Hazardous Waste Engineering

The hazardous waste engineering group is responsible for regulating the different engineering aspects of hazardous waste facilities, including combustion units, tanks, and container storage areas.

Combustion

LDEQ regulates the combustion of hazardous wastes within strict guidelines and standards mandated by LDEQ and EPA regulations. Incinerators, boilers, and industrial furnaces must pass a test burn and demonstrate the ability to meet or exceed these standards before being permitted to operate. To demonstrate compliance with the emission standards on an ongoing basis after the burn, these units establish limits on operating parameters during the test burn.

Hazardous waste combustion has historically been regulated under the Resource Conservation and Recovery Act (RCRA). Now, most combustion sources are also regulated under the National Emissions Standards for Hazardous Air Pollutants (NESHAP) requirements of the Clean Air Act (CAA). The NESHAP requirements are also known as the HWC MACT (Hazardous Waste Combustor Maximum Achievable Control Technology) Rule.

LDEQ Combustion Notes

The HWC MACT Rule, codified as 40 CFR 63 Subpart EEE, was issued under the joint authority of the CAA and RCRA. The rule was issued in two phases. The first phase was for hazardous waste burning incinerators, cement kilns, and lightweight aggregate kilns; the second phase was for hazardous waste burning boilers and hydrochloric acid furnaces. The HWC MACT Rule introduced many changes to the way combustion units were regulated in the past. To help facilities implement these changes, the following informational notes and checklists were developed:

- **Final Standards**
- **Maximum Theoretical Emission Concentration (MTECs)**
- **Comprehensive Performance Test (CPT) Plan Checklist**
- **Frequently Asked Questions**

Test Report Format

In order to streamline review of test burn reports, a standardized report format for trial burns and comprehensive performance tests performed on hazardous waste combustors has been developed. The standardized report formats allow for faster review and retrieval of data.

- **HWC MACT Comprehensive Performance Tests**
  - CPT Report Format Outline
  - CPT Report Summary Tables
- **RCRA Trial Burns**
  - TB Report Format Outline
  - TB Report Summary Tables
- **Additional Guidelines**
  - Scope of Duties for Project QAO
  - Data Package Organization

Continuous Emission Monitoring Systems (CEMS) Information

Hazardous waste combustion units must be equipped with CEMS that monitor oxygen and either carbon monoxide or total hydrocarbons continuously, as an indicator of good combustion.

Response Time

- **The following is a guidance form to document compliance with the response time test for CEMS:**

Response Time Test

Temporary THC CEMS

40 CFR 63.1209(a)(7) states that if you elect to comply with the carbon monoxide and hydrocarbon emission standard by continuously monitoring carbon monoxide with a CEMS, you must demonstrate that hydrocarbon emissions during the CPT do not exceed the hydrocarbon emission standard.

- **Does Performance Specification 8A apply, or is Method 25A more appropriate?**

Performance Specification 8A states it is for an installed unit; Method 25A is used to determine the total gaseous organic concentration of vapors (primarily aromatic hydrocarbons).

Since the regulations do not really give guidance for temporary hydrocarbon monitors, it is believed that Method 25A is appropriate.

Cumulative Adjustment

- **What counts as cumulative adjustment?**

LDEQ defines cumulative adjustment as the arithmetic sum of any calibrations or other corrections of the calibration response, whether manual or automatic. For instance, an adjustment of +1 ppm, followed the next day by an adjustment of -1 ppm, gives a cumulative adjustment of zero.

- **Who should account for cumulative adjustment?**

40 CFR 63 Subpart EEE, Appendix, Sections 4.1 and 4.2 state:

4.1 CD and ZD Requirement. Owners and operators must check, record, and quantify the ZD and the CD at least once daily (approximately 24 hours) in accordance with the method prescribed by the manufacturer. The CEMS calibration must, at a minimum, be adjusted whenever the daily ZD or CD exceeds the limits in the Performance Specifications. If, on any given ZD and/or CD check the ZD and/or CD exceed(s) two times the limits in the Performance Specifications, or if the cumulative adjustment to the ZD and/or CD (see Section 4.2) exceed(s) three times the limits in the Performance Specifications, hazardous waste burning must immediately cease and the CEMS must be serviced and recalibrated. Hazardous waste burning cannot resume until the owner or operator documents that the CEMS is in compliance with the Performance Specifications by carrying out an ACA.

4.2 Recording Requirements for Automatic ZD and CD Adjusting Monitors. Monitors that automatically adjust the data to the corrected calibration values must record the unadjusted concentration measurement prior to resetting the calibration, if performed, or record the amount of the adjustment.

This regulation appears to state that only units that automatically adjust need to account for cumulative adjustment. However, LDEQ's interpretation is that ***all***facilities have to account for cumulative adjustment. Section 4.2 was written to be more specific for automatically adjusting systems.

- **When should the cumulative adjustment be reset?**

The cumulative adjustment should be reset to zero after each RATA, or after shutdown and maintenance performed after a cumulative adjustment exceedence of the Performance Specifications.

- **If a facility checked drift more frequently than required by the regulation (daily), then would the additional checks be counted towards the drift or the adjustment?**

Performing checks more frequently than the minimum specified in the performance specification is encouraged. Every adjustment to the drift must be accounted in cumulative adjustment.

- **What is the requirement for downtime due to calibration for HWC MACT CEMS?**

40 CFR 63 Appendix to Subpart EEE, Section 6.2 states:

Facilities may continue to burn hazardous waste for a maximum of 20 minutes while calibrating the CEMS. If all CEMS are calibrated at once, the facility must have twenty minutes to calibrate all the CEMS. If CEMS are calibrated individually, the facility must have twenty minutes to calibrate each CEMS. If the CEMS are calibrated individually, other CEMS must be operational while the individual CEMS is being calibrated.

For facilities that have a single analyzer, this interpretation is straight forward. For facilities with dual analyzers, this regulation is interpreted to mean that the facility has 20 minutes to calibrate the analyzers if they are calibrated together. If the analyzers are calibrated independently, then the 20 minute down time would only be important in the instances that one analyzer is out-of-service or the calibration of the first CEMS is checked and deemed invalid, but the first CEMS is not recalibrated before the second CEMS begins to calibrate. In these instances, the second CEMS has 20 minutes to complete an acceptable calibration. If the calibration exceeds 20 minutes or the calibration of the second CEMS is invalid, then hazardous waste burning must immediately cease until one of the systems has been serviced and recalibrated.