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April 26, 2016
Follow-up to April 15, 2016 Response to Violation Notice
Universal Coatings

This paper describes the various documentation that Universal Coating maintains to address proper operation of the catalytic oxidizer in lieu of continuous inlet temperature chart recorder records. The catalytic oxidizer inlet temperature is set at 600 °F. The set point temperature is controlled with a thermocouple and is typically established during initial stack testing, then remains at that temperature unless manually adjusted. This thermocouple is tied directly to the alarm system (described in No. 5 below).

The catalytic oxidizer is fairly self-sufficient; once operating parameters are set it runs properly unless there is a malfunction. Proper operation of a catalytic oxidizer is directly tied to a facility's maintenance practices. Proper maintenance of the unit ensures that the catalyst does not deteriorate too quickly and that it is not damaged or fouled. Operating efficiency is tied to the condition of the catalyst. Temperatures that are too low can result in a build-up of organic material on the catalyst that may reduce the life of the catalyst. Similarly, excessive temperatures can significantly impair the catalyst and result in early deterioration of the bed.

In the case of Universal Coating, we believe that the inlet temperature to the catalyst was maintained at 600 °F, even though there were periods when the chart recorder (which is fed by a second thermocouple) indicated temperatures slightly below (i.e., ~590 °F). Although we believe that our chart recorder may have been inaccurate, there is no reason to believe that the destruction efficiency would change within 10 degrees of the recorded inlet bed temperature, especially given the fact that proper maintenance was conducted to ensure the catalyst was not damaged or fouled.

The following sections outline each document presented as part of this review. The remaining outstanding issues are described at the end of this document.

(1) QP 7.5-2 Maintenance Process
This document outlines the proper maintenance procedures for all equipment at the facility. As shown, a daily walk-through is required to determine whether equipment is operating in accordance with manufacturer recommendations or procedures outlined in the facility malfunction abatement plan. For the catalytic oxidizer, proper operation is identified by the malfunction abatement plan checklist. Refer to "Oxidizer Inspection 2015" for the list of parameters that are checked during daily walk-throughs. Any variances from the proper operating parameters require a maintenance event and are documented in the maintenance log (See "Maintenance Checklist" below).

(2) Maintenance Checklist
This document represents maintenance that is conducted on the equipment as a result of the daily inspections listed above (the "maintenance log" referred to in No. 1 above). The document describes maintenance performed on the catalytic oxidizer during calendar year 2015. Other years are similar.

(3) Oxidizer Inspection 2015
As discussed in No. 1 above, this document lists the parameters that are checked during the daily walk-throughs. A more thorough inspection is performed on a monthly basis, and this checklist is used to document monthly inspections of the control device. This attachment reflects 2015 inspections.

(4) James Clark and Phil Wood
These two (2) attachments reflect training that is provided to maintenance staff to ensure inspections are completed properly and at the appropriate intervals, which includes maintenance checks and control of monitoring equipment.

(5) Oxidizer Tele-Fault
This document describes the alarm system associated with the catalytic oxidizer to ensure proper control. As shown, several variables can determine proper operation of the catalyst. In terms of catalyst temperature, there is both a visual and audible alarm when variables are out of range. When the alarm is triggered, maintenance is contacted. Maintenance personnel conducts a series of tests and then restarts the unit. If the alarm has been fixed (which is typically the case), the issue is considered resolved. In the case that the alarm is sounded again after restarting the unit, further maintenance is performed which is then logged into the Maintenance Checklist. This procedure typically takes under 15 minutes.

The inaccurate chart recorder readings are not tied to the set point thermocouple (recall there is a separate thermocouple that is attached to the chart recorder). As such, no alarm was triggered when chart recorder readings were slightly out of range. As previously noted, it was discovered that the thermocouple attached to the chart recorder was not functioning from November 9, 2015 to December 5, 2015. This thermocouple was replaced on December 5, 2016.

(6) Preventative Maintenance/Malfunction Abatement Plan
This plan outlines daily, monthly, quarterly, and annual inspections and maintenance required on the catalytic oxidizer to ensure proper operation. Of note, on a daily basis, the digital readout is inspected to ensure that there is an increase in temperature across the catalyst bed, a key parameter in determining whether the catalyst is functioning properly or whether cleaning or replacement is needed.

Remaining Issues

Finally, we have completed a thorough review of the emission calculations for VOCs from FG-CATOX and HAPs from FG-FACILITY. Based upon this review, it was discovered that one of the mix ratios was not being linked correctly to the as applied compound weight fractions, and it resulted in a slight underestimation of emissions. After correcting this issue, it appears the alleged violations may have started as early February 2015 for VOCs from FG-CATOX, rather than March as was originally reported.

The FG-FACILITY HAP opt-out limits appear to have been exceeded beginning June 2015. Obviously, an increase in individual HAPs will result in a corresponding increase in aggregate HAPs. Our record review indicated that three (3) months later, September 2015, the aggregate HAP limit may have been exceeded. The HAP opt-out limits are necessary to keep a source below major source thresholds so that they are not be subject to National Emission Standards for Hazardous Air Pollutants (NESHAPs) applicable to major sources. As a result, the first date that major source status is triggered should be considered (i.e., June 2015), making the September 2015 date irrelevant.

As noted in the February 11, 2016 and the April 15, 2016 responses to the Violation Notices, we have already begun corrective actions through the installation of the RTO, which began operation

March 2016. The RTO will not only further reduce emissions, but will also contain a more robust continuous monitoring system to ensure proper operation. For RTO's, proper operation is typically tied to the temperature of the combustion chamber and the retention time. Universal Coatings has already installed a new system to continuously monitor the RTO temperature (rather that rely on chart recorders). We are currently in the process of installing a data acquisition and handling system that will translate continuous temperature records into 3-hour averages as required by 40 CFR 63, Subparts MMMM and PPPP.

Universal Coating has also submitted a permit application on April 25, 2016 to increase the VOC limit listed under SC I.1 of FG-CATOX, to account for the inclusion and growing demand of the four automatic miscellaneous metal parts spray lines.

We are confident that these measures have addressed the issues at hand and look forward to working with you to expeditiously resolve the compliance issues.