

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

B217866058

<b>FACILITY:</b> Cadillac Casting, Inc		<b>SRN / ID:</b> B2178
<b>LOCATION:</b> 1500 4th Ave., CADILLAC		<b>DISTRICT:</b> Cadillac
<b>CITY:</b> CADILLAC		<b>COUNTY:</b> WEXFORD
<b>CONTACT:</b> Erik Olson , HSE Manager		<b>ACTIVITY DATE:</b> 01/11/2023
<b>STAFF:</b> Kurt Childs	<b>COMPLIANCE STATUS:</b> Compliance	<b>SOURCE CLASS:</b> MAJOR
<b>SUBJECT:</b> 2023 FCE, site inspection, records review, reporting review.		
<b>RESOLVED COMPLAINTS:</b>		

**CADILLAC CASTING, INC. (B2178)**

## 2023 FCE

### FACILITY DESCRIPTION

Cadillac Casting, Inc. (CCI) is located in the city of Cadillac in Wexford County. The facility is located on the north side of the city in a predominantly industrial/commercial area with residential areas to the south and east of the plant. CCI operates a ductile iron foundry with melt operations performed in one cupola, which has an afterburner, quench unit, venturi scrubber and demister for control. Molten iron from the cupola is held in three 62-ton electric induction holding furnaces. Castings are produced on two separate lines: the A-Line and the SPOLINE. The two mold/casting lines operate independently and are each equipped with a sand system, pouring and cooling area, and use wet scrubbers or RTO and baghouses to control emissions. There is also a finishing department that includes shot blasting and grinding operations also controlled by baghouses.

### REGULATORY ANALYSIS

The facility is a Title V subject source (ROP No. MI-ROP-B2178-2021) because the potential to emit for volatile organic compounds, particulate matter, and carbon monoxide exceeds the major source threshold and because the facility's PTE for HAPs exceeds the major source threshold. The facility is subject to the Iron and Steel Foundry NESHAP, Subpart EEEEE. NESHAP subject emission units are EUMELTING and EUALINE, for which applicable requirements are contained in FGMACT-EEEEEE of the ROP. The following emission units are subject to CAM requirements in the ROP: EUALINE (CO, VOC), EUSPOGREENSAND (PM), EUSPOBREAKSORT (PM), EUSPOSHAKEOUT (PM), EUMELTING (CO) and EUFINISHING (PM).

The current ROP was issued on February 24, 2021. A Full Compliance Evaluation was conducted to determine the current compliance status of the facility with regard to the ROP, and the Air Pollution Control Rules.

### COMPLIANCE EVALUATION

Facility reporting was reviewed as received throughout the FCE review period. Reporting requirements and received reports were also reviewed to assure all required reporting had been submitted. Facility records were requested prior to the inspection. The inspection was conducted on 1/11/23. At the time of the inspection the weather was partly overcast and foggy, 30 degrees F, SE wind @ 5-10 mph. Prior

to entering the facility plant operations were evaluated from off-site. Water vapor plumes were present on the EUSPOLINE scrubber, EUMELTING, and EUCOREMOLDMAKING stacks. No opacity was noted from any of the facility stacks. Additionally, I did not observe any fugitive dust from yard areas around the plant.

At the facility I met with Erik Olson, HSE Manager for Cadillac Casting, Inc. There have not been any significant recent changes to the plant. In July 2022 a thicker refractory liner was installed in the lower half of the cupola to increase efficiency and reduce coke usage. According to Mr. Olson, no changes in the capacity or airflow through the cupola were made. Previously planned design changes at the facility to add several stacks to the EUSPOLINE cooling line (to reduce CO levels inside the plant) are on hold but are still planned. CCI is planning to revise the permitting with the incorporation of the new stacks to have separate limits for each stack and thus separate testing requirements. Currently the cooling stacks(3) share one emission limit but have not been tested simultaneously as would be appropriate and necessary in the future.

### EUALINE

Molten iron from the cupola/holding furnaces is transferred to the EUALINE. Emissions from pouring and cooling are captured and controlled by an RTO. This is a CAM subject emission unit for CO and VOC in the permit. The emission unit is also subject to Subpart EEEEE for pouring. Metal pouring on the A-Line is still currently operating one to two days per week during the night shift. EUALINE was not operating at the time of the inspection.

### Emission/Material Limits

EUALINE has limits that restrict the emission of VOC, lead, PM-10, CO and benzene. Compliance with the emission limits is demonstrated through compliance testing and control equipment (RTO) monitoring to demonstrate proper operation. Compliance is also demonstrated via monthly emission records that are calculated utilizing emission factors from testing and material usage/production rates. Based on this inspection, parametric monitoring, proper control equipment operation, emission records and compliance testing demonstrate compliance with the emissions limits (Records attached).

Pollutant	Limit	2022 Max Actual Emissions 12 Mos. Rolling (ton)
CO	29.1 tpy	1.52
PM10	5.6 tpy	0.655
VOC	26.7 tpy	2.58
Lead	0.23 tpy	0.0002 (MAERS)

<b>Benzene</b>	<b>0.30 pph</b>	<b>No record</b>
<b>Benzene</b>	<b>1.0 tpy</b>	<b>0.06 tons</b>
<b>MATERIAL</b>	<b>Limit</b>	<b>Max Actual Usage 12 mos. Rolling</b>
<b>Metal poured</b>	<b>67,000 tpy</b>	<b>4614 tons</b>

The most recent completed testing was conducted on 7/20-21/2021 and demonstrated compliance with the ROP emission limits (See Testing/Sampling discussion below).

The facility has a material limit of 67,000 tons of metal poured per 12-month period. Compliance is demonstrated via metal pour records. Records supplied by the facility for 2022 indicate the greatest 12-mos. Rolling time period usage was 4614 tons poured. A-Line pouring currently operates only one to two shifts per week.

#### Process/Operational Restrictions/Monitoring/Recordkeeping

To demonstrate proper operation of the RTO the permit requires the temperature to be continuously monitored and recorded to document that the temperature is maintained at a minimum of 1500 degrees. Review of facility records showed compliance with the RTO monitoring requirements. The facility PLC system has continuous trend data that tracks the operating limit, permitted limit, and minutes of operation below the permit limit (see attached example). Proper operation is also required to be evaluated via daily visible emission observations. Since EUALINE is normally operated at night, visible observations may provide limited information of proper operation.

#### Testing/Sampling

Emission testing for PM-10, VOC, CO, lead and benzene must be performed every 5 years.

As indicated above, the most recent completed testing was conducted on 7/20-21/2021. The test report was reviewed at the time of submittal and the reported emissions were in compliance with the permitted limits.

#### Reporting

Review of the 2021 and 2022 semiannual ROP certification reports showed that there were no deviations reported.

This is a CAM subject emission unit; the 2021 and 2022 CAM reporting was submitted in a timely manner and with certification. There were no instances of CAM excursions/exceedances or monitor downtime.

#### Stack/Vent Restrictions

Visual evaluation of the stack (SV007) showed that it appeared to meet the required dimension requirements.

### Inspection Observations

EUALINE was not operating during the inspection since it is operated at night usually on Tuesday and/or Thursday at 10:30 PM. As a result, the RTO was not running at the time of the inspection.

### EUALINEMOLD

A-Line core and mold making process that consists of two new and two old Sutter phenolic urethane cold box mold machines. A new core machine was added with PTI 17-16A which has been incorporated into the ROP. Emissions are controlled by two Dakota brand sulfuric acid scrubbers. A-Line mold making does take place even when the A-Line is not in production mode, but it was not operating at the time of the inspection. However, the scrubbers were running at the time of the inspection with the below parameters.

Scrubber	pH	Flow Rate
East	3.34	80,0
West	3.32	83

### Emission/Material Limits

EUALINEMOLD has limits that restrict the emission of VOC: 27.5 lbs/hr., 35.3 tons/yr. and Amine Catalyst: 0.07 lb./hr., 2.34 mg/cubic meter. The Amine Catalyst limits from PTI 17-16A replaced the previous DMIPA limits. Compliance with the emission limits is demonstrated through compliance testing and control equipment (sulfuric acid scrubbers) monitoring to demonstrate proper operation. Compliance is also demonstrated via monthly emission records that are calculated utilizing emission factors/testing and material usage/production rates. Based on this inspection, parametric monitoring, proper control equipment operation, emission records and compliance testing (see Testing/Sampling regarding VOC testing) demonstrate compliance with the emissions limits (records attached).

Pollutant	ROP LIMIT	ACTUAL EMISSIONS
VOC pph	27.5	1.83
VOC tpy	35.3	4.3 (greatest 12mos rolling)

<b>Amine Catalyst/DMPA pph</b>	<b>0.07</b>	<b>0.03</b>
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**EUALINEMOLD has a sand usage limit of 41.5 tons per hour and 106,000 tons per 12-month period. Review of the facility records and MAERS shows compliance with the sand use limits (4.0 tons per hour maximum monthly usage and an annual usage of 15,379 tons).**

### **Process/Operational Restrictions/Monitoring**

**To demonstrate proper operation of the sulfuric acid scrubbers, the permit requires a minimum liquid flow rate of 50 gallons per minute and a maximum pH of 5 in the scrubber liquid. The permit requires continuous monitoring and recordkeeping of these parameters. Review of the process and facility records showed that they were conducting the required monitoring and recordkeeping and that the readings were in compliance with the permitted limits. The plant PLC system provides a record of continuous monitoring for both pH and flow rate.**

**The facility is maintaining the required records of VOC and Amine Catalyst emissions as well as resin usage. Review of the records showed compliance with the permit limits.**

### **Testing/Sampling**

**Emission testing for Amine Catalyst must be performed every 5 years. DMPA emissions were tested on 10/27/2021. The test report was reviewed at the time it was received and demonstrated compliance with the DMPA limit. DMPA was non-detectable. Amine Catalyst emissions have not been tested yet.**

### **Reporting**

**Review of the 2021 and 2022 annual and semiannual ROP certification reports showed that 2 deviations due to pH monitor failure totaling 10 days were reported. Alternate pH monitoring was implemented during the pH monitor failure.**

## **EUCOREMOLDMAKING**

**Core making processes that consist of various phenolic urethane cold box core machines. Emissions are controlled by one sulfuric acid scrubber which was replaced with a new scrubber under PTI 17-16A which has been incorporated into the ROP. The process was operating at the time of the inspection.**

### **Emission/Material Limits**

**EUCOREMOLDMAKING has limits that restrict the emission of VOC and Amine Catalyst (VOC 79 pph, 14.93 tons/month, 179.2 tons/yr.; Amine Catalyst 0.01 pph 0.044 tons/year). The Amine Catalyst limits from PTI 17-16A replaced the previous DMIPA limits. Compliance with the emission limits is demonstrated through**

compliance testing and control equipment (sulfuric acid scrubber) monitoring to demonstrate proper operation. Compliance is also demonstrated via monthly emission records that are calculated utilizing emission factors/testing and material usage/production rates. Based on this inspection, parametric monitoring, proper control equipment operation, MAERS emission records and compliance testing, compliance with the emissions limits has been demonstrated.

Pollutant	ROP LIMIT	ACTUAL EMISSIONS
VOC pph	79	12.2
VOC tpy	179.2	20.12
VOC tpm	14.93	3.0
Amine Catalyst/DMIPA pph	0.07	Note: test results non-detect at detection limit 0.0053 pph
Amine Catalyst/DMIPA tpy	0.044	0.014 (based on detection limit)

### Process/Operational Restrictions/Monitoring

The Dakota brand scrubber located at the core mold making area (core room) adjacent to the Melt department. To demonstrate proper operation of the sulfuric acid scrubber the permit requires a minimum liquid flow rate of 50 gallons per minute and a maximum pH of 5 in the scrubber liquid. The permit requires continuous monitoring and daily recording of the scrubber liquid flow rate and daily monitoring and recording of the pH. At the time of the inspection the flow rate was observed to be 123 gpm, pH was 1.13 and is checked daily and recorded. Continuous monitoring of the scrubber flow rate is included in the plant PLC operating data and was reviewed during the inspection. Review of facility records (attached) showed that they were conducting the required monitoring and recordkeeping and that the readings were in compliance with the permitted limits.

The facility is also required to perform daily VE readings of the scrubber exhaust stack. Staff reviewed a sampling of daily observation records which did not indicate any opacity problems. As previously indicated, no opacity was observed during the inspection.

### Testing/Sampling

Emission testing for Amine Catalyst must be performed every 5 years. DMPA emissions were tested on 10/27/2021. The test report was reviewed at the time it was received and demonstrated compliance with the DMPA limit. DMPA was non-detectable.

### Reporting

Review of the most recent annual and semiannual ROP certification reports showed that there were 4 deviations for differential pressure monitor failure.

### EUFINISHING

Shot blasting and grinding operations that are controlled by three separate baghouses. This emission unit is CAM subject for PM.

Baghouse control includes the following:

40K – Grinding baghouse is vented internally through a HEPPA filter during the winter.

12K – Shot blast Reverse air Waltz-Holtz baghouse, vented internally through a HEPPA filter during the winter (Sometimes year around).

Sly – A-Line finishing baghouse is permanently vented internally through a HEPPA filter. The Sly baghouse was not operating at the time of the inspection.

At the time of the inspection the grinding and shot blast operations were running but the A-Line finishing was not.

### Emission/Material Limits/Records

Compliance with the emission limits (PM) is demonstrated through baghouse monitoring to demonstrate proper operation and compliance testing. Based on this inspection, parametric monitoring, stack testing and proper baghouse operation demonstrate compliance with the emissions limits.

Pollutant	Limit	Actual Emissions
PM	0.03 lbs/1,000 lbs	0.0043 lbs/1,000 lbs (2021 testing)
PM	7 pph	0.37 pph (from stack test)
PM	2.5 tons, 12-mos rolling	1.34 tons, 12-mos rolling
PM	29.8 tons per year	1.28 tons (2021)
VE	5% opacity	No VE observed.

### Design Parameters/Testing/Monitoring/Records

To demonstrate proper operation of the baghouses the permit requires monitoring continuously and recording once daily the pressure drop. Review of facility records showed pressure drop readings for baghouses to be consistently below the ROP listed operating ranges. At the time of the inspection the differential pressure readings were as follows:

Baghouse	Differential Pressure Reading (inches wc)	Operating Limit
40,000 CFM	2.1	2-6
12,000 CFM	5.7	1-8
Sly (A-Line finishing)	NA	1-7

The differential pressure reading for the baghouses were within the required operating ranges.

The Sly baghouse is equipped with a HEPPA filter that vents to the in-plant air. The other two baghouses are vented into the plant seasonally to conserve heat. Daily visible emission observations are required when the baghouses are venting externally. At the time of the inspection no visible emissions were observed from the 40K or 12K baghouse.

Verification of PM emissions from EUFINISHING is required every 5 years. The last test was conducted on 10/25/21. The test report was submitted on 1/10/2022 and reviewed at that time. The test reported demonstrated compliance with the emission limits for the 40K and 12K baghouses.

### Reporting

Review of the 2021 and 2022 annual and semiannual ROP certification reports showed that there were no deviations reported.

### EUMELTING

Metal melting system consisting of an 84" water wall cupola with recuperative hot blast. The system includes three electric holding furnaces, a 5-ton desulphurization ladle and four tundish ladles. Also includes the cupola charging system. Emissions from the cupola are controlled by an afterburner(combustor), venturi scrubber and



demister. Emissions from the desulphurization ladle are controlled by a baghouse and discharged back into the plant through a HEPA filter.

#### Emission/Material Limits

EUMELTING has limits that restrict the emission of PM, CO, SO<sub>2</sub>, VOC, manganese and lead from the cupola. Compliance with the emission limits is demonstrated through compliance testing and control equipment monitoring to demonstrate proper operation. Compliance is also demonstrated via monthly emission records that are calculated utilizing emission factors from testing and material usage/production rates. Based on this inspection, parametric monitoring, proper control equipment operation, emission records and compliance testing demonstrate compliance with the emissions limits (see below).

Pollutant	Emission Limit	Actual Emissions
PM	18.0 pph	1.88 pph (testing)
PM	3.17 tons/month	0.35 tons/month max.
PM	38.0 tons/yr	3.6 tons
PM	0.38 pounds per ton of metal production	0.061 lb./ton (2021 test)
CO	375.0 lbs/hr.	3.67 lbs/hr. (2021 Test)
CO	66.7 tons/month	0.53 tons/month max
CO	800 tons 12-mos rolling	5.4 tons
CO	8.0 lbs/ton of metal charged	0.092 lbs/ton (2021 test)
VOC	3.6 pph	0.35 pph (2021 test)
VOC	0.65 tons/month	0.05 tons/month max.
VOC	7.74 tons/year, 12-mos rolling	0.53 tons (total for 2022)
VOC	0.12 pounds/ton of metal charged	0.009 (2021 test)

<b>SO2</b>	<b>17.7 lbs/hr.</b>	<b>0.069 lbs/hr. (2021 test)</b>
<b>SO2</b>	<b>3.2 tons/month</b>	<b>0.010 tons/month max.</b>
<b>SO2</b>	<b>38.0 tons/yr.</b>	<b>0.1 ton</b>
<b>SO2</b>	<b>0.38 lbs/ton of metal charged</b>	<b>0.002 lbs/ton of metal charged (2021 test)</b>
<b>Lead</b>	<b>0.054 tons/month</b>	<b>0.001 tons/month max.</b>
<b>Lead</b>	<b>0.65 tons/yr</b>	<b>0.01 tons</b>
<b>Lead</b>	<b>0.0065 lbs/ton of metal charged</b>	<b>0.0002 lbs/ton of metal charged (2021 test)</b>
<b>Lead</b>	<b>0.3 pph</b>	<b>0.005 pph (2021 test)</b>
<b>Manganese</b>	<b>1.35 tons/yr 12-mos rolling</b>	<b>0.052 tons</b>
<b>Manganese</b>	<b>0.62 lbs/hr.</b>	<b>0.027 lbs/hr. (2021 test)</b>

**A visible emission limit for the desulfurization ladle baghouse was removed with PTI 17-16A which has been incorporated into the ROP. The most recent testing demonstrated compliance with the ROP emission limits. (See Testing/Sampling discussion below)**

**The facility has a charge limit of 16,667 tons per month and 200,000 ton annually. Compliance is demonstrated via charge records. Records of the material charge rates to the furnace were supplied by the facility (attached). Review of the facility records shows charge rates were 11,573 tons/month max. and 111,778 tons for 2022.**

#### **Process/Operational Restrictions/Monitoring/Recordkeeping**

**To demonstrate proper operation of the cupola control, the permit requires the following monitoring and recordkeeping: afterburner burner to be maintained at a minimum temperature of 1,350 degrees, which is monitored and recorded on a continuous basis, the venturi pressure drop to be maintained at a minimum of 42 inches and a minimum water flow rate of 115 gallons/minute with the parameters monitored and recorded on an hourly basis. At the time of the inspection the afterburner temperature was 1804 degrees, and the venturi scrubber differential**

pressure and flow rate were 48 inches and 445 gpm respectively. Cupola combustor temperature is monitored continuously and recorded on the plant PLC system.

The outlet of the desulfurization baghouse is equipped with a HEPA filter that vents back into the in-plant environment. The permit requires the differential pressure of the baghouse to be recorded daily, records indicate the differential pressure ranged from 2" -3.2". Stack testing is not required. At the time of the inspection the differential pressure was 3.6".

The facility is maintaining the required emission and monitoring records. As indicated above, review of the records showed compliance with the permit limits.

### Testing/Sampling

Emission testing for CO, lead, PM, manganese, SO<sub>2</sub>, and VOC must be performed once every 5 years.

The facility conducted compliance testing on 7/28/2021 and provided a report that was reviewed and determined to demonstrate compliance with all emission limits contained in the ROP.

### Reporting

Review of the 2021 and 2022 annual and semiannual ROP certification reports showed that there was a deviation (previously reported on 7/1/22) for bypass of a control device due to operator error, and two incidents of source wide PLC system software failure totaling 50 hours during the first 6 months of 2022.

### Stack/Vent Restrictions

There have been no changes to the stack, and it appears to meet the ROP specifications.

## FGSPOLINE

Process used to produce iron castings from molten iron using green sand molds and set cores. Equipment includes a Spomatic mold line, iron pouring and cooling, green sand system, and sorting and shakeout. Emissions from the processes are controlled by three baghouses and two multiwash scrubbers.

### Emission/Material Limits/Records

FGSPOLINE has limits that restrict the emissions of PM, CO, lead and VOC. Compliance with the emission limits is demonstrated through compliance testing and control equipment monitoring to demonstrate proper operation. Compliance is also demonstrated via monthly emission records that are calculated utilizing emission factors from testing and material usage/production rates. Based on this inspection, parametric monitoring, proper control equipment operation, emission records and compliance testing demonstrate compliance with the emissions limits is demonstrated as follows: (Records attached):

<b>Pollutant</b>	<b>Emission Limit, 12 mos. rolling avg.</b>	<b>Actual Emissions 12 mos. rolling avg.</b>
<b>CO</b>	<b>250 tpy</b>	<b>136 max.</b>
<b>CO</b>	<b>2.78 pounds/ton of iron poured</b>	<b>2.54 (2021 test)</b>
<b>VOC</b>	<b>60.0 pph</b>	<b>7.75 pph (2021 stack test)</b>
<b>VOC</b>	<b>107 TPY</b>	<b>39 max.</b>
<b>Lead (EUSPOPOURANDCOOL)</b>	<b>7.92 (lbs)</b>	<b>1.60 lbs max.</b>
<b>Lead (EUSPOPOURANDCOOL)</b>	<b>4.4x10<sup>-5</sup> pound per ton of iron poured</b>	<b>1.49x10<sup>-5</sup> (2021 test)</b>
<b>PM (EUSPOPOURANDCOOL)</b>	<b>6.5 TPY</b>	<b>0.81 max</b>
<b>PM (EUSPOPOURANDCOOL)</b>	<b>0.07 pound per ton of metal processed</b>	<b>0.0153 (2021 test)</b>
<b>PM (EUSPOGREENSAND)</b>	<b>32 TPY</b>	<b>3.81 max.</b>
<b>PM (EUSPOGREENSAND)</b>	<b>0.36 pound per ton of metal processed</b>	<b>0.071 (2021 test)</b>
<b>PM (EUSPOBREAKANDSORT)</b>	<b>24 TPY</b>	<b>7.63 max.</b>
<b>PM (EUSPOBREAKANDSORT)</b>	<b>0.27 pound per ton of metal processed</b>	<b>0.142 (2021 test)</b>
<b>PM (SPOSHAKEOUT)</b>	<b>24 TPY</b>	<b>2.36 max.</b>
<b>PM (SPOSHAKEOUT)</b>	<b>0.27 pound per ton of metal processed</b>	<b>0.044 (2021 test)</b>

The facility has a metal pour limit of 180,000 ton per 12-month period. Compliance is demonstrated via pour records. Records of the material pour rates indicate that 101,5511 tons were poured during the 2022 12-month period and the highest 12-month pour rate was 107404 tons.

#### Design Parameters/Testing/Monitoring/Records

To demonstrate proper operation of the baghouses the permit requires continuous monitoring, and daily recording of the pressure drop. Review of facility PLC continuous records showed pressure drop readings to be within the specified ranges. At the time of the inspection the differential pressure readings for the baghouses were as follows:

Baghouse	Parameter Limit Range (Inches wc)	Differential Pressure (Inches wc)
Carter Day	1.5 - 5	4.5
#1 80K (Spoline Sorting, N. side of plant, outside)	1 - 10	2.1,3.8,3.0 (manometer on each section of BH)
#2 80K (Spoline Breaking, E. side of plant, outside)	1 - 9	2.4

Proper operation of the North and South Multiwash scrubbers is demonstrated through maintaining a water flow rate above 150 gallons per minute and recording the rate continuously as well as maintaining the pressure drop of each unit above 7 inches. At the time of the inspection the readings for the scrubbers were as follows:

Scrubber	Flow Rate (gpm)	Differential Pressure (Inches wc)
North Multiwash	250	11.1
South Multiwash	220	11.0

The facility is maintaining the required emission records including continuously monitoring flow rate through the PLC system. Review of the records showed compliance with the permit limits. (Attached)

#### Testing/Sampling

**Emission testing for PM, CO, lead and VOC must be performed once every 5 years.**

**The facility conducted compliance testing July 21 and 22 2021. The test report was reviewed at the time of submittal and testing demonstrated compliance with all emission limits.**

**Note: According to Mr. Olson, CCI is still planning to install additional cooling stacks (a draft permit application has been prepared but not submitted). The new PTI will address the issue of combined vs. separate emission limits. Currently all stacks should be tested simultaneously in order to demonstrate compliance with the combined emission limits, but this has not been done in the past. If no permit changes are made the stacks must be tested simultaneously during the next round of testing. Also, the EUPOURANDCOOL emission limits appear to apply to pouring and cooling but only the cooling stacks are tested. Pouring takes place in the general plant atmosphere with a large roof vent directly overhead but no hood or stack per se.**

### **Reporting**

**Review of the 2021 and 2022 annual and semiannual ROP certification reports showed that there were no deviations reported.**

### **FG-MACT**

**Processes subject to 40 CFR 63, Subpart EEEEE. EUMELTING is subject to the NESHAP requirements for cupola melt systems, while EUALINE is subject to the NESHAP requirements for pouring. The buildings housing foundry processes are also subject to the fugitive opacity emission limit.**

### **Emission/Material Limits**

**Compliance with the emission limits (Metal HAPs, PM, Opacity) is demonstrated through afterburner, venturi scrubber and RTO monitoring as well as compliance testing. Based on this inspection, as detailed above, parametric monitoring, proper afterburner, venturi scrubber and RTO operation and compliance testing demonstrate compliance with the emissions limits.**

**The 2011 NESHAP emissions testing demonstrated compliance with the NESHAP emission limits. (See Testing/Sampling discussion below)**

### **Process/Operational Restrictions**

**The facility operates under an O&M Plan dated June 2007, a copy of the plan was submitted with the ROP renewal application.**

**The O&M plan covers all the required inspections associated with the capture system detailed in 63.7710(b)(1). The O&M plan also covers the required control device inspections detailed in 63.7740(b).**

**All scrap metal must be received in accordance with either a certification plan or a written selection and inspection plan. The facility is operating under a selection and inspection plan for scrap that is dated April 11, 2011. The facility inspects each load**

and maintains records of inspections. The facility does not use auto scrap as defined under the foundry NESHAP. The facility primarily melts plate and structural scrap as well as processed oil filters. Oil filters are obtained from a supplier that reclaims the oil from them for recycling. As such, the majority of the oil is removed. Filters are stored in a separate, geotextile and concrete lined area.

In accordance with the NESHAP standard, the facility must maintain the cupola combustion zone temperature (15-minute average) above 1,300 degrees, except for 15 minutes before and after being off-blast. The Cupola operates at a minimum set point of 1600 degrees. There were no incidents of low temperature during the review period.

The NESHAP standard requires that the 3-hour average pressure drop and water flow rate on the wet scrubber not fall below the minimum levels established during performance testing. The facility is complying with this requirement via maintaining the pressure drop above 42 inches at all times and the flow rate above 115 gallons per minute.

In accordance with the NESHAP, the facility has a mold ignition plan in place, a copy of the plan is attached to the O&M plan.

A start up shut down and malfunction plan (SSMP) is also required. A copy of the SSMP dated April 2007 was received on 8/8/2017.

#### Testing/Sampling

The facility conducted NESHAP compliance testing on 7/28/2021. The facility demonstrated compliance with the PM, metal HAP and VOHAPS limits for EUMELTING and PM for EUALINE at that time.

#### Monitoring/Recordkeeping

##### Capture Systems (63.7710(b)(1))

The facility has the required capture system inspection requirements contained within the O&M plan. EUMELTING and EUALINE use a control device to meet the NESHAP emission limits. The facility utilizes an electronic PM system that establishes work orders for the performance of capture system inspections.

##### Venturi 63.7740(b)

The facility has the required venturi scrubber inspection requirements contained within the O&M plan. The facility utilizes an electronic PM system that establishes work orders for the performance of venturi inspections.

##### CPMS 63.7710(b) and 63.7741(a)

The facility has established the venturi pressure drop as the monitoring parameter as an indicator of capture system performance. The PM plan also addresses the pressure drop monitoring requirements contained in 63.7741(a).

#### Reporting

The facility certifies Subpart EEEEE at the bottom of the ROP certification form and attaches additional information as necessary.

**COMPLIANCE STATUS/ISSUES**

As a result of this Full Compliance Evaluation, it appears that CCI is in compliance with the requirements of MI-ROP-B2178-2021.

NAME  \_\_\_\_\_

DATE \_\_\_\_\_

SUPERVISOR \_\_\_\_\_