concentration), which you then multiply by the area counts from your sample to generate the sample concentration.

(c) *Interference validation*. Perform interference validation for NDIR, FTIR, and photoacoustic analyzers using the procedures of §1065.375. Interference validation is not required for GC–ECD. Certain interference gases can positively interfere with NDIR, FTIR, and photoacoustic analyzers by causing a response similar to N_2O. When running the interference verification for these analyzers, use interference gases as follows:

(1) The interference gases for NDIR analyzers are CO, CO_2, H_2O, CH_4 and SO_2. Note that interference species, with the exception of H_2O, are dependent on the N_2O infrared absorption band chosen by the instrument manufacturer and should be determined dently for each analyzer.

(2) Use good engineering judgment to determine interference gases for FTIR. Note that interference species, with the exception of H_2O, are dependent on the N_2O infrared absorption band chosen by the instrument manufacturer and should be determined independently for each analyzer.

(3) The interference gases for photoacoustic analyzers are CO, CO_2, and H_2O.

[74 FR 56512, Oct. 30, 2009]

O_2 Measurements

§1065.280 Paramagnetic and magnetopneumatic O_2 detection analyzers.

(a) *Application*. You may use a paramagnetic detection (PMD) or magnetopneumatic detection (MPD) analyzer to measure O_2 concentration in raw or diluted exhaust for batch or continuous sampling. You may use O_2 measurements with intake air or fuel flow measurements to calculate exhaust flow rate according to §1065.650.

(b) *Component requirements*. We recommend that you use a PMD or MPD analyzer that meets the specifications in Table 1 of §1065.205. Note that it must meet the linearity verification in §1065.307. You may use a PMD or MPD that has compensation algorithms that are functions of other gaseous measurements and the engine's known or assumed fuel properties. The target value for any compensation algorithm is 0.0% (that is, no bias high and no bias low), regardless of the uncompensated signal's bias.

[73 FR 37300, June 30, 2008]

Air-to-Fuel Ratio Measurements

§1065.284 Zirconia (ZrO_2) analyzer.

(a) *Application*. You may use a zirconia (ZrO_2) analyzer to measure air-to-fuel ratio in raw exhaust for continuous sampling. You may use O_2 measurements with intake air or fuel flow measurements to calculate exhaust flow rate according to §1065.650.

(b) *Component requirements*. We recommend that you use a ZrO_2 analyzer that meets the specifications in Table 1 of §1065.205. Note that your ZrO_2-based system must meet the linearity verification in §1065.307. You may use a Zirconia analyzer that has compensation algorithms that are functions of other gaseous measurements and the engine's known or assumed fuel properties. The target value for any compensation algorithm is 0.0% (that is, no bias high and no bias low), regardless of the uncompensated signal's bias.

PM Measurements

§1065.290 PM gravimetric balance.

(a) *Application*. Use a balance to weigh net PM on a sample medium for laboratory testing.

(b) *Component requirements*. We recommend that you use a balance that meets the specifications in Table 1 of §1065.205. Note that your balance-based system must meet the linearity verification in §1065.307. If the balance uses internal calibration weights for routine spanning and the weights do not meet the specifications in §1065.790, the weights must be verified independently with external calibration weights meeting the requirements of §1065.790. While you may also use an inertial balance to measure PM, as described in §1065.295, use a reference procedure based on a gravimetric balance for comparison with any proposed alternate measurement procedure under §1065.10.