

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

B190950095

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 ENVIRONMENTAL		ACTIVITY DATE: 08/28/2019
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-B1909-2019. ROP No. MI-ROP-B1909-2019 was issued on January 22, 2019. 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**

Prior to entering the facility a survey of the perimeter showed no abnormal odors or visible emissions. There was no plume from the cupola stack, indicating that production was down at the time.

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

Mr. Meacham confirmed that the cupola was idling due to a problem with the mold line. Part way through the inspection the cupola was brought back online.

Below is a summary of the facility's compliance status, based on the ROP. Records were provided for either the 12-months prior to the inspection, or for 2019, up through the end of August 2019.

**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 with the 9 ton (individual) and 22.5 tpy (aggregate) limits.

Review of facility records (attached) show that they melted 89,049 tons on a 12-month rolling average ending in August 2019.

Facility HAP emission records (attached) show the aggregate HAP emission amount for the past 12 months ending in August 2019, were 13.40 tons. The individual HAP with the highest emission rate is benzene, with a 12-month emission total at 2.87 tons, ending in August 2019.

**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. 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, 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 has not been conducted yet and will likely coincide with the other ROP and MACT testing. The requirement to test was added with the most recent renewal of the ROP. 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 August 2019.

Daily visible emission observation of the three pouring vents is required. The facility provided records of the daily VE observations for 2019. The records did not document any abnormal observations.

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. The total poured for the 12-month time rolling time period ending in August 2019 was 86,111 tons.

**Note:** The facility previously 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 was previously directed to submit a permit modification to make the correction.

#### **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 no abnormal observations for 2019.

**Notes:** Observation of silos showed no visible emissions during the inspection. The silos were not being filled at the time of the inspection.

#### **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, 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 (3/13/2018 - 5/16/2019) showed a pound per hour rate between 18 lb/hr and 40.8 lb/hr. All rates were below the 54 pounds per hour limit. Additionally, the facility provided records of total fluorspar purchased in 2018. In 2018 they purchased 116,000 pounds of fluorspar. Based on 4,502 hours of production, the facility used on average 25.77 lbs/hour.

Ductile iron production records for the past 12-month period showed a single day high of 23.98 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. Review of pressure drop records for the monometer showed readings between 3.5 and 4.1 inches for 2019. 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 3.8" on the gauge. The particle sensor had a reading of 0.

#### **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 2019. Review of the records showed no days where 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.

#### **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./1,000 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 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 the 12-month time period ending in August 2019.

Charge records: Records demonstrate compliance with the source-wide melt limit of 99,000 tons per year. Review of facility records show that they melted 89,049 tons on a 12-month rolling average ending in August 2019.

Hours of operation: the facility provided records for the hours of operation for both ductile and grey iron production for 2019.

Venturi pressure drop: The facility specified pressure drop range is 30-56. Review of the facility records for 2019, to date, showed all readings within the established range.

Demister pressure drop: The facility specified pressure drop range is <3. Review of the facility records for 2019 showed all readings were between 0.5 and 1.5".

Cupola water pump pressure: The facility specified range is 46-80 psi. Review of the facility records showed all readings for 2019 were 75-80 psi.

### **Testing**

The facility last conducted stack testing in September 2017, at which time compliance with the Title V and Subpart ZZZZZ emission limits was demonstrated.

**Notes:** Observation of the cupola exhaust showed a steam plume without a noticeable "tail-off". The plume was the "cleanest" observed in a few years.

Control device readings during the inspection:

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Venturi pressure drop: 24.2" \*Cupola was coming up from an off-blast state at the time of the reading.

Demister pressure drop: 1.0

Cupola water pressure: 75 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 through 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 2019, (to the date of the inspection)

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, #13 and #6 were within the established ranges for 2019 (up to date of inspection).

The facility records showed the particle sensor readings to be within the established ranges. Baghouse #1, (established range 0-99). Baghouse #13 (established range 0-1000) Baghouse #6 (established range 0-1000).

No abnormal VE readings were recorded for the baghouses for 2019 (through August)

**Notes:** Observation of Baghouse #1, #6 and #13 during the inspection showed no visible emissions. The pressure drop reading on Baghouse #1 was 10" on the manometer gauge. Collected sand was noted around the baghouse. The facility was informed of the need to cleanup around the baghouse. Baghouse #13 had a pressure drop reading of 8.7" on the manometer gauge. Baghouse #6 has a pressure drop reading of 6.8" on the manometer. This reading is slightly under the established range. The facility was requested to investigate the cause. It is likely due to the associated process not operating at the time due to the cupola idling.

### **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 2019, to date. 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 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 3.3" on the manometer gauge.

### **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-FINISHING: 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 2019, to date.

Review of facility records showed the following:

DC#1 – Facility established pressure drop range (7-12 inches) Readings for 2019 were within the established

range. The pressure drop during the inspection was 10" 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 0-1000. The highest recorded reading was 317.

DC#2 – Facility established pressure drop range (3-10 inches) Readings for 2019 were within the established range. The facility did not document any opacity problems. No VE was noted during the inspection. The pressured drop during the inspection was 7.5"

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

DC#6 – Facility established pressure drop range (7-12 inches) Readings for 2019 were within the established range. The particle sensor has an established range of 0-1000. The facility records show a high reading of 89. The pressure drop at the time of the inspection was 6.8, which is slightly under the established range. The facility was requested to investigate if the associated process was operating.

DC#17 – Facility established pressure drop range (7-12 inches) Readings for 2019, were within the established range. The pressure drop reading at the time of the inspection was 10.2". No VE was noted from the baghouse at the time of the inspection.

DC#12 – Facility established pressure drop range (14-19 inches). The pressure drop range was increased to 19 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 2019 were within the established range. The facility documented no VE issues in 2019. The pressure drop reading at the time of the inspection was 16.6". No VE was noted from the baghouse at the time of the inspection

DC#20 – Facility established pressure drop range (3-7 inches) Readings for 2019 were within the established range. The facility documented no VE issues in 2019. The pressure drop reading at the time of the inspection was 6.0". No VE was noted from the baghouse at the time of the inspection

#### **Iron and Steel Foundry NESHAP, 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. 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 and similar. Do to increased ductile production over the years, cleaner charge is required.

#### **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)

#### **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

9/25/19

SUPERVISOR

