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

B190966850

FACILITY: CWC Textron		**SRN / ID:** B1909
LOCATION: 1085 W. Sherman Blvd, MUSKEGON		**DISTRICT:** Grand Rapids
CITY: MUSKEGON		**COUNTY:** MUSKEGON
CONTACT: ROBERT R MEACHAM , MANAGER-SAFETY AND ENVIROMENTAL		**ACTIVITY DATE:** 04/12/2023
STAFF: Eric Grinstern	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** MAJOR
SUBJECT: Compliance Inspection		
RESOLVED COMPLAINTS:		

FACILITY DESCRIPTION

CWC Textron is an iron foundry located in the City of Roosevelt Park in Muskegon County. The facility sits on 53 acres and was constructed in 1942. The facility manufactures cam shafts, crank shafts, balance shafts and bearing caps. The major production operations are raw material handling, mold production, metal melting, pouring, cooling, shakeout and cast finishing.

Iron is melted in a cupola and held in two electric induction furnaces. The facility utilizes a green sand molding system and does not utilize cores. A vast majority of the iron produced is inoculated to produce ductile iron. The facility has numerous finishing operations.

REGULATORY OVERVIEW

The facility is a major source of criteria pollutants and operates under ROP No. MI-ROP-B1909-2019a. ROP No. MI-ROP-B1909-2019 was issued on January 22, 2019 and modified in 2022 (ROP No. MI-ROP-B1909-2019a) to allow for an increase in allowed metal throughput from 99,000 to 129,325 tons. The facility is a minor source of HAPs and is subject to the area source foundry NESHAP, Subpart ZZZZZ. The facility is considered a "large, existing" area source under Subpart ZZZZZ.

COMPLIANCE EVALUATION

Compliance was evaluated during on-site inspections conducted on March 30, 2023, April 11, 2023, and April 12, 2023. AQD staff, Eric Grinstern (EG) accompanied USEPA (Meaghan Pashen and Natalie Schulz) on an EPA led inspection on March 30, 2023 and inspected the facility while on-site during stack testing on April 11th and 12th. The facility was not conducting melting, pouring and cooling operations during the March 30, 2023 visit due to an issue with the holding furnace.

During each on-site visit the facility was represented by Robert Meacham, Sr. Engineer, Environmental and Facilities, and Jack Churchill, Associate Engineer.

Below is a summary of the facility's compliance status, based on the ROP. Operating parameter data was collected on March 30, 2023.

SOURCE-WIDE CONDITIONS

Emission/Material Limits

The facility has source-wide limits to restrict emissions to less than the major source thresholds for HAPs. The facility is restricted to melting less than 129,325 tons per year of iron and is required to maintain records of metal throughput. The facility is also required to maintain monthly and 12-month individual and aggregate HAP emission records to demonstrate compliance with the 9 tpy (individual) and 22.5 tpy (aggregate) emission limits.

Review of facility records (attached) show that they melted 57,270 tons of iron in 2022. The facility melted 59,623 tons of iron in 2021.

Facility HAP emission records (attached) show the aggregate HAP emissions for 2022 at 11.72 tons. The individual HAP with the highest emission rate is benzene (cupola emissions), with a 12 -month emission total at 1.82 tons for 2022. The facility was requested to update the individual HAP emission records to speciate out the facility-wide HAP estimates. The facility provided individidual HAP emission data assoicated with melting and non-melting activities.

EU-POURING

Iron Pouring Operation – The emissions from iron pouring are emitted uncontrolled through four stacks.

The previous permit modification allowed for the installation of an automatic pour line. The automatic pour line has been installed but is not being used for full production at this time. The facility is continuing to work to bring the auto pour line into full operation

Emission/Material Limits/Monitoring

The emission unit has limitations for the emission of particulate matter, PM10, PM2.5, CO, NOx and VOC. The emission limitations are on a pound of pollutant per ton of metal poured and on an hourly basis. The limits are uncontrolled emission factors derived from CERP and MAERS. Compliance is based on the requirement to conduct testing one time prior to the expiration of the permit. Testing was being conducted during the on-site inspection (April 11-18, 2023). Test results will be evaluated to determine compliance upon receipt. Compliance is also demonstrated through the requirement to calculate and maintain records on a monthly basis, however, since the emission limits are emission factors, throughput will not impact compliance. The facility provided records for the 12-month rolling time period ending in December 2022.

Daily visible emission observation of the four pouring vents is required. The facility provided records of the daily VE observations for 2022. The records stated that opacity was not observed from any of the four stacks. During the on-site visits, staff did not observe any opacity from the pouring stacks.

Metal pouring is also limited to 576 tons per day. The facility is required to maintain records of the tons of metal melted/poured on a calendar day basis. The facility provided records (attached) demonstrating compliance with the pouring limit. The highest daily pour amount was 428 tons in 2022.

Testing

The facility is required to verify PM, PM10,PM2.5, VOC, NOx, and CO emission rates from EU-POURING, at a minimum, one time prior to the expiration of the ROP. The facility was conducting compliance testing during the April 11th and April 12th onsite inspections.

EU-BULK-BOND

Storage silo and day storage bin which store bulk bond and have a pneumatic transport system. The silo and bin are each controlled by separate bin vent collectors.

The facility has a bond silo and a sea coal silo located on the north-side of the facility.

Each silo is controlled by a bin vent filter (Bond Silo BV#7, Sea coal BV#14)

Emission/Material Limits/Monitoring

The emission unit has an emission limit for particulate emissions (0.010 lb./1,000 lbs. of exhaust gas). To assure compliance with the particulate limit, the facility is required to use bin vent collectors, maintain a PM plan and perform VE observations on a weekly basis.

Review of daily emission inspection records provided by the facility (attached) showed that no opacity was observed in 2022. Observation of the silos showed no visible emissions during the on-site visits.

EU-DUCTILE-IRON

Equipment used for preparation of ductile iron which includes magnesium treatment vessels, a desulfurization ladle with fluorspar addition and an Ajax holding furnace. The furnace is also used for gray iron. The ductile process is controlled by Dust Collector #5.

Emission/Material Limits/Monitoring

The emission unit contains limits for particulate matter, opacity, fluorides, and VE.

Compliance with the emissions limits is demonstrated through a limitation on the amount of fluorspar used (54 pounds per hour – daily ave.) and the amount of ductile iron produced (24 tons/hr produced based on an 8-hour ave.). The facility is also required to maintain the baghouse with a particulate sensor and pressure drop gauge, as well as perform weekly VE readings.

The facility provided records (attached) for fluorspar usage, ductile iron production, baghouse pressure drop readings, particle sensor readings and VE observations.

Fluorspar records of the quarterly feed rate (3/16/22 - 3/24/23) showed a pound per hour rate between 31.2 lbs./hr. and 40.8 lbs./hr. All rates were below the 54 pounds per hour limit.

Ductile iron production records for the past 2 years showed a single day high of 22.63 tons per hour, which is below the 24 ton per hour limit.

The facility is required to record the pressure drop on a daily basis and a VE observation weekly. The facility conducts both on a daily basis. The specified pressure drop range for Baghouse No. 5 is 3-10 inches. The facility provided readings for both the manometer, as well as the digital pressure drop reading. Review of pressure drop records showed readings between 5.0 and 8.5 inches for 2022. Review of the daily VE observations showed no record of opacity problems.

Observation of Baghouse #5 showed no visible emissions during the onsite inspections. The pressure drop reading while onsite was 5.0 ". The particle sensor reading was fluctuating, with readings below 100.

EU-NEW-SAND

A bin which stores new sand having a pneumatic transport system. The bin is controlled by a bin vent filter.

Emission/Material Limits/Monitoring

The emission unit limits the emission of particulate matter (0.03 lb./1,000 pounds of exhaust gas).

Compliance with the particulate limit is based upon proper operation of the bin vent and following the PM plan. The facility is also required to perform weekly VE observations.

The facility provided records (attached) of daily VE observations for 2022. Review of the records showed no days where emissions were noted.

Observation of the EU-NEW-SAND during the onsite inspections showed no visible emissions from the silos. A sand truck was unloading during one of the onsite inspections.

EU-WEST-CUPOLA-1

Emissions from the cupola are controlled by two direct flame afterburners, wet cap, a high energy venturi scrubber and a high velocity mist eliminator. Emission unit includes charging operations. The emission unit is subject to CAM for particulate emissions.

Emission/Material Limits/Monitoring

The emission unit limits the emission of particulate matter (0.15 lb./1,0000 pounds of exhaust gas). Compliance with the particulate limit is assumed through proper operation of the afterburner, wet cap, venturi and demister. Additionally, the facility is required to perform stack testing every five years for particulate and opacity. Additionally, Method 9 readings are required semiannually.

The most recent performance test for particulate matter was conducted in 2017. Testing showed PM emissions at 0.061 pounds per 1,000 pounds of exhaust gas. Review of semiannual Method 9 readings showed compliance with the general limit of 20%. The facility was conducting compliance testing during the onsite inspections. The facility was late conducting compliance testing and was issued a Violation Notice to address the late testing.

The facility is required to maintain records of daily VE readings, charge records and hours of operation. The facility also must maintain water pressure rate records for the scrubber as well as pressure drop records for the scrubber and demister.

The facility provided copies (attached) of the records listed above.

Charge records: Review of facility records show that they melted 57,270 tons of iron on a 12-month rolling average ending in December 2022.

Hours of operation: the facility provided records for the hours of operation for both ductile and grey iron production.

Venturi pressure drop: The facility specified pressure drop range is 30"-56". Review of the facility records for 2022, showed all readings within the established range

Demister pressure drop: The facility specified pressure drop range is <3". Review of the facility records for 2022 showed all readings within the established range.

Cupola water pump pressure: The facility specified range is 46-80 psi. Review of the facility records showed all readings for 2022 were within the specified range.

Control device readings during the March 30, 2023 inspection:

Venturi pressure drop: 0" - Cupola not operating

Demister pressure drop: 0" - Cupola not operating

Cupola water pressure: 70 psi

Testing

The facility last conducted stack testing in September 2017, at which time compliance with the Title V and Subpart ZZZZZ emission limits were demonstrated. The retesting that was being conducted during the onsite compliance inspection on April 11th and 12th was late (past the 5-year deadline) and a Violation Notice was issued to address the late testing.

Notes: Observation of the cupola exhaust during the onsite inspections showed a steam plume without a noticeable "tail-off". Additionally, the plume had a white steam appearance with no blue or brown color.

EU-MP-RBB

Knockoff operation #227, Spiral Elevator #228 and Rocker Barrel Blast (finish blast) Emission unit is subject to CAM for particulate emissions. Emissions are controlled by Dust collectors #1, #6 and #13.

Emission/Material Limits/Monitoring

The emission unit has limitations for the emission of particulate matter and opacity.

Compliance with the particulate and opacity limits is assumed through proper operation of the baghouses, implementing a PM Plan, and performing daily VE observations. The facility is required to maintain records of the baghouse pressure drop readings, VE readings, as well as the particle sensor readings.

The facility provided records (attached) for baghouse pressure drop readings, particle sensor readings and VE observations for 2022.

Pressure drop readings: The facility established pressure drop range for Baghouse #1 is 7-12", while the pressure drop range for Baghouse #13 is 8-12" and the established range for Baghouse

#6 is 7-12". All the observed readings for Baghouse #1 were within the established range. Review of the records for Baghouse #13 showed that all recorded readings were within the established range. Review of the records for Baghouse #6 showed all recorded pressure drop readings were within the established range.

The facility records showed the particle sensor readings to be within the established ranges for each of the three baghouses. Baghouse #1, (established range 0-1000). Baghouse #13 (established range 0-1000) Baghouse #6 (established range 0-1000).

Review of the VE records showed no abnormal VE readings.

Observation of Baghouse #1, #6 and #13 during the onsite inspections showed no visible emissions. The pressure drop reading on Baghouse #1 was 9.5" on the manometer gauge (particle sensor: 10). Baghouse #13 had a pressure drop reading of 7.0" on the manometer gauge (particle sensor: 1.0- 2.0). Baghouse #6 had a pressure drop reading of 9.0" on the manometer (particle sensor: 0).

EU-ACS-SAND

The ACS sand system includes the sand cooler #16, the sand muller, the sand distribution tower sand elevators #18 and #23 and the sand basement. Emission unit is subject to CAM for particulate emissions. All the processes are controlled by Dust Collector #19.

Emission/Material Limits/Monitoring

The emission unit has limitations for the emission of particulate matter. Compliance with the particulate emission unit is assumed through proper operation of the dust collector and operation according to a PM Plan. The facility is required to monitor and maintain records of daily VE observations and monitor and record the pressure drop across the collector once per day.

The facility provided records of pressure drop and VE observations for 2022. The records showed no documented opacity issues.

The facility established operating range for the baghouse pressure drop is 3-7".

Review of the pressure drop records showed all recorded readings to be within the established range.

Observation of Baghouse #19 during the onsite inspections showed no visible emissions. The observed pressure drop while onsite was 3.0"

FG-PARTICULATE

Various particulate sources: EU-SHAKEOUT is subject to CAM for particulate emissions.

Emission Units: EU-CLEAN, EU-FINISHING, EU-SHAKEOUT, EU-AJAX-FURN, EU-POURING, EU -COOLING

POLLUTION CONTROL EQUIPMENT

EU-CLEAN: 50,000 CFM DC#1, DC #5

EU-FINSHING: 15,000 CFM DC#2

EU-SHAKEOUT: 60,000 CFM DC#17, 50,000 CFM DC#6, 70,000 DC#20,

20,000 DC#12

Emission/Material Limits/Monitoring

The flex group limits the emission of particulate matter.

Compliance with the particulate limit is assumed through proper operation of the pollution control equipment and operation according to a PM Plan. The facility is required to monitor and maintain records of the following: daily VE observations and daily pressure drop across the fabric filters. Additionally, the facility monitors particle sensor readings from DC #1, DC #5, DC #6 and DC #12.

The facility provided records (attached) for baghouse pressure drop readings, and VE observations for 2022.

Review of facility records showed the following:

DC#1 – Facility established pressure drop range (7-12 inches). Recorded readings for 2022 were within the established range. The pressure drop during the virtual inspection was 9.5" on the manometer. The facility records did not document any VE problems. No VE was noted during the onsite inspection. The particle sensor has an established range of 0-1000. The highest recorded reading was 135. The particle sensor reading during the inspection was 10.

DC#2 – Facility established pressure drop range (3-10 inches) Recorded readings for 2022 were within the established range. The facility did not document any VE problems. No VE was noted during the onsite inspection. The pressured drop during the onsite inspection was 6.1".

DC#5 – Same collector used for Ductile, see comments above.

DC#6 – Facility established pressure drop range (7-12 inches) Recorded readings for 2022 were within the established range. The particle sensor has an established range of 0-1000. The facility records show that reading to be within the established range. The readings were higher during the first two weeks of 2022, (as high as 779) after which the value ranged from 0-3. The facility records do not document any VE problems. No VE was noted during the onsite inspection or during the off-site observations. The pressure drop at the time of the onsite inspection was 9.0". The particle sensor reading at the time of the inspection was 0.

DC#12 – Facility established pressure drop range (14-19 inches). Readings for 2022 were within the established range. The facility documented no VE issues in 2022. The particle sensor has an established range of 0-1000. The highest recorded reading was 13. The particle sensor reading at the time of the inspection was 0. The pressure drop reading at the time of the inspection was 13". No VE was noted from the baghouse at the time of the onsite inspection.

DC#17 – Facility established pressure drop range (7-12 inches). Review of the recorded readings for 2022 were within the established range. The pressure drop reading at the time of the onsite inspection was 9.1". No VE was noted from the baghouse at the time of the onsite inspection. The facility documented no VE issues in 2022.

DC#20 – Facility established pressure drop range (3-7 inches) Readings for 2022 were within the established range. The facility documented no VE issues in 2022. The pressure drop reading at the time of the inspection was 0", (process not operating) A subsequent reading on April 11, 2023 showed a reading of 4.5". No VE was noted from the baghouse at the time of the onsite inspections.

Iron and Steel Foundry NESHSAP, Subpart ZZZZZ

The facility is subject to Subpart 5Z. The facility has submitted the required notifications under the NESHAP. The facility last tested and demonstrated compliance with the emission limits in Subpart 5Z in September 2017 . The facility submits semi-annual certification reports in accordance with subpart 5Z. Semi- annual Method 9 readings for fugitive emissions from the foundry building have shown compliance.

Inspection of the facility's scrap showed no auto frag. The facility stated and it was observed that the only auto scrap used is brake rotors/drums.

Testing

The facility last tested for Subpart ZZZZZ in September 2017. The results of the testing documented compliance with Subpart ZZZZZ emission limits for both PM and Total Metal HAPs.

Results: Total Metal HAPs 0.0162 lb/ton of metal charged (limit: 0.06 lb/ton of metal charged)

PM results: 0.5 lb/ton of metal charged (limit: 0.8 lb/ton of metal charged). The facility was conducting compliance testing during the onsite inspections on April 11th and April 12th.

MISCELLANEOUS

Fugitive dust –

During the inspection on March 30, 2022, a large amount of fugitive dust was observed near the charge yard. The facility stated that since melting was down at the time, additionally cleaning was taking place. Dust and dirt from inside the plant was being transferred to the area at the west end of the charge yard. Mr. Meacham instructed the worker to stop, which brought an end to the fugitive dust.

Additionally, during the onsite inspections staff observed sand and other particulate on the ground at the end of the facility. The material appeared to have accumulated over the winter. EG requested that the facility address the issues to prevent fugitive emissions.

CONCLUSION

Based on the information and observations obtained during this inspection, the facility is in compliance with applicable air quality rules and regulations.

NAME Eric Grinstern DATE 05/09/2023 SUPERVISOR