§ 63.1411 Continuous process vent applicability assessment procedures and methods.

(a) General. The provisions of this section provide procedures and methods for determining the applicability of the control requirements specified in §63.1405 to continuous process vents.

(b) Sampling sites. Sampling sites shall be located as follows:

(1) Sampling site location. The sampling site for determining volumetric flow rate, regulated organic HAP concentration, total organic HAP, net heating value, and TRE index value, shall be after the final recovery device (if any recovery devices are present) but prior to the inlet of any control device that is present and prior to release to the atmosphere.

(2) Sampling site selection method. Method 1 or 1A of 40 CFR part 60, appendix A, as appropriate, shall be used for selection of the sampling site. No traverse site selection method is needed for process vents smaller than 0.33 foot (0.10 meter) in nominal inside diameter.

(c) Applicability assessment requirement. The organic HAP concentrations, volumetric flow rates, heating values, organic HAP emission rates, TRE index values, and engineering assessment control applicability assessment requirements are to be determined during maximum representative operating conditions for the process, except as provided in paragraph (d) of this section, or unless the Administrator specifies or approves alternate operating conditions. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of an applicability test.

(d) Exceptions. The owner or operator is not required to conduct a test that will cause any of the following situations:

(1) Causing damage to equipment;

(2) Necessitating that the owner or operator make a product that does not meet an existing specification for sale to a customer; or

(3) Necessitating that the owner or operator make a product in excess of demand.

(e) Organic HAP concentration. The organic HAP concentrations, used for TRE index value calculations in paragraph (j) of this section, shall be determined using the procedures specified in either §63.1414(a) or by using the engineering assessment procedures in paragraph (k) of this section.

(f) Volumetric flow rate. The volumetric flow rate shall be determined using the procedures specified in §63.1414(a), or by using the engineering assessment procedures in paragraph (k) of this section.

(g) Heating value. The net heating value shall be determined as specified in paragraphs (g)(1) and (2) of this section, or by using the engineering assessment procedures in paragraph (k) of this section.

(1) The net heating value of the continuous process vent shall be calculated using Equation 1:

\[ H_T = K_1 \left( \sum_{j=1}^{n} D_j H_j \right) \]  

[Eq. 1]

Where:

\( H_T \) = Net heating value of the sample, megaJoules per standard cubic meter, where the net enthalpy per mole of process vent is based on combustion at 25 °C and
760 millimeters of mercury, but the standard temperature for determining the volume corresponding to 1 mole is 20 °C, as in the definition of \( Q_s \) (process vent volumetric flow rate).

\[ K_1 = \text{Constant, } 1.740 \times 10^{-7} \text{ (parts per million)} \times (\text{gram-mole per standard cubic meter})^{-1} \]

\( D_j = \text{Organic HAP concentration on a wet basis of compound } j \text{ in parts per million, as measured by procedures indicated in paragraph (e) of this section.} \)

\( T = \text{Organic HAP concentration on a dry basis of organic compound } j \text{ in parts per million as determined by the methods specified in paragraph (e) of this section.} \)

\( M_j = \text{Molecular weight of organic compound } j, \text{ gram/gram-mole.} \)

\( \bar{G}_{\text{er}} = \text{Continuous process vent flow rate, dry standard cubic meter per minute, at a temperature of } 20 \degree \text{C.} \)

\[ (i) \text{ [Reserved]} \]

\[ (j) \text{ TRE index value. The owner or operator shall calculate the TRE index value of the continuous process vent using the equations and procedures in this paragraph, as applicable, and shall maintain records specified in } \text{§63.1416(f).} \]

\[ (1) \text{ TRE index value equation. The equation for calculating the TRE index value is Equation 3:} \]

\[ \text{TRE} = \frac{1}{E_{\text{HAP}}} \left[ A + B \left( \frac{Q_s}{Q_{\text{HAP}}} \right) + C \left( H_j \right) \right] \]  

\[ [\text{Eq} \ 3] \]

Where:

\( \text{TRE} = \text{TRE index value.} \)

A, B, C = Coefficients presented in table 7 of this subpart.

\( E_{\text{HAP}} = \text{Emission rate of total organic HAP, kilograms per hour, as calculated according to paragraph (h) or (k) of this section.} \)

\( Q_s = \text{Continuous process vent volumetric flow rate, standard cubic meters per minute, at a standard temperature of } 20 \degree \text{C, as calculated according to paragraph (i) or (k) of this section.} \)

\( H_j = \text{Continuous process vent net heating value, megaJoules per standard cubic meter, as calculated according to paragraph (g) or (k) of this section.} \)

\[ (2) \text{ TRE index calculation. The owner or operator of a continuous process vent shall calculate the TRE index value by using the equation and appropriate coefficients in Table 6 of this subpart.} \]

\( \text{The owner or operator shall calculate the TRE index value for each control device scenario (i.e., flare, thermal incinerator with } \) 0 percent recovery, thermal incinerator with 70 percent recovery). The lowest TRE index value is to be compared to the applicability criteria specified in §63.1405(a). \]

\[ (k) \text{ Engineering assessment. For purposes of TRE index value determinations, engineering assessments may be used to determine continuous process vent flow rate, net heating value, and total organic HAP emission rate for the representative operating condition expected to yield the lowest TRE index value. Engineering assessments shall meet the requirements of paragraphs (k)(1) through (4) of this section.} \]

\[ (1) \text{ If the TRE index value calculated using engineering assessment is greater than } 4.0, \text{ the owner or operator is} \]
§ 63.1413 Compliance demonstration procedures.

(a) General. For each emission point, the owner or operator shall meet three stages of compliance, with exceptions specified in this subpart. First, the owner or operator shall conduct a performance test or design evaluation to demonstrate the performance of the control device or control technology being used. Second, the owner or operator shall meet the requirements for demonstrating initial compliance (e.g., a demonstration that the required percent reduction is achieved). Third, the owner or operator shall meet the requirements for demonstrating continuous compliance through some form of monitoring (e.g., continuous monitoring of operating parameters).

(i) Large control devices. Owners or operators are required to conduct a performance test for a large control device. The establishment of parameter monitoring levels shall be based on data obtained during the required performance test.

(ii) Small control devices. Owners or operators are required to conduct a design evaluation for a small control device. An owner or operator may choose to conduct a performance test for a small control device and such a performance test shall follow the procedures specified in this section, as appropriate. Whenever a small control device becomes a large control device, the owner or operator shall conduct a performance test following the procedures specified in this section, as appropriate. Notification that such a performance test is required, the site-specific test plan, and the results of the performance test shall be provided to the Administrator as specified in §63.1417. Except as provided in §63.1415(a)(2), the parameter monitoring levels for small control devices shall be set based on the design evaluation required by paragraph (a)(3) of this section. Further, when setting the parameter monitoring level(s) based on the design evaluation, the owner or operator shall submit the information specified in §63.1417(d)(7) for review and approval as part of the Precompliance Report.