attachment 1 shows the hourly average flow for September and October. Just prior to the October RATA the CERMS was removed, inspected, cleaned and returned to service. This maintenance activity corrected the high exhaust flow readings and the CERMS flow monitor readings returned to hourly averages consistent with the September 1 through 15 time period.

EES Coke investigated this event to identify whether the stack exhaust flow actually increased or whether the reported data is false. EES Coke has concluded the high readings from September 16 through October 8 were not real and that this CERMS anomaly was corrected by flow monitor maintenance performed prior to the RATA.

## EVALUATION

EES Coke identified the fact that if the high exhaust flow readings observed between September 16 and October 8 were correct, they would have been accompanied by corresponding:

- Increased fuel consumed by the battery;
- Increased stack oxygen (due to increased excess air);
- Decreased stack temperature;
- Decreased pollutant concentrations (measured ppm in stack); or
- Some combination of these parameters.

Attachment 1, Figures 2 through 5 show hourly fuel flow, stack oxygen, stack temperature and sulfur dioxide concentration in ppm for September and October. These figures clearly show that there is no basis to conclude the high flow rates reported during the September 16 through October 8 period were real.

In addition, EES Coke installed a high flow alarm on stack flow. A subsequent alarm on November 23, 2014 triggered an investigation which identified the flow probe had become loose and twisted in place. EES Coke reinstalled the probe into its rightful configuration and the high flow condition was corrected. This indicates a possible cause to the September 16 through October 8 flow anomaly.

Based on this evidence, EES Coke has concluded that the flow monitoring data from the September 6 through October 8 period are not valid data.

## REVISED THIRD QUARTER EXCESS EMISSIONS REPORT

EES Coke considers the CERMS to have been properly functioning following the June 12, 2014 RATA except for the missing high bias correction factor. Finding the high bias correction factor during the October RATA to be the same as prior to the June RATA provided a simple means to obtain accurate emissions data for the third quarter. EES Coke incorporated the high bias correction factor with the “as measured” emission rates from the CERMS to obtain hourly emission estimates for the third quarter. This is the data provided by EES Coke in its October 30 third quarter EER.

Because the flow monitor has been shown to be out of control from September 16 - 30, the simple incorporation of the high bias correction factor is not appropriate to estimate emissions for this time period. For September 16 - 30, EES Coke has revised its SO<sub>2</sub> EER utilizing existing missing data procedures. Attachment 2 includes a revised SO<sub>2</sub> EER and certification form for the third quarter 2014. Emissions during September 16 – 30 have been substituted with the average hourly value from September 1 through September 15 in keeping with EES Coke’s existing data substitution procedures.

In addition, EES Coke is providing via email revised hourly CERMS data for September and October with missing data substitutions made.

## CONCLUSION

EES Coke’s CERMS was properly functioning during the third quarter with the exception of the period from September 16 – 30. During this period, the flow monitor overstated stack exhaust flow. The CERMS reported mass emissions based on the incorrect exhaust flows that were likewise, overstated. EES Coke performed an investigation which verified the reported stack flows were incorrect. Corrected mass emissions show there were no excess SO<sub>2</sub> emissions during the third quarter of 2014.

If you have any questions regarding this response, feel free to contact me.

Sincerely,



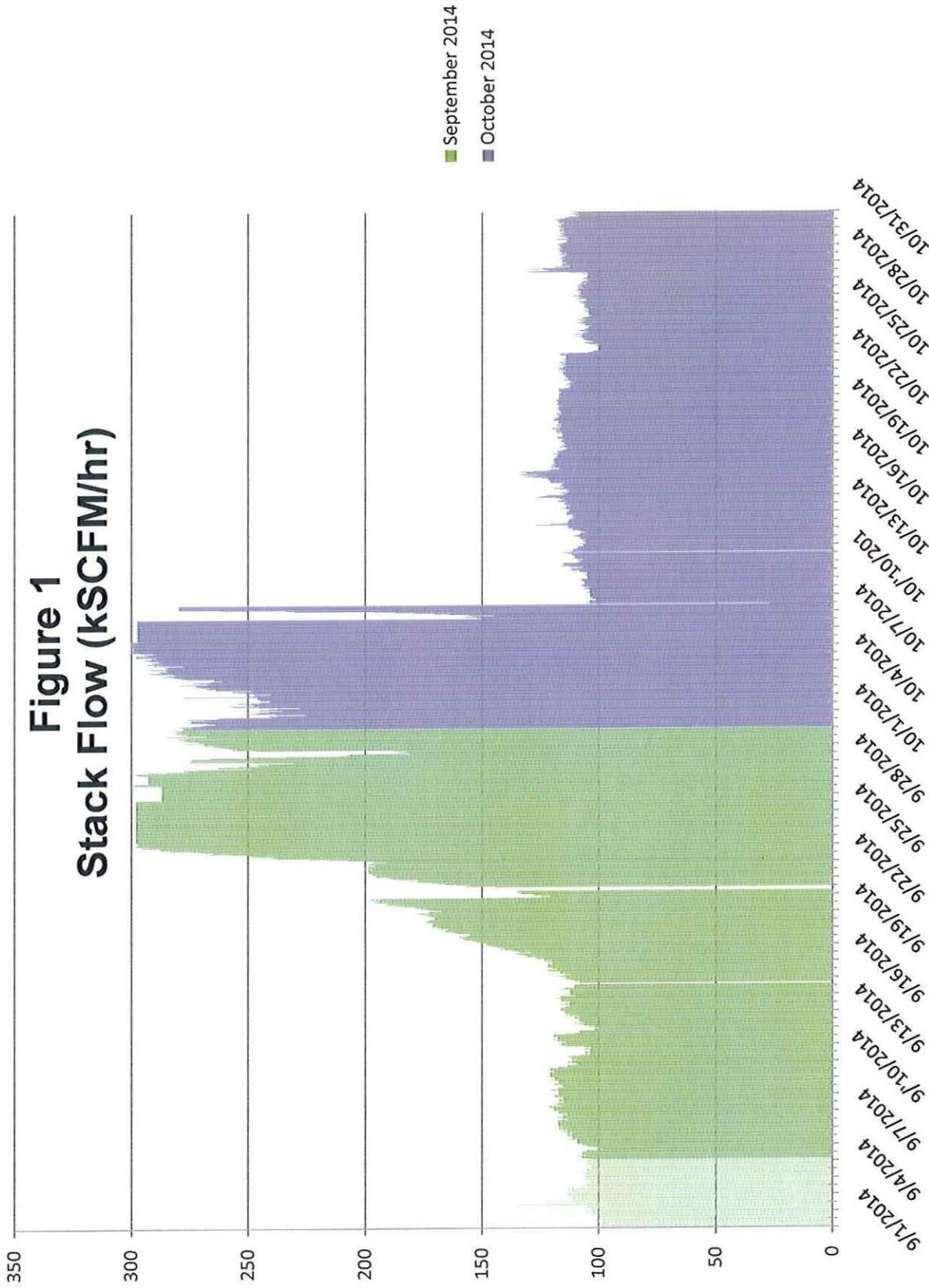
Ron Burnette  
Plant Manager

Enclosures

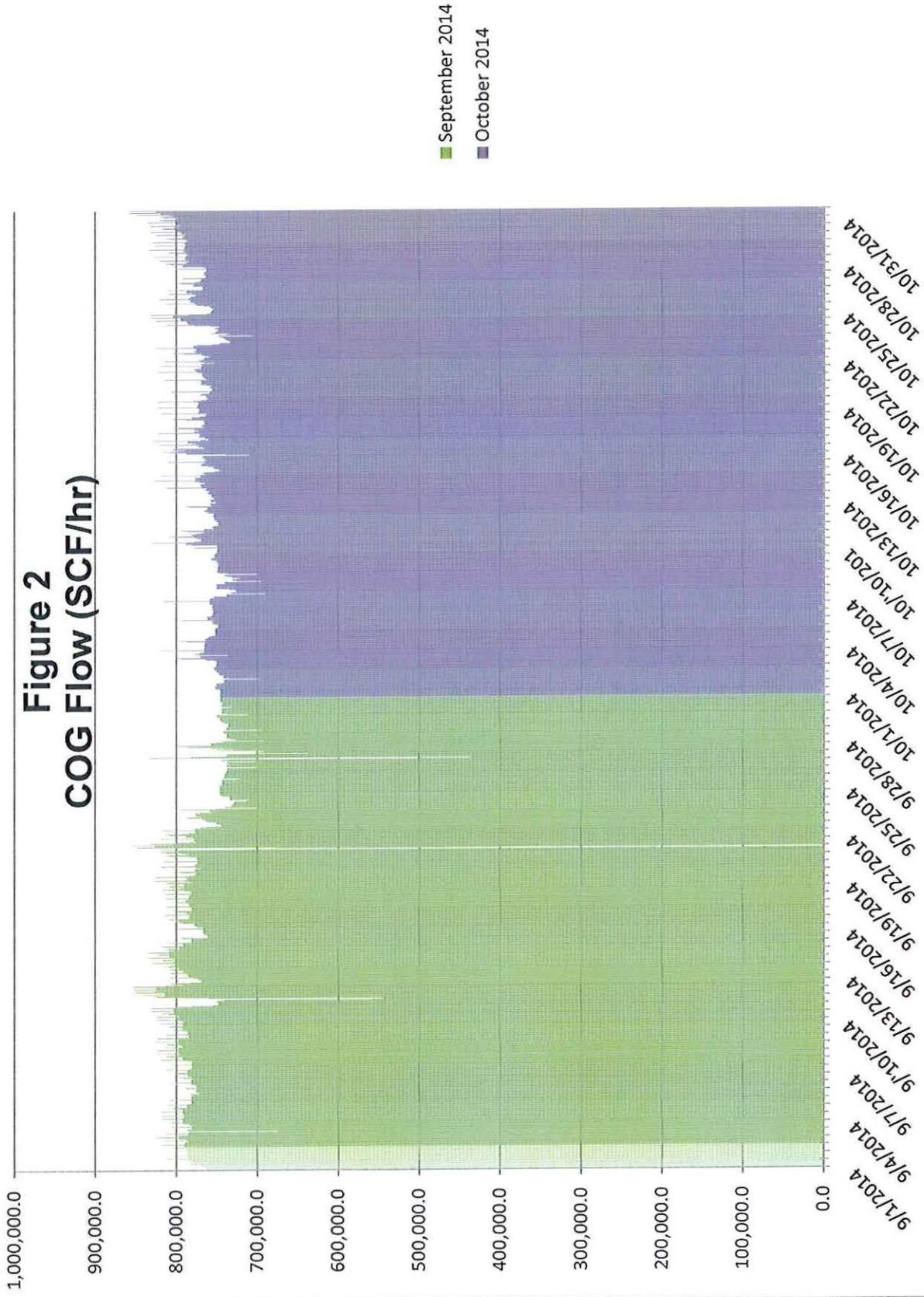
Cc: Brenna Harden, DTEES  
Fadi Mourad, DTEES  
Todd Richards, DTEES  
Steve Zervas, DTEES

**Attachment 1**  
Figures 1 – 5

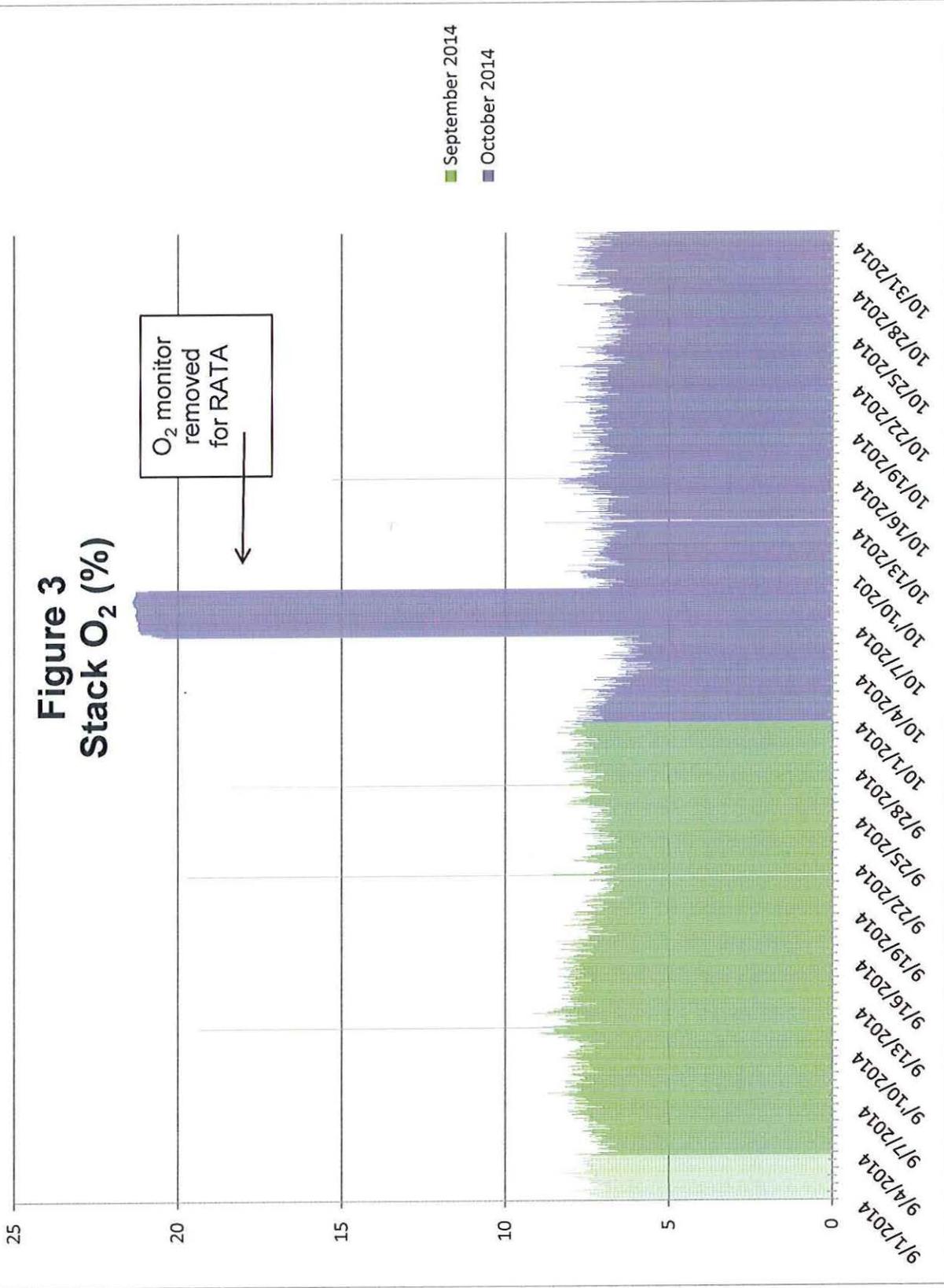
**Figure 1**  
**Stack Flow (kSCFM/hr)**



**Figure 2**  
**COG Flow (SCF/hr)**



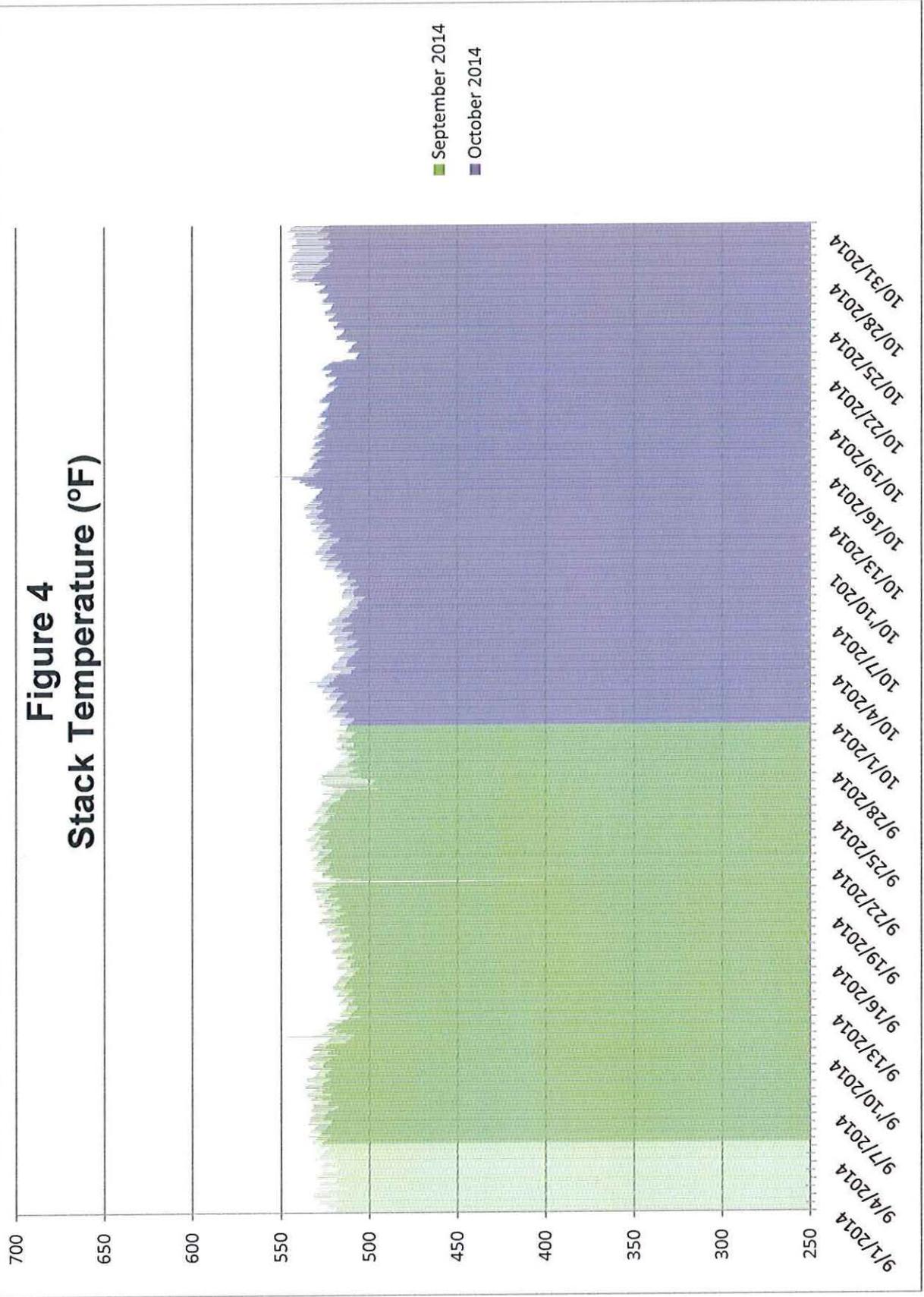
**Figure 3**  
**Stack O<sub>2</sub> (%)**



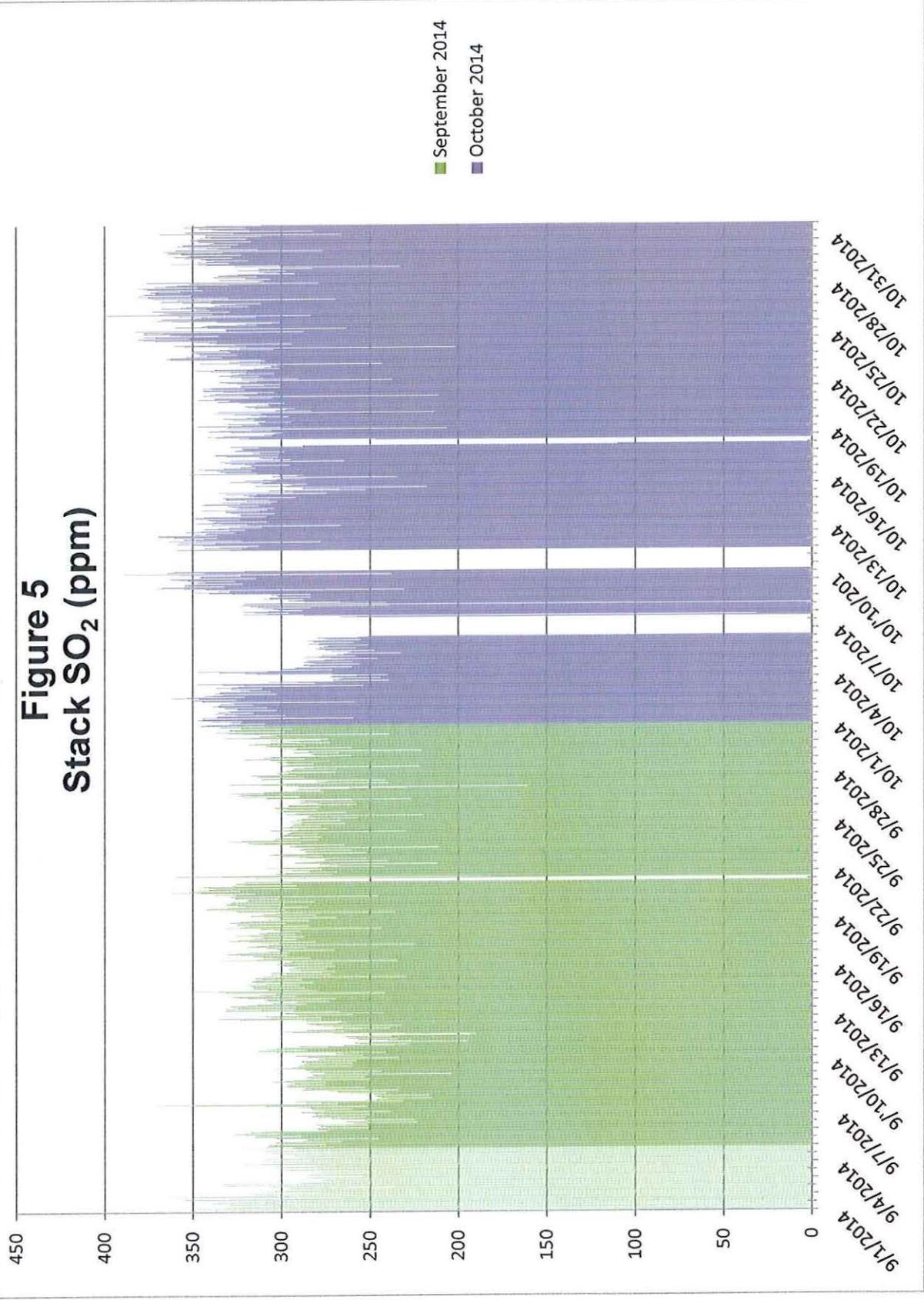
■ September 2014  
■ October 2014

O<sub>2</sub> monitor removed for RATA

**Figure 4**  
**Stack Temperature (°F)**



**Figure 5**  
**Stack SO<sub>2</sub> (ppm)**



**Attachment 2**  
Revised Q3 SO<sub>2</sub> EER  
and Certification



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY DIVISION

**RENEWABLE OPERATING PERMIT  
REPORT CERTIFICATION**

Authorized by 1994 P.A. 451, as amended. Failure to provide this information may result in civil and/or criminal penalties.

Reports submitted pursuant to R 336.1213 (Rule 213), subrules (3)(c) and/or (4)(c), of Michigan's Renewable Operating (RO) Permit program must be certified by a responsible official. Additional information regarding the reports and documentation listed below must be kept on file for at least 5 years, as described in General Condition No. 22 in the RO Permit and be made available to the Department of Environmental Quality, Air Quality Division upon request.

Source Name EES Coke Battery, LLC County Wayne  
Source Address 1400 Zug Island Road City River Rouge  
AQD Source ID (SRN) P0408 RO Permit No. 199600132d PTI5108 RO Permit Section No. 7

Please check the appropriate box(es):

**Annual Compliance Certification (General Condition No. 28 and No. 29 of the RO Permit)**  
Reporting period (provide inclusive dates): From \_\_\_\_\_ To \_\_\_\_\_  
 1. During the entire reporting period, this source was in compliance with **ALL** terms and conditions contained in the RO Permit, each term and condition of which is identified and included by this reference. The method(s) used to determine compliance is/are the method(s) specified in the RO Permit.  
 2. During the entire reporting period this source was in compliance with all terms and conditions contained in the RO Permit, each term and condition of which is identified and included by this reference, **EXCEPT** for the deviations identified on the enclosed deviation report(s). The method used to determine compliance for each term and condition is the method specified in the RO Permit, unless otherwise indicated and described on the enclosed deviation report(s).

**Semi-Annual (or More Frequent) Report Certification (General Condition No. 23 of the RO Permit)**  
Reporting period (provide inclusive dates): From \_\_\_\_\_ To \_\_\_\_\_  
 1. During the entire reporting period, **ALL** monitoring and associated recordkeeping requirements in the RO Permit were met and no deviations from these requirements or any other terms or conditions occurred.  
 2. During the entire reporting period, all monitoring and associated recordkeeping requirements in the RO Permit were met and no deviations from these requirements or any other terms or conditions occurred, **EXCEPT** for the deviations identified on the enclosed deviation report(s).

**Other Report Certification**  
Reporting period (provide inclusive dates): From 7/1/2014 To 9/30/2014  
Additional monitoring reports or other applicable documents required by the RO Permit are attached as described:  
7/1/2014 - 9/30/2014 Quarterly Excess Emission Report (SO2 CEMS)  
\_\_\_\_\_  
\_\_\_\_\_

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in this report and the supporting enclosures are true, accurate and complete.

Ronald Burnette Plant Manager 313-729-4258  
Name of Responsible Official (print or type) Title Phone Number  
 08/21/14  
Signature of Responsible Official Date

MICHIGAN DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENT  
AIR QUALITY DIVISION

Summary Report for Gaseous and Opacity Excess Emission and Monitoring System Performance

Pollutant: SO<sub>2</sub> Reporting Period: July 1, 2014 to September 30, 2014  
 Diluent: CO<sub>2</sub> Volumetric Flow: Yes  
 Company: EES Coke Battery, LLC Unit Description: No. 5 Coke Battery - Combustion Stack  
 Emission Limit: 544.5 pounds per hour, based on a 3-hour average Total Source Operation Time: 2,208 hours\*  
 Monitor Manufacturer, Model No., & Serial No.: \_\_\_\_\_ Thermo 43i CM09130063

**Emission Data Summary**

1. Duration of Excess Emissions (EE) in reporting period due to:

a. Startup/Shutdown	_____	
b. Soot Blowing	_____	
c. Control Equipment Problems	_____	
d. Process Problems	_____	
e. Other Known Causes	_____	
f. Unknown Causes	_____	hours

2. Total Duration of EE's \_\_\_\_\_ 0 hours

3. Total Duration of EE's/Total Source Operation Time X 100 \_\_\_\_\_ 0.00 %

**CEM System Summary**

1. CEM system downtime in reporting period due to:

a. Monitor Equipment Malfunction	_____	
b. Non-Monitor Equipment Malfunction	_____	
c. Quality Assurance Obligations (Excess)	_____	
d. Other Known Causes	2,208	hours
e. Unknown Causes	_____	

2. Total CEM System Downtime \_\_\_\_\_ 2,208 hours

3. Total CEM System Downtime/Total Source Operation Time X 100 \_\_\_\_\_ 100.00 %

**Comments:**

**Emission Data Summary:**

Excess Emission Corrective Action:

Rich gas - 0%

Lean gas - 0%

100% COG - 100%

Downtime due to irregularities identified during the June 12, 2014 RATA.

Downtime Corrective Action: RATA re-test performed on October 8, 2014

**Certification Signature and Date**

See Michigan Renewable Operating Permit Report Certification Form for July 1, 2014 to September 30, 2014.