§ 63.3556 How do I establish the emission capture system and add-on control device operating limits during the performance test?

During the performance test required by §63.3550 and described in §§63.3553, 63.3554, and 63.3555, you must establish the operating limits required by §63.3492 according to this section, unless you have received approval for alternative monitoring and operating limits under §63.8(f) as specified in §63.3492.

(a) Thermal oxidizers. If your add-on control device is a thermal oxidizer, establish the operating limits according to paragraphs (a)(1) and (2) of this section.

(1) During the performance test, you must monitor and record the combustion temperature at least once every 15 minutes during each of the three test

\[
M_f = Q_{sd} C_c (12) (0.0416) \left(10^{-6}\right) \quad (\text{Eq. 1})
\]

(5) Alternatively, any other test method or data that have been validated according to the applicable procedures in Method 301 of 40 CFR part 63, appendix A, and approved by the Administrator may be used.

(c) If two or more add-on control devices are used for the same emission stream, then you must measure emissions at the outlet of each device. For example, if one add-on control device is a concentrator with an outlet for the high-volume dilute stream that has been treated by the concentrator and a second add-on control device is an oxidizer with an outlet for the low-volume, concentrated stream that is treated with the oxidizer, you must measure emissions at the outlet of the oxidizer and the high-volume dilute stream outlet of the concentrator.

(d) For each test run, determine the total gaseous organic emissions mass flow rates for the inlet and outlet of the add-on control device using Equation 1 of this section. If there is more than one inlet or outlet to the add-on control device, you must calculate the total gaseous organic mass flow rate using Equation 1 of this section for each inlet and each outlet and then total all of the inlet emissions and total all of the outlet emissions.

Where:

- \(M_f\) = Total gaseous organic emissions mass flow rate, kg/h.
- \(C_c\) = The concentration of organic compounds as carbon in the vent gas, as determined by Method 25 or Method 25A, ppmvd.
- \(Q_{sd}\) = Volumetric flow rate of gases entering or exiting the add-on control device, as determined by Method 2, 2A, 2C, 2D, 2F, or 2G, dry standard cubic meters/hour (dscm/h).
- 0.0416 = Conversion factor for molar volume, kg-moles per cubic meter (mol/m³) (@ 293 Kelvin (K) and 760 millimeters of mercury (mmHg)).

Note: If \(M_f\) is calculated in English units (lb/h), the conversion factor for molar volume is 0.00256 lb-moles per cubic foot (mol/ft³).

(e) For each test run, determine the add-on control device organic emissions destruction or removal efficiency using Equation 2 of this section.

\[
\text{DRE} = 100 \times \frac{M_{f_0}}{M_f} \quad (\text{Eq. 2})
\]

Where:

- \(\text{DRE}\) = Organic emissions destruction or removal efficiency of the add-on control device, percent.
- \(M_{f_0}\) = Total gaseous organic emissions mass flow rate at the outlet(s) of the add-on control device, using Equation 1 of this section, kg/h.
runs. You must monitor the temperature in the firebox of the thermal oxidizer or immediately downstream of the firebox before any substantial heat exchange occurs.

(2) Use the data collected during the performance test to calculate and record the average temperature maintained during the performance test. That average combustion temperature is the minimum operating limit for your thermal oxidizer.

(b) Catalytic oxidizers. If your add-on control device is a catalytic oxidizer, establish the operating limits according to either paragraphs (b)(1) and (2) or paragraphs (b)(3) and (4) of this section.

(1) During the performance test, you must monitor and record the temperature at the inlet to the catalyst bed and the temperature difference across the catalyst bed at least once every 15 minutes during each of the three test runs.

(2) Use the data collected during the performance test to calculate and record the average temperature at the inlet to the catalyst bed and the average temperature difference across the catalyst bed maintained during the performance test. The average temperature difference is the minimum operating limit for your catalytic oxidizer.

(3) As an alternative to monitoring the temperature difference across the catalyst bed, you may monitor the temperature at the inlet to the catalyst bed and implement a site-specific inspection and maintenance plan for your catalytic oxidizer as specified in paragraph (b)(4) of this section. During the performance test, you must monitor and record the temperature at the inlet to the catalyst bed at least once every 15 minutes during each of the three test runs. Use the data collected during the performance test to calculate and record the average temperature at the inlet to the catalyst bed and the temperature after each carbon bed regeneration and cooling cycle either immediately preceding or immediately following the performance test.

(2) The operating limits for your carbon adsorber are the minimum total...
§ 63.3557 What are the requirements for continuous parameter monitoring system installation, operation, and maintenance?

(a) General. You must install, operate, and maintain each CPMS specified in paragraphs (c), (e), and (f) of this section according to paragraphs (a)(1) through (6) of this section. You must install, operate, and maintain each CPMS specified in paragraphs (b) and (d) of this section according to paragraphs (a)(3) through (5) of this section.

(1) The CPMS must complete a minimum of one cycle of operation for each successive 15-minute period.

(2) You must determine the average of all recorded readings for each successive 3-hour period of the emission capture system and add-on control device operation.

(3) You must record the results of each inspection, calibration, and validation check of the CPMS.

(4) You must maintain the CPMS at all times and have available necessary parts for routine repairs of the monitoring equipment.

(5) You must operate the CPMS and collect emission capture system and add-on control device parameter data at all times that a controlled coating operation is operating, except during

(b) Condensers. If your add-on control device is a condenser, establish the operating limits according to paragraphs (e)(1) and (2) of this section.

(1) During the performance test, monitor and record the condenser outlet (product side) gas temperature at least once every 15 minutes during each of the three test runs.

(2) Use the data collected during the performance test to calculate and record the average condenser outlet (product side) gas temperature maintained during the performance test. This average condenser outlet gas temperature is the maximum operating limit for your condenser.

(c) Concentrators. If your add-on control device includes a concentrator, you must establish operating limits for the concentrator according to paragraphs (f)(1) through (7) of this section.

(1) During the performance test, monitor and record the inlet temperature to the desorption/reactivation zone of the concentrator at least once every 15 minutes during each of the three runs of the performance test.

(2) Use the data collected during the performance test to calculate and record the average temperature. This is the minimum operating limit for the desorption/reactivation zone inlet temperature.

(3) During the performance test, monitor and record an indicator(s) of performance for the desorption/reactivation fan operation at least once every 15 minutes during each of the three runs of the performance test. This is the operation limit range for the desorption/reactivation fan operation.

(4) Establish a suitable range for the parameter(s) selected based on the system design specifications, historical data, and/or data obtained concurrent with an emissions performance test. This is the operation limit range for the desorption/reactivation fan operation.

(5) During the performance test, monitor the rotational speed of the concentrator at least once every 15 minutes during each of the three runs of the performance test.

(6) Use the data collected during the performance test to calculate and record the average rotational speed. This is the minimum operating limit for the rotational speed of the concentrator. However, the indicator range for the rotational speed may be changed if an engineering evaluation is conducted and a determination made that the change in speed will not affect compliance with the emission limit.

(g) Emission capture systems. For each capture device that is part of a PTE that meets the criteria of §63.3554, the operating limit for a PTE is specified in Table 4 to this subpart.