VMACES

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: Scheduled Inspection

B175429865

FACILITY: Ervin Amasteel Division		SRN / ID: B1754
LOCATION: 915 TABOR ST., ADRIAN		DISTRICT: Jackson
CITY: ADRIAN		COUNTY: LENAWEE
CONTACT: Richard Payne , Plant Engineer		ACTIVITY DATE: 06/08/2015
STAFF: Eric Grinstern	COMPLIANCE STATUS: Non Compliance	SOURCE CLASS: MAJOR
SUBJECT: Unannounced compliance inspection		
RESOLVED COMPLAINTS:		

FACILITY DESCRIPTION

Ervin Amasteel is located in Lenawee County, Madison Township, adjacent to the City of Adrian. The facility started operations at the location in 1952. The facility is a cast steel shot and grit abrasives manufacturer. The facility operates one 40-ton capacity EAF, from which the molten steel is processed to form shot and grit. The facility has approximately 98 employees and operates 24/5. The EAF is operated from approximately 19:00 to 11:00.

REGULATORY OVERVIEW

The facility is an area source with all processes covered under Renewable Operating Permit (ROP) No. MI-ROP-B1754-2013, issued January 23, 2013. The facility was issued Permit to Install No. 53-12A on February 24, 2015, which allows for the routing of emissions that currently go to Baghouse-0004 to Baghouse-0009. At the time of the inspection Baghouse-0004 was still being used. The facility is considered an area source of hazardous air pollutants and is subject to the Area Sources Electric Arc Furnace Steelmaking Facility NESHAP, 40 CFR Part 63 Subpart YYYYY, issued on December 28, 2007. The EAF is also subject to NSPS 40 CFR Part 60 Subpart AAa, Standards of Performance for Steel Plants: Electric Arc Furnaces and AOD Vessels. The facility has previously discussed with AQD whether the plant should be classified as a foundry as opposed to a steelmaking facility. Reclassification would result in the facility being subject to the Area Source Iron and Steel Foundry NESHAP and no longer being subject to Subpart YYYYY and NSPS Subpart AAa. AQD previously informed the company that they would need to seek an applicability determination from USEPA. During the inspection the facility stated that they are a foundry and plan to seek reclassification in the next couple of months.

COMPLIANCE EVALUATION

This was an unannounced inspection initiated by Region V USEPA. AQD staff accompanied USEPA and conducted a scheduled inspection as part of the visit. AQD staff consisted of Michael Gabor and Eric Grinstern (EG), EPA staff consisted of Alexandra Letuchy and Dakota Prentice. The facility was represented primarily by Richard Payne III, Plant Engineer and James Lemon, Plant Manager. A copy of the "Environmental Inspections: Rights and Responsibilities" brochure was provided to the company by AQD.

Below is an evaluation of the compliance requirements for each regulated emission unit assessed during this inspection.

ROP No. MI-ROP-B1754-2013

EU 0004

Emission unit includes shot forming work area. Emissions are controlled by BH-0004 (AAF Collector) (southern-most baghouse on the east side of the facility). PTI No. 53-12A was issued on February 24, 2015 to allow for control of the emission unit by BH-00009. The facility applied for the modification due to the impeller associated with BH-0004 going down in November 2014. The facility stated that they

originally sought to switch baghouses under a permit to install exemption, but was informed that a PTI was required. The facility had the impeller repaired and reinstalled prior to the issuance of the permit allowing them to switch control to BH-0009. The facility plans to decommission BH-00004 within approximately a year. Emission unit includes the casting tundish.

Emission Limits - Monitoring/Recordkeeping

Restricts PM emissions to 0.04 lbs/1,000 pounds of exhaust gas, and opacity to 10%. Compliance is based upon proper operation of the baghouse. Proper operation is based upon differential pressure monitoring, for which the facility is required to monitor and record daily. Also monthly inspections of the baghouse for broken or damaged parts is required along with daily monitoring for fugitive emissions from collected PM.

Status

The facility is conducting and documenting the required monitoring. Review of baghouse inspection and repair records as well as exhaust observation records were reviewed with no compliance concerns noted.

Review of records for January 2014 through June 25, 2015 showed the recorded pressure drop for the four chambers of BH-00004 in use (Bays: 1, 3, 4&5). The permitted range contained in the ROP is 1.0 to 14.0 inches. Review of the of records showed two occasions when the pressure drop exceeded 14.0 inches in Bay #3. (March 14, 2015: 14.2", February 27, 2015: 14.5") the permit requires that the facility observe for opacity if the pressure drop readings are outside of the normal operating parameters. The facility is only required to take action if opacity is observed.

From November 14, 2014 through January 27, 2015, records state that the impeller was down, during which time no pressure drop readings were recorded.
The facility stated that the emission unit was operated during this time. Since BH-0004 was not operational, emissions were emitted into the in-plant atmosphere as they were prior to control by BH-0004. A portion of the emissions during this period of time would have been captured by the roof hood that ducts to BH-0009.

Note: Baghouse (BH-0004) is an 80,000 cfm baghouse that was historically used to control furnace emissions. The baghouse is run at half capacity (40,000 cfm) with four of the eight compartments in use at one time. The baghouse is the southernmost collector on the east side of the building. During the inspection no emissions were noted from the baghouse.

- → Operation of the emission unit between November 14, 2014 and January 27, 2015 while the baghouse was not operating is a violation of the ROP requirements.

- → Appendix 4. of the ROP requires that whenever pressure drop readings are outside the normal operational range of the collector, the facility must take readings every four hours until the collector is brought back to within the normal operational range. Review of the facility records do not show that this occurred for the two documented pressure drop exceedances.

EU-0007

Emission unit includes processes associated with the production, cleaning and sizing of abrasive grit. Emissions are controlled by a 26,420 scfm baghouse (SV11) (Grit Dust Collector) located on the south-end of the building.

Emission Limits - Monitoring/Recordkeeping

Restricts PM, PM10 and PM2.5 emissions, as well as limiting opacity to a six-minute average of 5%. Compliance is based upon proper operation of the baghouse. Proper operation is based upon differential pressure monitoring, for which the facility is required to monitor and record daily.

Status

Staff reviewed records from April 17, 2015 through June 25, 2015. The records list the operational range as 1"-4". Review of the records showed that a majority of the readings were below 1.0".

Note: Observation of the baghouse exhaust during the inspection showed no visible emissions. Observation of the area around the baghouse showed good housekeeping practices. The collected particulate was being emptied from the baghouse at the time of the inspection. A small amount of fugitive emissions was observed during this process.

→ **Appendix 4. of the ROP requires that whenever pressure drop readings are outside the normal operational range of the collector, the facility must take readings every four hours until the collector is brought back to within the normal operational range. Review of the facility records do not show that this has occurred.**

FG-0005

Flex group includes shot processing equipment controlled by Baghouse-0005 (20,000 scfm) (As Cast Collector)

Emission units within flex group include:
EUASCSTDRYER1, EURMLTDUMPHOIST, EUACSCRNLINEBINS, EU#1LINEDRYELEV1, EU#1LINEDRYELEV2, EUAMALINEBEATSYS, and EU#4BEATERSYSTEM

Emission Limits - Monitoring/Recordkeeping

Restricts PM, PM10 and PM2.5 emissions. Compliance is based upon proper operation of the baghouse. Proper operation is based upon differential pressure monitoring. If an excursion outside the established pressure drop range (1.5"-5.5") occurs, the facility is required to observe for visible emissions. If visible emissions are noted, the facility is required to conduct Method 9 readings and take remedial action within 24 hours. Also, requires monthly inspections of the baghouse.

Status

Staff reviewed baghouse records from May 22, 2014 through June 25, 2015. The records document that the pressure drop reading was outside of the established range on the following occasions: 2-10-15: 1.3", 1-27-15: 1.4", 11-24-14: 1.0"(new bags), 11-25-14:1.2", 12-1-14: 1.3", 12-2-14: 1.3".

→ **Appendix 4. of the ROP requires that whenever pressure drop readings are outside the normal operational range of the collector, the facility must take readings every four hours until the collector is brought back to within the normal operational range. Review of the facility records do not show that this has occurred.**

Design/Equipment Parameters

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Requires the facility to implement and maintain a Fugitive Dust Control Plan. Facility is required to make daily observations in accordance with the plan.

Status

The facility has a Fugitive Dust Control Plan in place.

Note: Observation of the baghouse exhaust showed no visible emissions.

FG-COLDCLEANERS

The facility has one 30 gallon cold cleaner for which compliance was not evaluated as part of this inspection.

FG-0009

Flex group includes the 40-ton capacity electric arc furnace and associated pouring and casting operations that are controlled by Baghouse-0009 (Flowers Dust Collector). Additionally, Baghouse-0004 provides control for the pouring ladles and two side draft hoods "fly swatters" used during furnace tapping. The facility stated that the cfm at the "fly swatters" will be increased when they switch control from Baghouse-0004 to Baghouse-0009. Baghouse-0009 has eight bays and the facility replaces the bags in one bay each year.

Emission units within flex group include:

EU-EAF, EU-POURING and EU-CASTINGTANK

Emission Limits - Monitoring/Recordkeeping

Restricts CO, PM, PM10 and visible emissions.

Compliance with the CO emission limit is based upon annual CO emission rate testing, which is conducted in lieu of a CEMS unit. If testing shows a CO emission rate greater than 70% of the limit, a CEMS is required to be installed. Annual testing has showed emission rates below 70% of the limit. Staff was on site to observe the latest test, which was conducted on June 9, 2015. The facility calculates and maintains records of the CO emission rate based upon the annual stack testing.

Compliance with the PM, PM10 and opacity emission limits are based upon past compliance testing, calculation (based upon most recent testing) and recording of PM hourly emissions, proper operation of the baghouse and daily Method 9 observations.

The facility conducted compliance testing in July 2013 at which time they demonstrated compliance with the PM emission limits.

As required by the permit, the facility maintains records of the hours of operation and tons of steel melted. Records reviewed showed compliance with the melted steel limits and hours of operation.

Proper operation is determined via the requirements to monitor and record the pressure drop across the baghouse on a daily basis, conduct three 6-minute Method 9 readings each day for the baghouse, monthly VE observation from the melt shop and baghouse dust handling system, monitoring and recording of the furnace static pressure, fan motor amperes and damper position once per shift. Additionally, proper operation is determined via the requirement to conduct monthly operational status inspections of the total capture system.

- Monitoring and recording of the furnace static pressure, fan motor amperes and damper position is performed by the furnace operator once per heat. The furnace operator has the ability to adjust the system to control furnace static pressure. The facility provided the requested records documenting compliance with the recording requirement. Review of the pressure drop records showed several readings outside of the normal ranges. The pressure drops returned to the normal range with the next 4 hour reading, or for readings that were outside the range at the end of the production day, they returned to normal with the next reading when the process was restarted.

- The facility provided Method 9 observation records for the past two months, as requested. No opacity was noted during the previous two months. Staff did not observe any VE during the inspection.

- Inspection of the capture system (duct) is documented on the daily collector inspection records.

CAM

The emission unit is subject to 40 CFR Part 64 CAM for PM, which is also a requirement under Subpart YYYYY.

CAM requires monitoring of both the control and capture system. CAM monitoring for the control device is accomplished through the requirement to record the pressure drop on a daily basis. If the pressure drop is out of the normal parameters, the facility is required to make VE observations, and then conduct Method 9 readings if VE is noted.

As noted during a previous inspection, since the facility is required to conduct daily Method 9 readings under Subpart AAa, this should also be included as CAM.
In regards to capture, the permit does not currently specifically address CAM; however the facility monitors the furnace static pressure, fan motor amperes and damper position as required by Subpart AAa. Upon renewal, CAM should be added as an UAR for these requirements to address capture.

The facility is submitting the required semi-annual CAM certification reports.

Subpart YYYYY – Area Source Electric Arc Furnace Steelmaking NESHAP

The facility is subject to Subpart YYYYY, which regulates scrap charged to the EAF, emissions from the EAF and opacity from the melt shop.

The facility is considered an existing source under Subpart YYYYY.

Emission Limits

The EAF is subject to a PM emission limit of 0.0052 gr/dscf and the melt shop is subject to a fugitive opacity limit of 6%.

Status: Compliance

The facility tested and demonstrated compliance with the PM limit in June 2008

The facility conducted and documented Method 9 readings for melt shop fugitive opacity on January 30, 2013. The deadline for conducting the testing was June 30, 2008. The late testing was documented during the last inspection and addressed in a violation notice issued September 5, 2013.

Note: During the inspection no opacity was observed from the melt shop building. The melt shop has two vents, one at the south end and one on the east side. Observation of the east side vent showed that louvers were missing. EG requested that the facility replace the missing louvers ASAP and provide notification when the repairs are completed.

Material Limits/Process

Contaminants in scrap other than mercury:

Requires metallic scrap charged to the EAF to comply with either the Pollution Prevention Plan option regarding selection and inspection to minimize contaminants or Restricted Metallic Scrap option described in Subpart YYYYY.

For mercury:

Requires the facility to participate in and only receive motor vehicle scrap from providers who are participating in a USEPA-approved program (NVMSRP) or for the facility to have a site specific plan.

Contaminants other than mercury

The facility is operating under an approved plan in accordance with Subpart YYYYY. The plan addresses the use of scrap under the selection and inspection option as well as Restricted Metallic Scrap. The facility inspects and maintains records of each load of incoming scrap. The facility's scrap plan addresses actions to be taken if a non-conforming scrap is brought onsite.

Mercury

The facility's plan addresses participation in the approved program option (NVMSRP). The facility maintains records of all scrap providers participation in NVMSRP and verifies compliance through onsite inspections of providers as well as verifying participation in the ELVS program semi-annually.

Reporting

Subpart YYYYY requires the submittal of semi-annual compliance certifications.

The facility is submitting semi-annual certifications in accordance with Subpart YYYYY.

Subpart AAa – NSPS, Standards of Performance for Steel Plants: EAFs and AODs

The facility is subject to NSPS Subpart AAa –Standards of Performance for Steel Plants: Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels Constructed After August 17, 1983, which regulates PM emissions from the EAF and opacity from the EAF control device as well fugitive emissions from the melt shop.

The requirements of Subpart AAa are incorporated into the individual emission units/flex groups of the ROP.

Emission Limits

Limits PM to 0.0052 gr/dscf, which is the same limit contained in Subpart YYYYY.
Also, limits opacity from the EAF baghouse to 3% and opacity from the metal shop to 6% (same as Subpart YYYYY)

The facility most recently demonstrated compliance with the PM emission limit as part of compliance testing required by Subpart YYYYY.

Limits opacity from the melt shop to 6%

Testing to demonstrate compliance with the melt shop opacity limit was required within 180 day of startup of the new EAF in 1994. The facility stated that the first recorded/documented Method 9 readings for melt shop opacity were conducted on January 30, 2013. Late testing was documented in a violation notice issued on September 5, 2013.

In regards to ongoing compliance, NSPS Subpart AAa allows for demonstration of compliance with the melt shop opacity limit through monitoring of the EAF static pressure drop, fan amperes and damper position once per shift. The facility is conducting the required monitoring.

Limits opacity from the dust-handling system to 10%

The facility has a fugitive dust plan in place to addressed collected material. The area around the baghouse showed good housekeeping practices during the inspection.

Monitoring

Requires a COM unit, unless opacity from the control device is performed by a certified observed (Method 9) daily.

The facility conducts daily Method 9 readings of the baghouse.

Monitor and record the control system fan motor amperes and damper position once per shift **or** operate a monitoring device to continuously record the volumetric flow rate through each hood **or** operates a monitoring device the continuously records the volumetric flow rate at the control device inlet and check and record the damper positions once-per-shift

The facility monitors and records the fan system amperes, furnace static pressure and damper positions once per heat.

Additional Observations

Slag cooling building – During the inspection staff observed the recently installed slag cooling building. The building has baghouse control that is activated when a loader enters the building. The installation of the building greatly reduces emissions associated with the dumping and loading of slag at the north-end of the facility.

Staff observed fugitive emissions associated with the dumping of slag at the south end of the facility property. The duration of the fugitive emissions was limited. The facility has an independent company intermittently process slag on-site.

CONCLUSION

Based upon the information and observations made during this inspection, the facility is in compliance with applicable air quality rules and regulations, except for the following:

EU-0004

→ **Operation of the emission unit between November 14, 2014 and January 27, 2015 while the baghouse was not operating.**

→ **Baghouse pressure drop readings outside of established range. Appendix 4. of the ROP requires that whenever pressure drop readings are outside the normal operational range of the collector, the facility must take readings every four hours until the collector is brought back to within the normal operational range. Review of the facility records do not show that this occurred for the two documented pressure drop exceedances.**

EU-0007

→ **Baghouse pressure drop readings outside of established range. Appendix 4. of the ROP requires that whenever pressure drop readings are outside the normal operational range of the collector, the facility must take readings every four hours until the collector is brought back to within the normal operational range. Review of the facility records do not show that this has occurred and that a majority of the readings reviewed were outside of the normal operating range.**

FG-005

→ **Baghouse pressure drop readings outside of established range. Appendix 4. of the ROP requires that whenever pressure drop readings are outside the normal operational range of the collector, the facility must take readings every four hours until the collector is brought back to within the normal operational range. Review of the facility records do not show that this has occurred for the four observed readings outside of the normal operating range.**

A violation notice will be issued for the above described violations.

NAME  DATE 8/26/15 SUPERVISOR