

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: Records Review (In office)

B201553870

FACILITY: Metal Technologies, Inc. Three Rivers Gray Iron		SRN / ID: B2015
LOCATION: 429 Fourth Street, THREE RIVERS		DISTRICT: Kalamazoo
CITY: THREE RIVERS		COUNTY: SAINT JOSEPH
CONTACT: Dan Plant , Corporate Environmental Manager		ACTIVITY DATE: 06/11/2020
STAFF: Amanda Chapel	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT:		
RESOLVED COMPLAINTS:		

The plant was shut down in April 2020 due to the COVID-19 stay home order. Records from that time are available but reflect the shutdown status of the facility.

Records of daily visible emissions were reviewed from May 2019 through April 2020. Visible emissions are checked weekly for cooling line stacks 1 through 4, North Fuller and West Duster stack, East and West Fuller stack, South Duster/Sly collector stack, and the North Duster stack. Abnormal reading on September 24, 2019 out of the East/West Fuller stack led to the bags being changed per a work order request. Abnormal readings from North Fuller and West Duster as well as East and West Fuller were observed on February 25 and 27, 2020. This led to complaints being received by the department and a VN being issued to the facility. An abnormal reading was also recorded on Monday March 2, 2020 from North Fuller and West Duster stack.

Differential pressure and pressure drop checks are done daily throughout the plant. Checks are done on the South Duster/Sly, East Fuller, West Fuller, North Fuller, West Duster, North Duster, and ETA collectors. If the pressure reading was out of range, the maintenance action was documented on the sheet. On May 3 and 5, 2020 the North Duster was out of range. A hose split and was replaced. This was the only documented excursion from the pressure drop range in the records provided.

Preventative maintenance logs were provided for the North Fuller Collector, East Fuller Collector, West Fuller Collector, South Duster/Sly Collector, North Duster Collector, and West Duster Collector. The checklists contain a list of components checked monthly including a visolite check. It was noted on North Fuller, and E/W Fuller Collectors a bag change which was done in March, 2020.

EUEMERGEN is monitored for hours of operation, maintenance performed, and any malfunctions that occur. Total Energy Systems completes the yearly inspection. The records provided show the date of service, hour meter reading, the filter statue, fuel added, and a fuel sample analysis. The inspection also includes air filter and hose checks.

FGGREYIRON requires the tons melted to be tracked. Records provided show the highest month for tons melted was August 2019 with 14,592 tons melted which also corresponds to the highest 12-month rolling tons melted of 159,974 tons. The limit is 219,000 tons melted per year.

EUSHAKEOUT records were provided. Monthly hours of operation are tracked. The highest hours of operation are also in August 2019 where it ran 621.6 hours during the month. PM, PM10, and PM2.5 emissions calculations were provided as well based on emission factors determined during a 3/2015 stack test. Highest 12-month rolling PM emissions are 1.213 tons, PM10 is 5.810 tons, and PM2.5 is 5.810 tons. Compliance is demonstrated through stack testing which shows compliance with the emission limits in the permit.

EUSHAKEOUT, FGEWBAGHOUSE, FGWDUSTAR, and FGCLEANING require quarterly Visolite checks of the baghouses. Records were submitted for Visolite check of the Sly Melt System (DC #1), East Fuller System (DC #2), West Fuller System (DC #3), North Fuller System (DC #4), Melt Duster (DC #5), West Duster (#6), North Duster (DC #7), Melt System (ETA, DC #8). These checks were done on June 23, 2019, September 29, 2019, January 12, 2020, and March 15, 2020. Where leaks are detected, it appears the bags are replaced at that time and documented on the sheet. A sample Melt bag leak detection datalog was sent over for February 4, 2020. Data is recorded every 3 seconds.

To comply with the MACTEEEEEE, the scrap certification requirement is met as described in the Air Pollution Control Plan. The page with the scrap certification program statement was attached with the

records. The facility uses rigid Raw Materials Specifications ("RMS") to ensure we only melt clean scrap. The FGMACTEEEEEE continuous compliance requirements in 63.7743 are met by stack testing, semiannual Method 9 opacity readings, maintaining the collectors as required by MACT, and maintaining a datalog of the bag leak detection system. The records submitted appear to show continuous compliance with the emission limits.

The records review appears to show the facility in compliance with all recordkeeping and emissions requirements in their permit.

NAME Amur Upre

DATE 8/14/20

SUPERVISOR Ric #127/20

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

B201554594

FACILITY: Metal Technologies, Inc. Three Rivers Gray Iron		SRN / ID: B2015
LOCATION: 429 Fourth Street, THREE RIVERS		DISTRICT: Kalamazoo
CITY: THREE RIVERS		COUNTY: SAINT JOSEPH
CONTACT: Dan Plant , Corporate Environmental Manager		ACTIVITY DATE: 08/12/2020
STAFF: Amanda Chapel	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT:		
RESOLVED COMPLAINTS:		

On August 12, 2020 Air Quality Division's (AQD) Amanda Chapel (staff) conducted an announced air quality inspection at Metal Technologies, Inc. Three River Gray Iron located at 429 Fourth Street, Three Rivers, St. Joseph County. The purpose of the inspection was to determine the facility's compliance with Renewable Operating Permit (ROP) MI-ROP-B2015-2019 and all applicable state and federal air regulations. This inspection was announced due to the COVID-19 procedures in place. Staff had to fill out a questionnaire before entering the facility and wear a mask. Required PPE includes hard hat, steel toed boots, safety glasses, and hearing protection. The following will summarize the walkthrough and plant operations. Records were previously submitted and reviewed for compliance.

Staff arrived at the facility at 11:00am and called Mr. Dan Plant who was on site to meet staff, as previously arranged. Mr. Plant and the facility's new health and safety manager were the two facility personnel that staff had contact with. MTI purchased the facility from Dock Foundry in 1999. They currently are almost back to full staff after the shutdown and have 150 employees at the facility. Normal operations are 24/7 but currently they are operating between 24/5 and 24/6 with three shifts per day. The facility does not have any boilers or parts washers/cold cleaners on site.

The gray and ductile iron foundry manufactures parts for the automotive sector and for the small engine, construction, and appliance industries. The facility is considered to be a major source for carbon monoxide (CO), particulate matter (PM), hazardous air pollutants (HAPs), and volatile organic compound (VOC) emissions. The facility is subject to applicable provisions of the National Emission Standards for Hazardous Air Pollutants for Iron and Steel Foundries (40 CFR Part 63, Subpart EEEEE) as an existing source. The facility is also subject to Compliance Assurance Monitoring (CAM) regulations under 40 CFR Part 64.

In order to comply with the scrap certification requirements in 40 CFR Part 63 Subpart EEEEE, MTI is using a Scrap Certification Program for purchase and use only of metal ingots, pig iron, slitter, or other materials that do not include post-consumer automotive body scrap, post-consumer engine blocks, post-consumer oil filters, oily turnings, lead components, mercury switches, plastics, or free organic liquids. There is a clear statement on the spec sheets they require with their scrap stating exactly what is not allowed in the scrap. This also clearly lays out the metal composition they will take. No liquids were observed draining from the metal chips in the scrap area.

The facility is equipped with an interlock system based on the differential pressure in the baghouses. If something occurs in the process in and the differential pressure goes outside of the set parameters, the equipment identified as the next step in the process is stopped and there is about 45 minutes to fix the problem before further action is needed.

EUSHAKEOUT

This process separates iron casting from sand molds and transfers castings to the cleaning area, sprues to the scrap bay, and sand back to the sand system. Process is controlled by a reverse air 2014 North Dostar baghouse. There is a monthly preventative maintenance checklist completed for all baghouses. Sweeping occurs daily. The last dates visolite was used to identify broken bags was July 11, 2020 and before that May 30, 2020.

The baghouse read 3.2" H2O pressure drop and the bag break detection (BBD) read 1.5 picoamps (pA). According to Mr. Plant, there is an audible siren on the floor if the bag break detection limit is above the set alarm for 120 seconds. The pressure drop and BBD system are monitored at all times by the facility using an internal dashboard. Mr. Plant showed me the dashboard's capabilities. Each baghouse has an icon that gives an overview of the performance at that exact moment. When opened, additional

information is available including high and low alarms, if applicable. No visible emissions were observed during the walkthrough.

EUEMERGEN

This emission unit is a diesel fired emergency generator that is subject to 40 CFR Part 63, Subpart ZZZZ (existing CI RICE) based on it's installation date. The generator is equipped with a non-resettable hours meter. At the time of the inspection, the meter read 641.6 hours. Hours readings are tracked daily. Readiness testing is done automatically once per week for 10-15 minutes. There are preventative maintenance checks weekly to check fluids. These checks are tracked manually. The generator is only capable of providing power to equipment in FGGREYIRON in the event of a power outage. It powers the cooling loop to keep the furnaces from freezing if the power goes out at the facility.

FGGRAYIRON

This flexible group includes metal pre-heating (EUVANETTA), charge loading, melting, and pouring activities. Process emissions are controlled by the South Fuller and Small Dostar baghouses that share a common draft fan and stack and the South ETA pulsejet baghouse. The stack for South Fuller and the Small Dostar is equipped with a BBD and the monitor readout is in the maintenance building that also displays instantaneous pressure drop readings for all baghouses. Readings for the South Fuller baghouse were 2.5 " H₂O pressure drop and 0.0 pA and Small Dostar was reading 2.4" H₂O pressure drop and 0.0 pA.

The South ETA pulsejet baghouse readings are in a small contained shed across from the maintenance area. Readings were 3.7" H₂O pressure drop and 0.0 pA. Cleaning around the baghouses occurs as needed. Bags are emptied depending on load, sometimes once per shift all the way through once per week. There was no dust or visible emissions observed from the stacks. Visolite was last used on July 11, 2020.

All four electric induction furnaces were in operation during the inspection. There are general ventilation roof fans above the furnaces and pouring area. This ventilation system is designed as a kind of "enclosure" to help increase capture of fugitives during the melting and pouring process. It was fairly smoky inside the facility during the inspection, likely due to the hot temperatures and mix of the metal. No fugitive emissions were observed leaving from open doorways or openings.

The general process is as follows: scrap is taken with a magnet and placed into the preheater. Once heated, a clam bucket brings the heated scrap and it is added to a melting furnace.

FGMOLDCOOLING

There are four mold machines (DISAs) and cooling lines under this flexible group. All four DISAs and associated cooling lines were operated during the inspection. No visible emissions were observed during the inspection.

FGEWFULLER

This flexible unit covers the sand handling and casting transfer operations which includes the casting accumulator, transfer, shot sand reclaim magnet, sand screens, and separators. The process is controlled by the East/West Fuller baghouses with a common exhaust stack.

Sand is delivered daily. It is mixed on site with bond which is made of clay and sea coal and water. MTI is considered a green sand foundry. During the inspection, East Fuller readings were 4.5" H₂O pressure drop and 131.0 pA and West Fuller readings were 4.4" H₂O pressure drop and 363.5 pA.

FGWDUSTAR

This flexible unit includes the sand system conveyors, mullers, didion and flat deck, and vibratory shakeout controlled by the West Dostar baghouse.

During the inspection, the pressure drop was 2.14" H₂O and BBD was 5.0 pA. The last visolite was done on July 11, 2020. There were no visible emissions noted during the inspection.

FGCLEANING

This flexible unit contains the four shotblast machines which are used to clean the iron castings. This is controlled by the North Fuller baghouse.

This area appeared to have been swept recently. Like the other baghouses, visolite was last used on the baghouse on July 11, 2020. The pressure drop reading was 4.6" H₂O and 402.5 pA for the BBD system. Mr. Plant explained the baghouse is set to pulse by the control system he showed me in the beginning of the inspection. It varies by baghouse and only pulses as needed. This particular baghouse pulses about every 5 seconds. This is tracked in the control system and a graph can be pulled up for closer analysis at the facility. Mr. Plant pulled up the graph showing that every 5 minutes, a larger pulse occurred in the baghouse.

Based on the records review, completed in June, and the on site inspection, the facility appears to be in compliance with the permit MI-ROP-B2015-2019.

NAME Amber Ayres

DATE 8/14/20

SUPERVISOR RIL 8/27/20