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

B735743600

FACILITY: TEMPERFORM LLC		**SRN / ID:** B7357
LOCATION: 25425 TRANS X, NOVI		**DISTRICT:** Southeast Michigan
CITY: NOVI		**COUNTY:** OAKLAND
CONTACT: Nick Riccobono , Director, Manufacturing and Quality		**ACTIVITY DATE:** 02/28/2018
STAFF: Robert Joseph	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** SM OPT OUT
SUBJECT: Unannounced self-initiated inspection of the facility which is an Opt-Out foundry source		
RESOLVED COMPLAINTS:		

On Wednesday, February 28, 2018, I, Michigan Department Environmental Quality-Air Quality Division staff Robert Joseph, conducted an unannounced inspection of Temperform, LLC. located at 25425 Trans-X Road, Novi, MI 48375. The purpose of the inspection was to determine the facility's compliance with the requirements of the Federal Clean Air Act; Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 Public Act 451; Michigan Department of Environmental Quality-Air Quality Division (MDEQ-AQD) Administrative Rules and conditions of the facility's PTI 60-00B (Opt-Out).

Opening Introduction

I arrived at the facility at approximately 11:30 am and met with Dan, the facility's vice president. I introduced myself and presented my identification and credentials and stated the purpose of my visit. Dan expressed that a lot is going on at the facility as Temperform is trying to meet their production goal since it was the last day of the month. He asked me if I could come back another day when the facility wasn't so busy. I offered to return after the lunch hour but no later than 2pm. Dan thanked me and I left the facility.

I returned to the facility before 2pm and met with Nicolo Riccobono the Manufacturing Operations Director. Nicolo provided me a tour of the facility. He explained that Temperform is a foundry which is a facility that casts metal. Their main customers are the cement, mining, and aircraft industry. The facility operates one shift from 4am-2:30pm Monday through Thursday and has approximately fifty (50) employees. Nicolo indicated that the facility has slowly been losing business for the last 10 years or so, in particular due to the decline of the mining industry.

Facility Description

Nicolo indicated that a description of the facility's process is that wood patterns are used to create a mold of sand, binder, and a catalyst. Molten steel is poured into the molds and allowed to cool. The sand cast is separated and recycled. The steel casting is wiped clean before shipment to the customer. Two lines are used to set the materials (sand, binder, catalyst) in-place from the wood patterns. Mold release is applied by brush.

FG Srubbers 1 and 2

Emission unit Scrubbers 1 and 2 consist of melting, pouring and cooling operations equipped with induction furnaces, pour station, mold spray and core machines. Melting of the steel occurs in the induction furnaces. The water used in these scrubbers is recycled and self-contained. The scrubbers per their dial reading displayed a rate of between 275-425 gal/min (manufacturer recommended flow rate is between 200-475 gal/min).

In addition, per the permit, material processes through Scrubbers 1 and 2 shall not exceed 18,913 tons of mold and core based on a 12-month rolling average. In addition, VOC emission limits for both Scrubbers 1 and 2 have a permit limit of 25.0 lbs/hr. with an emission factor of 0.28 lb./ton of metal poured. Lastly, the VOC emission limit is 36.14 ton/yr for a 12 month rolling period.

There were no restrictions affecting the clearance of the stacks and no opacity was visible. Nicolo indicated that the scrubbers are shut down yearly for maintenance.

FG Facility

Recordkeeping/Reporting

1. The amount of mold and core processed in 2017 varied between 154 to 336 tons per month, with a 12-month rolling total of slightly under 3,200 tons. This is below the 18,913 ton rolling limit.

2. The amount of iron poured per month varied between 51 to 135 tons per month in 2017. Using an emission factor 0.28 lbs. of VOC per ton of iron poured as stated above, the VOC emission rate for Scrubbers 1 and 2 must not exceed 36.14 tons/yr. on a 12-month rolling average. Based on facility records, the rolling 12-month average in 2017 varied between 22.8 and 24.8 tons/yr.

3. The facility has complied with the requirements and maintained a malfunction abatement plan. This plan includes pressure readings for the baghouses and flow rates for the scrubbers.

EU Baghouse 1

Baghouse 1 is used for the loading and unloading of the storage bins for new sand. It is equipped with a static pressure drop monitoring device. It is rated at 8,000 ft^3. The device read approximately 3 inches of H_2O. (manufacturer recommendation is 2 to 8).

It is a pulse jet baghouse in which filter bags hang vertically inside the unit and are firmly held in place by clamps and the bag bottoms are closed. Dust enters the system through the inlet of the baghouse and is filtered through the bag, depositing dust on the outside of the bag. The dust is removed by a blast of compressed air injected into the top of the opening of the filter bags. This creates a vibration that causes the bag to flex as the air wave travels down the length of the filter bag. The bag then shakes as the particulate is released into the hopper below.

The filter bags at the facility are usually shaken at the beginning or end of the day, and they're collected by a third-party contractor and disposed of at a landfill. There were no obstructions within the stack and no opacity visible.

It has emission limits of 0.01 lbs/1000 lbs of exhaust gases on a dry basis, and a limit of 0.7 lbs/hr.

EU Baghouse 2

Baghouse 2 is used for the cleaning and finishing of the molds. Baghouse 2 also has the same emission limit as Baghouse 1 with 0.01 lbs/1000 lbs of exhaust gases on a dry basis, and a limit of 0.7 lbs/hr. It also is a pulse jet baghouse and is rated at 8,000 ft^3. The facility

operations relating to this baghouse include iron cutting and welding.

Baghouse 2 also operates with a static pressure drop monitoring device. The gauge read approximately 4 inches of H_2O. It has the same manufacturer recommendation as Baghouse 1. The filter bags are disposed of in the same manner as Baghouse 1. There were no obstructions within the stack and no opacity visible also.

EU Baghouse 3

Baghouse 3 is used for the reclamation of the sand. Baghouse 3 also has the same emission limit as Baghouses 1 and 2 with 0.01 lbs/1000 lbs of exhaust gases on a dry basis, and a limit of 0.7 lbs/hr.

It also is a pulse jet baghouse and is rated at 13,000 ft^3. Baghouse 3 also operates with a static pressure drop monitoring device. This device was shut down for the day when I inspected it near 2:30pm so no verification readings were made. It has the same manufacturer recommendation as Baghouses 1 and 2, and the filter bags are disposed of in the same manner as Baghouse 1 and 2.

Miscellaneous Equipment

The facility has a natural gas generator for power outages and was installed 1 to 2 years ago. Nicolo indicated that it has not been used outside of maintenance checks. The generator is rated at 5 horsepower (approximately 12,000 Btu/hr). The generator is exempt from Permit to Install per the following exemption;

R 336.1285 Permit to install exemptions; miscellaneous.

Rule 285. (1) This rule does not apply if prohibited by R 336.1278 and unless the requirements of R 336.1278a have been met.

(2) The requirement of R 336.1201(1) to obtain a permit to install does not apply to any of the following:

(g) Internal combustion engines that have less than 10,000,000 Btu/hour maximum heat input.

The generator is not subject 40 CFR Part 63 Subpart ZZZZ for Reciprocating Internal Combustion Engine Maximum Achievable Control Technology (RICE MACT) because it an emergency generator and not a major source of HAP emissions. It is also not subject 40 CFR Part 60 Subpart JJJJ for Standards of Performance for Stationary Spark Ignition Internal Combustion Engines because it an emergency generator rated at less than 25 HP (CFR 60.4230).

Additional Regulations

The facility is subject to the National Emission Standards Air Pollutants (NESHAP) for Iron and Steel Foundries Area Sources.

40 CFR Part 63 Subpart ZZZZZ

(f) If you own or operate an existing affected source, you must determine the initial applicability of the requirements of this subpart to a small foundry or a large foundry based on your facility's metal melt production for calendar year 2008. If the metal melt production for

calendar year 2008 is 20,000 tons or less, your area source is a small foundry. If your metal melt production for calendar year 2008 is greater than 20,000 tons, your area source is a large foundry. You must submit a written notification to the Administrator that identifies your area source as a small foundry or a large foundry no later than January 2, 2009.

REQUIREMENTS FOR NEW AND EXISTING AFFECTED SOURCES CLASSIFIED AS SMALL FOUNDRIES

(7) Records of metal melt production for each calendar year.

(f) You must submit semiannual compliance reports to the Administrator according to the requirements in §63.10(e). The report must clearly identify any deviation from the pollution prevention management practices in §63.10885 or §63.10886 and the corrective action taken.

This facility is classified as a small foundry since its metal melting capacity for a calendar year is less 20,000 tons for an existing affected source. Therefore, the facility must maintain records of metal melt production for each calendar and submit semiannual compliance reports clearly identify any deviation from the pollution prevention management and the corrective action taken. The facility has shown compliance with this requirement.

Conclusion

After the inspection was complete, I thanked Nicolo for his time and I left the facility at 3:30 pm. Based on the AQD inspection and records review, it appears that Temperform is in compliance with the Federal Clean Air Act, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, and the conditions of PTI 60-00B.

NAME Robert Joseph DATE 03/12/18 SUPERVISOR SK