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40 C.F.R. § 1065.362

Non-stoichiometric raw exhaust FID O2 interference verification.

(a) *Scope and frequency.* If you use FID analyzers for raw exhaust measurements from engines that operate in a non-stoichiometric mode of combustion (e.g., compression-ignition, lean-burn), verify the amount of FID O_2 interference upon initial installation and after major maintenance.

(b) *Measurement principles.* Changes in O_2 concentration in raw exhaust can affect FID response by changing FID flame temperature. Optimize FID fuel, burner air, and sample flow to meet this verification. Verify FID performance with the compensation algorithms for FID O_2 interference that you have active during an emission test.

(c) *System requirements.* Any FID analyzer used during testing must meet the FID O_2 interference verification according to the procedure in this section.

(d) *Procedure.* Determine FID O_2 interference as follows, noting that you may use one or more gas dividers to create the reference gas concentrations that are required to perform this verification:

(1) Select three span reference gases that contain a C_3H_8 concentration that you use to span your analyzers before emission testing. Use only span gases that meet the specifications of § 1065.750. You may use CH_4 span reference gases for FIDs calibrated on CH_4 with a nonmethane cutter. Select the three balance gas concentrations such that the concentrations of O_2 and N_2 represent the minimum, maximum, and average O_2 concentrations expected during testing. The requirement for using the average O_2 concentration can be removed if you choose to calibrate the FID with span gas balanced with the average expected oxygen concentration.