

<i>If the process is a combustion process using air</i>	<i>And the Standard is in these units:</i>	<i>Then to get approximate equivalent concentration at stack conditions use the following equation and your best estimate of parameters required</i>
	ppmv @Y %O ₂	$C_{equiv} = C_{std} \frac{20.9 - \%O_2}{20.9 - Y}$
	mass/GCV (e.g. lb/million Btu heat input)	$C_{equiv} = \frac{E_{std}}{K * F_d} \frac{20.9 - \%O_2}{20.9}$
	mass per hour	$C_{equiv} = \frac{E_{mass/hr}}{(GCV/hr)(K)F_d} \frac{20.9 - \%O_2}{20.9}$
	mass/unit of electrical output	$C_{equiv} = Eff \frac{E_{mass/output}}{(GCV/hr)(K)F_d} \frac{20.9 - \%O_2}{20.9}$

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12.2 Analyzer Calibration Error Test. Use Equation 7E-1 to calculate the analyzer calibration error for each calibration gas.

$$ACE = C_{dir} - C_v \quad \text{Eq. 7E-1}$$

12.3 Alternative Dynamic Spike Recovery. Use Equation 7E-2 to calculate the alternative dynamic spike recovery.

$$R = \frac{M_{measured} - M_{native}}{M_{added}} \quad \text{Eq. 7E-2}$$

12.4 Sampling System Bias Check. Use Equation 7E-3 to calculate the sampling system bias for each calibration gas.

$$B = \frac{C_s - C_v}{C_v} \quad \text{Eq. 7E-3}$$

12.5 NO₂-NO Conversion Efficiency. Use Equation 7E-4 to calculate the NO₂ to NO converter efficiency.

$$Eff_{NO_2} = C_{dir} \div C_v \quad \text{Eq. 7E-4}$$

12.6 Uncertainty Estimate.

12.6.1 Using the largest (and smallest) bias value obtained in the pre- and/or post-run sampling system bias test, calculate and report an upper and lower uncertainty interval around each run average concentration using Equation 7E-5.

$$U = [1/(1+B)]C_m + [1-E_{NO_2}]C_{NO_2} \quad \text{Eq. 7E-5}$$

12.6.2 Using the largest (and smallest) recovery obtained in the pre- and post-test ADSC, calculate and report an upper and

lower uncertainty interval around the test average concentration using Equation 7E-6.

$$U = \left[\frac{1}{R} \right] C_m + [1-E_{NO_2}]C_{NO_2} \quad \text{Eq. 7E-6}$$

12.7 Miscellaneous calculations.

12.7.1 Moisture Correction. The data you use for most of the calculations must be on a dry basis. Use Equation 7E-7 if any of your measurements need to be corrected to a dry basis.

$$C_d = \frac{C_w}{1 - B_{ws}} \quad \text{Eq. 7E-7}$$

12.7.2 Using CO₂ as the diluent monitor. You must have an equivalent CO₂ correction factor if pollutant concentrations are to be corrected to 15 percent O₂ and you measure CO₂ concentration in lieu of O₂ concentration. Perform the following

procedures to calculate the CO₂ correction factor.

12.7.2.1 Using the values obtained from section 12.3.2 of Method 19 and Equation 7E-8, calculate the fuel-specific F_O value for the fuel burned during the test.