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### **Response to Violation Notice**

Temperform LLC is a foundry that produces cast metal components for Portland cement manufacturing, mining, construction, and aerospace industries. A commercially available off-the-shelf phenolic urethane resin system is used to create bonded sand molds into which molten metal is poured to create near-net shape castings. The castings are then shaken out of the molding sand; the sand is mechanically and thermally reclaimed, and the castings are fettled and shipped. The objectionable odor described in the report is intrinsic to the phenolic urethane resin system in use.

Claim 1 – A distinct and definite objectionable odor originating from the site was detected downwind of the facility.

During winter months all foundry doors are closed and plant air is filtered through on-site dust collection equipment. In the springtime as the weather changes the doors are opened and the building air balance changes in a way that allows some of the odor to escape to atmosphere. Depending on humidity, time of day, wind patterns, etc the odor may be detectable variably in proximity to the foundry. Operationally, no changes were put into place and the workflow did not vary from the previous several months in a way that would lead to greater or lesser releases of odor from the facility. To be a good neighbor and demonstrate corporate citizenship we are evaluating a resin product from an alternative manufacturer that may be lower in odor than our current product. This product is in use at other foundries in Michigan and around the country and has been recommended where there is a need to reduce odor and VOC content both for under-roof employees and foundry neighbors. This resin trial will commence in the next 6 weeks and will take several months to fully evaluate.

Claim 2 – Scrubber #1 was not operating constantly between 275-425 gpm per the manufacturer's specifications and the facility's malfunction abatement plan.

While it may be possible to see a momentary drop in pump flow, this inconsistency is likely due to fouling of the flow sensing device and not of the pump itself. The pump runs at a constant velocity and the scrubber water tanks are automatically filled to a minimum make-up level. Barring failure of a direct coupled motor, a coupling, or destruction of the pump rotor, as long as there is water and the pump is on it will push water according to the manufacturers



guidelines. We will remove and clean the flow sensors and re-instate a periodic monitoring process for pump flow rate. The mechanical operation of the pump can be directly observed both at the motor and at the discharge into the clarification tanks.

Claim 3 – Scrubber #2 has not been operating while the process is operating.

Scrubber #2 provides collection capacity to a hood that covers molds as castings cool between pouring and shakeout. Scrubber #2 was taken out of service in April for maintenance and it was found that the cost to repair the unit was over and above the value of the unit. A plan was developed in partnership with an industrial ventilation contractor to replace both scrubbers (#1 and #2), which have reached the end of their life cycles and are no longer cost effective to operate. Temperform will spend roughly \$750,000 in 2019 and 2020 to improve indoor air quality and control odor releases from our manufacturing processes. Following the visit of Mr. Joseph, a temporary repair was devised for Scrubber #2 that will allow the unit to continue to operate during the build and installation phases for the new equipment.

Claim 4 – Static pressure drop monitoring device was not operating in a satisfactory manner.

Following Mr. Joseph's visit, it was discovered that one of the tubes connecting the pressure gage to the dust collector housing was disconnected. The device has been repaired and is functioning properly today.

Please contact me with any further questions or concerns related to these issues.

Sincerely,

Blake Albritton  
Director of Engineering and Quality Control  
Temperform LLC  
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