May 26, 2015

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
ESP COM opacity exceedance
Violation Notice dated May 5, 2015

Dear Ms. Koster,

On May 7, 2015, U. S. Steel – Great Lakes Works (U. S. Steel) received a violation notice (VN) dated May 5, 2015 from the Michigan Department of Environmental Quality (MDEQ) regarding an abnormal emission event which occurred on April 17, 2015. In the notice, MDEQ alleges U. S. Steel incurred two (2) consecutive COM readings in excess of the 20% opacity 6-minute average limit through the ESP stack as recorded by the Continuous Opacity Monitor. In the letter, MDEQ alleges that the emissions resulted in a violation of Michigan Rule 336.1301 (1)(a) as incorporated by reference in General Condition 2 of the Renewable Operating Permit No. 199600132d.

As previously discussed with MDEQ, the abnormal emission occurrence was a result of significant slopping on No. 25 Vessel. Slopping occurred approximately 10 minutes into the heat and was attributed to a severely adverse chemical reaction from the scrap. The reaction resulted in a brief spike of elevated opacity from the ESP stack. As soon as the event occurred, the oxygen blow immediately ceased and nitrogen was injected to mitigate the slopping event. The quick response actions resulted in minimizing the duration and intensity of the elevated opacity, as shown in the COM data previously provided to the Department.

As requested by MDEQ via an email receipted on or about 4/20/2015, U. S. Steel investigated the cause of the slopping which led to the abnormal emission event. A sequence of events was reviewed and operationally, nothing abnormal was identified. As discussed in the email correspondence, the timeframe which the slopping event occurred corresponds to the time which chemical reactions between the scrap and molten iron within the BOP Vessel occur. From the previous communication, we responded to MDEQ that, "[a]*t around the 10 minute mark, the molten iron is hot enough that scrap added to the vessel prior to molten iron charging reaches its melting point. It is at this point in the oxygen blow that chemical, instead of physical, reactions begin to occur. A significant adverse reaction occurred with the scrap and molten iron....*".

After it was determined that the cause of the slopping within vessel 25 was attributed to the scrap charge, a review of the quantities and types of scrap mixture was conducted. This was a very common scrap mixture and is regularly utilized on several grades of steel. Nothing abnormal was identified to be present within the scrap mixture. U. S. Steel has concluded that something present in the physical scrap blend itself was the cause for the adverse reaction.

We would be pleased to address any additional 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,

James Gray
General Manager
U. S. Steel – Great Lakes Works

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