UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, ILLINOIS 60604

SUBJECT:	CLEAN AIR ACT INSPECTION REPORT Waelz Sustainable Products
FROM:	Ethan Chatfield, Environmental Engineer AECAB (IL/IN)
THRU:	Nathan Frank, Section Supervisor AECAB (IL/IN)
TO:	File

BASIC INFORMATION

Facility Name: Waelz Sustainable Products (WSP)

Facility Location: 3440 West CR 300S, Logansport, Indiana 46947

Date of Inspection: September 5, 2023

EPA Inspector(s):
1. Ethan Chatfield, Environmental Engineer
2. Liam Klaiman, Environmental Engineer

Other Attendees:
1. Mike Dezember, EHS/HR Manager
2. Thomas Pritts, Environmental – Health and Safety Specialist
3. Michael Englert, General Manager

Contact Email Address: mdezember@waelzsp.com

Purpose of Inspection: To check compliance with Clean Air Act (CAA) requirements.

Facility Type: Electric Arc Furnace (EAF) dust recycling/processing facility

Regulations Central to Inspection: The Indiana State Implementation Plan (SIP), 40 C.F.R. Part 70, and other CAA requirements.

Arrival Time: 11:49am (ET)

Departure Time: 4:30pm (ET)

Inspection Type:
☒ Unannounced Inspection
☐ Announced Inspection

OPENING CONFERENCE

☒ Presented Credentials
☒ Stated authority and purpose of inspection
☐ Provided Small Business Resource Information Sheet
☒ Small Business Resource Information Sheet not provided.
☒ Provided CBI warning to facility

The following information was obtained verbally from Mike Dezember unless otherwise noted.

Company Ownership: WSP LLC is a joint venture between Zinc Nacional and Heritage Environmental Services with Zinc Nacional as the majority owner.

Process Description:
The company currently has 93 employees and operates 24/7 with multiple shifts. The company receives dust collected from the baghouses at various Electric Arc Furnaces (EAFs) via rail and truck. This dust is normally classified as a hazardous waste and landfilled but is instead recycled at this facility. Dust is 45-50% iron but also contains zinc oxide. The dust is pelletized using water in a large mixer. The pellets are mixed with metallurgical coke and/or anthracite coal and conveyed to the single kiln onsite. The facility is permitted to construct a second kiln, but there has been no decision on when to start construction on Kiln 2. The coke, coal, pellet mixture is combusted in the kiln fired with natural gas at about 1,100^{o}C. At this temperature the iron doesn't melt but the zinc will sublimate. Crude zinc oxide is collected in a baghouse, conveyed to hoppers and transported by rail to Zinc Nacional. The zinc will eventually be manufactured for use in various consumer products (lubricants, sunscreen, galvanization, micronutrients/vitamins, etc). The zinc oxide recovered in the EAF is largely due to the recycling of zinc galvanized metal products. The facility also produces Waelz Iron Product or WIP as a byproduct from the process. WIP could have some secondary uses, such as road base or use in cement making, but it is currently all sent to a landfill. All WIP must pass a TCLIP (Toxicity Characteristic Leaching Procedure) test before landfilling (it's the Zinc that usually causes the TCLIP to fail). There are 10 baghouses and 1 scrubber onsite, see Plant Overall site Plan provided by the company and attached. BH10 collects the final product. The facility currently has a different baghouse numbering system then their permit, but the facility has requested to update the permit to use the facility's numbering system. Lead, chromium and manganese are main air toxics of concern and stacked tested. The permit application was patterned after the plant in Alabama and presumably that is why the permit and testing only focuses on these three air toxics.

Staff Interview:
Plant staff explained that they recently submitted an application for a permit modification to IDEM to switch the individual unit emission limits in their permit to facility-wide caps due to lead, chromium and manganese exceedances at multiple buildings last year. They argue that although this facility is similar to other plants, each plant is unique and they didn't really know how to distribute the total emissions to each piece of control equipment. They argued that the total emissions are the same regardless, just distributed differently than originally planned. The draft permit is expected shortly and the company will have 2 weeks to review, then a public hearing is planned and there will be a 30-day public comment period (with a 45-day review period that may be concurrent). There are two lead monitors in town, approximately 3-4 miles away. According to the facility, the data at these monitors don't always match.

EAF dust arrives by truck (30%) and rail (70%). Every truck and rail car that arrives is tested on-site in WSP's own lab. The plant has never had to reject a shipment. The content of the dust varies from site to site, but the plant has had 5-6 very consistent customers and the content of the dust is specified by contract. On average the EAF dust is approximately 0.4% lead, 0.27% chromium, and 2.59% manganese.

EPA asked whether there were any issues with any continuous construction requirements since Kiln 2 has not been constructed and there is currently no plans to start construction. The facility is keeping IDEM in the loop but they have not mentioned any concerns to date. The plant can also utilize lime, but it has not yet been used. The plant can also use other "zinc containing feedstocks" but the facility has not yet used this option. The facility is focusing on consistency and working out any production issues before considering any production changes.

Velocity is check from each door (18 in total), by hand, using an anemometer to make sure each building is under adequate negative pressure. The facility uses a SAP preventative maintenance process.

The carbon added is roughly 30% met coke and 70% anthracite. The met coke was added due to the recent Russian supply issues with anthracite.

The facility has a continuous opacity monitor on the main collector (BH10) and have had no exceedances to date. All baghouses were stack tested last year, as required and a dioxin test was conducted on BH3 and BH10 (facility is not sure why BH3). Facility staff stated that they were not sure why they classified as a non-secondary metal facility since that issue predates their involvement at the facility.

TOUR INFORMATION

EPA Tour of the Facility: Yes

Data Collected and Observations:
The truck receiving and pelletizer operation was temporarily down for maintenance during the inspection due to maintenance on the pelletizers which happens about every 5-6 weeks. The facility was on day 2 of a 4-day outage that started yesterday (September 4, 23) at 7pm.

The EAF dust receiving, pelletizing, and coke side is referred to as the "cone side" of the operation and the combustion side is referred to as the "kiln side," with a road between each 'side.'

The inspection started on the cone side and the group observed where the trucks dump the EAF dust into a grating in the floor through Door F, next to BH2. The truck also go through a wash and inspection process.

Each baghouse is equipped with a PM 100 bag leak detection system by Filter Sense. The group walked by BH5 and observed a 65 scfhr on the blower with approximately 230pA (average 153pA on a 6 min) on the PM100. The PM100 measures the amount of charge of PM passing through the stack and is on a 10,000 scale. The monitors were required as part of the permitting action. There are 4 silos to store product; 2 for pellets, 1 for carbon, and 1 auxiliary (typically used if the WIP fails the TCLP and needs to be re-run). The facility generates approximately 1½ railcars a day of zinc oxide product.

The group then observed BH10. There are 14 modules inside BH10 used for collecting zinc oxide. Samples are taken every 4 hours. The PM100 was measuring 6.36pA on a 6-min average on the main stack (BH10).

The group then entered the control room for the kiln that monitors the kiln, BH10, and the scrubber (though it's possible to observe any BH in the plant from the same display). Photos taken of the computer display claimed as Confidential Business Information. The material in the kiln has a residence time of approximately 5-6 hours. The loading end of the kiln by Door LL always stays open (but is still under negative pressure). The facility is requesting to get rid of its only scrubber and run all the steam back into the kiln due to maintenance issues with the scrubber. Only 1 of the 2 recirculation pumps run at a time and was operating at 115.77 gallons per minute on the one pump.

All the cooled WIP is routed to a warehouse where it is allowed to cool in piles prior to be tested until it passes a TCLP and transported to a Class D (not hazardous) landfill.

Photos and/or Videos: were taken during the inspection.

Field Measurements: were not taken during this inspection.

CLOSING CONFERENCE

☒ Provided U.S. EPA point of contact to the facility.

Requested documents (all provided and added to case file):

- Overall Plant Plan
- Coal/coke contracts
- All stack test reports
- Copy of the March 1st 2023 permit application

- Affidavits of construction
- Semi-annual and annual compliance reports
- EAF dust sampling summaries for last 3 quarters

DIGITAL SIGNATURES

Report Author: ETHAN CHATFIELD Digitally signed by ETHAN CHATFIELD Date: 2023.09.14 15:03:08 -05'00'

Section Supervisor: Frank, Nathan Digitally signed by Frank, Nathan Date: 2023.09.15 15:20:54 -05'00'

CONFIDENTIAL BUSINESS INFORMATION ATTACHMENT

Facility Name: Waelz Sustainable Products
Facility Location: Logansport, Indiana
Date of Inspection: September 5, 2023

Photos 8, 9, and 10 are CBI.

APPENDIX A: DIGITAL IMAGE LOG

1. **Inspector Name:** Liam Klaiman	2. **Archival Record Location:** Region 5 Electronic Records Center - ECAD

Image Number	File Name	Date and Time (incl. Time zone and DST)	Latitude and Longitude	Description of Image
1	IMG_0688.JPG	2023:09:05 14:39:24		EAF dust dumping area
2	IMG_0689.JPG	2023:09:05 14:45:42		Kiln side of plant
3	IMG_0690.JPG	2023:09:05 14:49:56		Pelletizer outside for maintenance
4	IMG_0691.JPG	2023:09:05 15:02:40		Railcar EAF dust dumping operation
5	IMG_0692.JPG	2023:09:05 15:02:57		Railcar EAF dust dumping operation
6	IMG_0693.JPG	2023:09:05 15:03:03		Railcar EAF dust dumping operation
7	IMG_0694.JPG	2023:09:05 15:26:59		BH10 ductwork to stack on right
8	IMG_0695.JPG	2023:09:05 15:37:43		***CBI*** of Kiln operation computer screen
9	IMG_0696.JPG	2023:09:05 15:37:54		***CBI*** of BH10 operation computer screen
10	IMG_0697.JPG	2023:09:05 15:38:05		***CBI*** of scrubber operation computer screen
11	IMG_0698.JPG	2023:09:05 15:44:31		Natural gas side of kiln.
12	IMG_0699.JPG	2023:09:05 15:55:55		WIP collection duct
13	IMG_0700.JPG	2023:09:05 15:56:04		scrubber system for WIP cooling