Kaitlyn Leffert
Environmental Quality Analyst
Air Quality Division / State of Michigan

10/1/19

EGLE, AQD, Warren District
27700 Donald Court
Warren, Michigan 48092

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Ms. Jenine Camilleri – Enforcement Unit Supervisor
EGLE, AQD
PO Box 30260
Lansing, Michigan 48909-7760

Response to Violation Notice – NTVB Media – Troy, MI – 9/11/19

On July 25, 2019, during a routine audit, our lithographic printing RTO chart recordings were observed to be operating at or below the minimum operating temperature of 1450F during the printing process. According to our RTO operation permit, we are required to maintain the 1450F during operational hours.

History:
At the time of your audit visit we were already aware and investigating the cause of the occasional dip in operating temperatures that was observed in the chart recordings. In consultation with the OEM and our in-house staff, we determined the RTO unit was likely in need of regenerative bed maintenance. This is a process that requires complete cooling of the machine, opening of the seal burner chambers and additional ceramic media being added to fill the media bed to capacity. While not a regular maintenance procedure, the RTO unit does occasionally require the media to be topped off. After operating the unit for about 18 years, we have learned that this is a task that comes around about every 7-8 years. Out last bed fill was 6 years ago.

Possible Causes:
When we quizzed the OEM about the recommended interval for bed maintenance, they responded with limited input as the operational hours greatly vary the maintenance requirements. We, like everyone else in the printing industry have suffered large loses of customers over the last few years, resulting in our operations being condensed from 7 day/24 hours to 3 days/24 hours. This loss of work has put us in the position where we see the afterburner being turned off for 3-4-day periods on a weekly basis. The continual heating and cooling of the afterburner bed is thought to perhaps be the source of our accelerated media shrink and fluctuating temperatures.

Corrective Action:
On 9/12/19 we performed the media bed maintenance procedure as described above and re-fired the RTO unit. In the 15 days of operation since, we have observed temperature in the required range. These observations were done at the operation control station for the afterburner.

Enclosed are 6 pictures of the screen readouts of the afterburner control panel. As you can see from the pictures, the machine is at or above the minimum temperature during sustained operation. This is the normal operational mode for the machine. Additional picture shows the temperatures when the machine comes out of the warmup/soak mode and flips into run mode.

During the process of servicing the beds and restarting the afterburner, we noted the chart recorder seemed to be incorrectly recording the chamber temperatures. Observing the chamber and bed temperatures on the control readout showed the machine to be well above the minimum temperatures, yet the chart recorders was continually moving up and down and at one-point show near outdoor ambient temperature. (See Attached) Since these rapid changes in temperature are physically impossible, we replaced the chamber thermocouple which resulted in more accurate temperature recordings. It is now thought that the chart recorder was the actual problem. Currently we are working with the OEM to upgrade or replace the chart recorder as the current unit is obsolete and unsupported. This is projected to be a process of about 30-45 days as the replacement recorder technology is a complete changeover from analog to digital.

Going Forward:
Currently, we are confident the RTO is within specifications for operational and permit requirements. As a function of our continual quest to be proactive in all phases of our plant operations, we are changing the regenerative bed maintenance periods to every 5 years as well as replacing the chart recording system. We will continue to monitor the machine for temperature over the next 30 days and the submit our temperature chart recording for your review. This document should be available for about the end of October. If you wish to personally observe the machine, please feel free to stop by at any time, no need to make an appointment.

Best Regards,

Jack Thomsen
NTVB Plant Engineer