Question 24.10

Topic: Appendix E Correlation Tests -- Fuel Mixtures

Question: For a unit that normally co-fires fuels, to what extent can a mixture of fuels differ from the mixture of fuels combusted during the Appendix E test without requiring a retest to establish a new correlation curve? Also, during the test how is the F-factor to be determined for calculation of the NO_x emission rate?

Answer: Section 2.1.2.1 of Appendix E allows a unit which burns a consistent fuel mixture to determine a heat input NO_x emission rate correlation for that consistent mixture of fuels. A consistent mixture of fuels is considered to be one with a composition that does not vary by more than ± 10%. For example a unit normally fires a 50 – 50 (by heat input) mixture of natural gas and #2 fuel oil.

To be considered a consistent mixture under normal operations the unit should fire a mixture of between 40 – 60, gas oil and 60 – 40 gas oil. In this case, for testing purposes, use a pro-rated F-factor based on either the normal mixture of fuel (i.e., 50 – 50, heat input weighted F-factor, for this example). If a source burns two fuels simultaneously but does not maintain a consistent mixture, test both fuels separately and combine the emissions using the procedures for multiple fuel hours (see Equation E-2).

EPA does not recommend that you use Appendix E when you use variable fuels and/or processes. If you elect to use this method, you should consult with EPA before performing the required test. At a minimum, you may be required to submit information on the variability of the fuels and processes and test using the variable fuels and/or processes.

References: Appendix E, Section 2.1.2.1

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