

November 2, 2016

Ms. Katherine Koster  
Senior Environmental Engineer  
Air Quality Division  
Detroit District Office  
Cadillac Place, Suite 2-300  
3058 West Grand Blvd  
Detroit, MI 48202



**Subject:** Response of Violation Notice dated 10/14/2016  
AK Steel Dearborn Facility  
4001 Miller Road  
Dearborn, Michigan 48120-1699  
SRN: A8640, Wayne County

Dear Ms. Koster:

AK Steel Dearborn Works (AK Steel) provides this response letter to address the alleged violations identified in MDEQ's violation notice dated October 14, 2016. The alleged violations are based on an inspection conducted by the MDEQ on June 29, 2016. AK Steel provided MDEQ with follow-up information to that inspection on August 31 and September 20, 2016. Our responses to the alleged violations are provided below:

- 1. EUBOFDESULF: Slag skimming at the desulfurization station has been performed without the use of the required baghouse***
- 2. EUBACKUPSKIM: Facility installed and commenced operation of a backup stand-alone slag skimming station without first obtaining a permit to install (PTI)***

During the MDEQ inspection on June 29, AK Steel voluntarily disclosed to the MDEQ that in certain situations, primarily when there were problems with the desulfurization station ladle tilting mechanism, slag skimming was performed either at the desulfurization station with the baghouse hood retracted or at a completely separate backup slag skimming station. AK Steel identified this issue during a routine review of the draft renewable operating permit MI-ROP-A8640-2016a dated June 15, 2016. AK Steel's interpretation is that that the requirement linking slag skimming at the desulfurization station to the operation of the baghouse went into effect with the issuance of PTI 182-05C on May 12, 2014. Since that time, there have been 6 months where at least once during that month, slag skimming was performed either at the desulfurization station with the baghouse hood retracted or at a completely separate backup slag skimming station. A summary of the monthly throughput since September 2014 is presented as attachment 1.

The backup slag skimmer was installed at the BOF prior to 1981 and prior to the installation of the desulfurization/slag skimming station (EUBOFDESULF). The backup slag skimmer is at a separate location as the desulfurization station and consists of a separate hydraulically powered skimming arm. AK Steel's analysis concluded that the backup slag skimmer arm is considered its own "process or process equipment" as those terms are defined. It is therefore separate from the existing desulfurization / slag skimming station and is subject to its own PTI analysis. A permitting evaluation was performed on the source which determined that the backup slag skimmer is exempt from the requirement of needing a PTI provided that the following criteria presented in Michigan Rule 336.1290 are satisfied. The evaluation was discussed in detail



during a meeting with Ms. Wilhemina McLemore and Ms. Katherine Koster of the MDEQ on August 31, 2016. Following are the Rule 290 criteria, and the applicability of the backup slag skimmer to those criteria:

- A. *For noncarcinogenic air contaminants, excluding noncarcinogenic volatile organic compounds and noncarcinogenic materials which are listed in R 336.1122(f) as not contributing appreciably to the formation of ozone, with initial threshold screening levels greater than or equal to 2.0 micrograms per cubic meter, the uncontrolled or controlled emissions shall not exceed 1,000 or 500 pounds per month, respectively.*

AK Steel's analysis concluded that the uncontrolled emission limit of 1000 pounds per month would apply to particulate matter.

- B. *For noncarcinogenic air contaminants, excluding noncarcinogenic volatile organic compounds and noncarcinogenic materials which are listed in R 336.1122(f) as not contributing appreciably to the formation of ozone, with initial threshold screening levels greater than or equal to 0.04 micrograms per cubic meter and less than 2.0 micrograms per cubic meter, the uncontrolled or controlled emissions shall not exceed 20 or 10 pounds per month, respectively.*

AK Steel's analysis concluded that the uncontrolled emission limit of 20 pounds per month would apply to manganese, as it is noncarcinogenic.

- C. *For carcinogenic air contaminants with initial risk screening levels greater than or equal to 0.04 micrograms per cubic meter, the uncontrolled or controlled emissions shall not exceed 20 or 10 pounds per month, respectively.*

AK Steel's analysis concluded that the uncontrolled emission limit of 20 pounds per month would apply to lead, as it is a probable carcinogen, but its IRSL is greater than 0.04 ug/m<sup>3</sup>.

- D. *The emission unit shall not emit any air contaminants, excluding noncarcinogenic volatile organic compounds and noncarcinogenic materials which are listed in R 336.1122(f) as not contributing appreciably to the formation of ozone, with an initial threshold screening level or initial risk screening level less than 0.04 micrograms per cubic meter.*

AK Steel's analysis concluded that the process does not emit air contaminants with an IRSL less than 0.04 ug/m<sup>3</sup>.

- E. *A description of the emission unit is maintained throughout the life of the unit.*

AK Steel maintains a description of the emission unit on file.

- F. *Records of material use and calculations identifying the quality, nature, and quantity of the air contaminant emissions are maintained in sufficient detail to demonstrate that the emissions meet the emission limits outlined in this rule.*

AK Steel has historically maintained records of the combined tons of iron processed at the backup skimming station and at the primary desulfurization / slag skimming station when the baghouse hood was retracted.

- G. *The records are maintained on file for the most recent 2-year period and are made available to the air quality division upon request.*

Records of the combined tons of iron processed at the backup skimming station and at the primary desulfurization / slag skimming station when the baghouse hood was retracted are maintained on file for the most recent 2-year period and are included in Attachment 1.

During June of 2016, an estimated total of 1,287 pounds of particulate matter was emitted from uncontrolled slag skimming operations. AK Steel believes that the majority of these emissions were from performing skimming operations at the primary desulfurization / slag skimming station, and that emissions from the backup slag skimming station were less than 1,000 pounds of particulate matter for that month. However, AK Steel does not have the records to confirm this. Therefore, AK Steel acknowledges that for that one month, the demonstration of compliance with Rule 336.1290 is incomplete.

Based on the applicability of Rule 290 to the back-up slag skimmer, AK Steel believes it is inappropriate for the violation notice to allege noncompliance with Rule 336.1201 for installing a source without a PTI. Instead, at most, any noncompliance would be related to the incomplete Rule 290 records for the one month noted above.

As corrective action, AK Steel created a procedure for the backup slag skimming operation that satisfies the following two conditions:

- A. Backup slag skimming is to be performed only at the backup slag skimming station. This will ensure that the primary desulfurization / slag skimming operation will only operate when the baghouse is operating properly and when the hood is in position.
- B. The amount of throughput to the backup slag skimming station has been limited to ensure that monthly emissions from the backup slag skimmer are always less than 1,000 pounds of particulate matter per month (which also results in emissions remaining below the other Rule 290 limitations).

AK Steel will continue to maintain the records as required by Rule 336.1290 with the understanding that the emissions reported are only for the backup slag skimming station. A copy of the procedure is presented as Attachment 2. In addition, AK Steel will identify the backup slag skimmer as a Rule 290 exempt source for inclusion in the ROP during the next ROP renewal cycle.

- 3. *Facility failed to test the ESP Stack for PM, PM<sub>10</sub>, and PM<sub>2.5</sub> by April 2016 as required.***

As noted in the violation notice, the ESP stack was tested for particulates in April 2013. The PTI was issued May 2014, and provided that testing was required within 180 days of permit issuance, unless a test had been conducted in the two years prior to the permit. NO<sub>x</sub> and CO were tested within 180 days of permit issuance. In addition, the permit stated that subsequent testing was required once every three years from completion of the previous stack test.

The permit term “three years from completion of the previous stack test” is ambiguous. Due to the fact that some but not all pollutants had recently been tested at the source by the time of the issuance of the permit, it is logical that this term was a transitional term intended to harmonize all of the pollutants into a single test. Thus, particulates were tested prior to issuance of the permit, NOx and CO were tested shortly after issuance of the permit, and all of the pollutants would then be tested within three years from completion of the previous stack test *of the source*.

In addition, Severstal submitted comments to the draft 182-05C permit requesting clarification as to when the test period started and noting its understanding that the time period was triggered by the permit issuance date. MDEQ’s response to the comment stated that they would “put clarifying language in the revised permit conditions” without specifically responding to the question. Every stack testing requirement referenced in the MDEQ’s response to comments document, with the exception of the ESP stack test for PM, PM<sub>10</sub>, and PM<sub>2.5</sub>, either started the clock with the issuance of the permit or provided a direct timeline (e.g. within 180 days after permit issuance) in which to complete the test. Therefore, AK Steel believes that the question as to the timing of this test was not sufficiently clarified in the permit.

The stack testing on the ESP for PM, PM<sub>10</sub>, and PM<sub>2.5</sub> along with NOx and CO was completed on September 28, 2016. Subsequent testing will be completed prior to three years from that date (or prior to September 28, 2019).

If you have any questions regarding the provided information or require additional information, please contact Jim Earl at 313-845-3217.

Sincerely,



Nicholas Kohlhas  
General Manager, Dearborn Works

Attachments

cc. J. Earl  
D. Miracle  
D. Pate