

Environmental Protection Agency

§ 89.317

burner air must contain less than 2 ppmC hydrocarbon.

(g) Gases for the methane analyzer shall be single blends of methane using air as the diluent.

[59 FR 31335, June 17, 1994. Redesignated and amended at 63 FR 56995, 57010, Oct. 23, 1998]

§ 89.313 Initial calibration of analyzers.

(a) *Warming-up time.* The warming-up time should be according to the recommendations of the manufacturer. If not specified, a minimum of two hours shall be allowed for warming up the analyzers.

(b) *NDIR and HFID analyzer.* The NDIR analyzer shall be tuned and maintained according to the instrument manufacturer's instructions. The combustion flame of the HFID analyzer shall be optimized in order to meet the specifications in § 89.319(b)(2).

(c) *Zero setting and calibration.* (1) Using purified synthetic air (or nitrogen), the CO, CO₂, NO_x, and HC analyzers shall be set at zero.

(2) Introduce the appropriate calibration gases to the analyzers and the values recorded. The same gas flow rates shall be used as when sampling exhaust.

(d) *Rechecking of zero setting.* The zero setting shall be rechecked and the procedure described in paragraph (c) of this section repeated, if necessary.

[59 FR 31335, June 17, 1994. Redesignated at 63 FR 56995, Oct. 23, 1998]

§ 89.314 Pre- and post-test calibration of analyzers.

Each operating range used during the test shall be checked prior to and after each test in accordance with the following procedure. (A chronic need for parameter adjustment can indicate a need for instrument maintenance.):

(a) The calibration is checked by using a zero gas and a span gas whose nominal value is between 75 percent and 100 percent of full-scale, inclusive, of the measuring range.

(b) After the end of the final mode, a zero gas and the same span gas will be used for rechecking. As an option, the zero and span may be rechecked at the end of each mode or each test segment. The analysis will be considered acceptable if the difference between the two

measuring results is less than 2 percent of full scale.

[59 FR 31335, June 17, 1994. Redesignated and amended at 63 FR 56995, 57011, Oct. 23, 1998]

§ 89.315 Analyzer bench checks.

(a) Prior to initial use and after major repairs verify that each analyzer complies with the specifications given in Table 3 in appendix A of this subpart.

(b) If a stainless steel NO₂ to NO converter is used, condition all new or replacement converters. The conditioning consists of either purging the converter with air for a minimum of 4 hours or until the converter efficiency is greater than 90 percent. The converter must be at operational temperature while purging. Do not use this procedure prior to checking converter efficiency on in-use converters.

[59 FR 31335, June 17, 1994. Redesignated at 63 FR 56995, Oct. 23, 1998]

§ 89.316 Analyzer leakage and response time.

(a) *Vacuum side leak check.* (1) Any location within the analysis system where a vacuum leak could affect the test results must be checked.

(2) The maximum allowable leakage rate on the vacuum side is 0.5 percent of the in-use flow rate for the portion of the system being checked. The analyzer flows and bypass flows may be used to estimate the in-use flow rates.

(3) The sample probe and the connection between the sample probe and valve V2 (see Figure 1 in appendix B of this subpart) may be excluded from the leak check.

(b) [Reserved]

(c) The response time shall be accounted for in all emission measurement and calculations.

[59 FR 31335, June 17, 1994. Redesignated and amended at 63 FR 56995, 57011, Oct. 23, 1998]

§ 89.317 NO_x converter check.

(a) Prior to its introduction into service, and monthly thereafter, the chemiluminescent oxides of nitrogen analyzer shall be checked for NO₂ to NO converter efficiency. Figure 2 in appendix B of this subpart is a reference for the following paragraphs.