



Great Lakes Works
Environmental Dept.
No. 1 Quality Drive
Ecorse, Michigan 48229



January 24, 2017

Ms. Katherine Koster
State of Michigan, Department of Environmental Quality
Air Quality Division, Southeast District
3058 W. Grand Blvd, Suite 2-300
Detroit, MI 48202

SENT VIA ELECTRONIC MAIL AND CERTIFIED MAIL

**SUBJECT: United States Steel Corporation – Great Lakes Works
No. 2 BOP Shop Roof Monitor
Violation Notice dated January 4, 2017**

Dear Ms. Koster:

On or about January 9, 2016, U. S. Steel – Great Lakes Works (U. S. Steel) received a violation notice (VN) dated January 4, 2016 from the Michigan Department of Environmental Quality (MDEQ) regarding the No. 2 BOP Shop roof monitor. In the notice, MDEQ alleges U. S. Steel exceeded the applicable opacity limit of 20% 3-minute average limitation required by ROP No. 199600132d, Table E-01.18, Section II.2. The Department also alleges such emission were in violation of MI Rule 336.1364(2); 40 CFR Part 63 Subpart FFFFF, Table 1.12, and Consent Order AQD No. 1-2005, Paragraph 11.A. (e).

As required by paragraph 11.A.3.(d) of Consent Order AQD No. 1-2005, U. S. Steel conducts visible emission observations (VEOs) of the BOP roof monitor using Method 9c, and submits the results to MDEQ on a monthly basis. . On September 29, 2016, October 28, 2016, November 28, 2016, and December 21, 2016 U. S. Steel submitted the reports for all VEOs conducted within the months of August, September, October, and November 2016 respectively and self-reported seven (7) deviations altogether in which the visible emissions were reported as deviating from the the applicable 20% 3-minute average as reported as observed at the BOP Shop roof monitor.

In the reports, U. S. Steel identified the following VEOs as deviations:

- 1.) 8/19/2016 – 9:42 to 9:45 AM – 22.08%
- 2.) 8/19/2016 – 9:47 to 9:50 AM – 23.33%
- 3.) 9/28/2016 – 11:27 to 11:30 AM – 24.2%
- 4.) 10/12/2016 – 1:32 to 1:35 PM – 63.3%
- 5.) 11/10/2016 – 9:28 to 9:31 AM – 25.8%
- 6.) 11/10/2016 – 9:31 to 9:34 AM – 29.2%
- 7.) 11/22/2016 – 1:38 to 1:41 PM – 22.08%

On August 19, 2016, GLW incurred two 3-minute average opacity readings at the BOP Shop Roof Monitor of 22.08% and 23.33%. U. S. Steel investigated the incident and determined that the reported deviations occurred when emissions from 26 vessel escaped capture at the hood. 26 vessel capture was reduced at the hood due to a hole in the 25 vessel downcomer. The hole was identified and repaired. After the investigation revealed the source, the repairs were made expeditiously.

On September 28, 2016, GLW incurred a 3-minute average opacity reading of 24.2% at the BOP Shop Roof Monitor. During the time of the heat, the operator noticed abnormal emissions and took steps to minimize emissions by stopping the blow. When the operator stopped the blow, the fans at the ESP slowed down as designed. After the stop, the vessel operator purged with nitrogen then re-introduced oxygen to the heat. When the operator re-introduced oxygen, the fans are programmed to meet demand, but had not yet reached the setpoint allowing some emissions to escape capture at the hood. The emissions were controlled within minutes when the fans met the setpoint. To prevent future re-occurrence, the program was modified to ramp up the fans during the nitrogen purge following blow interruption.

On October 12, 2016, GLW incurred a 3-minute average opacity reading of 63.3% at the BOP Shop Roof Monitor. Approximately ten minutes into the blow of heat 25-9377, a significant slop occurred that caused emissions above the permitted limit. Oxygen was reduced and Nitrogen was introduced in an attempt to mitigate the slop. The oxygen was completely shut off approximately twelve seconds later and a nitrogen purge was initiated. After a one minute pause, the blow was resumed and completed without incident.

On November 10, 2016, GLW incurred two 3-minute average opacity readings greater than 20% opacity: 25.8% 9:28-9:31 and 29.2% 9:31-9:34 at the BOP Shop Roof Monitor. The deviation occurred due to a hole in the 25 vessel downcomer. The hole was identified and repaired that day.

On November 22, 2016, GLW incurred one 3-minute average opacity reading of 22.08% at the BOP Shop Roof Monitor. The deviations occurred due to a hole in the 25 vessel downcomer. The hole near the middle of the downcomer was identified and repaired

U. S. Steel notes that it is currently developing a "BOP Shop Dirty Gas Main Plan" in accordance with a proposed Consent Decree that will include, among other things, the establishment of inspection and monitoring frequencies regarding the duct work. U. S. Steel is committed to developing and implementing such a plan that would be effective to address deficiencies in the ductwork that could impact the opacity from the roof monitor.

MDEQ also alleges that U. S. Steel had three exceedances of the 3-minute average of 20% opacity on November 10, 2016. While U. S. Steel acknowledges two deviations on November 10, 2016 and we strive to have no deviations, we respectfully question MDEQ's reduction of the Method 9c data; as it does not appear that the Department's reduction is consistent with Method 9c or the Federal MACT.

R 336.2032 provides that Method 9c, as applied to basic oxygen furnace operations, shall be conducted as specified in reference test method 9, with the exception that the data reduction provisions of section 2.5 of method 9 shall be based on an average of 12 (as opposed to 24) consecutive readings recorded at 15-second intervals. Reference test method 9 refers to USEPA Method 9, as it is incorporated by reference at R 336.2004. According to the EPAs "Quality Assurance Handbook for Air Pollution Measurement Systems: Volume III. Stationary Source Specific Methods, Section 3.12.4.3.J, *Data Reduction*, the Observer is required to find the period of the highest average opacity. On November 10, 2016, the highest average opacity was 29.5% from 9:31 to 9:33 AM. In Method 9, it is stated that two sets of 12 consecutive observations cannot overlap. According to these rules it would be inaccurate to report three deviations, because we initially have to report the highest average opacity, and cannot overlap 12 consecutive observations. The Federal MACT requires (as explained at 40 CFR 63.7823(d)(1)(iii), that the data be reduced in three-minute *block* (as opposed to rolling) averages.

We would be pleased to address any questions or concerns the MDEQ may have. If you have any questions regarding this matter or require additional information, please contact Alexis Piscitelli at 313-749-3900.

I certify that based off information and belief formed after reasonable inquiry, the information provided in this response is true and correct to the best of my knowledge and information.

Sincerely,



Ronald Kostyo
General Manager
U. S. Steel – Great Lakes Works



Alexis Piscitelli
Director, Environmental Control
U. S. Steel – Great Lakes Works

cc: Dave Hacker (USS)