§ 90.326 Pre- and post-test analyzer calibration.

Calibrate only the range of each analyzer used during the engine exhaust emission test prior to and after each test in accordance with the following:

(a) Make the calibration by using a zero gas and a span gas. The span gas value must be between 75 and 100 percent of the highest range used.

(b) Use the same analyzer(s) flow rate and pressure as that used during exhaust emission test sampling.

(c) Warm-up and stabilize the analyzer(s) before the calibration is made.

(d) If necessary clean and/or replace filter elements before calibration is made.

(e) Calibrate analyzer(s) as follows:

(1) Zero the analyzer using the appropriate zero gas. Adjust analyzer zero if necessary. Zero reading should be stable.

(2) Span the analyzer using the appropriate span gas for the range being calibrated. Adjust the analyzer to the calibration set point if necessary.

(3) Re-check zero and span set points.

(4) If the response of the zero gas or span gas differs more than one percent of full scale at the highest range used, then repeat paragraphs (e)(1) through (3) of this section.

[60 FR 34598, July 3, 1995, as amended at 70 FR 40449, July 13, 2005]

§ 90.327 Sampling system requirements.

(a) Sample component surface temperature. For sampling systems which use heated components, use engineering judgment to locate the coolest portion of each component (pump, sample line section, filters, and so forth) in the heated portion of the sampling system that has a separate source of power or heating element. Monitor the temperature at that location. If several components are within an oven, then only the surface temperature of the component with the largest thermal mass and the oven temperature need be measured.

\[
\% \text{ CO}_2 \text{ quench} = 100 \times \left(1 - \frac{c \times a}{(d \times a) - (d \times b)}\right) \times (a/b)
\]

Where:

\[a = \text{Undiluted CO}_2 \text{ concentration (percent)}\]
\[b = \text{Diluted CO}_2 \text{ concentration (percent)}\]
\[c = \text{Diluted NO concentration (ppm)}\]
\[d = \text{Undiluted NO concentration (ppm)}\]