

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

B170947562

FACILITY: Federal-Mogul Powertrain Systems		SRN / ID: B1709
LOCATION: 200 S Maple Street, SPARTA		DISTRICT: Grand Rapids
CITY: SPARTA		COUNTY: KENT
CONTACT: Donna Spytma , EHS Coordinator		ACTIVITY DATE: 01/11/2019
STAFF: Eric Grinstern	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: Unannounced Compliance Inspection		
RESOLVED COMPLAINTS:		

Unannounced inspection of Federal Mogul Powertrain.

FACILITY DESCRIPTION

The facility is a green sand iron foundry that manufactures piston rings and rear axle spacers. The facility melts iron in four electric induction furnaces that vent to baghouse control. Both ductile and grey iron are processed at the facility.

REGULATORY ANALYSIS

The facility is a minor source with an opt-out permit (PTI No. 391-07). The facility also holds a permit for a heat treat line (PTI No. 223-08).

The facility is subject to the Iron and Steel Foundry Area Source NESHAP, Subpart **ZZZZZ**. The facility is considered a small foundry under the NESHAP since they currently melt less than the 20,000 ton per year threshold. During the most recent 12-month period the facility melted 12,622 tons. The facility only purchases pig iron and stamping scrap for melting and has certified compliance with the metallic scrap and mercury requirements of the NESHAP.

There are several conditions within PTI No. 391-07 that are derived from Subpart **ZZZZZ**. Some of these conditions assume that the facility would be classified as a large area source. The facility has never exceeded the large foundry melt threshold of 20,000 tons, therefore the large foundry applicable conditions do not apply. The facility has previously only been expected to comply with these conditions when and if they exceed the 20,000 ton per year metal production threshold. Since the facility is not expected to exceed the 20,000 tons per year threshold, EG and the facility discussed possibly modifying the permit to remove the large area source NESHAP conditions. Additionally, with a permit modification, the possibility of updating the baghouse control description for FGMOLDSAND and rolling PTI No. 223-08 into the opt-out permit was discussed.

COMPLIANCE EVALUATION

Prior to entering the facility, a survey of the perimeter was made, no visible emissions or odors were noted.

At the facility EG met with the Environmental Manager, Donna Spytma.

Below is an evaluation of the facility's compliance with applicable air quality rules, regulations and permits.

EUFURNACES

The facility has four electric induction furnaces that have swing hoods, one hood for Furnaces 1 & 2 and one hood for Furnaces 3&4. The hood is swung over the furnace that is in the state of charging/melting.

During tapping, the furnaces is tipped too high for the hood to have good capture of emissions. All metal handling processes are ducted to the 50k Dustar baghouse (SVDUSTAR2). Furnace No. 4 is the smallest of the four furnaces and is generally used for testing/prototype runs.

The facility uses tundish ladles for all ductile inoculation. During the inspection staff only observed grey iron production. The facility was operating Furnace No.3 at the time of the inspections and was in the processes of bringing Furnace No. 2 on-line.

Emission/Material Limits/Monitoring/Recordkeeping

EUFURNACES limits the emission of PM (0.005 grains/dscf) and PM-10 (6.0 pph) and establishes a VE limit of 0% opacity.

Compliance with the emission limits is demonstrated though proper operation of the baghouse. Proper operation of the baghouse is demonstrated via the requirement that the facility monitor and record the pressure drop once per shift. Pressure drop records were requested and provided for the most recent 60 -day period. The established pressure drop range is 1-4 inches. Review of the pressure drop records showed all readings to be 1.0 inches, with the exception of one day, December 8, 2018. During the third shift of that day the pressure drop was 0.9 inches. All shifts prior to and after that time had a reading of 1.0 inches. No action would appear to be necessary by AQD regarding this single pressure drop excursion. During the inspection, staff observed a pressure drop reading of 1.0 inches. During the inspection no VE was noted from the baghouse.

Additionally, the facility maintains monthly emission calculations, derived from emission factors (pounds per ton of metal) for the furnaces as part of the records required to demonstrate compliance with the facility-wide emission limits (FGFACILITY).

Stack/Vent Restrictions

Visual evaluation of the stack (SVDUSTAR2) showed that it appeared to meet the required dimensions.

EUGRINDING

The facility has numerous finishing processes, including lathes and grinders. The dry grinding processes are controlled by the 16k Dostar baghouse (DVDUSTAR1). There are also numerous other units that have control devices that met the requirements for exemption under Rule 285.

Emission/Material Limits/Monitoring/Recordkeeping

EUGRINDING limits the emission of PM (0.005 grains/dscf) and PM-10 (0.8 pph). It also limits VE to 10%.

Compliance with the emission limits is demonstrated through proper operation of the baghouse. Proper operation of the baghouse is demonstrated via the requirement that the facility monitor and record the pressure drop once per shift. Pressure drop records were requested and provided for the most recent 60-day period. The established pressure drop range is 0-7 inches. Review of the pressure drop records showed all readings to be between 1.7 and 2.0 inches. During the inspection, staff observed a pressure drop reading of 1.8 inches. During the inspection no VE was noted from the baghouse.

Additionally, the facility maintains monthly emission calculations, derived from emission factors (pounds per ton of metal), for the **EUGRINDING** as part of the records required to demonstrate compliance with the facility-wide emission limits (FGFACILITY).

Stack/Vent Restrictions

Visual evaluation of the stack (SVDUSTAR1) showed that it appeared to meet the required dimensions.

FGMOLDSAND

All sand related processes are controlled by the Sly pulse jet baghouse and the 50k Dostar baghouse. The muller, sand cooler and sand room are controlled by the Dostar baghouse. The facility uses a green sand system that is processed through a muller and cooler. Sand in the system is made up of new sand and bentonite clay binder, shakeout sand and excess sand from the molding machines. Shakeout sand is processed through an evaporative cooler that is controlled by a cyclone which is connected to the Sly baghouse. All exhaust points and conveyor drop points are ducted to the Sly Baghouse. The facility has eight automatic mold making machines. The facility does not use any cores.

From mold making the molds are carried down eight separate conveyor lines to eight automatic sand shakeout stations. Sand from shakeout is carried via conveyor back to the sand reclamation system.

Emission/Material Limits/Monitoring/Recordkeeping

FGMOLDSAND limits the emission of PM (0.05 grains/dscf) and PM-10 (3.3 pph). It also limits VE to 5%.

Compliance with the emission limits is demonstrated through proper operation of the baghouse. Proper operation of the baghouse is demonstrated via the requirement that the facility monitor and record the pressure drop once per shift. Pressure drop records were requested and provided for the most recent 60-day period. The established pressure drop range for the Sly Baghouse is 2-7 inches. Review of the pressure drop records showed all readings to be between 2.0 and 6.4 inches. During the inspection, staff

observed a pressure drop reading of 2.5 inches. The Dustar Baghouse pressure drops were evaluated under EUFURNACES. During the inspection no VE was noted from the baghouse.

Additionally, the facility maintains monthly emission calculations, derived from emission factors (pounds per ton of metal), for the EUMOLDSAND as part of the records required to demonstrate compliance with the facility-wide emission limits (FGFACILITY).

Stack/Vent Restrictions

Visual evaluation of the stack (SVSLY) showed that it appeared to meet the required dimensions.

FG-FACILITY

FG-FACILITY limits emissions below the major source threshold and incorporates Subpart ZZZZZ requirements.

Emission/Material Limits/Monitoring/Recordkeeping

FG-FACILITY limits the emission of PM, PM-10, CO and VOC. PM limit: 85 tpy, PM-10 limit: 60 tpy, CO limit: 60 tpy, VOC limit: 82 tpy.

Compliance with the emission limits is demonstrated through the facility maintaining records of emissions based on emission factors/usage rates. For the 12-month time period through December 2018, the facility provided records documenting the following emissions: PM: 11.9 tpy, PM-10: 6.8 tpy, CO: 1.9 tpy, VOC: 8.5 tpy.

The facility is restricted to melting not more than 65,100 tons of metal per year, based on a 12-month rolling time period. For the 12-month time period through December 2018, the facility melted 12,622 tons of metal.

The facility is in compliance with applicable Subpart ZZZZZ conditions.

- No warm box mold or core making line with methanol as a catalyst – the facility does not utilize warm box molds or cores.
- Scrap metal plan for metallic and mercury management – the facility provided a copy of their metallic scrap program as well as a copy of a recent purchase order showing the purchase of bushling.
- Initial and semi-annual notifications – The facility has submitted all required notifications.
- Maintain records of the tons of metal melted per month. – The facility provided a copy of melt records.

EU-HEATTREAT

The facility has a heat-treating process that is permitted under PTI No. 223-08. The process consists of two gas-fired furnaces equipped with integrated oil quench, a single post treatment washer and three electric tempering furnaces.

Emission/Material Limits

Limits particulate emissions to 55 ton per year, based on a 12-month rolling time period. Compliance with the emission limit is demonstrated through a limitation on the amount of quench oil that can be used and facility emission calculations. The facility is limited to a net quench oil usage rate of 22,000 gallons. Usage records were requested and provided for the 12-months ending in December 2018. The facility records documented 4,510 gallons added. The amount of oil disposed was 3,460 gallons recycled. The facility records document 0.26 tons of particulate (oil mist) emitted for the 12-month period ending in December 2018.

Conclusion

Electronic records supplied by the facility are attached on CD.

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

NAME



DATE

11/24/19

SUPERVISOR

