



DEPARTMENT OF PUBLIC HEALTH
CITY OF CHICAGO

September 14, 2018

Brad Sutek
Plant Manager
American Zinc Recycling (AZR)
2701 E. 114th Street
Chicago, IL 60617

RE: American Zinc Recycling (AZR), 2701 E. 114th Street
Request for Variances from Air Pollution Control Rules and Regulations for Control of
Emissions from Handling and Storage of Bulk Material Piles

Dear Mr. Sutek,

The Chicago Department of Public Health ("CDPH") has reviewed submissions from American Zinc Recycling ("AZR," f/k/a Horsehead Corporation)¹ requesting several variances from requirements of CDPH's Rules and Regulations for Control of Emissions from the Handling and Storage of Bulk Material Piles ("Bulk Material Regulations" or "Regulations"). Specifically, CDPH reviewed the June 13, 2014 request letter and supplemental materials dated February 19, 2015, as well as an amendment to the variance request with additional information dated September 25, 2015 and supplemental information received on February 9, 2018² and June 14, 2018. Pursuant to the Bulk Material Regulations, CDPH also reviewed written comments on the variance requests submitted during public comment periods as described below.

In Horsehead's February 19, 2015 response to CDPH's request for additional information, the company withdrew five of its original variance requests. And in its September 25, 2015 submission, it added a request related to the coke enclosure deadline. (On this issue, CDPH also reviewed Horsehead/AZR's monthly enclosure progress reports, submitted pursuant

¹ Throughout this letter, the names "AZR," "Horsehead," and "Horsehead/AZR" will be used interchangeably.

² AZR's February 9th supplemental submission was incorrectly dated February 9, 2017. The link to the document on the City's website reflects the correct date, February 9, 2018, which is the date the letter was received.

to Section 6.0(7) of the Bulk Material Regulations.) Accordingly, this response letter will address only the four outstanding requests.

The four variance requests are:

1. Fugitive Dust Monitoring: Horsehead/AZR requested a variance from Section 3.0(4) of the Bulk Material Regulations, which requires the installation, operation, and maintenance of at least four permanent, continuous Federal Equivalent Method (FEM) real-time PM10 monitors around the perimeter of the facility in accordance with specified requirements.
2. Dust Suppressant System: Horsehead/AZR requested a variance from Section 5.0(5)(b) of the Bulk Material Regulations, which requires the use of chemical stabilizers and/or water heating systems to ensure that dust suppression continues when the temperature falls below 32 degrees.
3. Run-off Management: Horsehead/AZR requested a variance from Section 5.0(6)(d) of the Bulk Material Regulations, which requires the installation and maintenance of stormwater management, erosion and sediment controls sufficient to demonstrate that the site is graded in such a way as to ensure proper drainage and to prevent pooling of water. (The request specifically pertained to the pooling of water.)
4. Coke Enclosure Deadline: Horsehead/AZR requested an extension of time to comply with the coke enclosure deadline set forth in Section 6.0(6) of the Bulk Material Regulations.

SUMMARY OF CDPH VARIANCE DETERMINATIONS

As set forth in greater detail in subsequent sections of this document, following is a summary of CDPH's determinations for each of AZR's variance requests:

1. Fugitive Dust Monitoring: With respect to AZR's request regarding installation of dust monitors, for the reasons set forth below, CDPH finds that AZR has failed to meet the requirements set forth in Sections 8.0(2) and 8.0(3)(a) of the Bulk Material Regulations for issuance of a variance, and the variance request is therefore denied. In summary, the basis for this determination includes, but is not limited to, CDPH's finding that AZR has not put forward an adequate alternate method of complying with the dust monitoring requirement and has not demonstrated that failure to monitor will not cause a nuisance or other adverse impacts to the surrounding area.

Accordingly, the monitors required by Section 3.0(4) of the Regulations must be installed within ninety (90) days from the date of this variance determination letter, consistent with the 90-day timeframe set forth in Section 6.0(2) of the Bulk Material Regulations.

2. Dust Suppressant System – Freezing Weather Operations: With respect to AZR's request regarding dust suppression system operation during freezing weather, CDPH finds that any potential adverse impacts resulting from the suspension of dust suppressant application during freezing weather can be avoided with the addition of certain reasonable conditions, including operation of the dust monitors required by Section 3.0(4) of the Regulations. Therefore, CDPH grants the request, subject to the following conditions pursuant to Section 8.0(3)(c): 1) AZR must monitor weather forecasts and ensure its on-call contractor applies chemical stabilizers prior to any outdoor loading, unloading, transfer, or pile disturbance during conditions when water cannot be applied; 2) AZR must monitor for visible dust during freezing weather operations and, in the event visible dust is detected and neither water nor chemical stabilizers can be applied due to freezing temperatures, immediately shut down such operations unless dust can be effectively suppressed in another manner; and 3) AZR must maintain and operate the PM₁₀ monitors pursuant to Section 3.0(4) of the Regulations and evaluate the collected data to ensure there is no marked increase in fugitive dust as a result of the failure to apply dust suppressants when temperatures are below 32 degrees.

Please note that if the Commissioner finds that operation of the facility under this variance creates a public nuisance or otherwise adversely impacts the surrounding area, surrounding environment, or surrounding property uses, this variance will be revoked.

3. Run-off Management: With respect to AZR's request regarding pooling of water, CDPH finds that AZR's description of relevant operations and management in this regard will meet the requirements of Sections 8.0(2) and 8.0(3)(a) of the Bulk Material Regulations for issuance of a variance if certain precautions are taken. Therefore, CDPH grants the variance request subject to the following conditions pursuant to Section 8.0(3)(c): 1) AZR must maintain in good condition a containment berm and stormwater retention basin, as described in AZR's February 19, 2015 letter, to prevent any spilled materials or run-off from entering the river; and 2) AZR must maintain adequate site drainage and grading to ensure there is no run-off into the river and that any water pooling is temporary.

Please note that pursuant to Section 8.0(3)(d) of the Bulk Material Regulations, a variance may be revoked at any time if the Commissioner finds that operation of the facility is creating a public nuisance or otherwise adversely impacting the surrounding area, surrounding environment, or surrounding property uses.

4. Coke Enclosure Deadline: AZR requested an extension of time to comply with the coke enclosure deadline set forth in Section 6.0(6) of the Bulk Material Regulations. Because the coke enclosure structure is now complete, and because AZR has demonstrated that it is working with the City in good faith for necessary approvals to use the structure, CDPH grants the request for an extension of the enclosure deadline. AZR must continue to address any remaining issues with all due haste and must transfer its coke material inside the building immediately, upon receipt of the required City approvals.

DETAILED DISCUSSION

I. Requirements for Issuance of a Variance

Under Section 8.0 of the Bulk Material Regulations, the burden of proof is upon the applicant for the variance to demonstrate that issuance of the requested variance will not create a public nuisance or adversely impact the surrounding area, the surrounding environment, or surrounding property uses. In the event that the applicant does not meet this burden, the variance request will be denied. Pursuant to Section 8.0(2), a variance request must be in writing and must set forth, in detail, all of the following (in pertinent part):

- a) A statement identifying the regulation or requirement from which the variance is requested;
- b) A description of the process or activity for which the variance is requested, including pertinent data on location, size, and the population and geographic area affected by, or potentially affected by, the process or activity;
- c) The quantity and types of materials used in the process or activity in connection with which the variance is requested, as appropriate;

- d) A demonstration that issuance of the variance will not create a public nuisance or adversely impact the surrounding area, surrounding environment, or surrounding property uses;
- e) A statement explaining:
 - i. Why compliance with the regulations imposes an arbitrary or unreasonable hardship;
 - ii. Why compliance cannot be accomplished during the required timeframe due to events beyond the Facility Owner or Operator's control such as permitting delays or natural disasters; or
 - iii. Why the proposed alternative measure is preferable.
- f) A description of the proposed methods to achieve compliance with the regulations and a timetable for achieving that compliance, if applicable;
- g) A discussion of alternate methods of compliance and of the factors influencing the choice of applying for a variance;
- h) A statement regarding the person's current status as related to the subject matter of the variance request;
- i) For any request for a variance from the enclosure deadline set forth in 6.0(5), the applicant must submit all of the information required in sections 8.0(2)(a) through (h) above and shall also submit 1) fugitive dust monitoring reports for the four months prior to the date of the variance application and 2) in the event that the variance is granted, monthly fugitive dust monitoring reports for the duration of the variance which shall be due fourteen (14) days following the end of the month which the report covers. The monthly fugitive dust monitoring reports required by this section shall be submitted in an electronic format as specified in the Variance.

In addition, Section 8.0(3) of the Bulk Material Regulations sets forth the criteria for reviewing applications:

- a) In determining whether to grant a variance, the Commissioner [of CDPH] will consider public comments received pursuant to 8.0(4) and will evaluate the information provided in the application to meet the requirements of 8.0(2).

Particular consideration will be given to the following information:

- i. Inclusion of a definite compliance program;
 - ii. Evaluation of all reasonable alternatives for compliance;
 - iii. Demonstration that any adverse impacts will be minimal.
- b) The Commissioner may deny the variance if the application for the variance is incomplete or if the application is outside the scope of relief provided by variances.
 - c) The Commissioner may grant a variance in whole or in part, and may attach reasonable conditions to the variance to ensure minimization of any adverse impacts.
 - d) Issuance of a variance is at the sole discretion of the Commissioner. A variance may be revoked at any time if the Commissioner finds that operation of the Facility is creating a public nuisance or otherwise adversely impacting the surrounding area, surrounding environment, or surrounding property uses.

II. Variance Process and Public Comments

In addition to the requirement that the Commissioner of CDPH (“Commissioner”) consider public comments, as set forth in Section 8.0(3)(a) of the Bulk Material Regulations, Section 8.0(5) also provides that the Commissioner will not grant any variance until members of the public have had an opportunity to submit written comments on the variance application. This section further provides that public notice will be provided by publication in a newspaper of general circulation published within the City and by publication on the City’s website, and that the Commissioner will accept written comments for a period of not less than thirty (30) days from the date of the notice.

On June 20, 2014, public notice of Horsehead’s variance request was provided by publication in the Chicago Sun-Times and on the City’s website at www.cityofchicago.org/environmentalrules. This notice stated that, to be considered, written comments must be received by CDPH on or before July 21, 2014. On July 16, 2014, a subsequent public notice was published in the same manner, notifying the public that the comment period had been extended upon request of members of the public. The new deadline for public comments was September 2, 2014. During the public comment period, CDPH received one written submission from the public, which is posted on the website referenced above.

The public comment letter, dated September 2, 2014, was submitted jointly by the Natural Resources Defense Council (“NRDC”) and the Southeast Environmental Task Force (“SETF”) (hereafter collectively referred to as “NRDC and SETF”). In their comment, NRDC and SETF opposed the request to avoid installation of PM monitors, stating that monitors are necessary to demonstrate that there are no off-site fugitive dust emissions. They also pointed out that the U.S. Environmental Protection Agency (“EPA”) issued a Notice of Violation (“NOV”) to Horsehead on April 14, 2014, “alleging several categories of violations of particulate matter standards.” In particular:

“These violations include the failure to develop and implement a fugitive particulate matter control plan, the failure to comply with PM10 contingency measures plan required by the facility permit, the failure to have any fugitive controls for Iron Rich Material piles on the property and the failure to have an operating permit for the Iron Rich Material storage piles.” [NRDC and SETF comment letter, page 1.]

The commenters further objected to the request related to pooling of water, arguing that the applicant did not provide any supporting data to support the variance request. They also objected to the request pertaining to operation of a dust suppression system below 32 degrees, arguing that the applicant provided no reason why spray trucks or other methods couldn’t be used.

In response to CDPH’s request for more information, and in response to the public comments, Horsehead submitted additional information on February 19, 2015. (This information is also posted on the above-referenced website.) In its response letter, Horsehead stated that NRDC and SETF “significantly mischaracterized the contents of the [EPA] NOV regarding the matter of fugitive dust emissions at the Horsehead facility.” In particular, Horsehead pointed out that the NOV “did not allege that there were off-site fugitive dust emissions emanating from the Horsehead facility. Instead, the allegations that pertain to fugitive dust emissions stemmed from the alleged absence of a written fugitive dust control plan for the facility.” (Horsehead letter, February 19, 2015, page 8.) Horsehead noted that its current fugitive dust plan meets both the requirements of the City’s rules and the federal permit, and further stated that it is contesting the allegations in the NOV and is in negotiations with the U.S. EPA regarding the same.

Horsehead also objected to a number of the commenters’ other assertions. Notably, with respect to the variance request regarding the requirement to prevent any pooling of water, the

applicant reiterated its position that there are no stormwater discharges from the facility to the Calumet River, because any discharges “are prevented by both a berm which runs parallel to the Calumet River along the eastern side of the facility and an on-site stormwater retention basin.” (*Id.* at page 9.) The applicant further noted that there are no City sewer connections at the facility through which stormwater could be discharged, and that stormwater in the coke storage area is directed to the retention pond. Finally, Horsehead pointed out that IRM is “a type of material that can be used to filter out certain contaminants” and “is not prone to generating harmful leachate.” (*Id.* at page 10.)

III. Variance Requests and Determinations Detailed Analysis

1. Fugitive Dust Monitoring.

A. Detailed Fugitive Dust Monitoring Variance Request: AZR requested a variance from Section 3.0(4) of the Bulk Material Regulations, which requires installation and operation of permanent, continuous Federal Equivalent Method (FEM) real-time PM₁₀ monitors around the perimeter of all bulk material facilities.

AZR handles four materials at its facility. As stated in the variance request:

“The primary bulk solid materials used or produced at the Chicago Plant are EAFD [Electric Arc Furnace Dust], WOX [“Waelz Oxide,” which is a crude zinc oxide], IRM [Iron Rich Material], and coke. WOX and EAF dust are managed entirely indoors. WOX is directly loaded to railcars as it is produced[,] and EAF dust is placed directly in the process from trucks and railcars offloaded indoors.” (June 13, 2014 variance request, pages 4-5.)

As further described by AZR, the materials handled indoors (EAFD and WOX) are managed through the use of permitted pollution control devices. Therefore, it is mainly the coke material and the IRM that are covered under AZR’s Fugitive Dust Plan and that are the primary focus of this variance request. (However, as discussed below, materials stored indoors can also cause fugitive dust if not properly controlled.) In support of the request, AZR argued that the nature and quantity of these materials minimizes the risk of fugitive dust emissions. Specifically, AZR stated that these materials “do not warrant the imposition of continuous PM₁₀ monitoring at its facility boundaries,” for the following reasons:

“The limited quantity and high moisture content of AZR’s petcoke/metcoke material, which will be entirely enclosed within a building, and the density and ‘crusting’ characteristics of its outdoor IRM storage and handling operations,

do not present any significant risk of exceeding acceptable levels of PM₁₀ emissions.” [AZR Supplement Materials, June 12, 2018.]

With regard to the coke material, AZR explained that it is delivered by truck, stored on site, and then used in the kiln as part of the zinc recycling process. According to the applicant, “The type of petcoke/metcoke purchased by the Chicago Plant is dependent on particle size because of the manufacturing process needs. Horsehead purchases petcoke/metcoke material with a particle size of at least approximately 3/8th inch, or slightly bigger than the size of a ‘pea.’” (June 13, 2014 variance request, page 8.) Further, with a density of “49 to 57 lbs./cu.ft.” the coke material received by AZR is denser than typical coke, which has an average density of 23.5 - 31 pounds per cubic feet, and is therefore less susceptible to windborne dispersion. *Id.*

In addition, samples of coke delivered to the facility are analyzed for moisture content. The typical moisture content is at or above 7%. *Id.* As noted by AZR, this is well above the minimum 3% moisture content required by the Bulk Material Regulations.

With regard to the IRM, the applicant stated that:

“When the IRM is exposed to the atmosphere, its surface hardens and forms a concrete-like crust (due to the lime content in the EAFD ingredient used to make it.) The hard crust that forms on IRM stored outside is typically about 4-5 inches thick. The crust is so hard that the IRM surface cannot be broken through with a shovel. This naturally occurring crust on the surface of IRM stored outside prevents fugitive dust emissions due to outside storage.” (June 13, 2014 variance request, page 9.)

AZR further stated that water is applied prior to removal of IRM from the staging and storage areas, and noted that the application of water accelerates the formation of the crust. *Id.* at 10.

B. Analysis of Variance Request:

i. Minimization of Adverse Impacts. Section 8.0(2)(d) of the Bulk Material Regulations requires a demonstration that issuance of a variance will not create a public nuisance or adversely impact the surrounding area, environment, or property uses. In this case, as pointed out by NRDC and SETF, more than 4,000 residents, including more than 1,000 children, live within a one-mile radius of AZR’s facility. In addition, “[t]raffic to-and-from the applicant’s facility must use Torrence Avenue, a busy public road that connects residential areas in South

Deering to residential areas in Hegewisch. Torrence Avenue is also the dividing line between industrial properties including Horsehead to the east and the Indian Ridge Marsh and Big Marsh natural areas to the west.” (NRDC and SETF letter, page 1.) These surrounding uses can be affected by fugitive dust if it is not adequately controlled.

With regard to the coke material, CDPH notes that AZR has constructed a large coke storage building, at significant cost, and that there have been significant delays in AZR’s ability to begin using the building. (AZR’s request regarding the enclosure deadline will be addressed in section III.4 below.) Nevertheless, even when materials are stored indoors, the Bulk Material Regulations do not provide an exception to the monitoring requirement. This is because there are still opportunities for fugitive dust in the loading and unloading process, as well as during the transportation of the materials onto the site.

While AZR’s coke material may be heavier than typical coke, it is still susceptible to becoming windborne. Although the material can be watered when temperatures are above 32 degrees, AZR indicated that it does not use water year round. (See the variance request regarding use of water during freezing temperatures, discussed below.)

Furthermore, even fully enclosed materials vented to air pollution control devices sometimes present opportunities for fugitive dust. In 2014, the EPA issued an NOV (which is still pending), citing issues with AZR’s failure to properly maintain its pollution control equipment:

“55. By failing to inspect the bag collectors on a periodic basis, by failing to operate the bag collectors within a differential pressure range that indicates normal operation, failing to measure differential pressure on a weekly basis, and failing to repairs defects at the bag collectors indicated by differential pressure, Horsehead violated Condition 7.1.5. of the Title V Permit and 35 IAC 212.324(f).

56. By failing to include all required elements in the inspection records, Horsehead violated Conditions 7.1.9.a.i. and 7.2.9.e.i. of the Title V Permit and 35 IAC 212.324(g)(1).

57. By failing to include all required elements in the maintenance records, Horsehead violated Conditions 7.1.9.a.ii. and 7.2.9.e.ii. of the Title V Permit.

58. From at least 2010 to 2012, Horsehead has exceeded the PM emission limits in Condition 7.1.6., as evidenced by the bag collector efficiency in the Title V Permit and the discrepancies between the measured inlet flow rates and the bag collector capacities and fan capacities.” [Exhibit A: U.S. EPA NOV, April 14, 2014, page 9.]

In addition, CDPH cited Horsehead on May 19, 2015, when particulate dust was released due to a broken seal in the dust collector, and again on June 8, 2015, when petcoke was spilled from the coke bucket elevator system. (See Exhibits B and C.)

More recently, on July 5, 2018, AZR reported a release of crude zinc oxide following a lightning strike that resulted in loss of power to the control room. (See Exhibit D.)

And on August 13, 2018, a CDPH inspector observed white smoke with an opacity of 10-15% emitting from the kiln. (See Exhibit E.) This same report noted a truck covered in EAF dust that was not cleaned before leaving the enclosure. *Id.*

These incidents demonstrate the importance of routine maintenance, contingency plans, and monitoring to ensure that materials stored indoors do not contribute to exterior fugitive dust.

CDPH notes that the enclosure of AZR's coke material, combined with its other methods of dust control, might warrant the discontinuation of the monitoring requirement in the future, after a period of monitoring has shown that fugitive dust is adequately contained and controlled. However, such is not the case for AZR at this time. In any event, in addition to the coke material, AZR stores and handles a large amount of IRM, which presents its own potential for fugitive dust.

Throughout its variance submittals, AZR stresses that a natural "crust" occurs over IRM when it is stored outside. However, the IRM at the facility is not always stored outside, and, even when it is, the crust is not always present. As described in the variance request, the IRM is sometimes transported from the Waelz kilns to one of four siloes, where it is stored for a time. Once a silo is full, the IRM is tested and then moved to one of the outdoor storage piles. (See, e.g., AZR's February 9, 2018 supplemental materials, page 9.) AZR did not say how long it takes for the crust to form, but it is clear that there are times during which the crust has not yet formed and that, therefore, the material is capable of producing fugitive dust. See, for example, CDPH's August 13, 2018 Inspection Report (attached as Exhibit E) and February 22, 2018 Inspection Report (attached as Exhibit F), both of which include photographs showing piles of IRM without a crust.

In addition, AZR crushes and screens IRM outdoors, a process in which any crust would be broken. (See, e.g. AZR Supplemental Materials, February 9, 2018, Exhibit A – "AZR Master

Site Diagram.”) Furthermore, as mentioned above, while AZR often uses water during handling of IRM, AZR does not apply water in freezing temperatures.

In discussing the nature of IRM, AZR cited a 1994 proposed EPA rule regarding HTMR slags. As explained in the variance request, “The IRM produced by Horsehead falls into a category of materials which the U.S. EPA refers to generally as ‘high temperature metals recovery’ slag residue or ‘HTMR.’ In the 1990’s, the U.S. EPA conducted a risk assessment on HTMR materials to determine the potential human and ecological health impacts from placing HTMR materials on land.” (June 13, 2014 variance request, page 12.) AZR went on to note that the study, which specifically looked at Horsehead’s IRM, “evaluated a number of potential release and exposure scenarios associated with the generation and management of storage piles of HTMR.” *Id.*

As cited by AZR, the EPA concluded that:

“...constituents of concern in HTMR slags pose little or no risk to human health or the environment. Based on this assessment, no significant risks were found for storage, transport, disposal, and encapsulated uses of HTMR slags (use as subbase, as an ingredient in cement or concrete/asphalt) that meet the [proposed ‘generic exclusion levels’ in the U.S. EPA rules].” *Id.*

AZR also noted that Horsehead’s predecessor commissioned a similar study with similar results. *Id.*

CDPH finds the cited EPA findings regarding HTMR unpersuasive for two reasons. First, the Bulk Material Regulations are intended to reduce the dispersion of fugitive dust regardless of the constituents of the dust. The PM₁₀ monitoring requirement applies equally to facilities that handle hazardous and non-hazardous materials. Secondly, the proposed rule which prompted the EPA study was never finalized. In response to a question about the status of the proposed rule in 1997, the agency stated: “EPA is presently reevaluating the proposed rule due to significant issues raised by public commenters, and EPA may withdraw, repropose, or request additional public comment on the proposed rule at a future time.” (See Exhibit G.)

Notably, in its April 14, 2014 NOV to Horsehead, EPA cited the company for, among other things, “failing to include the Iron Rich Material storage piles in the 1996 and 2006 permit applications and failing to submit correct information” (in violation of 40 C.F.R. §70.5(a), 70.5(c) and 70.5(d),) and for “failing to obtain an operating permit for the Iron Rich Material

storage piles,” (in violation of 35 TAC 20 1.144). As of the date of this letter, the NOV is still outstanding. (See Exhibit A.)

Finally, AZR provided information about its plant in Rockwood, Tennessee, a facility which, AZR stated, is comparable to its Chicago Plant in terms of operations and operating capacity. (AZR Supplemental Materials, June 12, 2018.) According to an analysis of monitoring data provided by AZR, “PM₁₀ concentrations in the vicinity of the Rockford Plant are very low with respect to the PM₁₀ NAAQS, with differences in the monitoring data showing no correlation to possible impacts from the AZR Rockwood Plant (*i.e.*, when the nearby monitors act as upstream and downstream PM₁₀ monitors with respect to the AZR Rockwood Plant).” *Id.*

While this information is interesting and promising, CDPH finds that it isn’t sufficient to warrant a variance in this case. For one thing, the Rockwood Plant data consists of 6-day averages, which do not reveal what was happening with dust levels on a daily or hourly basis. In addition, while the materials and processes at each facility may be similar, there are enough differences to preclude a direct comparison. (For example, the geography and surrounding environment are different; some of the dust controls are different; and there are no barge transfers in Tennessee.)

In its June 13, 2018 public comment on proposed amendments to the Bulk Material Rules (posted on the City’s website at www.cityofchicago.org/environmentalrules), AZR noted that it continues to maintain the Rockwood monitors year after year, in spite of the low emissions numbers, because the company has found the data useful. CDPH believes monitoring data will be similarly useful in Chicago.

ii. Alternative Compliance Program. Section 8.0(2)(g) of the Bulk Material Regulations requires applicants to describe alternate methods of compliance. In this case, rather than describing an alternative dust monitoring program, AZR maintained that PM₁₀ monitoring is unnecessary due to the nature of the materials it handles (as described above). In further support, AZR provided third-party certified opacity test results taken on multiple separate occasions and under various dry conditions. As stated by AZR:

“The Method 9 opacity test results for the coke storage areas, coke pile material handling, IRM storage piles, IRM pile handling, IRM truck loading, paved roadways, and unpaved roadways all were below the 10% opacity standard promulgated in the Rules. Additionally, the Method 22 test results of visible

emissions at the property boundaries showed no visible emissions crossing the plant property lines.” (AZR Supplemental Information, February 19, 2015, page 5.)

CDPH agrees that visible observations provide useful and important information. However, the Bulk Material Regulations require both perimeter air monitors and quarterly opacity and visibility observations. (See Section 3.0(f)(ii) of the Bulk Material Regulations.) Routine visible monitoring is necessary in order to ensure that dust controls are working on a localized level, but they do not take the place of permanent fence line monitors which operate continuously, regardless of weather conditions or the hour of the day or night.

As expressed in CDPH’s Official Response to Public Comments on the Proposed Bulk Material Regulations, on March 13, 2014:

The requirement for fugitive dust monitoring is a critical component of the regulations to ensure that the facility’s dust control measures are working. City inspectors cannot observe facility operations on a daily basis. And facility workers who are occupied in doing their jobs may not always realize when there is a dust problem. Therefore, the PM monitors are important for alerting facility operators when there might be an issue with their dust control systems. They are also important to ensure compliance with the fugitive dust prohibition, as well as to give neighbors a level of comfort in knowing that the air is being monitored. [p. 23.]

Thus, AZR’s program of visible monitoring is not an adequate substitute for permanent PM₁₀ monitors. Point-in-time observations cannot provide the same level of information as the objective, numerical data collected by continuous air monitoring devices.

C. CDPH Determination: For the reasons set forth above, with respect to AZR’s request not to be required to install continuous FEM PM₁₀ dust monitors, CDPH finds that AZR has failed to meet the requirements set forth in Sections 8.0(2) and 8.0(3)(a) of the Bulk Material Regulations for issuance of a variance, and the variance request is therefore denied. Accordingly, AZR must submit a dust monitoring plan to CDPH, and install dust monitors in accordance with the requirements of Section 3.0(4) of the Bulk Material Regulations, within ninety (90) days from the date of this variance determination letter, consistent with the 90-day timeframe set forth in Section 6.0(2) of the Bulk Material Regulations.

2. Dust Suppressant System – Freezing Weather Operations.

A. Detailed Fugitive Dust Monitoring Variance Request: AZR requested a variance from Section 5.0(5)(b) of the Bulk Material Regulations, which requires the use of chemical stabilizers and/or water heating systems to ensure that dust suppression continues when the temperature falls below 32 degrees. In its original request, the company stated that “it is not feasible to use the new water cannon system either to apply Chemical Stabilizers or to have this system include a water heating system for operation during below 32° F temperatures. (June 13, 2014 variance request, page 20.) The company further stated that “due to the fact that IRM generates no fugitive dust while it is undisturbed in the outdoor storage piles and very little fugitive dust during handling, it is unnecessary to require the use of chemical stabilizers or water heating system during freezing temperatures for the IRM storage piles.” (*Id.* at pages 20-21.)

B. Analysis of Variance Request:

i. Minimization of Adverse Impacts. Section 8.0(2)(d) of the Bulk Material Regulations requires a demonstration that issuance of a variance will not create a public nuisance or adversely impact the surrounding area, environment, or property uses. As explained above, CDPH does not agree with AZR that the nature of its materials necessarily means that there will be no off-site fugitive dust. The IRM material is not always covered in a thick crust, and the materials stored indoors are not always contained as they should be. For these reasons, it is important that water or other dust suppressants be available for use at all times. However, CDPH believes that alternative methods of dust control used in the winter months should adequately minimize any adverse impacts, as described below.

ii. Alternative Compliance Program. As previously mentioned, Section 8.0(2)(g) of the Bulk Material Regulations requires applicants to describe alternate methods of compliance. In response to CDPH’s request for more information, AZR stated: “If the temperature falls below 32 degrees Fahrenheit, the facility may use either a Chemical Stabilizer, supplied by a contractor that is on-call, or suspend the disturbance of Bulk Material piles that could cause fugitive dust.” (Horsehead letter, February 19, 2015, page 8.)

CDPH would have liked to see more details regarding this contingency plan, such as the name of the chemical stabilizer, the name of the contractor, a description of how the contractor is

contacted and how soon the contractor can arrive, as well as a description of how the chemical is applied. However, regardless of these details regarding the application of chemical stabilizers, the option to cease disturbance of material piles is always available. Furthermore, in light of the fact that the required PM₁₀ monitors will reveal if there is an issue with fugitive dust in freezing temperatures, CDPH finds that the effectiveness of this alternative compliance program will be proven in practice.

C. CDPH Determination: With respect to AZR's request regarding dust suppression system operation during freezing weather, CDPH finds that any potential adverse impacts resulting from the suspension of dust suppressant application during freezing weather can be avoided with the addition of certain reasonable conditions, including operation of the dust monitors required by Section 3.0(4) of the Regulations. Therefore, CDPH grants the request, subject to the following conditions pursuant to Section 8.0(3)(c):

1) AZR must monitor weather forecasts and ensure its on-call contractor applies chemical stabilizers prior to any outdoor loading, unloading, transfer, or pile disturbance during conditions when water cannot be applied;

2) AZR must monitor for visible dust during freezing weather operations and, in the event visible dust is detected and neither water nor chemical stabilizers can be applied due to freezing temperatures, immediately shut down such operations unless dust can be effectively suppressed in another manner; and

3) AZR must maintain and operate the PM₁₀ monitors pursuant to Section 3.0(4) of the Regulations and evaluate the collected data to ensure there is no marked increase in fugitive dust as a result of the failure to apply dust suppressants when temperatures are below 32 degrees.

Please note that if the Commissioner finds that operation of the facility under this variance creates a public nuisance or otherwise adversely impacts the surrounding area, surrounding environment, or surrounding property uses, this variance will be revoked.

3. Run-off Management.

A. Detailed Waterways Variance Request: Horsehead/AZR requested a variance from Section 5.0(6)(d) of the Bulk Material Regulations, which requires the installation and maintenance of stormwater management, erosion and sediment controls sufficient to demonstrate

that the site is graded in such a way as to ensure proper drainage and to prevent pooling of water. While the facility is operated as a “zero discharge” wastewater and stormwater facility,” there are times when water pools in certain areas of the site. As explained in the variance request:

“Subsequent to rain events, there are areas of pooling water in areas of the facility that are located farther away from the main plant area in the southern portion of the property. These pooled water areas are temporary and isolated, occurring upon heavy or prolonged rainfall events.” [Horsehead variance request, June 13, 2014, page 17.]

Horsehead/AZR further stated that “no nuisance conditions have been observed from these temporary areas of pooled water,” and that, “[b]ecause these isolated areas of pooled water are contained onsite, no adverse effect is caused to the surrounding community or the adjacent Calumet River.” *Id.*

B. Analysis of Variance Request:

Minimization of Adverse Impacts and Alternative Compliance Program. Section 8.0(2)(d) of the Regulations requires a demonstration that issuance of the variance will not create a public nuisance or adversely impact the surrounding area, environment, or property uses; and Section 8.0(2)(g) of the Regulations requires applicants to describe alternate methods of compliance. AZR provided a description of its current stormwater controls to support its assertion that approval of the variance request will not cause adverse impacts. Specifically, AZR stated that “stormwater discharges to the adjacent Calumet River are prevented by both a berm which runs parallel to the Calumet River along the eastern side of the facility and an on-site stormwater retention basin. There are no City sewer connections at the Horsehead facility and hence, there are no entry points to the City sewer system to which stormwater may be discharged.” (Horsehead letter, February 19, 2015, page 9.) The applicant provided photographs and diagrams to illustrate how run-off is managed on-site and described how stormwater flows to various collection points and is directed to the retention basin. *Id.*

The applicant also noted that there are no City sewer connections at the facility through which stormwater could be discharged. In addition, with regard to IRM, AZR cited certain studies to support its statement that “rather than leaching materials into stormwater runoff, it is more likely that IRM that is present in any areas of pooled water at the facility serves as a ‘filter’ that removes certain substances which may be present in stormwater.” (*Id.* at page 10.)

CDPH notes that its inspectors have observed AZR's stormwater controls, including the presence of the containment berm. (*See, e.g.* Exhibit E, CDPH Inspection Report, August 13, 2018.)

C. **CDPH Determination:** With respect to AZR's request regarding pooling of water, CDPH finds that AZR's description of relevant operations and management in this regard will meet the requirements of Sections 8.0(2) and 8.0(3)(a) of the Bulk Material Regulations for issuance of a variance if certain precautions are taken. Therefore, CDPH grants the variance request subject to the following conditions pursuant to Section 8.0(3)(c):

1) AZR must maintain in good condition a containment berm and stormwater retention basin, as described in AZR's February 19, 2015 letter, to prevent any spilled materials or run-off from entering the river; and

2) AZR must maintain adequate site drainage and grading to ensure there is no run-off into the river and that any water pooling is temporary.

Please note that pursuant to Section 8.0(3)(d) of the Bulk Material Regulations, a variance may be revoked at any time if the Commissioner finds that operation of the facility is creating a public nuisance or otherwise adversely impacting the surrounding area, surrounding environment, or surrounding property uses.

4. Coke Enclosure Deadline.

A. **Detailed Enclosure Deadline Variance Request:** Under Section 4.0 of the Bulk Material Regulations, owners and operators of bulk material facilities handling more than de minimis amounts of coke or coal "shall maintain all Coke and Coal in fully enclosed structures in accordance with the enclosure requirements set forth in 4.0(2)" of the Regulations. Pursuant to Section 6.0(6), the deadline for completion of the enclosure is two years from submission of the required Enclosure Plan. For Horsehead, this would have been June 11, 2016.

On September 25, 2015, Horsehead filed an amendment to its pending variance request to ask for "a short extension of the deadline set forth in Section 6.0(6)" of the Regulations. (Horsehead letter, September 25, 2015.) As explained by the applicant, the company explored a number of design alternatives, meeting with City representatives and gathering proposals from a number of engineering firms. Ultimately, the company selected a design engineer and began the

bidding process for a contractor. However, based on the construction schedule provided by the design engineer, and accounting for potential delays due to permitting and weather factors, Horsehead estimated that that the project couldn't be completed before July 1, 2016. *Id.*

Thereafter, on February 15, 2016, Horsehead notified CDPH of another delay. In its monthly enclosure progress report, the company explained that:

“[O]n February 2, 2016, Horsehead, its parent company and certain affiliates, filed voluntary petitions for relief under Chapter 11 of the United States Bankruptcy Code (“Code”) in the U.S. Bankruptcy Court for the District of Delaware. As a result of the filing, pre-petition amounts owed to various vendors and service providers are prohibited from being paid under the Code. Horsehead’s contractor preparing the design and obtaining the necessary permits from the City has indicated that it will cease all work and withdraw the pending permit applications if pre-petition amounts are not paid. If an agreement cannot be reached whereby the current contractor agrees to continue performing, the project will be delayed until a new contractor can be hired to re-start the process. The affect this may have on the project schedule has not been determined.” [Exhibit H, Horsehead Monthly Enclosure Progress Report, February 15, 2016.]

In subsequent monthly progress reports, Horsehead/AZR explained that its contractor re-commenced working on the project conditioned upon the negotiation of revised contractual terms. Thereafter, work did re-commence, and the company kept CDPH informed of the construction process every month.

In its February 9, 2018 amendment to the variance request, AZR stated that, “The coke materials enclosure structure required by Section 6.0(6) of the Bulk Solid Materials Rules has been completed but a separate plumbing issue relating to the water supply line to the fire hydrants has been identified by the City of Chicago and is being addressed by AZR.” Since then, as reported in AZR’s June 15, 2018 monthly enclosure progress report, AZR has engaged in discussions with various City departments to discuss water supply line issues that are preventing the company from using the completed building. (See Exhibit I, AZR Monthly Enclosure Progress Report, June 15, 2018.)

B. Analysis of Variance Request:

Minimization of Adverse Impacts and Alternative Compliance Program. Section 8.0(2)(d) of the Regulations requires a demonstration that issuance of the variance will not create

a public nuisance or adversely impact the surrounding area, environment, or property uses; and Section 8.0(2)(g) of the Regulations requires applicants to describe alternate methods of compliance.

In its initial request for more time, Horsehead described changes to its operation and handling of coke material, stating that “because Horsehead only purchases enough coke material to service its production needs for approximately 2-3 weeks, the coke quantity it handles is a small fraction of the quantity handled by bulk terminals.” (Horsehead letter, September 25, 2015, page 3.) Horsehead also described the size and moisture level of its coke material (as mentioned above), as well as its dust control methods, including the use of concrete barriers and water suppression. *Id.* In addition, at the request of EPA, the company changed its coke mixture so that it will use primarily metallurgical coke (“metcoke”) with no more than 10% petcoke. According to Horsehead, EPA’s request “cit[ed] test results that, in the USEPA’s opinion, showed a potential for reduced emissions under this reformulation.” *Id.* at 2.

Horsehead/AZR did not provide fugitive dust monitoring reports as required under Section 8.0(2)(i), because it did not install PM₁₀ monitors pending the instant variance request. However, as stated by the company, “Horsehead has conducted extensive quarterly opacity testing at the Chicago Plant to directly determine if fugitive dust emissions are present.” *Id.* at page 5. Focusing on “precipitation-free, windy, days,” Horsehead’s opacity testing found that “[n]o sample detected dust that exceeded the opacity limit of 10%... [and] repeated testing done under Method 22 detected no visible emissions at the property line.” *Id.*

As explained above, CDPH has concluded that opacity testing is not a substitute for fugitive dust monitoring. However, under the circumstances described above, CDPH finds that AZR has exercised good faith in completing the required enclosure building and has taken steps to minimize adverse impacts in the interim. Further, AZR has provided monthly enclosure reports as required and has communicated with CDPH every step of the way. Because of its good faith efforts and lack of control over the delays—and because the building is now complete and should be put to use in the near future—CDPH grants the request as stated below.

C. CDPH Determination: Because the coke enclosure structure is now complete, and because AZR has demonstrated that it is working with the City in good faith for necessary approvals to use the structure, CDPH grants the request for an extension of the enclosure

deadline. AZR must continue to submit monthly progress reports as required under Section 6.0(7) of the Bulk Material Regulations and must continue to address any remaining issues with all due haste. Upon receipt of the required City approvals, AZR must immediately transfer all coke material to the storage building, while ensuring dust is controlled to the maximum extent possible during the transfer process.

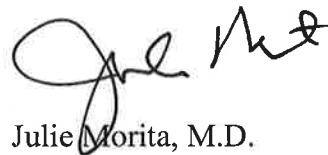
CONCLUSION

CDPH's determinations regarding AZR's variance requests will be effective as of the date of this letter, and will be posted, along with appendices and supporting materials, on CDPH's website at www.cityofchicago.org/environmentalrules. Please be advised that if AZR fails to comply with the Bulk Material Regulations within the timeframes provided above, AZR will be subject to enforcement action including daily fines in the amount of \$1,000 to \$5,000 per violation as provided by Section 11-4-810(a)(7) of the Chicago Municipal Code. Furthermore, CDPH may issue a summary abatement order pursuant to Section 11-4-025(c) of the Chicago Municipal Code, requiring AZR to correct any violations within a timeframe prescribed by the Commissioner.

Finally, in accordance with Section 8.0(3)(d) of the Bulk Material Regulations, CDPH reserves the right to revoke the variances granted herein if the Commissioner finds that operation of the facility pursuant to a variance is creating a public nuisance or otherwise adversely impacting the surrounding area, surrounding environment, or surrounding property uses.

Please contact Assistant Commissioner Dave Graham at (312) 745-4034 if you have any questions regarding the above.

Sincerely,



Julie Morita, M.D.
Commissioner

cc: Mort Ames, DOL
Jennifer Hesse, CDPH

Attachments

Exhibit A – U.S. EPA NOV, April 14, 2014

Exhibit B – CDPH Inspection Report, May 19, 2015

Exhibit C – CDPH Inspection Report, June 8, 2015

Exhibit D – IEMA Hazardous Materials Incident Report, July 5, 2018

Exhibit E – CDPH Inspection Report, August 13, 2018

Exhibit F – CDPH Inspection Report, February 22, 2018

Exhibit G – U.S.EPA RCRA Statement, February 1, 1997

Exhibit H – Horsehead Monthly Enclosure Progress Report, February 15, 2016

Exhibit I – AZR Monthly Enclosure Progress Report, June 15, 2018

EXHIBIT A



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

APR 14 2014

REPLY TO THE ATTENTION OF:

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

John Marta
Plant Manager
Horsehead Corporation
2701 E. 114th Street
Chicago, Illinois 60617

Re: Notice and Finding of Violation
Horsehead Corporation
Chicago, Illinois

Dear Mr. Marta:

The U.S. Environmental Protection Agency is issuing the enclosed Notice and Finding of Violation (NOV/FOV) to Horsehead Corporation (you) under Section 113(a) of the Clean Air Act, 42 U.S.C. § 7413(a). We find that you are violating the Illinois State Implementation Plan at your Chicago, Illinois facility.

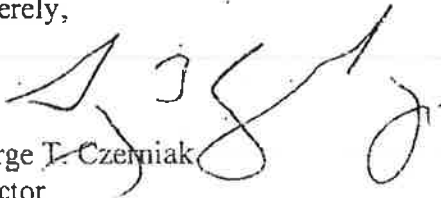
Section 113 of the Clean Air Act gives EPA several enforcement options. These options include issuing an administrative compliance order, issuing an administrative penalty order and bringing a judicial civil or criminal action.

We are offering you an opportunity to confer with us about the violations alleged in the NOV/FOV. The conference will give you an opportunity to present information on the specific findings of violation, any efforts you have taken to comply and the steps you will take to prevent future violations. In addition, in order to make the conference more productive, we encourage you to submit to us information responsive to the NOV/FOV prior to the conference date.

Please plan for your facility's technical and management personnel to attend the conference to discuss compliance measures and commitments. You may have an attorney represent you at this conference.

The EPA contact in this matter is Alexandra Letuchy. You may call her at (312) 886-6035 to request a conference. You should make the request within 10 calendar days following receipt of this letter. We should hold any conference within 30 calendar days following receipt of this letter.

Sincerely,

A handwritten signature in black ink, appearing to read 'G. Czerniak', written over the typed name.

George T. Czerniak
Director
Air and Radiation Division

cc: Eric Jones
Manager of the Compliance Unit
Bureau of Air
Illinois Environmental Protection Agency

4. Section 503 of the CAA, 42 U.S.C. § 7661c (a), requires that each Title V permit include enforceable emission limitations and standards, a schedule of compliance, and other conditions necessary to assure compliance with applicable requirements, including those contained in a state implementation plan.
5. The rule at 40 C.F.R. § 70.6(b)(1) provides that Title V permits are federally enforceable and that all terms and conditions of a Title V permit are enforceable by the EPA.
6. The rule at 40 C.F.R. § 70.2 defines "major source" as, among other things, any stationary source belonging to a single major industrial grouping and that directly emits or has the potential to emit greater than 100 tons per year (tpy) or more of any air pollutant subject to regulation. *See also* 42 U.S.C. § 7661(2)(A).
7. The rule at 40 C.F.R. § 70.5(a) provides that "for each part 70 source, the owner or operator shall submit a timely and complete permit application in accordance with this section."
8. The rule at 40 C.F.R. § 70.5(c) specifies the information to be provided in a permit application for that application to be considered complete. The required information includes all emissions of pollutants for which the source is major, and all emissions of regulated air pollutants. A permit application shall describe all emissions of regulated air pollutants emitted from any emissions unit, except where such units are exempted under this paragraph (c) of this section. For insignificant activities which are exempted because of size or production rate, a list of such insignificant activities must be included in the application.
9. The rule at 40 C.F.R. § 70.5(d) requires that the permit application contain a certification by a responsible official of its truth, accuracy, and completeness.
10. The EPA approved of the Illinois' Title V program on December 4, 2001. 66 Fed. Reg. 62946. The approved Illinois Title V program is known as the Illinois Clean Air Act Permit Program (CAAPP).

Title V Permit

11. The Illinois Environmental Protection Agency (IEPA) issued a CAAPP Permit, Application No.: 96030189 (Title V Permit), to Horsehead on May 15, 2002.

12. The significant emission units in the Title V Permit and their associated emission capture equipment that are relevant to this FOV/NOV are:

Emission Unit	Description	Commenced Construction	Emission Control Equipment
Process Emission Source	Carbon Material Pneumatic Displacement Transfer System	11/93	Bag Collector 15
	Carbon Material Bin	11/93	Bag Collector 16
	Curing and Blending Building	1/92	Bag Collectors 11A, 11B, and 12
	Feed Handling System	3/87	Bag Collectors 2, 7, 8, 9, and 13
	Crude Zinc Oxide Bin	3/87	Bag Collectors 5, 6
	Iron Rich Material Transfer Area	6/93	Bag Collector 14
	Iron-Rich Material Kilns Discharge Area	4/87	Bag Collector 1
Waelz Kiln System	Rotary Kiln 1 and 2	Kiln 1 3/42 Kiln 2 4/93	Product Collectors 3 and 10
Fugitive Particulate Emissions	Facility Roadways		
	Carbon Storage Pile		
	Carbon Handling by a Conveyor		
	Iron-Rich Material Handling		

13. Condition 5.1.1. of the Title V Permit states that Horsehead is a major source of NOx emissions as defined by Title V of the CAA.
14. Condition 5.2.3.a. of the Title V Permit states that the facility shall operate under the provisions of a fugitive particulate matter operating program prepared by the Permittee and submitted to Illinois EPA for its review.
15. Condition 5.2.3.b. of the Title V Permit states that the fugitive particulate matter operating program shall be amended from time to time by the Permittee so that the operating program is current.

16. Condition 5.2.8. of the Title V Permit states that the facility is required to prepare and submit a contingency measure plan reflecting the PM₁₀ emission reductions as set forth in 35 Illinois Administrative Code (IAC) 212.703.
17. Condition 7.1.5. of the Title V Permit states that the Permittee shall operate and maintain bag collectors controlling the process emission sources, including periodic inspection, routine maintenance, and prompt repair of defects, if any, that assures compliance with the conditions of the process emission sources section.
18. Condition 7.1.6. of the Title V Permit states that the particulate matter (PM) emission limits for the Curing and Blending building are 1.0 lb/hr and 4.4 tpy. This condition also states: "the above limitation was established in permit 85120055, pursuant to Title I of the CAA, Major Stationary Sources Construction and Modification and 40 C.F.R. 52.21, Prevention of Significant Deterioration (PSD). These limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to these rules."
19. Condition 7.1.6. of the Title V Permit also states that the total emissions limit for the carbon material pneumatic displacement transfer system, carbon material bin, feed handling system, crude zinc oxide bin, iron-rich material transfer area, and the iron-rich material kilns discharge area shall not exceed 35.1 tons per year. This condition also states that "the above limitations are being established in this permit pursuant to Title I of the CAA, specifically 35 IAC Part 203, Major Stationary Sources Construction and Modifications and/or 40 C.F.R. 52.21, PSD. The source has requested that the IEPA established emissions limitation and other appropriate terms and conditions in this permit that limit the PM emission from the affected process emission source operation below the levels that would trigger the applicability of these rules, consistent with the information provided in the CAAPP application."
20. Condition 7.1.9.a.i. of the Title V Permit states that the permittee shall maintain records of periodic inspection of the bag collectors with the date, name of individual performing the inspection, and the nature of the inspection for the bag collectors controlling the process emission sources.
21. Conditions 7.1.9.a.ii. of the Title V Permit states that the permittee shall maintain records of prompt repair of defects of the bag collectors controlling process emissions with the identification and description of defect, effect on emissions, date identified, date repaired, and nature of repair.
22. Condition 7.1.9.b. of the Title V Permit states that the permittee shall maintain records of the inlet flow rates per respective bag collector controlling process emissions.
23. Condition 7.1.12.a. of the Title V Permit states that compliance with Condition 7.1.6. for the process emission units shall be based on an emissions calculation that accounts for bag collector inlet flow rate and bag collector efficiency.

24. Condition 7.2.9. e.i. of the Title V Permit states that the permittee shall maintain records of prompt repair of defects of the bag collectors controlling emissions from Kilns 1 and 2 with the identification and description of defect, effect on emissions, date identified, date repaired, and nature of repair.
25. Conditions 7.2.9.e.ii. of the Title V Permit states that the permittee shall maintain records of prompt repair of defects of the bag collectors controlling emissions from Kiln 1 and Kiln 2 with the identification and description of defect, effect on emissions, date identified, date repaired, and nature of repair.
26. Condition 7.4.2. of the Title V Permit states that the sources of fugitive emissions are facility roadways, carbon storage piles, carbon-handling by a conveyor and iron-rich material handling.

PSD Requirements

27. The PSD provisions of Part C of Title I of the Act require preconstruction review and permitting of stationary sources in attainment/unclassifiable areas. 42 U.S.C. §§ 7470-7492. Pursuant to applicable regulations, if a major stationary source located in an attainment area is planning to make a major modification, then that source must obtain a PSD permit before beginning actual construction. 40 C.F.R. § 52.21. To obtain this permit, the source must, among other things, undergo a technology review and apply Best Available Control Technology (BACT), perform a source impact analysis, perform an air quality analysis and modeling, submit appropriate information and conduct additional impact analyses as required.
28. Section 165(a) of the Act, 42 U.S.C. § 7475(a) prohibits the construction and subsequent operation of a "major emitting facility" in an area designated as attainment or unclassifiable unless a permit has been issued that is consistent with the requirements of Section 165 and the facility employs BACT for each pollutant subject to regulation under the Act that is emitted from the facility.
29. On June 19, 1978, EPA issued regulations implementing the federal PSD program at 40 C.F.R. § 52.21. 43 Fed. Reg. 26,388, 26, 403 (June 19, 1978) (federal PSD program). Since that time, the federal PSD regulations have been revised, with subsequent revisions incorporated under 40 C.F.R. § 52.21 et seq.
30. Sections 110(a) and 161 of the CAA, 42 U.S.C. §§ 7410(a) and 7471, require each state to adopt a state implementation plan (SIP) that contains emission limitations and such other measures as may be necessary to prevent significant deterioration of air quality in areas designated as attainment or unclassifiable.
31. The requirements of 40 C.F.R. §52.21(j) through (r) apply to the construction of any new major stationary source or the major modification of any existing major stationary source, except as this section otherwise provides. 40 C.F.R. § 52.21(a)(2)(ii).

32. The rule at 40 C.F.R. § 52.21(r)(1) states that any owner or operator who constructs or operates a source or modification not in accordance with the application submitted pursuant to this section or with the terms of any approval to construct, or any owner or operator of a source or modification subject to this section who commences construction after the effective date of these regulations without applying for and receiving approval hereunder, shall be subject to appropriate enforcement action.
33. "Major Stationary Source" for the purpose of PSD means any of the stationary sources of air pollution in 40 C.F.R. § 52.21(b)(1)(iii) which emits, or has the potential to emit, 100 tpy or more of a regulated NSR pollutant. 40 C.F.R. § 52.21(b)(1)(i)(a).
34. "Major modification" means any physical change in or change in the method of operation of a major stationary source that would result in a significant emissions increase of a regulated NSR pollutant and a significant net emissions increase of that pollutant from the major stationary source. 40 C.F.R. § 52.21(b)(2)(i).
35. "Net emissions increase" means, with respect to any regulated NSR pollutant emitted by a major stationary source, the amount by which the sum of the following exceeds zero:
 - (a) The increase in emissions from a particular physical change or change in the method of operation at a stationary source as calculated pursuant to 40 C.F.R. § 52.21(a)(2)(iv); and
 - (b) Any other increases and decreases in actual emissions at the major stationary source that are contemporaneous with the particular change and are otherwise creditable. 40 C.F.R. § 52.21(b)(3)(i).
36. "Significant emissions increase" means, for a regulated NSR pollutant, an increase in emissions that is significant for that pollutant. 40 C.F.R. § 52.21(b)(40).
37. "Significant" means, in reference to a net emissions increase or the potential of a source to emit a rate of emissions that would equal or exceed any of the following rates: PM₁₀, 25 tpy; PM₁₀, 15 tpy; and PM_{2.5}, 10 tpy. 40 C.F.R. § 52.21(b)(23)(i).

Additional Illinois SIP Provisions

38. The rule at 35 IAC 201.144 states that no person shall cause or allow the operation of any existing emission source or any existing air pollution control equipment without first obtaining an operating permit from the Agency.
39. The rule at 35 IAC 212.324(a)(1)(B) states that this section shall apply to any process emission unit located in an area in the vicinity of Lake Calumet in Cook County.
40. The rule at 35 IAC 212.324(f) states that for any process emission unit subject to 35 IAC 212.324(a), the owner or operator shall maintain and repair all air pollution control equipment in a manner that assures that the emission limits and standards in this Section shall be met at all times. Proper maintenance shall include visual inspections of air pollution control equipment; maintenance of an adequate inventory of spare parts, and expeditious repairs.

41. The rule at 35 IAC 212.324(g)(1) requires written records of inventory and documentation of inspection, maintenance, and repairs of all air pollution control equipment kept in accordance with 35 IAC 212.324(f).

Relevant Factual Background

42. Horsehead owns and operates an EAF dust processing facility located at 2701 East 114th Street in Chicago, Illinois (the Facility). The facility operates two Waelz kilns that convert EAF dust at high temperatures to crude zinc oxide and iron rich material.
43. Horsehead is located in Cook County, Illinois, and is located in the vicinity of Lake Calumet. The Lake Calumet Area was designated as a PM₁₀ nonattainment area prior to September 8, 2005. On that date, EPA redesignated the area as attainment for PM₁₀. *See also 70 Fed. Reg. 55612.*
44. On August 1, 2012, and again on March 31, 2014, EPA conducted inspections of the facility.
45. On November 14, 2012, EPA issued an information request to the Company pursuant to Section 114 of the CAA, 42 U.S.C. § 7414.
46. In response to the information request, Horsehead failed to provide a copy of current and past fugitive particulate matter operating program. Horsehead stated in the 2011 CAAPP Compliance Report that the facility was in the process of developing the program to be submitted to IEPA and was out of compliance with the requirements at Condition 5.2.3.a. of the Title V Permit. EPA obtained a copy of the operating program for fugitive particulate matter control in May of 2013.
47. Horsehead stated in the 2011 CAAPP Compliance Report that the facility was out of compliance with the PM₁₀ contingency measure plan requirements at Condition 5.2.8. of the Title V Permit.

48. In response to the information request, Horsehead stated that the company manually records the differential pressure readings at the bag collectors on a weekly basis. The records showed that the normal operating range is a 4 – 8 inches water column at each bag collector. The table below, from May 1, 2009 to November 26, 2012, provides: the percentage of weekly differential pressure readings missed and the percentage of daily differential pressure readings that deviated from the normal operating range. No information was provided for bag collector 15.

Bag Collector	% of Missed Readings	% of Out of Range Readings
1	6.9	88.4
11A	6.9	64.3
11B	6.9	81.5
16	6.9	100.0
2	18.3	100.0
12	18.6	100.0
14	18.6	100.0
3	15.5	21.3
10	15.5	69.7
7	5.8	97.1
8	5.8	42.0
17	5.8	99.6
9	19.2	96.4
13	18.8	87.1

49. In response to the information request, Horsehead provided measured inlet volumetric flow rates for each bag collector controlling process emission sources. Horsehead also provided baghouse capacities and fan capacities for each bag collector. Horsehead did not provide inlet volumetric flow rates for bag collector 15 or 16. The measured inlet volumetric flow rates for each bag collector were significantly lower than the baghouse capacity and fan capacity for each bag collector.
50. In response to the information request, Horsehead provided records of inspections and repairs for the bag collectors and product collectors. From May 1, 2009 to November 26, 2012, only one inspection was conducted on bag collectors 3, 10, 9, 13, and 8. No documented inspections have occurred on the remaining bag collectors. The records provided did not contain the name of the individual performing the inspections or the nature of the inspections.
51. The repair records provided did not contain the effect on emissions or the date of repairs. The records also did not consistently contain the identification and description of defects and nature of repairs.
52. During the EPA inspection on August 1, 2012, Horsehead personnel stated that iron rich material was stored in piles on the property and that there were no fugitive controls for the piles.

Notice and Finding of Violations

Violations of the Title V Permit and the Illinois SIP

53. By failing to prepare a fugitive particulate matter operating program, operate according to the program, and periodically amend the program, Horsehead violated Condition 5.2.3.a. of the Title V Permit.
54. By failing to submit a PM10 contingency measure plan, Horsehead violated Condition 5.2.8. of the Title V Permit.
55. By failing to inspect the bag collectors on a periodic basis, by failing to operate the bag collectors within a differential pressure range that indicates normal operation, failing to measure differential pressure on a weekly basis, and failing to repairs defects at the bag collectors indicated by differential pressure, Horsehead violated Condition 7.1.5. of the Title V Permit and 35 IAC 212.324(f).
56. By failing to include all required elements in the inspection records, Horsehead violated Conditions 7.1.9.a.i. and 7.2.9.e.i. of the Title V Permit and 35 IAC 212.324(g)(1).
57. By failing to include all required elements in the maintenance records, Horsehead violated Conditions 7.1.9.a.ii. and 7.2.9.e.ii. of the Title V Permit.
58. From at least 2010 to 2012, Horsehead has exceeded the PM emission limits in Condition 7.1.6., as evidenced by the bag collector efficiency in the Title V Permit and the discrepancies between the measured inlet flow rates and the bag collector capacities and fan capacities.
59. By failing to include the Iron Rich Material storage piles in the 1996 and 2006 permit applications and failing to submit correct information, Horsehead violated 40 C.F.R. § 70.5(a), 70.5(c), and 70.5(d).
60. By failing to obtain an operating permit for the Iron Rich Material storage piles, Horsehead violated and 35 IAC 201.144.

Violations of PSD

61. From at least 2010 to 2012, Horsehead's operation of the process emission sources has resulted in a significant net emissions increase of PM in violation of 40 C.F.R. § 52.21, as evidenced by the bag collector efficiency in the Title V Permit and the discrepancies between the measured inlet flow rates and the bag collector capacities and fan capacities.

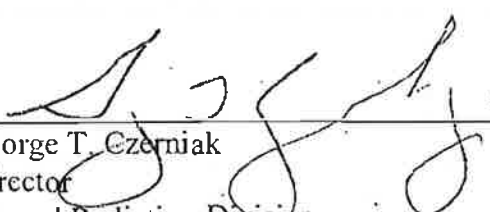
Environmental Impact of Violations

- 62. These violations have caused excess emissions of PM. PM, especially fine particulates contains microscopic solids or liquid droplets, which can get deep into the lungs and cause serious health problems. PM exposure contributes to irritation of the airways, coughing, and difficulty breathing, decreased lung function, aggravated asthma, chronic bronchitis, irregular heartbeat, nonfatal heart attacks and premature death in people with heart or lung disease.

- 63. These violations have also likely resulted in increased emissions of Hazardous Air Pollutants (HAPs), including, but not limited to, manganese, lead, and cadmium. Chronic inhalation exposure of manganese results impacts the nervous systems and results in slower visual reaction time and impaired eye-hand coordination. Inhalation exposure also causes respiratory effects such as bronchitis, dyspnea during exercise, and an increase susceptibility to infectious lung disease. In children, low levels of lead in the blood can result in permanent damage to the brain and nervous system, leading to behavior and learning problems, lower IQ, hearing problems, slowed growth, and anemia. In adults, lead has nervous system effects, cardiovascular effects, and causes decreased kidney function. The acute affect on cadmium inhalation causes bronchial and pulmonary irritation. Chronic inhalation can cause kidney disease, bronchiolitis, and emphysema. HAP emissions may also cause harmful environmental and ecological effects.

Date

4/14/14


George T. Czerniak
Director
Air and Radiation Division

CERTIFICATE OF MAILING

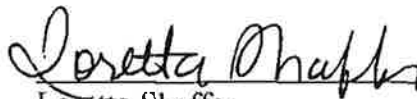
I, Loretta Shaffer, certify that I sent a Notice and Finding of Violation, EPA-5-14-IL-10,
by Certified Mail, Return Receipt Requested, to:

John A. Marta
Plant Manager
Horsehead Corporation
2701 East 114th Street
Chicago, Illinois 60617

I also certify that I sent copies of the Notice of Violation by first-class mail to:

Eric Jones, Manager
Compliance Unit
Bureau of Air
Illinois Environmental Protection Agency
P.O. Box 19506
Springfield, Illinois 62794

On the 14 day of April 2014.



Loretta Shaffer
Program Technician
AECAB, PAS

CERTIFIED MAIL RECEIPT NUMBER:

7009 1680 0000 7676 2632

EXHIBIT B



CITY OF CHICAGO
DEPARTMENT OF PUBLIC HEALTH
PERMITTING AND ENFORCEMENT

NARRATIVE EVALUATION

INSPECTION DATE: 05/19/2015
 SITE NAME: Horsehead Corp
 SITE ADDRESS: 2701 E 114TH ST, CHICAGO, IL 60617
 SITE CODE: Horsehead Corp
 PERMIT #: ENVAIR112615

TIME: 2:30 pm
 EMPLOYEE: EMMANUEL ADESANYA
 COUNTY: COOK / CHICAGO
 INSPECTION #: 692837

SUMMARY

I carried out the inspection of Horsehead Corporation for the renewal of annual certificate of operation. Upon arrival I met Messrs John A. Marta (Plant Manager) and Innocent Chikunya (Assistant Plant Manager). Both of them walked me through the facility after a brief meeting. Summary of the facility PROCESS DESCRIPTION: The facility receives metal-bearing wastes (electric furnace ash), which are blended with carbon-bearing material and conveyed to the Waelz kilns (two kilns are active at this facility). The Kilns convert electric arc furnace dust and other metal-bearing materials via a high temperature metal recovery process into two useful products: crude zinc oxide ("CZO") and Iron-Rich Material ("IRM"). Reduction and re-oxidation take place inside the kiln. Blend of petcoke and metcoke is used in this process. The CZO product is collected by means of product collection system, IRM product is discharged from the other end of the kiln. The main products are WOX (Zinc Oxide - Waelz Oxide, used by zinc industries as raw material in the production of high grade zinc) and IRM (Iron Rich Matrials) used by cement industries. The facility uses about 120 tons of Coke (metcoke and petcoke) per day by the ratio of 90 percent metcoke and 10 percent petcoke.

The following were observed during today inspection: Particulate dust emissions from the roof of dust collectors. According to John, that was accidental because of broken seal at the feed pipe seal unit. He told me that the system was shut down immediately to repair the broken seal (see photo#s 1, 2, & 3). The feed chute hopper area, for the transfer of metcoke and petcoke blend(coke) into the silo through the bucket elevator, was covered with particulate materials accumulation (see photo#s 6, 7, 8, 9, 10, 11 and 12). The accumulated material migrated away from the feed hopper station (see photo#s 10, 11, & 12). Horsehead was issued a notice of violation# E000031232 for the municipal code violation 11-4-760 (Handling of Material Susceptible to Becoming Windborne). Hearing date pending for July 30, 2015 at 1:00pm. Follow up inspection in the month of June. See the attachments.

REPORT COMPLETED? YES NO
 INVESTIGATION COMPLETED? YES NO
 NOV ISSUED? YES NO
 ATTACHMENTS? YES NO

I, EMMANUEL ADESANYA, an employee of the City of Chicago, Department of Public Health, declare that I have conducted an inspection of the above mentioned property on the date indicated. I further declare that the observations set forth on the report are true and accurate.

82

STAR #

SIGNATURE
 Page 1 of 14

612

DATE: 05/19/2015
SITE: 2701 E 114TH ST
SITE CODE: Horsehead Corp
PERMIT #: ENVAIR112615

TIME: 2:30 pm
INSPECTOR: EMMANUEL ADESANYA
COUNTY: COOK / CHICAGO
INSPECTION #: 692837



COMMENTS: Photo#10 Direction:SW Comments: Migration of particulate dust around petcoke and metcoke silo feeding hopper.

DATE: 05/19/2015
SITE: 2701 E 114TH ST
SITE CODE: Horsehead Corp
PERMIT #: ENVAIR112615

TIME: 2:30 pm
INSPECTOR: EMMANUEL ADESANYA
COUNTY: COOK / CHICAGO
INSPECTION #: 692837



COMMENTS: Photo#11 Direction: South Comments: Particulate dust accumulations around the silo feeding hopper and bucket elevator. The material migrated all over this area.

DATE: 05/19/2015
SITE: 2701 E 114TH ST
SITE CODE: Horsehead Corp
PERMIT #: ENVAIR112615

TIME: 2:30 pm
INSPECTOR: EMMANUEL ADESANYA
COUNTY: COOK / CHICAGO
INSPECTION #: 692837



COMMENTS: Photo#14 Direction: NE Comments: Petcoke Pile.



COMMENTS: Photo#14 Direction: NE Comments: Petcoke Pile.

DATE: 05/19/2015
SITE: 2701 E 114TH ST
SITE CODE: Horsehead Corp
PERMIT #: ENVAIR112615

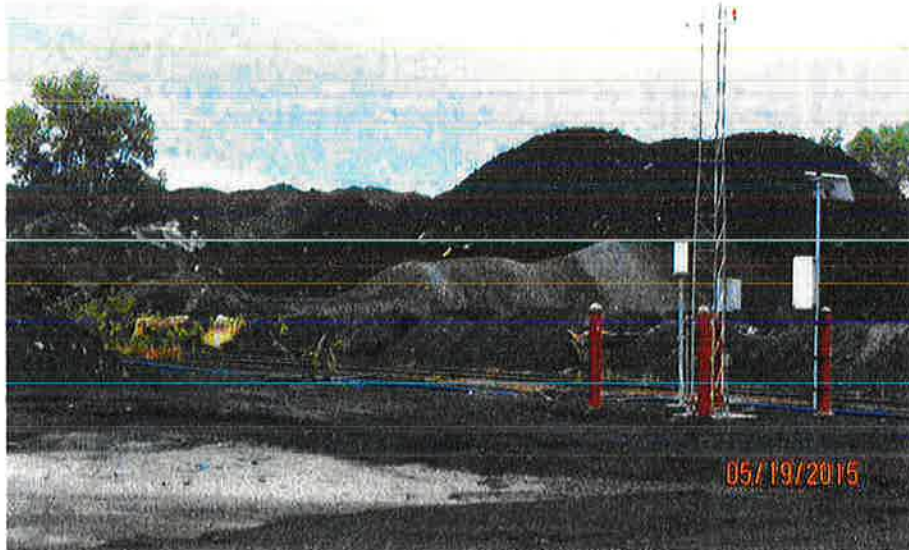
TIME: 2:30 pm
INSPECTOR: EMMANUEL ADESANYA
COUNTY: COOK / CHICAGO
INSPECTION #: 692837



COMMENTS: Photo#18 Direction: SE Comments: Iron Reach Material(IRM) pile.

DATE: 05/19/2015
SITE: 2701 E 114TH ST
SITE CODE: Horsehead Corp
PERMIT #: ENVAIR112615

TIME: 2:30 pm
INSPECTOR: EMMANUEL ADESANYA
COUNTY: COOK / CHICAGO
INSPECTION #: 692837



COMMENTS: Photo#19 Direction: SE Comments: Iron Reach Material(IRM) pile.

DATE: 05/19/2015
SITE: 2701 E 114TH ST
SITE CODE: Horsehead Corp
PERMIT #: ENVAIR112615

TIME: 2:30 pm
INSPECTOR: EMMANUEL ADESANYA
COUNTY: COOK / CHICAGO
INSPECTION #: 692837



COMMENTS: Photo#21 Direction: SE Comments: Blend of petcoke and metcoke pile.

DATE: 05/19/2015
SITE: 2701 E 114TH ST
SITE CODE: Horsehead Corp
PERMIT #: ENVAIR112615

TIME: 2:30 pm
INSPECTOR: EMMANUEL ADESANYA
COUNTY: COOK / CHICAGO
INSPECTION #: 692837



COMMENTS: Photo#22 Direction: SW Comments: Iron Reach Material(IRM) pile.

DATE: 05/19/2015
SITE: 2701 E 114TH ST
SITE CODE: Horsehead Corp
PERMIT #: ENVAIR112615

TIME: 2:30 pm
INSPECTOR: EMMANUEL ADESANYA
COUNTY: COOK / CHICAGO
INSPECTION #: 692837



COMMENTS: Photo#4 Direction: NW Comments: Particulate dust accumulations around the silo feeding and bucket elevator.

DATE: 05/19/2015
SITE: 2701 E 114TH ST
SITE CODE: Horsehead Corp
PERMIT #: ENVAIR112615

TIME: 2:30 pm
INSPECTOR: EMMANUEL ADESANYA
COUNTY: COOK / CHICAGO
INSPECTION #: 692837



COMMENTS: Photo#6 Direction: NW Comments: Particulate dust accumulations around the silo feeding and bucket elevator.

DATE: 05/19/2015
SITE: 2701 E 114TH ST
SITE CODE: Horsehead Corp
PERMIT #: ENVAIR112615

TIME: 2:30 pm
INSPECTOR: EMMANUEL ADESANYA
COUNTY: COOK / CHICAGO
INSPECTION #: 692837



COMMENTS: Photo#9 Direction: SW Comments: Particulate dust accumulations around the silo feeding hopper and bucket elevator.

EXHIBIT C



CITY OF CHICAGO
DEPARTMENT OF PUBLIC HEALTH
PERMITTING AND ENFORCEMENT

NARRATIVE EVALUATION

INSPECTION DATE: 06/08/2015
 SITE NAME: Horsehead Corp
 SITE ADDRESS: 2701 E 114TH ST, CHICAGO, IL 60617
 SITE CODE: Horsehead Corp
 PERMIT #: ENVAIR112615

TIME: 3:20 pm
 EMPLOYEE: EMMANUEL ADESANYA
 COUNTY: COOK / CHICAGO
 INSPECTION #: 702478

SUMMARY

I carried out a follow up inspection of Horsehead, previous inspection revealed particulate emissions and coke spill (please see report# 692837 dated May 19, 2015). Upon arrival I met Innocent Chikunya (Assistant Plant Manager) and Shannon Andrews (the facility environmental, health and safety manager). Shannon took me through the facility safety training procedure, explaining especially the risk of lead exposure from the facility process operations. Messrs Innocent Chikunya and Shannon Andrews took me around the facility for today follow up inspection. As at the time of this inspection the facility coke (petcoke and metcoke blend) bucket elevator system was being repaired for leaks (see photo# 6). According to John Marta the facility plant manager, the source of coke spill is the coke bucket elevator system (coke elevator takes coke into the coke silo). The coke silo can hold about 100 tons of coke, which takes about twenty two hours usage time (the usage time is the time it takes to use up the coke inside the silo). During this bucket elevator system repairing period, the system is shut down when the silo is filled with coke to enable the repair and reopen again to supply coke into the silo, when the silo is about to be emptied of coke. This allows the facility to continue to operate the kilns while repairing the bucket elevator system. The facility has not completed clean up of the spill observed during my previous inspection conducted on May 19, 2015. The coke spill migrated to many areas of the facility from coke bucket elevator system and coke silo. The spill can be seen at COM building area, EB 5, North East C & B stairways, etc.

Horsehead was issued notice of violations# E000031234 for the municipal code violation 11-4-770 (Section - Air Pollution Control Rules and Regulations for Control of Emissions from Bulk Material Piles). Hearing date pending for July 30, 2015 at 1:00pm. Follow up inspection the month of July 2015. See the attachments.

REPORT COMPLETED? YES NO NOV ISSUED? YES NO
 INVESTIGATION COMPLETED? YES NO ATTACHMENTS? YES NO

I, EMMANUEL ADESANYA, an employee of the City of Chicago, Department of Public Health, declare that I have conducted an inspection of the above mentioned property on the date indicated. I further declare that the observations set forth on the report are true and accurate.

82

STAR #

SIGNATURE
 Page 1 of 10

Handwritten initials

DATE: 06/08/2015
SITE: 2701 E 114TH ST
SITE CODE: Horsehead Corp
PERMIT #: ENVAIR112615

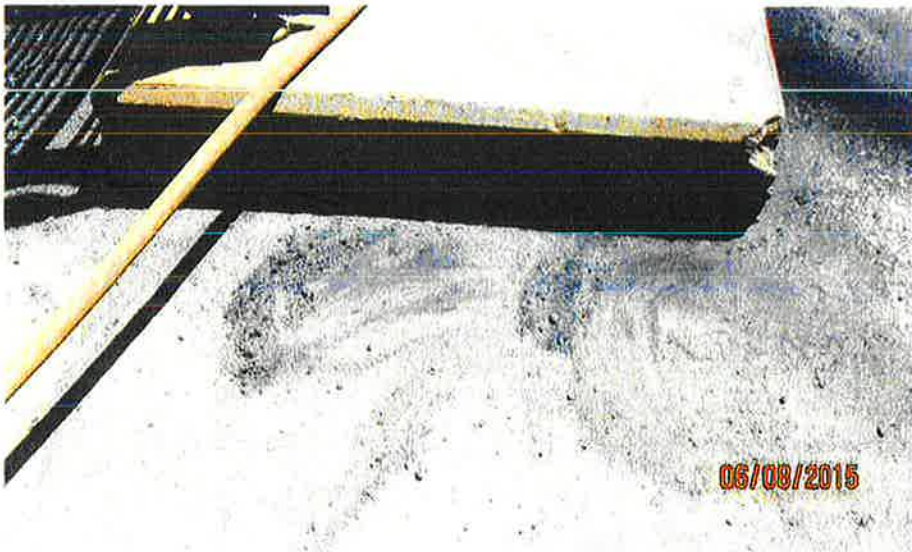
TIME: 3:20 pm
INSPECTOR: EMMANUELADESANYA
COUNTY: COOK / CHICAGO
INSPECTION #: 702478



COMMENTS: Photo#10 Direction: NE Comments: Coke Pile(petcoke and metcoke blend).

DATE: 06/08/2015
SITE: 2701 E 114TH ST
SITE CODE: Horsehead Corp
PERMIT #: ENVAIR112615

TIME: 3:20 pm
INSPECTOR: EMMANUELADESANYA
COUNTY: COOK / CHICAGO
INSPECTION #: 702478



COMMENTS: Photo#11 Direction: SE Comments: Coke(petcoke and metcoke blend) spill.

DATE: 06/08/2015
SITE: 2701 E 114TH ST
SITE CODE: Horsehead Corp
PERMIT #: ENVAIR112615

TIME: 3:20 pm
INSPECTOR: EMMANUEL ADESANYA
COUNTY: COOK / CHICAGO
INSPECTION #: 702478



COMMENTS: Photo#15 Direction: SE Comments: The Coke storage system.

DATE: 06/08/2015
SITE: 2701 E 114TH ST
SITE CODE: Horsehead Corp
PERMIT #: ENVAIR112615

TIME: 3:20 pm
INSPECTOR: EMMANUEL ADESANYA
COUNTY: COOK / CHICAGO
INSPECTION #: 702478



COMMENTS: Photo#2 Direction: SE Comments: Coke(petcoke and metcoke blend) spill.

DATE: 06/08/2015
SITE: 2701 E 114TH ST
SITE CODE: Horsehead Corp
PERMIT #: ENVAIR112615

TIME: 3:20 pm
INSPECTOR: EMMANUEL ADESANYA
COUNTY: COOK / CHICAGO
INSPECTION #: 702478



COMMENTS: Photo#5 Direction: NW Comments: Coke(petcoke and metcoke blend) spill.

DATE: 06/08/2015
SITE: 2701 E 114TH ST
SITE CODE: Horsehead Corp
PERMIT #: ENVAIR112615

TIME: 3:20 pm
INSPECTOR: EMMANUEL ADESANYA
COUNTY: COOK / CHICAGO
INSPECTION #: 702478



COMMENTS: Photo#6 Direction: NW Comments: Repair work on bucket elevator system, which transfer coke(petcoke and metcoke blend) into the silo.

DATE: 06/08/2015
SITE: 2701 E 114TH ST
SITE CODE: Horsehead Corp
PERMIT #: ENVAIR112615

TIME: 3:20 pm
INSPECTOR: EMMANUEL ADESANYA
COUNTY: COOK / CHICAGO
INSPECTION #: 702478



COMMENTS: Photo#9 Direction: SW Comments: Coke(metcoke and petcoke blend) Pile.

EXHIBIT D



Hazardous Materials Incident Report



Incident #: H-2018-0626

Entered By: Watkins, Toni (IEMA) on 2018-07-05 15:37:29

Data Input Status: Closed

**Leaking Underground
Storage Tank (LUST): No**

Caller:	Shannon Andrews
Call Back #:	317/910-7343
Caller Represents:	American Zinc Recycling
Hazmat Incident Type:	Gas or vapor cloud

INCIDENT LOCATION

Incident Location:	2701 E. 114th St.		
County:	Cook	City:	Chicago
Primary IEMA Region:	4	Secondary IEMA Region:	Not Applicable
Full Address:	2701 E. 114th St., Chicago, IL		
Latitude:	41.688277	Longitude:	-87.556111
Milepost:		Sec:	
Twp.:		Range:	
Area Involved:	Air		
Media or medium into which the release occurred:	Air		

WEATHER INFORMATION

Temp (deg F):	mid 80's	Wind Dir/Speed m.p.h:	approx. North
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MATERIALS INVOLVED

Material Name:	crude zinc oxide	Material Type:	Solid
CHRIS Code:	unknown	CAS #:	unknown
UN/NA #:	NA 3077		
Is this a 302(a) Extremely Hazardous Substance?	No		
Is this a RCRA Hazardous Waste?	No		
Is this a RCRA regulated facility?	No		
Container Type:	bag house	Container Size:	unknown
Amount Released:	still calculating	Rate of Release/min:	unknown
Duration of Release:	23 minutes		
Cause of Release:	lighting strike resulting in loss of power to control room		
Estimated Spill Extent:	NA	Spill Extent Units:	

Date/Time Occured:	2018-07-05 14:45
Date/Time Discovered:	2018-07-05 14:45

Number Injured:	0	Where Taken:	0
Number Killed:	0	# Evacuated:	0
On Scene Contact:	#1	On Scene Phone #:	#2

Proper safety precautions to take as a result of the release, including evacuation:
none

Assistance needed from State Agencies:
none

Containment/Cleanup actions and plans:
return power to the facility

Responsible Party:	American Zinc Recycling
Contact Person:	Shannon Andrews
Callback Phone Number:	317/910-7343
Facility Manager:	Shannon Andrews
Facility Manager Phone #:	317/910-7343
Street Address:	2701 E. 114th St.
City:	Chicago State: IL Zip Code: 60617

Emergency Units Contacted	Contacted	On Scene	Agencies Contacted
ESDA			o
Fire			o
Police			o
Sheriff			o
Other			o

AGENCIES OR PERSONS NOTIFIED

Agency	Date/Time	Name of Person	Notification Action
IEPA/NRTP/Rcg.4	2018-07-05 15:38		Report Sent

Narrative:

Follow-Up Information:

Attachments:

EXHIBIT E



CITY OF CHICAGO
DEPARTMENT OF PUBLIC HEALTH
PERMITTING AND ENFORCEMENT

NARRATIVE EVALUATION

INSPECTION DATE: 08/13/2018
SITE NAME: American Zinc Recycling Corp
SITE ADDRESS: 2701 E 114TH ST, CHICAGO, IL 60617
SITE CODE: American Zinc Recycling Corp
PERMIT #: ENVAIR112615

TIME:11:56 am
EMPLOYEE:KENNETH SCOTT
COUNTY:COOK / CHICAGO
INSPECTION #: 1280385

SUMMARY

Conducted an inspection of American Zinc Recycling Corporation. Weather conditions: Partly Sunny, temperature: high 85 degree F, low 70 degree F, wind: NE at 4 mph according to Weather. Com. Upon entry to the facility, I met with Mr. Brad Sutek (Plant Manager) and Mr. Shannon Andrews (Asst. Plant Manager) and reviewed the bulk material check list and toured the facility. Prior to the facility tour I reviewed documents and business records such as the facility Business licenses, Air Pollution Control Permits, Certificate of Operation, Clean Air Act Permit, Maintenance logs. **Facility overview:** The facility receives metal-bearing wastes (electric furnace ash), which are blended with carbon-bearing material and conveyed to the Waelz kilns. The Kilns convert electric arc furnace dust and other metal-bearing materials via a high temperature metal recovery process into two useful products: crude zinc oxide ("CZO") and Iron-Rich Material ("IRM"). Reduction and re-oxidation take place inside the kiln. In the past, blend of petcoke and metcoke is used in this process. The CZO product is collected by means of product collection system, IRM product is discharged from the other end of the kiln. The main products are WOX (Zinc Oxide - Waelz Oxide, used by zinc industries as raw material in the production of high grade zinc) and IRM (Iron Rich Materials) used by cement industries. **During the facility walk through I observed the following:** Iron Rich Material storage piles approx.. 60ft from the river. IRM pile heights, approx.. 15feet, water truck and mechanical sweeper was in use for dust control. An asphalt, dirt, concrete berm was observed around the perimeter of the site. IRM dust is controlled by wetting and material crusting. Minimal evidence of dust near east corner of the site was observed. Material is loaded into pay loader and transported to barge conveyor. Water is used for dust control during barge loading. Observed kiln operations emission of 10-15% opacity, white smoke. Management witnessed the smoke and shut down the kiln to abate. Observed truck covered with Electric Arc furnace dust material from an interior facility. Management stated that the dust should have been cleaned prior to the truck leaving the enclosed area.



CITY OF CHICAGO
DEPARTMENT OF PUBLIC HEALTH
PERMITTING AND ENFORCEMENT

NARRATIVE EVALUATION

INSPECTION DATE: 08/13/2018
SITE NAME: American Zinc Recycling Corp
SITE ADDRESS: 2701 E 114TH ST, CHICAGO, IL 60617
SITE CODE: American Zinc Recycling Corp
PERMIT #: ENVAIR112615

TIME: 11:56 am
EMPLOYEE: KENNETH SCOTT
COUNTY: COOK / CHICAGO
INSPECTION #: 1280385

SUMMARY

REPORT COMPLETED? YES NO
INVESTIGATION COMPLETED? YES NO

NOV ISSUED? YES NO
ATTACHMENTS? YES NO

I, KENNETH SCOTT, an employee of the City of Chicago, Department of Public Health, declare that I have conducted an inspection of the above mentioned property on the date indicated. I further declare that the observations set forth on the report are true and accurate.

137

STAR #


SIGNATURE

DATE: 08/13/2018
SITE: 2701 E 114TH ST
SITE CODE: American Zinc Recycling Corp
PERMIT #: ENVAIR112615

TIME: 11:56 am
INSPECTOR: KENNETH SCOTT
COUNTY: COOK / CHICAGO
INSPECTION #: 1280385



COMMENTS: Asphalt, soil berm. photo12

DATE: 08/13/2018
SITE: 2701 E 114TH ST
SITE CODE: American Zinc Recycling Corp
PERMIT #: ENVAIR112615

TIME: 11:56 am
INSPECTOR: KENNETH SCOTT
COUNTY: COOK / CHICAGO
INSPECTION #: 1280385



COMMENTS: Conveyor used for loading barges. photo1

DATE: 08/13/2018
SITE: 2701 E 114TH ST
SITE CODE: American Zinc Recycling Corp
PERMIT #: ENVAIR112615

TIME: 11:56 am
INSPECTOR: KENNETH SCOTT
COUNTY: COOK / CHICAGO
INSPECTION #: 1280385



COMMENTS: Facility access road, wet down for dust control. photo7

DATE: 08/13/2018
SITE: 2701 E 114TH ST
SITE CODE: American Zinc Recycling Corp
PERMIT #: ENVAIR112615

TIME: 11:56 am
INSPECTOR: KENNETH SCOTT
COUNTY: COOK / CHICAGO
INSPECTION #: 1280385



COMMENTS: Fresh, hot Iron material. Steam present. photo4

DATE: 08/13/2018
SITE: 2701 E 114TH ST
SITE CODE: American Zinc Recycling Corp
PERMIT #: ENVAIR112615

TIME: 11:56 am
INSPECTOR: KENNETH SCOTT
COUNTY: COOK / CHICAGO
INSPECTION #: 1280385



COMMENTS: Iron Rich Material storage pile. Photo6

DATE: 08/13/2018
SITE: 2701 E 114TH ST
SITE CODE: American Zinc Recycling Corp
PERMIT #: ENVAIR112615

TIME: 11:56 am
INSPECTOR: KENNETH SCOTT
COUNTY: COOK / CHICAGO
INSPECTION #: 1280385



COMMENTS: Iron material storage pile. photo5

DATE: 08/13/2018
SITE: 2701 E 114TH ST
SITE CODE: American Zinc Recycling Corp
PERMIT #: ENVAIR112615

TIME: 11:56 am
INSPECTOR: KENNETH SCOTT
COUNTY: COOK / CHICAGO
INSPECTION #: 1280385



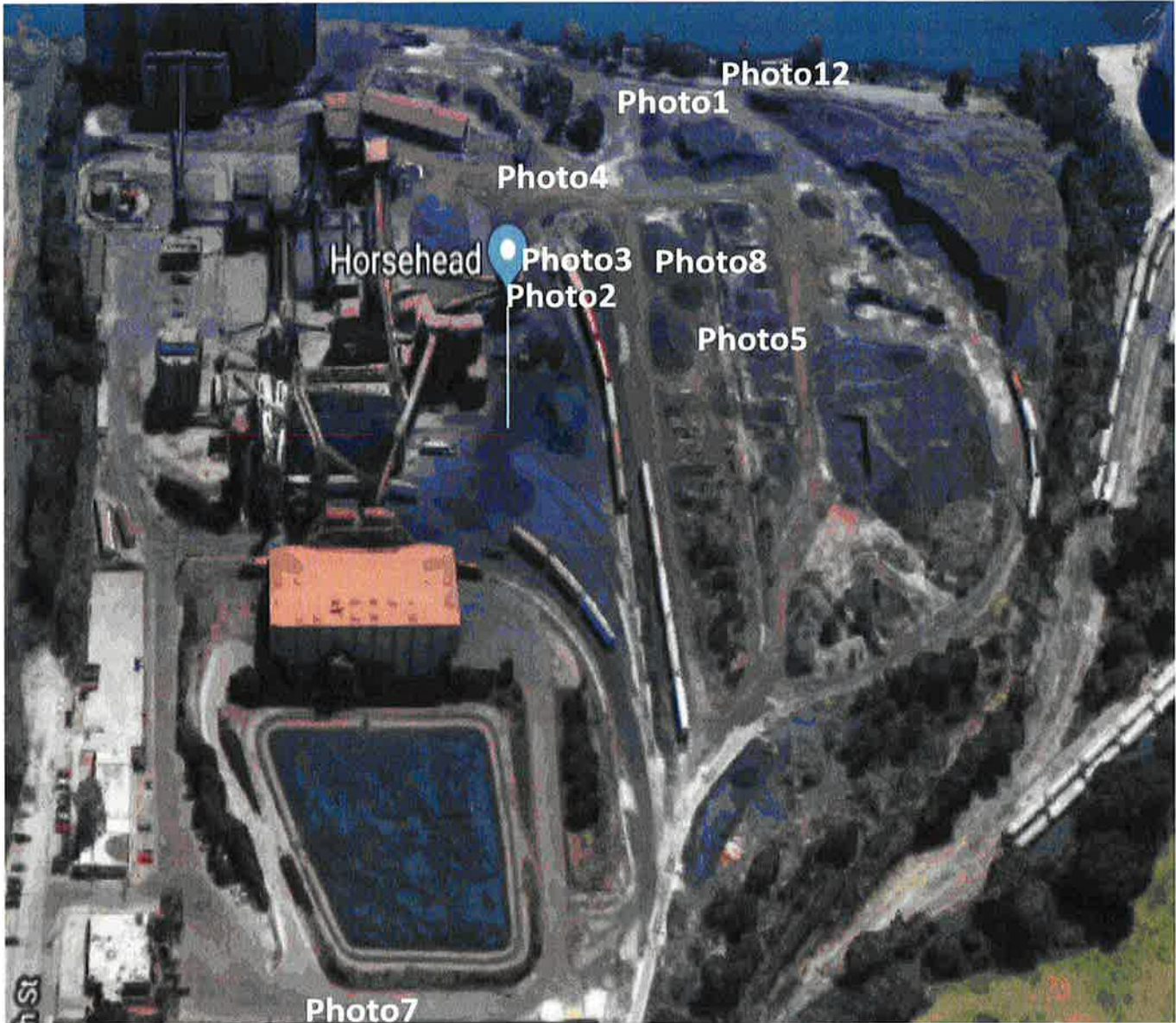
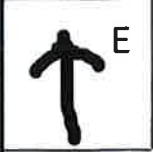
COMMENTS: Material processing area. photo2

DATE: 08/13/2018
SITE: 2701 E 114TH ST
SITE CODE: American Zinc Recycling Corp
PERMIT #: ENVAIR112615

TIME: 11:56 am
INSPECTOR: KENNETH SCOTT
COUNTY: COOK / CHICAGO
INSPECTION #: 1280385



COMMENTS: Truck covered with particulate material. photo3



Not to Scale
All Boundaries are Approximate



SITE SKETCH
CITY OF CHICAGO
DEPARTMENT OF ENVIRONMENT
FIELD OPERATIONS DIVISION

DATE:	8/13/2018
TIME:	850am-1130am
SITE ADDRESS:	2701 E. 114th st.
SITE CODE:	
INVESTIGATOR	Kenneth Scott
COUNTY:	COOK COUNTY/CHICAGO



CITY OF CHICAGO
DEPARTMENT OF PUBLIC HEALTH
ENVIRONMENTAL PERMITTING AND INSPECTIONS

CITY OF CHICAGO

OTHER CDPH PERMITS

Permit Number	Permit Type	Expiration Date
ENVAIR120401	ENV_AIR	
ENVAIR640674	ENV_AIR	
ENVAIR724590	ENV_AIR	
ENVAIR804727	ENV_AIR	

EXHIBIT F



CITY OF CHICAGO
DEPARTMENT OF PUBLIC HEALTH
PERMITTING AND ENFORCEMENT

NARRATIVE EVALUATION

INSPECTION DATE: 02/22/2018
SITE NAME: American Zinc Recycling Corp
SITE ADDRESS: 2701 E 114TH ST, CHICAGO, IL 60617
SITE CODE: American Zinc Recycling Corp
PERMIT #: ENVAIR112615

TIME: 11:40 am
EMPLOYEE: EMMANUEL ADESANYA
COUNTY: COOK / CHICAGO
INSPECTION #: 704638

SUMMARY

I carried out the routine inspection of American Zinc Recycling Corporation. Today was cloudy, temperature: high 38 degree F, low 36 degree F, wind: NE at 14 mph according to The Weather Channel. Upon arrival I met Messrs. Brad Sutek (The Facility Plant Manager) and Shannon Andrews (Environmental Health & Safety Manager); they both took me around the facility for today's inspection; after a brief meeting, during which various operational documents and business records were reviewed (Business licenses, Air Pollution Control Permits, Certificate of Operation, Clean Air Act Permit, Maintenance logs, e.t.c).

Summary of the facility PROCESS DESCRIPTION: The facility receives metal-bearing wastes (electric furnace ash), which are blended with carbon-bearing material and conveyed to the Waelz kilns (two kilns are active at this facility). The Kilns convert electric arc furnace dust and other metal-bearing materials via a high temperature metal recovery process into two useful products: crude zinc oxide ("CZO") and Iron-Rich Material ("IRM"). Reduction and re-oxidation take place inside the kiln. In the past, blend of petcoke and metcoke is used in this process (according to Brad, only metcoke is now being used). The CZO product is collected by means of product collection system, IRM product is discharged from the other end of the kiln. The main products are WOX (Zinc Oxide - Waelz Oxide, used by zinc industries as raw material in the production of high grade zinc) and IRM (Iron Rich Matrials) used by cement industries. In the past the facility uses about 120 tons of Coke (metcoke and petcoke) per day by the ratio of 90 percent metcoke and 10 percent petcoke. According to Brad, the facility now uses only metcoke for their fuel needs.

Today's inspection revealed the following: The material pile height appeared to be approximately just below 30ft. Distance from the river to the material piles is approximately 50 feet. I observed loading/unloading/transferring/moving of Iron-Rich Material (IRM) around the site today. Water was in use, causing some steam and mud puddles (See Photo Log). No dust or track-out was observed outside the facility's premises. As at the time of this inspection, the newly constructed metcoke storage building is not yet in use. See the attachments.

REPORT COMPLETED? [checked] YES [] NO
INVESTIGATION COMPLETED? [checked] YES [] NO
NOV ISSUED? [] YES [checked] NO
ATTACHMENTS? [checked] YES [] NO

I, EMMANUEL ADESANYA, an employee of the City of Chicago, Department of Public Health, declare that I have conducted an inspection of the above mentioned property on the date indicated. I further declare that the observations set forth on the report are true and accurate.

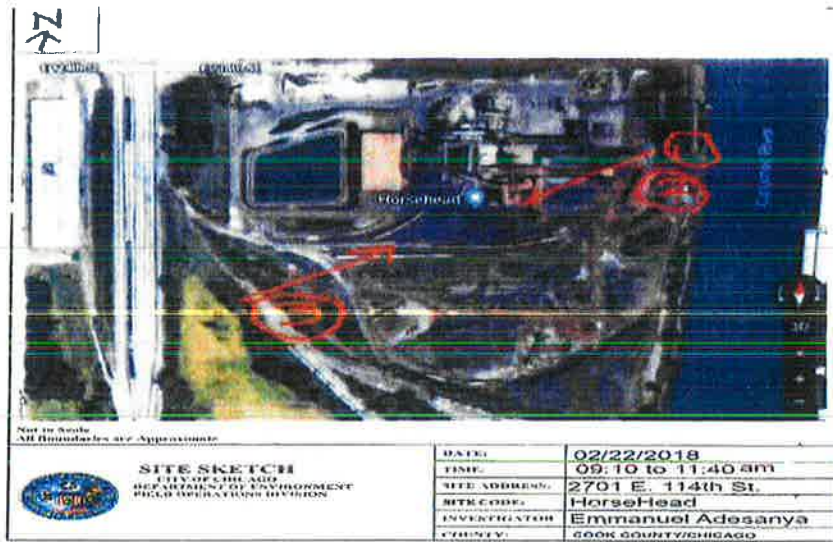
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SIGNATURE
Page 1 of 4

DATE: 02/22/2018
SITE: 2701 E 114TH ST
SITE CODE: American Zinc Recycling Corp
PERMIT #: ENVAIR112615

TIME: 11:40 am
INSPECTOR: EMMANUEL ADESANYA
COUNTY: COOK / CHICAGO
INSPECTION #: 704638



COMMENTS:

DATE: 02/22/2018
SITE: 2701 E 114TH ST
SITE CODE: American Zinc Recycling Corp
PERMIT #: ENVAIR112615

TIME: 11:40 am
INSPECTOR: EMMANUEL ADESANYA
COUNTY: COOK / CHICAGO
INSPECTION #: 704638



COMMENTS: Photo#1 Direction: SW Comments: IRM Pile.

DATE: 02/22/2018
SITE: 2701 E 114TH ST
SITE CODE: American Zinc Recycling Corp
PERMIT #: ENVAIR112615

TIME: 11:40 am
INSPECTOR: EMMANUEL ADESANYA
COUNTY: COOK / CHICAGO
INSPECTION #: 704638



COMMENTS: Photo#2 Direction: NE Comments: IRM Pile.

DATE: 02/22/2018
SITE: 2701 E 114TH ST
SITE CODE: American Zinc Recycling Corp
PERMIT #: ENVAIR112615

TIME: 11:40 am
INSPECTOR: EMMANUEL ADESANYA
COUNTY: COOK / CHICAGO
INSPECTION #: 704638



COMMENTS: Photo#3 Direction: SW Comments: IRM Pile.

EXHIBIT G



RCRA Online

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You are here: [EPA Home](#) >> [Wastes](#) >> [Information Sources](#) >> [RCRA Online](#) >> Document Record Detail



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How To

Document Record Detail

Full Document:



Title: K061, K062, AND F006 HTMR SLAG RESIDUES AND USE CONSTITUTING DISPOSAL

RCRA Online Number: 14082

Date: 02/01/1997

To: NA

From: NA

Organization of Recipient: NA

Description: EPA is reevaluating the proposal on standards for management and use of slag residues derived from high temperature metals recovery (HTMR) treatment of K061, K062, and F006 wastes (12/29/94; 59 FR 67256). EPA may withdraw, repropose, or request additional comment. Use of K061, K062, and F006 slag residue as anti-skid/deicing material is prohibited. Use constituting disposal of slag residue is subject to Section 266.20 (b).

Regulatory Citation(s) : [266.20\(b\)](#), [266.20\(c\)](#) [EXIT Disclaimer](#)

Statutory Citation(s): NA [Read US Code 42, Chapter 82](#) [EXIT Disclaimer](#)

Topic(s): Disposal; F-wastes; Hazardous Waste; Hazardous Waste Recycling; Treatment

Approximate Number of Hardcopy Pages: 1

EPA Publication Number: 530-R-97-005b

RPPC Number (if applicable): NA

Official OSW Policy: No

K061, K062, and F006 HTMR Slag Residues and Use Constituting Disposal

What is the current status of the proposal on Standards for the Management and Use of Slag Residues Derived From High Temperature Metals Recovery (HTMR) Treatment of K061, K062, and F006 Wastes, that was published in the Federal Register on December 29, 1994 (59 FR 67256)?

EPA is presently reevaluating the proposed rule due to significant issues raised by public commenters, and EPA may withdraw, repropose, or request additional public comment on the proposed rule at a future time. In the meantime, the use of K061, K062, and F006 slag residues as anti-skid/deicing materials is prohibited (40 CFR 266.20(c) and 50 FR 43496; August 24, 1994). The use of K061, K062, and F006 slag residues as road bed material and other uses constituting disposal is subject to the requirements for hazardous waste-derived products applied to the land (266.20(b)).

EXHIBIT H

BRAD SUTEK
Plant Manager

2701 E. 114TH STREET
CHICAGO, IL 60617

WWW.HORSEHEAD.NET
BSUTEK@HORSEHEAD.NET

P 773-933-9263
F 773-933-9272



CERTIFIED MAIL/RETURN RECEIPT:
No: 7009 0960 0000 1922 9846

February 15, 2016

ATTN: Environmental Inspections
Julie Morita, M.D
Commissioner, Department of Public Health & Environment
333 South State St., 2nd Floor
Chicago, IL 60604

Re: Monthly Enclosure Progress Report
Horsehead Corp., Chicago

Dear Dr. Morita:

In accordance with Part E, Section 6.0, Subpart (7) of Article II: Air Pollution Control Rules and Regulations of City of Chicago Department of Public Health & Environment (the "City's Rules"), Horsehead Corporation ("Horsehead") is providing this Monthly Enclosure Report on its Chicago plant activities to address the enclosure requirements for coke and coal as described in Section 4.0, Subpart (2) of the City's Rules. This progress report provides an update on Horsehead's activities since its January 15, 2016 monthly update, in regards to the construction of an enclosure for coke materials in accordance with the City's Rules.

Following its last progress report, Horsehead has continued to make progress in its attempt to achieve compliance with the enclosure requirements, as further described below, however, on February 2, 2016, Horsehead, its parent company and certain affiliates, filed voluntary petitions for relief under Chapter 11 of the United States Bankruptcy Code ("Code") in the U.S. Bankruptcy Court for the District of Delaware. As a result of the filing, pre-petition amounts owed to various vendors and service providers are prohibited from being paid under the Code. Horsehead's contractor preparing the design and obtaining the necessary permits from the City has indicated that it will cease all work and withdraw the pending permit applications if pre-petition amounts are not paid. If an agreement cannot be reached whereby the current contractor agrees to continue performing, the project will be delayed until a new contractor can be hired to re-start the process. The affect this may have on the project schedule has not been determined. Horsehead will keep the City apprised of any new developments in this regard.

Work Completed within the Previous Month:

Horsehead finalized the detailed design of the enclosure and submitted the construction permits to the City of Chicago, and since their submittal has received 6 of the 10 required permits from the City for this project. We are currently pursuing construction bids from several suppliers, and will continue to diligently pursue efforts to address the enclosure requirements of the City's Rules. Horsehead will contact your Department if there are any modifications to the design drawings and the construction plan and schedule, and will maintain its practice of keeping the Department informed if there are any significant developments on this project.

If you have any questions or would like to discuss this matter further, please do not hesitate to contact me at 773-933-9263.

Yours truly,

A handwritten signature in black ink, appearing to read "BRAD Sutek", with a long horizontal flourish extending to the right.

Brad Sutek
Plant Manager

EXHIBIT I

BRAD SUTEK
Plant Manager



2701 E. 114TH STREET
CHICAGO, IL 60617

WWW.AZR.NET
BSUTEK@AZR.COM

P 773-933-9263
F 773-933-9272

VIA UPS GROUND SERVICE
Tracking Number: 1Z61X7770392886745

June 15, 2018

ATTN: Environmental Inspections
Julie Morita, M.D.
Commissioner
Department of Public Health & Environment
333 South State St., 2nd Floor
Chicago, IL 60604

Re: Monthly Enclosure Progress Report
American Zinc Recycling (AZR), Chicago

Dear Dr. Morita:

In accordance with Part E, Section 6.0, Subpart (7) of Article II: Air Pollution Control Rules and Regulations of City of Chicago Department of Public Health & Environment (the "City's Rules"), American Zinc Recycling Corp ("AZR") is providing this monthly enclosure report on its Chicago plant activities to address the enclosure requirements for coke and coal as described in Section 4.0, Subpart (2) of the City's Rules. This progress report provides an update on AZR's activities since its May 2018 monthly update regarding the construction of an enclosure for coke materials in accordance with the City's Rules.

As we reported in the May 2018 monthly progress report, in early May, AZR learned that the estimated cost of addressing the changes to the water supply line and fire hydrants configuration, which a city inspector previously advised AZR are necessary before the City will approve the use of the coke enclosure building, is \$537,309. AZR does not have the funds to pay this additional expense in 2018, which in addition to the approximately \$1.7 million for the coke enclosure building, will bring the total cost to over \$2 million.

In response to AZR's request for assistance from the Department to facilitate a discussion regarding the water supply line issues, we appreciate the CDPH's efforts in connecting AZR with Marlene Hopkins, the Managing Deputy Commissioner at the City of Chicago's Department of Buildings. AZR contacted Ms. Hopkins and she has agreed to have a meeting with AZR to address the water supply line issues. AZR is working with Ms. Hopkins to arrange a mutually convenient time for that meeting. AZR hopes the meeting will lead to an agreement on a path forward that will allow completion and usage of the coke building as soon as possible.

The work completed in May 2018 is further described below.

Work Completed within the Previous Month and Projected Work Schedule: The following items have either been completed or are underway regarding the enclosure building:

The building has been completed and the Chicago Fire Department ("CFD") has approved the plumbing design and configuration relating to the fire hydrants and the water supply line to those hydrants.

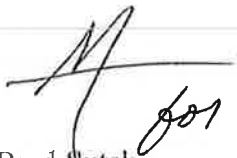
The City Water Department issued the Water Construction permit in February.

Raffin Construction ("Raffin") met with the plumber at the site to review the location of water lines that will connect the fire hydrants and the pump house. Raffin also met with AZR staff to go over sequencing so the plant interruptions will be kept to a minimum.

Raffin provided AZR with pricing information for cutting and capping all existing hydrants, installing new hydrants, running new lines, reworking the plumbing in the north pump house, and upgrading the double detector check device to 8", all in accordance with the City's directive. A copy of the pricing information, dated May 2, 2018, was enclosed with AZR's May 2018 monthly progress report.

If you have any questions upon your review of this progress report, please contact me at 773-933-9263.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Brad Sutek', with a stylized flourish at the end.

Brad Sutek
Plant Manager