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

B190945668

FACILITY: CWC Textron		**SRN / ID:** B1909
LOCATION: 1085 W. Sherman Blvd, MUSKEGON		**DISTRICT:** Grand Rapids
CITY: MUSKEGON		**COUNTY:** MUSKEGON
CONTACT: Robert Meacham , Manager of Engineering		**ACTIVITY DATE:** 08/16/2018
STAFF: Eric Grinstern	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** MAJOR
SUBJECT: Unannounced 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. Currently, a 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-B1909-2013a. ROP No. MI-ROP-B1909-2013 was issued on January 7, 2013 after which a minor modification was approved and ROP No. MI-ROP-B1909-2013a was issued on March 16, 2016. The ROP is currently in the process of being renewed. 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" area source under Subpart ZZZZZ.

COMPLIANCE EVALUATION

At the facility, staff consisting of Eric Grinstern (EG), met with Robert Meacham, Manager of Environmental, Health and Safety.

Below is a summary of the facility's compliance status.

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 99,000 tons per year of iron and is required to maintain records. The facility is also required to maintain monthly and 12-month individual and aggregate HAP emission records to demonstrate compliance the 9 tpy (individual) and 22.5 tpy (aggregate) limits.

Review of facility records (attached) show that they melted 78,535 tons on a 12-month rolling average ending in August 2018.

Facility HAP emission records (attached) show the highest aggregate monthly HAP emission amount for the past 12 months occurred in June 2018, with 1.31 tons emitted. The highest 12-month rolling average occurred in August 2018, with 11.73 tons emitted. The individual HAP with the highest emission rate is benzene, with a 12-month emission total at 2.31 tons.

EU-POURING

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

The emission unit was modified with the issuance of PTI No. 139-14 in 2015. The 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.

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, on an hourly basis. The limits are uncontrolled emission factors derived from CERP and MAERS. Compliance is demonstrated through the requirement to calculate and maintain records on a monthly basis. The facility provided records from January 2015 until current demonstrating compliance.

Metal pouring is also limited to 99,000 tpy based on a 12-month rolling time period. The facility is required to maintain records of the tons of metal poured on an hourly basis (calendar day average), monthly, and 12-month rolling time period. The facility provided records (attached) demonstrating compliance with the pouring limit.

While compiling the requesting records, the facility determined that the wrong emission factor was used in the permit. The VOC emission factor for pouring is 0.14 lb/ton. However, an emission factor of 0.014 was erroneously used by permits and listed in the permit limits. The facility will be directed to submit a permit modification if the change cannot be made as an administrative amendment.

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. 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 no abnormal observations.

Notes: Observation of silos showed no visible emissions during the inspection. The silos were not being filled at the time of the inspection. The area around the silos showed good housekeeping practices. The facility submitted a copy of the current PM Plan for the emission unit as part of the ROP renewal application.

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.

Dust collector #5 is a pulse jet baghouse that was installed in 2016, replacing an old baghouse.

Emission/Material Limits/Monitoring

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

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 (9/27/2017- 6/28/2018) showed a pound per hour rate between 14.4 lb/hr and 21.6 lb/hr. All rates were below the 54 pounds per hour limit.

Ductile iron production records showed a high of 23+ 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 1-10 inches. Review of pressure drop records for the monometer and controller showed readings between 3.0 and 3.5 inches for 2018, to date. The facility is not required to record the particle sensor readings; however, they currently record the readings daily. The readings for 2018 were documented between 0 and 11. 18. Review of the daily VE observations showed no record of opacity problems.

Notes: Observation of Baghouse #5 showed no visible emissions during the inspection.

The pressure drop reading during the inspection was 3.5" on the gauge and 3.1 on the controller. The particle sensor had a reading of 1. The facility utilizes the east Ajax furnace during the production of ductile iron. The facility submitted a copy of the current PM Plan for the emission unit as part of the ROP renewal application.

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.
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 2018, to date. Review of the records showed no days were emissions were noted.

Notes: Observation of the EU-NEW-SAND showed that it was not being filled during the inspection and no visible emissions were observed from the silo. The facility submitted a copy of the current PM Plan for the emission unit as part of the ROP renewal application.

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. 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 between 6 and 18 months prior to the expiration of the ROP for particulate as well as SOX, NOX, and CO.

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 for 2017 and 2018, to date.

VE observations: all entries state "white" or "ok", meaning a steam plume. No opacity problems noted. Staff discussed with Mr. Meacham the fact that a VN was issued in June 2018 regarding excess opacity from the cupola, however, the records do not document any opacity issues. Mr. Meacham stated that

the opacity was intermittent during the days when the problem occurred. Therefore, the plume looked ok at the time the readings were recorded.

Charge records: the facility provided the charge record. Records demonstrate compliance with the source-wide melt limit of 99,000 tons per year. Review of facility records show that they melted 78,535 tons on a 12-month rolling average ending in August 2018.

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 2018, to date, showed all readings within this range.
Demister pressure drop: The facility specified pressure drop range is <2. Review of the facility records for 2018 showed all readings below 2".

Cupola water pump pressure: The facility specified range is 46-80 psi. Review of the facility records for 2017 showed all readings within this range.

Testing

The facility last conducted stack testing on August 7, 2012, at which time compliance with the Title V and Subpart ZZZZZ emission limits was demonstrated.

The facility is required to conduct stack testing to demonstrate compliance with the particulate limit of 0.15 lbs./1,000 pounds of exhaust gas. As well as perform testing for SOx, NOx, and CO, which do not have an emission limit in the permit. Testing is required to be conducted between 6 and 18 months prior to the ROP expiration, which is June 24, 2018. The facility conducted testing in September 2017, at which time compliance was demonstrated with the applicable limits.

Notes: Observation of the cupola exhaust showed a steam plume without a noticeable "tail-off". The facility submitted a copy of the current PM Plan for the emission unit as part of the ROP renewal application.

A violation notice was issued on June 21, 2018, regarding opacity observed from the cupola control stack. The facility submitted notification under Rule 912. The facility discovered a hole in the venturi water line and repaired the hole. The facility stated that the hole in the water line did not result in abnormal parametric monitoring readings.

Control device readings during the inspection:

8/16/2018

Venturi pressure drop: 47.3"
Demister pressure drop: 1.9"
Cupola water pressure: 80 psi

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 though 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 2018, (to the date of the inspection)

Pressure drop readings: The facility established pressure drop range for Baghouse #1 is 5-12", while the pressure drop range for Baghouse #13 is 5-13" and the established range for Baghouse #6 is 5-12". All the observed readings for Baghouse #1, #13 and #6 were within the established ranges for 2018.

The facility records showed the highest particle sensor high of 37.4 for Baghouse #1, (established range 0-99). Baghouse #13 showed a high of 321 (established range 0-1000) Baghouse #6 showed a high of 155 (established range 0-1000).

No abnormal VE readings were recorded for the baghouses, except for the notation of slight opacity from Baghouse #13 on 7 days in June 2018, just prior to the summer shut down. Coming out of summer shutdown, no opacity was noted.

Notes: Observation of Baghouse #1, #6 and #13 during the inspection showed no visible emissions. The pressure drop reading on Baghouse #1 was 11" on the manometer gauge. Baghouse #13 had a pressure drop reading of 12.1" on the manometer gauge. Baghouse #6 has a pressure drop reading of 8.5" on the manometer. The facility submitted a copy of the current PM Plan for the emission unit as part of the ROP renewal application.

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 operating 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 2018, to date. The records showed no documented opacity issues.

The facility established operating range for the baghouse pressure drop is 1-10".
Review of the pressure drop records showed the manometer readings within the established range.

Notes: Observation of Baghouse #19 during the inspection showed no visible emissions. The pressure drop reading on Baghouse #19 was 3.5" on the manometer gauge. The facility submitted a copy of the current PM Plan for the emission unit as part of the ROP renewal application.

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 operating 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 and DC# 6.

The facility provided records (attached) for baghouse pressure drop readings, and VE observations for 2018, to date.

Review of facility records showed the following:

DC#1 – Facility established pressure drop range (5-12 inches) Readings for 2018 were within the established range. The pressure drop during the inspection was 11" on the manometer. The facility did not document any VE problems. No VE was noted during the inspection. The particle sensor has an established range of 0-99. The highest recorded reading was under 40.

DC#2 – Facility established pressure drop range (3-10 inches) Readings for 2018 were within the established range. The facility did not document any opacity problems. During the previous inspection, there appeared to be a buildup of particulate beneath the baghouse exhaust on the duct work. During

his inspection there did not appear to be any recent accumulation on the ductwork. No VE was noted during the inspection. The pressured drop during the inspection was 7.9"

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

DC#6 – Facility established pressure drop range (5-12 inches) Readings for 2108 were within the established range. The particle sensor has an established range of 0-1000. The facility records show a high reading of 155. At the time of the inspection the reading was 16. The pressure drop at the time of the inspection was 8.5".

DC#17 – Facility established pressure drop range (5-13 inches) Readings for 2018 were within the established range. The facility documented 12 days in 2018 with "slight" VE from the baghouse. No opacity was documented after the summer shutdown, during which time maintenance is conducted. The pressure drop reading at the time of the inspection was 11.0". No VE was noted from the baghouse at the time of the inspection.

DC#12 – Facility established pressure drop range (5-18 inches). The pressure drop range was increased to 18 inches because the fan speed was increased to provide for greater capture. The baghouse has been dedicated to vacuuming the molds, therefore greater capture was needed. Readings for 2018 were within the established range.". The facility documented no VE issues in 2018. The pressure drop reading at the time of the inspection was 14.9". No VE was noted from the baghouse at the time of the inspection

DC#20 – Facility established pressure drop range (2-10 inches) Readings for 2018 were within the established range. The facility documented no VE issues in 2018. The pressure drop reading at the time of the inspection was 9.5". No VE was noted from the baghouse at the time of the inspection

The facility submitted a copy of the current PM Plan for the flex group as part of the ROP renewal application.

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 tested and demonstrated compliance with the emission limits in Subpart 5Z. The facility submits semi-annual certification reports in accordance with subpart 5Z.

Inspection of the facility's scrap showed no auto frag and similar, if not cleaner charge material compared to previous years.

Testing

The facility last tested for Subpart ZZZZZ on August 7, 2012. Subpart ZZZZZ requires retesting every 5 years, therefore, the deadline for retesting was August 7, 2017. The facility was under the understanding that they would comply with the testing deadline if they conducted testing within the deadline of the Title V requirements. The facility missed the testing deadline for Subpart ZZZZZ by 36 days.

A letter of violation was previously issued for testing late. The results of the testing documented compliance with Subpart ZZZZZ emission limits.

Conclusion

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

NAME _____ DATE 9/28/18 SUPERVISOR _____