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

M476825131

FACILITY: FLAT ROCK METAL INC		SRN / ID: M4768
LOCATION: 26601 W HURON RIVER DR, FLAT ROCK		DISTRICT: Detroit
CITY: FLAT ROCK		COUNTY: WAYNE
CONTACT: Gregory Zang , Operations Manager		ACTIVITY DATE: 04/10/2014
STAFF: Terseer Hemben	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM ~~208A~~ OPT OUT
SUBJECT: PM and VOC		
RESOLVED COMPLAINTS:		

Inspector: Terseer Hemben, DEQ-AQD
Personnel Present: Mr. Keith King, President, FRM Operations
Mr. Greg Zang, Vice President, Operations
Company: Flat Rock Metal
Address: 26601 W. Huron River Drive, Flat Rock, MI 48134-1090
SRN: M4768
Date of Inspection: April 10, 2014
Facility Phone Number: 734-782-4454; FAX: 734-782-5844

INSPECTION REPORT

FACILITY BACKGROUND:

I arrived at the Flat Rock Metal (FRM) facility on April 10, 2014, at 1245 hours. The purpose of the visit was to conduct annual scheduled compliance inspection Temperature at the hour was 68 F, with wind speed 23 mph coming from SSW. Flat Rock Company is housed in a facility that was formerly built by Henry Ford in 1921. The plant is located on the south bank of Flat Rock River.

The FRM Company is currently supported by fewer employees than in previous years. The facility operates 2 shifts per day, 5 days a week. The facility produces polished and pressed steel sheets for the Michigan's Big Three automotive makers (Ford, GM and Chrysler).This facility occupies 36.4 acres of land. The plant itself which occupies 238,000 square footage of the land has been expanded incredibly over the past year. Construction of other units is underway in phases. A wet type of Scrubber controls the emissions within the building by collecting air and fumes via large diameter-hood fans. The two boilers used at the site is heated using Natural gas. The premises were paved for control of fugitive dust, except for the construction zone.

The Steel sheet production process is covered by a permit number 71-98. This permit covers both the dry and wet grinding processes. Other processes include chemical coating and curing of steel sheeting used in the automotive industry. These processes are covered under General Permit # 59-09. Associated equipment for these processes include the Wide Coil Blanking (Metal cutter) line, three Rough Lines, three Finish lines, three Curing ovens, four wet dust collectors, and two gas-fired Boilers. The facility added 5 new operating lines. The lines are: (a) Automated angle shear (60 degree angle capability), (b) Protective film sheet applicator, (c) Sheet polishing (ferrous and Non-Ferrous), (d) Sheet coating paint line, and (e) Waterborne blank coating line.

COMPLAINT/COMPLIANCE HISTORY:

None

OUTSTANDING LOV'S:

None

PROCESS DESCRIPTION:

The metal process carried out at the Flat Rock facility consists of dry and wet grinding, chemical and curing of steel sheeting used in the automotive industry. The process utilizes three types of equipment: the equipment include the rough lines, finish lines, and 2 boilers. The sheet metal enters the facility as a roll from the steel mill or other sources. The cut-to-length line unrolls and cuts the sheet metal to specified lengths. The CTL is sheer-cutting only with no grinding involved. The process generates minimum particulate matter.

Rough lines comprise three identical dry grinding lines. The finish lines comprise three phosphate coating stations, and three curing ovens. Steam generation system is powered by two natural gas-fired

boilers. There are three rough lines designated #1, 2, & 3. The lines are used for grinding only. Metal sheet from Cut–to-Length line are steam-cleaned with alkaline prior to grinding. Sheets are sent through a dry grinding operation consisting of ten belt grinders in series. Generally, only eight or nine belts operate at any given time. Particulate matter (Swarf) is controlled via five dust collectors or scrubbers. During this inspection only 6 heads were operating. The finish lines are designated as #1, 2, & 3. Mill sheets from rough lines are sent through a wet polishing/grinding operation consisting of six belt grinders in series.

EQUIPMENT AND PROCESS CONTROLS:

There is no process control equipment for these boilers. However, there is a scrubber, which controls the emissions generated within the facility building.

OPERATING SCHEDULE/PRODUCTION RATE:

The FRM processing facility currently operates 24 hours per day, and 5 days per week, except when shut down for maintenance.

APPLICABLE RULES/OPT OUT PERMIT # 71-98 & Gen permit #59-09 CONDITIONS: The following conditions were used to evaluate compliance at the FRM facility-

1. In compliance - Flat Rock Metal (FRM) stated there were no modifications to any processes at the time of inspection.
2. In compliance - FRM demonstrated the PM emissions from the Roughlines did not exceed the 172.8 lbs/day limit calculated at the end of each day. Records for the last 12 months listed in attachment indicated the total emissions from Roughline #1 was 42.31 lbs. per day, while Roughline #2 emitted 39.4 lbs. per day [SC 1.1a); Pg. 1, item #2].
3. In compliance - FRM demonstrated the PM emissions from Roughlines did not exceed 0.025 lbs. /1000lbs of exhaust gas [SC 1.1b]. Records for the last 12 months listed in attachment indicated the emission from Roughline #1 was 0.024 lbs. /1000 lbs. of exhaust gas; and Roughline #2 emitted 0.022 lbs. /1000 lbs. of exhaust gas [Pg. 1, item # 3].
4. In compliance - FRM demonstrated the amount of Manganese emissions from Roughlines did not exceed 0.691 lbs./day as determined at the end of each day [SC 1.1c]. Records for the last 12 months indicated the emission from Roughline #1 was 0.207 lbs. /day, and Roughline #2 emitted 0.193 lbs. of Mn [Pg. 1, item# 4].
5. In compliance – AQD verified there were no visible emissions from Roughlines [SC 1.2].
6. In compliance - FRM demonstrated the maximum quantity of metal sheets processed per calendar day did not exceed 23,400 sheets, nor 8,541,000 metal sheets processed per 12-month rolling time period as determined at the end of each calendar month [SC 1.3]. Records for the last 12 months indicated the sheets processed through Roughline #1amounted to 8250 per calendar day, and Roughline #2 recorded 10715 sheets per calendar day. Roughline #1 processed 1,666,664 sheets per 12-month rolling period as determined at the end of each calendar month, while the Roughline #2 recorded 3,562,832 sheets per 12-month rolling period determined at each end of each month [Pg. 1, item#7]. Total number of sheets processed at the facility were18965 per day, and 5,229,496 was recorded per 12-month rolling period determined at end of each month. These numbers were less than the set limits per day, and rolling months limit, respectively.
7. In compliance - FRM demonstrated the West dust collectors installed were maintained and operated in a satisfactory manner [SC 1.4]. Operational records asserting compliance for the last 12 months are listed in attachment #1.
8. In compliance - FRM demonstrated the gauge for measuring pressure drop across the Wet Dust collectors, and sounds an alarm when the water pressure exceeds 15 psig or drops below 10 psig, was installed, maintained and operated in a satisfactory manner [SC 1.5]. Maintenance records supporting compliance for the last 12 months are listed in attachment #1.
9. In compliance - FRM demonstrated the operating grinding heads in each of the grinding machines of Roughlines, at any time during the process operation did not exceed a maximum of eight (8) operational grinding heads per machine [SC 1.6]. Records for the last 12 months indicated the roughlines were operating average of 5-8 heads as listed in attachment #2.
10. In compliance - FRM demonstrated the chemical composition of metal sheets, including the weight percent of each component or as listed in MSDS was maintained on site and available

for inspection. Records were stored electronically for easy access as listed in Attachment#3 [SC 1.7].

11. In compliance- FRM demonstrated the following information was kept on daily and monthly basis for Roughlines:
    A) Number of sheets processed per hour, calendar day and calendar month. Details of the quantity were listed below EUROUGHLINE Tabs.
    B) PM mass emission calculations determining the daily and monthly emission rate in pounds and tons per 24 hour calendar day and per calendar month, respectively, based on stack testing data or the manufacturer's emission factors. Details of the quantity were listed below EUROUGHLINE Tabs.
    C) PM mass emission calculations determining the annual emission rate in tons per 12-month rolling time period as determined at the end of each calendar month. Details of the quantity were listed below EUROUGHLINE Tabs.
    D) Hours of operation were maintained and kept on site for easy access [SC 1.8]. Records for the last 12 months were listed in background information- Details of the hours were listed below EUROUGHLINE Tabs.
12. In compliance – FRM demonstrated the following information was kept on a calendar day basis for Roughlines:
    A) Number of sheets processed per 24 hour-calendar day in the Roughlines. Details of the quantity were listed below EUROUGHLINE Tabs.
    B) Percent manganese content in pounds per pound of sheet metal processed. Details of the quantity were listed below EUROUGHLINE Tabs.
    C) Manganese mass emission calculations determining the 24-hour calendar day emission rate in pounds per calendar day. Details of the quantity were listed below EUROUGHLINE Tabs.
    D) Manganese mass emission calculations determining the annual emission rate in tons per 12-month rolling time period as determined at the end of each calendar month [SC 1.9]. Records for the last 12 months are listed in attachment. Details of the quantity were listed below EUROUGHLINE Tabs.
13. In compliance – AQD verified all exhaust gases were discharged vertically through the stacks to the ambient air. [40CFR 52.21 (c) & (d).
14. In compliance - FRM demonstrated emissions of individual HAP from the facility was less than 9.0 tpy based on 12-month rolling time period as determined at the end of each calendar month [SC 2.1]. Records supporting compliance for the last 12 months are listed in attachment#4.
15. In compliance – FRM demonstrated the emissions of aggregate HAPs from the facility were less than 22.5 tpy based on 12-month rolling time period as determined at the end of each calendar month [SC 2.1b]. Records supporting compliance for the last 12 month are listed in attachment #4.
16. In compliance – AQD verified the MSDS on any materials content received was updated [SC 2.2; 2.3]. All MSDS were stored electronically for easy access.
17. In compliance – FRM demonstrated the following records were kept on a monthly basis for the facility:
    A) Gallons or pounds of each material used. Records were electronically stored for easy access.
    B) Where applicable, gallons or pounds or pounds of each material were reclaimed. Records pertaining to reclamation were electronically stored for easy access reflecting compliance.
    C) HAP content, in pounds per gallon or pounds per pound of each material. Records electronically stored for easy access reflected compliance.
    D) Individual and aggregate HAP emission calculations determining the monthly emissions rate of each in tons per calendar month. Records electronically stored for easy access reflected compliance.
    E) Individual and aggregate HAP emission calculations determining the annual emission rate of each in tons per 12-month rolling time period as determined at the end of each calendar month [SC 2.4]. Records for the last 12 months are listed in attachment.

Per General permit #59-09

18. In compliance - FRM demonstrated the permittee used an emissions control device for particulate control. Records relating to particulate control device were listed in attachments #4 and #5.
19. In compliance-FRM demonstrated permittee used high volume-low pressure spray or equivalent technology with equal or better transfer efficiency. FRM stated since there was no spraying at the facility over several years, the Company generated no particulate from the paint application process [Pg. 1, Item# 20].
20. In compliance-FRM stated since the facility did not use any coating over the last years, all the spray guns were airless or air assisted [Pg. 1, Item# 21].
21. In compliance-FRM demonstrated exhaust gases from coating line were discharged unobstructed vertically upwards to the ambient air at exit points not less than one and one half times the building height from ground level to the point of discharge. Visual inspection confirmed the stacks were 1-1/2 times the building height and discharged vertically unobstructed.
22. In compliance-FRM demonstrated VOC emissions from coating line(s) did not exceed 2000 pounds per calendar month, 10 tons per year from each coating line and purge and clean-up operations associated with the line covered by this general permit, based on a 12-month rolling time period as determined at the end of each calendar month [SC.III.1]. Records provided to support the claim are listed in attachments # 4 and #5.
23. In compliance-FRM In compliance- FRM demonstrated VOC from coating line did not exceed 30.0 tpy at a stationary source based on a 12-month rolling time period as determined at the end of each calendar month. This included the combined emissions from any coating line covered by this or any other general permit from the requirement to obtain a permit pursuant to Rule 287 and/or Rule 290 [SC. II.2]. Records supporting compliance are located in attachments# 4and #5.
24. In compliance- FRM demonstrated the following parameters were recorded:-
    (a) Monthly record of purchase orders and invoices for all coatings, reducers, and purge.clean-up solvents [SC. III.1a]. Records supporting compliance were stored electronically.
    (b) In compliance -Monthly record of VOC content in pounds per gallon of all reducers and purge/clean-up solvents, the usage rate in gallons and disposal records [SC. III.1b]. Records supporting compliance are located in attachment# 4.
    (c) In compliance-FRM demonstrated monthly record of the VOC content in pounds per gallon of each coating and the usage rate in gallons [SC. III.1c]. The response is same as in item 25b.
    (d) In compliance- FRM demonstrated monthly and annual VOC emission were calculated for each coating line, in tons per month and tons per 12-month rolling time period, using the method specified in Appendix B [SC. III.1d]. The response is same as in item 25b.
    (e) In compliance – FRM demonstrated annual records based on 12-month rolling time period of the actual VOC clean-up operations at the stationary source [SC. III.1e]. The response is same as in item 25b.
    (f) In compliance - FRM demonstrated by supplying date and description of any modification or new installation of process or control equipment for the coating line [SC. III.1f]. FRM stated no change or modification to the paint line was made over the last 12 months.
    (g) In compliance- FRM provided date and description of coating line [SC. III.1g]. Response stated there was a change in the Chrome Mask HP coating formulation and that was when the facility added the 2-PZ catalyst to the formulation. Addition was noted in attachment #4.
26. In compliance- FRM demonstrated permittee maintained a current listing of the chemical composition of each coating including the weight percent of each component [SC. IV.1i]. Response stated all MSDS (SDS) were stored electronically for easy retrieval.
27. In compliance – FRM demonstrated permittee submitted records of VOC emissions and VOC content in pounds per gallon of any coating, reducer or purge/clean-up solvent as applied or as received [SC. IV.2b(1)]. Response indicated compliance was achieved as located in attachment #4 and #5.
28. In compliance- FRM demonstrated permittee used method/analysis of 40 CFR Part 60 EPA method 25A or other EPA approved reference method for measuring VOC content of any coating or reducer or any alternative method determined by manufacturer's formulation data [SC. IV.2B(2)]. Response indicated compliance was achieved as located in attachment # 4 and #5.

29. In compliance – FRM demonstrated all waste coatings and reducers were captured and stored in closed containers and disposed of in an acceptable manner in compliance with all applicable rules and regulations [SC. IV.1]. Response indicated that outgoing Hazardous Material manifests indicated compliance as located in attachment #6.
30. In compliance - FRM demonstrated permittee did not operate any spray coating process unless dry filters or water curtain was installed and operating properly [SC. IV.2]. Response indicated FRM did not spray any coatings in the last 12 months on the line.
31. In compliance – FRM did not need to demonstrate for a coating line using thermal oxidizer permittee established proper operation requiring an overall minimum of 76% reduction of VOC emissions in the atmosphere; and operated at a minimum temperature of 1400 F and minimum residence time of 0.5 seconds in the combustion chamber [SC. VI.1]. Response indicated the facility did not use a thermal or catalytic oxidizer on the line.
32. In compliance-FRM did not need to demonstrate for a coating line using thermal oxidizer, the permittee monitored and recorded the temperature in the thermal oxidizer near combustion chamber outlet on a continuous basis, in a manner and with instrumentation acceptable to the AQD [SC. VI.2]. Response indicated the facility did not use a thermal or catalytic oxidizer on the line.
33. In compliance - FRM did not need to demonstrate for a coating line using a catalytic oxidizer, permittee provided proper operation requiring an overall minimum of 76% reduction of VOC emissions to the atmosphere [SC. VI.3]. Response indicated the facility did not use catalytic or thermal oxidizer on the line.
34. In compliance - FRM did not need to demonstrate for a coating line using a catalytic oxidizer permittee monitored and recorded the temperature at the inlet of the catalyst bed of the catalytic oxidizer at least every 15 minutes, in a manner and with instrumentation acceptable to the AQD; all temperature data was kept on file for a period of at least five years and made available to the AQD upon request [SC. VI.4]. Response indicated the facility did not use a catalytic oxidizer on the line.
35. In compliance – FRM did not need to demonstrate for a coating line using a thermal or catalytic oxidizer, permittee kept records of the date, duration, and description of any malfunction of the control equipment, any maintenance performed, any replacement of catalyst and any testing results [SC. VI.5]. Response indicated the facility did not use a` thermal or catalytic oxidizer on the paint line.

Inspection Areas of Focus:

Process – Roughlines 1, 2, and 3 were inspected. The hygiene around these lines was kept up. The four (4) Dust collectors servicing the roughlines were operated in a satisfactory manner, and record keeping was accomplished in a satisfactory manner. Attachment #4 and #5 supported the compliance.

Vents on the outside of Buildings, and stacks were inspected for opacity. There was no opacity, and were no unusual odors inside and around the facility.

Coating lines were operating per manufacturer's recommendations.

Rules 371, 373 stipulate fugitive dust control for sources in specific areas. The facility's parking grounds were paved to control fugitive dust. Air fans were installed around the work areas, such as grinding machines, to move air carrying particulates towards the dust collecting hoods. Floors were washed regularly. The facility was in compliance with the cited rules.

Rule 611-614 regulate the operation and maintenance of degreasers. There was an adequate aeration, and installation of hoods in areas around the degreasers. All cleaning, and degreasing tanks were covered with top lids. The facility was in compliance with the requirement.

DETERMINATION

The inspection of the Flat Rock Metal Processing facility indicated the facility was operated in compliance with the Opt Out (Synthetic Minor) rules and requirement at the time of inspection. Two things were observed. First the facility indicated increase in manufacturing activities. Second, the facility has been incrementally improving formance, environment and process. AQD shall continue to assist FRM for purposeful attainment of permit compliance.

NAME fh DATE 5/15/2014 SUPERVISOR WM