

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

B240733662

FACILITY: F.C. Mason Co., Mfg. Div.		SRN / ID: B2407
LOCATION: 310 E. STEEL, SAINT JOHNS		DISTRICT: Lansing
CITY: SAINT JOHNS		COUNTY: CLINTON
CONTACT: Brett Maki, V.P. of Business Development		ACTIVITY DATE: 03/08/2016
STAFF: Julie Brunner	COMPLIANCE STATUS: Non Compliance	SOURCE CLASS: MINOR
SUBJECT: Scheduled Inspection of F.C. Mason		
RESOLVED COMPLAINTS:		

On March 8, 2016, I conducted an unannounced, scheduled inspection of F.C Mason Company in St. Johns. The company has moved into the former Federal Mogul facility. The company was founded in the 1890s, and had previously operated out of the original 1890 building also located in St. Johns. This was the first inspection of F.C Mason Company operations at this address.

**Contact:**

Mr. Brett Maki, V.P. of Business Development, 989-579-6583, [brett.maki@fcmason.com](mailto:brett.maki@fcmason.com)

**Facility Description:**

F.C Mason Company manufactures metal parts such a bolts, hooks, and screens, primarily for the agricultural industry. About 80% of their parts go to John Deere with other customers including New Holland, and some overseas customers. The facility has a number of metal machining activities including milling, stamping, threading, drilling, cutting, grinding, welding and forging. Metal surface treatment includes air and water heat treatment, and liquid and powder coating of parts. The facility also includes business offices and a warehouse.

The facility is located in the city limits of St. Johns on a larger piece of property. The building is ~90,000 square feet and F.C. Mason operations don't even fill half of the floor space. The surrounding area is mixed use with residential and commercial/industrial properties.

**Regulatory Overview:**

F.C Mason is a true minor source of any regulated air contaminants including hazardous air pollutants (HAPs) and not subject to the Title V Renewable Operating Permit (ROP) program. There are still three (3) active Permits to Install (PTIs) 447-75, 138-84, and 997-89 that are in Federal Mogul's name.

Emission Unit Description	Permit No.	Status
Two fabric filter collectors on each of four sintering lines	447-75	Equipment removed
Paint spray booth with dry filters located in the maintenance shop	138-84	Booth relocated
Roll-off dumping operation with dust collectors	997-89	Equipment removed

**MAERS:**

The facility does not need to report emission information.

**Inspection:**

I arrived at approximately 8:50 AM. Weather conditions were 50°F, and sunny with little wind. I drove around the facility, and no visible emissions or odors were identified.

I met with Mr. Brett Maki. We discussed the purpose of my inspection and then we toured facility operations. The facility operates one (1) 8-hour shift during the week, and employs 25 people. The facility was operating during the inspection.

**Metal Machining:**

The metal arrives at the plant in bars and sheets, which are sent to CNC routers and other metal machining processes such as drilling and treading. The metal machine processes are not vented outside the building and appear exempt under Rule 285(I)(vi)(B). Hand and automated welding is used in the assembly of parts. The welding exhaust vent is a gooseneck discharge at the roof. Welding is

exempt under Rule 285(i).

#### Burn-off Oven Area

A 150,000 Btu/hr natural gas-fired burn-off oven with afterburner manufactured by Controlled Pyrolysis is used to remove powder coating from racks and hangers. The oven is vented out the roof and has a china cap on the vent stack. The oven is operated approximately three (3) times per week. The Safety Data Sheet (SDS) for the powder coating has the following list of ingredients: aluminum hydroxide, limestone, 1,3,5-tris(oxiranylmethyl)-1,3,5-triazine-2,4,6(1H,3H, 5H)-trione, polyester resin, and carbon black. The oven does not have a PTI.

A shot blast machine sits next to the burn-off oven to clean off mill scale from metal parts. The media used to clean the parts is metal. The machine has a small dust collector with 6 – 12” by 3’ filters that vents externally. The pressure drop gauge on the baghouse was broken. The exhaust vent is a gooseneck discharge at the roof. This equipment is exempt under Rule 285(l)(vi)(C).

#### Powder Coating

The powder coating booth with natural gas-fired curing oven is located in a room beside the burn-off oven. The powder coating booth has dry filters and no exterior exhaust vents. It is connected to the curing oven by a conveyor. The curing oven was manufactured by Jackson Oven Supply, and has a 600,000 Btu/hr burner with a 400 cfm exhaust vent out the roof. The powder coating oven exhaust vent is a gooseneck discharge at the roof. A black powder is applied in the area, and everything in the room is black. The system was down for maintenance. Powder coating is exempt under Rule 287(d) for a powder coating booth that has an appropriately designed and operated particulate control system and associated ovens.

#### Liquid Spray Coating

Two (2) dry filter manual spray booths are located across from the powder coating room. The two (2) booths share an exhaust stack. The HVLP spray applicators, compressed air hose for the applicators, and paint drums are located beside the booths. One booth is used for black paint application and one is used for white paint application. The booth used for black paint application was in the facility when F.C. Mason bought the building. It was relocated and could be the booth on PTI 138-84. It is a three-sided booth. The white spray booth is a new fully enclosed walk-in booth. The SDS for the black coating has the following volatile organic compounds (VOC): 2-butoxyethanol (CAS No. 111-76-2), butan-1-ol (CAS No. 71-36-3), and 2-dimethylaminoethanol (CAS No. 108-01-0). The VOC content of the coating is estimated to be 1.2 lb/gallon (with water) and 2.6 lb/gallon (minus water). None of the VOC in the black coating is a hazardous air pollutant (HAP). The booths could operate as exempt under Rule 287(c).

The exhaust vent for the spray booths has a cap directing the exhaust gas horizontally. There was also evidence of black paint on the louvers of the exhaust vent on the roof. The dry fabric filters in the black booth may need to be changed.

#### Natural Gas-Fired Boilers

Facility heat is provided by two (2) natural gas-fired boilers. The information on the boilers is below:

##### **Kewanee American Standard**

Manufacture date: 1965

6.3 MMBtu/hr, horizontal cylindrical furnace, fire-tube boiler

##### **Eclipse**

Manufacture date: 1971

6.375 MMBtu/hr, horizontal cylindrical furnace, fire-tube boiler

One boiler is generally operated one at a time with one as back-up. The maintenance records/logs are kept in the room with boilers. The Kewanee American Standard boiler could be grandfathered as it pre-dates August 15, 1967. The boilers are not subject to any New Source Performance Standards. The exhaust vents for the boilers are vertically unobstructed above the roof. The boiler(s) meet the requirements of exemption Rule 282(b)(i).

There are three (3) air compressor units in the room with the boilers. The exhaust vents for each air compressor is a gooseneck discharge at the roof. There are also three (3) non-functional boilers located around the facility. A small maintenance room is located beside the boiler room.

**Metal Parts Manufacturing**

A natural gas-fired tempering oven is used to temper metal parts. It has a 400,000 Btu/hr burner and the oven is operated at 800°F. It is operated once per week depending on the season. It has a vertically unobstructed exhaust stack that vents just above the roof height. The tempering furnace is exempt under Rule 282(b).

There are multiple hot forging areas/operations for bending and forming of metal parts. Most of the equipment was moved from the original facility. The basic process is to heat the metal pieces in natural gas-fired furnaces followed by stamping and pressing the parts into shape. In one area (the quench area) is a JK Marshall furnace that heats parts to 1800°F and a Bliss stamping press. Three other natural gas-fired ovens are in the area but are not used much. All furnaces vent out the roof. In the northwest corner of the facility is a North American natural gas-fired furnace that heats parts to 1700 to 1800°F and a 150 Bliss press. An Ajax Magnethermic electric induction furnace followed by a National press is in the area. The plans are to replace the natural gas-fired furnaces with induction furnaces. The natural gas-fired furnaces take approximately four minutes to heat parts whereas induction furnaces can heat parts in 22 seconds. The furnaces, if electrically heated or with a natural gas heat input rate of not more than 10 MMBtu/hr are exempt under Rule 282(a)(i). The forges are exempt under Rule 282(f). The natural gas-fired furnaces have vertical exhaust stacks above the roof. Some of the stacks have china caps.

**Departure:**

After the facility tour, Mr. Maki and I discussed what was identified as of concern during the inspection. A PTI is needed for the burn-off oven. Permitting options for the burn-off oven include a general permit or a PTI. If the burn-off oven is not found to meet the requirements of a general permit, then where to find the PTI application information was also discussed.

For the spray coating booths, one may be permitted (PTI 138-84) but operating these as exempt under Rule 287(c) may be the better option. Less than 200 gallons of coating per month usage in the booths could work as it sounded like a 55 gallon drum of coating may be used per month in the booths.

I departed the facility at approximately 11:30 AM.

**Summary:**

The facility appeared to be in compliance with the applicable rules and regulations with the exception of the burn-off oven. A PTI is needed for the burn-off oven. Submitting a permit application was discussed with Mr. Maki.

Mr. Maki agreed to have PTI 138-84 voided and the two spray booths will operate as exempt under Rule 287(c). PTIs 447-75 and 997-89 will also be voided because the equipment has been removed from the facility.

All information obtained in the course of the compliance inspection is attached to the file copy of the report.

NAME Julie L. Burren DATE 3/28/16 SUPERVISOR B. M.

