

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

B190956451

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: 03/15/2021
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-B1909-2019. 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

Due to COVID 19, an off-site virtual inspection was conducted. Records were requested (received on December 15, 2020) and reviewed prior to conducted a virtual facility tour via Microsoft TEAMS (March 5, 2021). Off-site observations were made from the public right of way on November 24, 2020 and March 15, 2021.

During the virtual inspection, the facility was represented by Robert Meacham, Manager of Environmental, Health and Safety.

Below is a summary of the facility's compliance status, based on the ROP. Records were provided for 12-months prior to the inspection (2020 through December 12th).

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 61,260 tons through December 12, 2020.

Facility HAP emission records (attached) show the aggregate HAP emission amount for the past 12 months ending in December 2020, were 9.3 tons. The individual HAP with the highest emission rate is benzene, with a 12-month emission total at 2.04 tons, ending in December 2020.

Recommendations were provided to the facility regarding the inclusion of additional HAP emissions. The facility agreed to modify the records and provide an updated copy. The added HAP emissions will not impact the compliance status.

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 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 has not been conducted yet and will likely coincide with the other ROP and MACT testing next year. 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 December 2020.

Daily visible emission observation of the three pouring vents is required. The facility provided records of the daily VE observations for 2020. The records stated that no opacity was observed.

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 December 2020 was 61,260 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 listed in the permit limits. The facility currently has a PTI application under review seeking an increase in the pour limit. The VOC emission factor will be corrected as part of the permitting process.

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 2020.

Notes: Observation of silos showed no visible emissions during the virtual inspection. The silos were not being filled at the time of the virtual inspection. Additionally, no visible emissions were observed during the off-site observations.

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 (9/18/19 - 9/16/2020) showed a pound per hour rate between 28.2 lb/hr and 30 lb/hr. All rates were below the 54 pounds per hour limit. Additionally, the facility provided records of total fluorspar purchased in 2020. In 2020 they purchased 84,000 pounds of fluorspar. Based on 3,550 hours of production, the facility used on average 23.66 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 4.0 and 10.0 inches for 2020 (one reading of 10.0 in 2020) Review of the daily VE observations showed no record of opacity problems.

Observation of Baghouse #5 showed no visible emissions during the virtual inspection. Additionally, no visible emissions were observed during the off-site observations. The pressure drop reading during the virtual inspection was 6.5 " on the gauge. The particle sensor had a reading of 38.

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 2020. Review of the records showed no days were emissions were noted.

Observation of the EU-NEW-SAND showed that it was not being filled during the virtual inspection and no visible emissions were observed from the silo. Additionally, no visible emissions were observed during the off-site observations.

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 2020.

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 61,260 tons on a 12-month rolling average ending in December 2020.

Hours of operation: the facility provided records for the hours of operation for both ductile and grey iron production for 2020.

Venturi pressure drop: The facility specified pressure drop range is 30"-56". Review of the facility records for 2020, showed all readings within the established range, except for one reading of 25.5" on February 7, 2020. The facility provided clarification that the cupola had just gone "off-blast" and that they were unable to wait until the end of the day for blast conditions to take another reading.

Demister pressure drop: The facility specified pressure drop range is <3". Review of the facility records for 2020 showed all readings were between 0.1 and 1.0".

Cupola water pump pressure: The facility specified range is 46-80 psi. Review of the facility records showed all readings for 2020 were 64-80 psi.

Control device readings during the virtual inspection:

Venturi pressure drop: 43.92" *Cupola was coming up from an off-blast state at the time of the reading.

Demister pressure drop: 0.4"

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.

Notes: Observation of the cupola exhaust during the virtual inspection showed a steam plume without a noticeable "tail-off". During the off-site observations the plume was also clean, with minimal tail-off.

The facility stated that they have completed a wet cap replacement to aid in improving the seal. Additionally, the facility is using an oxygen enriched lance along with air sparging to help reduce CO emissions.

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 2020.

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 between 7 and 12". Review of the records for Baghouse #13 showed that there were 19 readings where the pressure drop was slightly below the lower limit of 7 inches. Review of the particle sensor readings for the dates with the low pressure drop readings showed no elevated readings. The facility provided the following clarification regarding the low pressure drop readings: *"coming out of summer shutdown we fixed pulse valves, reinstalled some blow pipes that were off and installed several new bags in the dust collector so the collector was running lower pressure as the collector was put back to optimum condition. As dust builds up on the clean filters the pressure will go up. No visible emissions were observed during this time of lower pressure. Installed a new drop out box to reduce heavy fines from reaching the dust collector on 9/9/20."* Additionally, on 10/23/20, Baghouse #13 had a low pressure drop reading due to a cracked plastic hose leading to the manometer and controller unit pressure sensor. A new hose was installed. Review of the records for Baghouse #6 showed a pressure drop between 7-12".

The facility records showed the particle sensor readings to be within the established ranges. Baghouse #1, (established range 0-1000). Baghouse #13 (established range 0-1000) Baghouse #6 (established range 0-1000) with the follow exception. Readings above the established range were recorded for Baghouse #6, between July 9, 2020 and September 1, 2020. The facility provided the following summary of response. *"7/9/20 – 9/1/20 high emission readings on emission monitor DC#6. Unit was serviced with all dust collectors from 7/10/20 to 7/19/20 during our summer shutdown. Visual observations conducted during this time period did not indicate any observable discharges other than one day on 8/4/20 due to the discharge auger being down and captured material was not being expelled into the dust bags. On 9/1/20 after further testing and another examination of the dust collector bags and auger were completed without issues it was determined that the emission probe was dirty and giving false high readings and required cleaning. After the cleaning on 9/1/20 the emission probe readings averaged a 57 out of 1000 from 9/1/20 to the end of the year."*

No abnormal VE readings were recorded for the records provided.

Observation of Baghouse #1, #6 and #13 during the virtual inspection showed no visible emissions. The pressure drop reading on Baghouse #1 was 10" on the manometer gauge (particle sensor: 29). Baghouse #13 had a pressure drop reading of 7.0" on the manometer gauge (particle sensor: 20). Baghouse #6 had a pressure drop reading of 9.5" on the manometer (particle sensor: 702). Additionally, no visible emissions were observed from any of the baghouses during the off-site observations.

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 2020. 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 were between 3 and 4.2".

Observation of Baghouse #19 during the virtual inspection showed no visible emissions. Additionally, no visible emissions were observed during the off-site observations.

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, DC #5, DC #6 and DC #12.

The facility provided records (attached) for baghouse pressure drop readings, and VE observations for 2020.

Review of facility records showed the following:

DC#1 – Facility established pressure drop range (7-12 inches) Readings for 2020 were within the established range. The pressure drop during the virtual inspection was 10" on the manometer. The facility did not document any VE problems. No VE was noted during the virtual inspection or during the off-site observations. The particle sensor has an established range of 0-1000. The highest recorded reading was 178. The particle sensor reading during the virtual inspection was 29.

DC#2 – Facility established pressure drop range (3-10 inches) Readings for 2020 were within the established range. The facility did not document any opacity problems. No VE was noted during the

virtual inspection or during the off-site observations. The pressured drop during the virtual inspection was 8.5".

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

DC#6 – Facility established pressure drop range (7-12 inches) Readings for 2020 were within the established range. The particle sensor has an established range of 0-1000. The facility records show that the upper limit was exceeded numerous times between July 9, 2020 and September 1, 2020. The facility records do not document any opacity problems. A summary of the facility's response is provided under EU-MP-RBB. No VE was noted during the virtual inspection or during the off-site observations. The pressure drop at the time of the virtual inspection was 9.5 ". The particle sensor reading at the time of the inspection was 702.

DC#12 – Facility established pressure drop range (14-19 inches). Readings for 2020 were within the established range. The facility documented no VE issues in 2020. The particle sensor has an established range of 0-1000. The highest observed reading was 144. The particle sensor reading at the time of the inspection was 4. The pressure drop reading at the time of the inspection was 17". No VE was noted from the baghouse at the time of the inspection or during the off-site observations.

DC#17 – Facility established pressure drop range (7-12 inches). Review of the readings for 2020 were within the established range. The pressure drop reading at the time of the virtual inspection was 8.5".

No VE was noted from the baghouse at the time of the virtual inspection or during the off-site observations. The facility documented two days where opacity was noted. The facility stated that they changed filters on the baghouse in response to the visible emissions. The facility also provided additional dates when filters were replaced on DC#17.

DC#20 – Facility established pressure drop range (3-7 inches) Readings for 2020 were within the established range. The facility documented no VE issues in 2020. The pressure drop reading at the time of the inspection was 5". No VE was noted from the baghouse at the time of the virtual inspection or during the off-site observations.

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 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.

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 Eric Grinstern

DATE 3/23/2021

SUPERVISOR HH