

**DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY DIVISION  
ACTIVITY REPORT: On-site Inspection**

B175470556

<b>FACILITY:</b> Ervin Amasteel Division		<b>SRN / ID:</b> B1754
<b>LOCATION:</b> 915 TABOR ST., ADRIAN		<b>DISTRICT:</b> Jackson
<b>CITY:</b> ADRIAN		<b>COUNTY:</b> LENAWEE
<b>CONTACT:</b> Richard Payne , Plant Engineer		<b>ACTIVITY DATE:</b> 12/20/2023
<b>STAFF:</b> Brian Merle	<b>COMPLIANCE STATUS:</b> Compliance	<b>SOURCE CLASS:</b> MAJOR
<b>SUBJECT:</b> Scheduled, announced on-site inspection.		
<b>RESOLVED COMPLAINTS:</b>		

**Facility Contact****Rick Payne, Plant Engineer****517-265-6118 et. 117****rpayne@ervinindustries.com****Phil Walker, EHS Manager****517-265-6118****pwalker@ervinindustries.com****Purpose**

On December 20<sup>th</sup>, 2023, an announced scheduled inspection was conducted at Ervin Industries located at 915 Tabor Street, Adrian, Michigan. The purpose of the inspection was to determine the facility's compliance status with applicable federal and state air pollution regulations, particularly with the Michigan Natural Resources and Environmental Protection Act 451 of 1994, Part 55, Air Pollution Control and the administrative rules, and the conditions of Renewable Operating Permit (ROP) MI-ROP-B1754-2018.

**Facility Location**

The facility is located on the outskirts of the City of Adrian in an industrial area, with the closest residential area 600 feet to the NE of the melt shop.

**Facility Background**

The facility was last inspected June 9<sup>th</sup>, 2021, and was found to be in compliance. An ROP renewal application was not submitted prior to the deadline of September 5<sup>th</sup>, 2021, and as a result the facility failed to obtain an application shield prior to their ROP expiration on March 5<sup>th</sup>, 2023. By Consent Order, they remain subject to the terms and conditions of ROP No. MI-ROP-B1754-2018 until their new permit has been issued.

This facility makes steel shot and grit through the use of one 40-ton Electric Arc Furnace (EAF) to melt the steel used to make the shot and grit. The facility currently has around 100 employees and operates 24 hours a day, 5 days per week. The EAF is operated at night to take advantage of reduced electricity cost.

The facility currently has two permit applications in, one for a new 60,000 CFM Imeril collector under APP-2023-0201. They also have a permit, not yet complete, for a new area to empty their plant sweeper to limit the dust released into the facility.

### **Regulatory Applicability**

The facility operates under ROP No. MI-ROP-B1754-2018, issued March 5<sup>th</sup>, 2018.

The facility is considered a Major Source of CO and an area source of HAPs.

The facility is subject to 40 CFR Part 63 Subpart YYYYY, National Emission Standards for Hazardous Air Pollutants for Area Sources: Electric Arc Furnace Steelmaking Facilities, and the EAF is subject to 40 CFR Part 60 Subpart AAa, Standards of Performance for Steel Plants: Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels Constructed After August 17, 1983.

### **Arrival**

I emailed Rick Payne, the Plant Engineer, on December 14<sup>th</sup> to notify my intent to inspect the facility and to request records. The inspection was scheduled to take place December 20<sup>th</sup>.

I arrived at the facility at 7:45 AM, with the only visible emissions being water vapor from the cooling towers. I proceeded to the main office and entered the reception area, where I identified myself and asked for Rick. He met me in the lobby, and we went to a meeting room. I proceeded to the main office and entered the reception area, where I identified myself and asked for Rick. He met me in the lobby, and we went to a meeting room.

### **Pre-inspection meeting**

We sat down along with Phil Walker, the EHS Manager for the facility. Rick gave me a flash drive with the requested records on it. He also explained that the EAF would be pouring soon, and that we could go watch it then come back to continue our meeting.

### **Inspection**

The facility required a hard hat, safety glasses, ear plugs, Flame Resistant jacket, and steel toe boots.

We headed to the EAF building where the EAF was about to be poured. Adjacent to the building was the covered scrap yard. Rick explained how they use the paint filter test method to verify purchase specifications that appear to be oily. The material is moved using a magnetic grabber that fills the charge ladle with specific amounts of different scrap to ensure the proper composition of the melted material. We then headed into the EAF building. A small amount of smoke was generated, but this appeared to all be captured by the roof canopy hood or the "fly swatter" hood. I did notice there was a small area on the wall above the EAF where light could be seen coming through, which Rick explained was most likely where a section of flashing between the EAF building and the connected electric room for the EAF had come loose during a recent high wind event and that they would look into repairing it. Some visible emissions were noted during the pour, but again these all seem to be captured. I asked about the louvered vents located in this building, and Rick explained that all but one had been permanently covered. After watching the pour, we headed back to the main office.

Back in the office, Rick explained the facility processes and the resulting products and their uses. During this time, Phil had to leave to conduct VE testing. Rick and I then went on the tour of the facility, and Phil would join us when he was finished.

We headed back to the EAF building, this time with additional PPE in the form of earmuffs with walkie talkie headset. We headed up to the EAF and entered the control room. Here, Rick explained what they monitor in the control room and how they control collection in the facility by the use of dampers to turn on and off vacuum at different collection points. He also explained that there are two dust collectors in the melt shop that vent internally.

Leaving the control room, we went up to where the shot is formed using a proprietary process. After the shot is formed, it is moved by conveyor to drying, heat treating, screening, and grit forming areas of the facility. We then exited the building on a catwalk and Rick showed me where the louvered vents used to be, now covered. It was also a good vantage point to see the entire facility.

Re-entering the building, we went down to ground level and walked along the heat treat lines where Rick explained how they worked and the different process they perform. We also walked along the screening lines, where the shot is separated by size. This is where Phil rejoined us for the tour. Moving on we went to the grit forming area, where the shot is crushed by rollers to give it an angular shape which makes it abrasive. Here, Rick showed above the different lines where they are installing new dust collection points to improve indoor air quality in this area.

We then moved on to the loading areas, where shot and grit are loaded into boxes, sacks, and barrels for transport. We then went to the loading dock, where the emergency spark ignition engine is located. Its non-resettable hour meter was at 718 hours. Rick also showed me where they had installed their sweeper emptying station, as well as where their cold cleaner used to be located. This was removed by their contracted supplier and replaced with a water-based unit.

We next went outside to the EU-0009/EAF baghouse control room. Here, the differential pressure was noted to be around 8 inches, with Rick saying the typical range was between 7 and 10. The auxiliary fan hour meter was also here, which was at 5663.8 hours. Outside the control room we walked under the baghouse, observing where the collected fines go into dumpsters. No visible emissions were seen around the baghouse nor any dust on the ground. This is also where the slag storage area is located. Slag from the EAF is collected and brought here for storage. A few times a year a contractor comes in and processes the slag into a usable product. No fugitive dust was observed in this area.

We then walked towards the grit dust collector associated with EU-0007. No opacity was observed. Rick explained that they recently had to replace the duct going into the baghouse due to a rust hole. This was caused by the abrasive nature of the dust collected in the grit area. With the new dust collector installed for the grit room, this collector will be used just for grit screening.

Next, we walked past the dust collector associated with EU-005. No opacity was observed. Rick explained that this collector would be disconnected from the dryer, with corresponding changes made in their ROP application. It will be kept on site and reallocated for different dust collection, such as for the sweeper emptying station and mixing room.

Finally, we walked past where the new dust collector was being installed, which was close to being complete. We then walked back around the building, where we were able to see where the flashing had come loose on the outside of the EAF building. We then went back into the office.

#### **Post-inspection Meeting**

Sitting with Rick and Phil, I explained that I did not observe anything concerning in the facility except for the loose flashing, which they were now aware of and would be repairing. I thanked them for their time and left at approximately 9:50 AM.

#### **Records Review**

The following records were requested for review:

##### **EU-0007**

Daily pressure drop records. Records were provided from October 25<sup>th</sup> 2022 to December 1<sup>st</sup>, 2023. Operational range set between 1.0" and 4.0". All records were around 1" (Attachment 1).

Inspection and maintenance logs were provided from September 2022 to December 2023. Everything appears to be in order (Attachment 2).

##### **FG-COLDCLEANERS**

Original cold cleaner removed. Replaced with water-based unit.

##### **FG-0005**

Daily pressure drop records. Records were provided from 10/17/22 to 12/11/23. Operational range set between 1.5" and 5.5". One day was out of this range: July 28<sup>th</sup>, 2023 the reading was 1.0" (Attachment 3). Rick later explained that this record was in error: their digital records show a reading within range (Attachment 3.1)

Inspection and maintenance logs were provided from September 2022 to December 2023. Everything appears to be in order (Attachment 4).

##### **FG-0009**

Daily pressure drop readings to satisfy SC VI.1 provided for 10/27/22 to 12/12/23. Everything appears to be in order (Attachment 5).

Monthly inspection and repair logs to satisfy SC VI.2 provided for 10/26/22 to 12/12/23. Everything appears to be in order (Attachment 6).

Furnace static pressure, fan motor amperes, and damper position recorded to satisfy SC VI.3 provided for 10/27/22 to 12/12/23. Everything appears to be in order (Attachment 5).

Daily Inspection Logs to satisfy SC VI.4 provided for 10/22/22 to 12/18/23. Everything appears to be in order (Attachment 7).

Daily VE testing performed to satisfy SC VI.5, provided for 10/30/23 to 12/1/23. Everything appears to be in order (Attachment 8).

Monthly and 12 month rolling tons of steel melted provided for January 2014 to December 2023 and January 2015 to December 2023, respectfully. These meet the conditions of SC VI.6 (Attachments 9 and 10).

Monthly CO emissions, in pounds per ton of steel, provided monthly from January 2014 to December 2023. Everything appears to be in order (Attachments 9 and 10).

Monthly CO emissions, in tons per year, were provided on a 12-month rolling basis for January 2015 to December 2023. This meets the conditions under SC VI.8 (Attachments 9 and 10).

Monthly PM mass emission rates were provided for 2022 and 2023, meeting the conditions under SC VI.9. Everything appears to be in order (Attachment 11).

The hours of operation of the baghouse, recorded as the sum of the main fan and auxiliary fan hour usage, was provided for January 2014 to December 2023. Everything appears to be in order (Attachment 9).

Monthly inspection and repair logs to satisfy SC VI.11 provided for 10/26/22 to 12/12/23. Everything appears to be in order (Attachment 6).

Monthly VE observations of the EAF's emissions from the melt shop, the EAF baghouse's dust-handling system, and hot metal transfer emissions from the baghouse and from the melt shop to satisfy SC VI.12. Records provided for the month of November; everything appears to be in order (Attachment 8).

FGMACT-YYYY

Records kept on-site to satisfy SC VI.1.

FGSI-RICEMACT

A generator log was provided for November 2022 to December 2023, showing recorded hours. Service records from Cummins were also provided to satisfy SC VI.1 (Attachment 12).

Additionally, during the inspection, it was noted that the facility had installed new equipment, specifically a new dust collector and a sweeper dump booth. I later confirmed with the facility that a construction waiver was not obtained for either project.

#### Compliance Determination

Based on my on-site inspection and the following records review, I have determined Ervin Amasteel to be in compliance with their ROP. However, due to failing to obtain a PTRI before installing new equipment, a Violation Notice will be issued.

NAME



DATE 1/18/2024

SUPERVISOR

