

N1019  
MHWLL

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

N101941604

FACILITY: NORTHFIELD MANUFACTURING		SRN / ID: N1019
LOCATION: 38549 WEBB, WESTLAND		DISTRICT: Detroit
CITY: WESTLAND		COUNTY: WAYNE
CONTACT: Chris Tynan , Vice President		ACTIVITY DATE: 07/20/2017
STAFF: Jill Zimmerman	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MINOR
SUBJECT: Target Inspection		
RESOLVED COMPLAINTS:		

DATE OF INSPECTION : 07/20/2017  
 TIME OF INSPECTION : 10:00 am  
 NAICS CODE : 332997  
 EPA POLLUTANT CLASS : PM  
 INSPECTED BY : Jill Zimmerman, DEQ Detroit  
 PERSONNEL PRESENT : Chris Tynan, Vice President  
 FACILITY PHONE NUMBER : 734-729-2890  
 FACILITY EMAIL ADDRESS : ctynan@northfieldfoundry.com

### FACILITY BACKGROUND

Northfield Foundry is a job specific metal foundry, making steel and iron castings, usually for the automotive industries with some governmental contract. The facility operates two shift per day, five days per week, with additional time worked when needed. The facility has been at this location since 1984 and no major equipment has been added or removed since the initial set-up, according to staff. The facility is located just west of Hix Street in an industrial Park between Ford Road and Warren Avenue in Westland, Michigan.

### REQUIRED PPE

During the onsite inspection, I wore steel toed shoes and eye protection.

### COMPLAINT/COMPLIANCE HISTORY

The last odor complaint that was received in 2014. It appears that the odor complaints stopped around the same time that the facility started using a new binder resin.

### PROCESS EQUIPMENT AND CONTROLS

The facility operates the process on a job specific basis, which means parts are made based on client need, and the parts are only made when the client orders the parts. The client sends the specifications for the part to the facility. A sand mold is created, which may include a sand core. The sand core is a holder placed in the mold. Each sand mold is used only once, though the sand is recycled and reused. The metal is melted in one of three furnaces. There is a 3,000 pounds melting furnace, 2,000 pounds melting furnace, and 500 pounds melting furnace, and each is heated electrically. The liquid metal is poured into the mold and set. The sand is removed. Extra metal and scrap metal is remelted and reused. There are two melting lines, one for larger parts and one for smaller parts.

The facility operates one small heat treat furnace, which is fueled by natural gas.

The facility controls the sand reclaimer units with one of two baghouses. The larger baghouse, located in between the two connected buildings, is rated at 40,000 cfm. The smaller baghouse is located on the east side of the building, and is rated at 5,000 cfm. The units are inspected by the maintenance employee and a log is kept of all maintenance

performed. The bags are changed on a routine schedule and new bags are ordered when the bags are changed, so that a spare set of bags is always available on site. The baghouse maintenance log is attached to this report. All the bags in the baghouse were changed within the past month.

The final product is packed and shipped to the client. The part specifications are shipped to the client too, unless the part is made frequently in which case, the specifications are stored onsite.

### **INSPECTION NARRATIVE**

I arrived in the area of the facility at 9:30 am and performed odor surveillance. There was a slight chemical odor similar to the binding resin used in the cores that I detected off site just east of the facility.

I arrived at the facility and met the Mr. Chris Tynan, who is the vice president of the company. Mr. Tynan explained the process and the history of the company before we observed the process. The company moved to this location in 1984, although the company began operation at a different location at an earlier time. Since the last inspection, no equipment has been removed or added to the process. The work load has increased since my last inspection, most likely because similar facilities have ceased operating.

I explained that the main purpose of my inspection was determine if the facility was subjected to 40 CFR subpart ZZZZZ. I asked Mr. Tynan for the potential to emit calculation for the facility. This information will help me to determine the size of the facility and actions need to be done to ensure compliance with this regulation. As of September 22, 2017, I have not received the requested calculations.

Next we walked through the plant. The facility had just completed a pour before my onsite inspection. There was no a smoky haze throughout the facility. Mr. Tynan said he has noticed the improvement since switching to the new resin binder. He said that he has also noticed less odors since the binder switched.

We then walked outside to inspected the baghouse. There was some debris in the area under the baghouse, but it was contained in the walled off area of the baghouse. Mr. Tynan said that recently, all the bags were replaced. He said that the area is inspected regularly for malfunctioning bags, and that all the bags area replaced about once per year.

The facility operates a small metal heat treat natural gas fired furnace.

### **APPLICABLE RULES/PERMIT CONDITIONS**

The facility's equipment is operating under Wayne County Air Permits C-6714 through C-6719 for:

- Two sand mixers and a sand silo with a bag house
- Two coreless induction melters
- Two coreless induction furnace melters
- Sand mixers, a sand silo and a sand reclaimer with a baghouse
- A tumble blast unit with a dust collector
- Sand reclaimer with a dust collector

These permits were issued on January 4, 1985 and the special conditions are as follows:

1. Compliance – Drop sleeves are required when emptying dust hopper in closed

containers. Mr. Tynan stated that these sleeves are present.

2. Compliance – Exhaust stack from the baghouse is at least three feet above the top grade of the building. Visual inspections from the road show the stacks are at least three feet higher than the building. The stack was raised a few years ago when the company was received frequent odor complaints.
3. Compliance – Records kept as part of preventative maintenance program indicate inspections of dust collectors. A log is kept by the maintenance employee. Any maintenance activities is kept in a report that is attached to this report.

The facility operates three electric furnaces, with a capacity of 3,000 lbs, 2,000 lbs and 500 lbs. These furnaces are exempt from permitting Rule 282 (a)(vi).

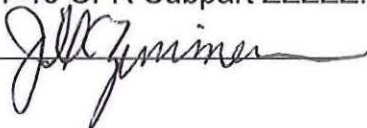
#### MAERS REPORT REVIEW

NA

#### FINAL COMPLIANCE DETERMINATION

Northfield Manufacturing appears to be operating in compliance with all conditions of the Wayne County Permits C-6714 through C-6719. This facility may be subjected to State Rule 949. State Rule 949 covers the emissions standards for iron and steel foundry area sources in the federal MACT 40 CFR Subpart ZZZZZ. Once the Potential to Emit calculations are received, the facility can be evaluated to determine applicability with Rule 949 as well as MACT 40 CFR Subpart ZZZZZ.

NAME



DATE

9/25/17

SUPERVISOR

JK