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this appendix. Operate each monitor in its normal sampling mode. For extractive and dilution type monitors, pass the audit gas through all filters, scrubbers, conditioners, and other monitor components used during normal sampling and through as much of the sampling probe as is practical. For in situ type monitors, perform calibration checking all active electronic and optical components, including the transmitter, receiver, and analyzer. Challenge the pollutant concentration monitors and CO_2 or O_2 monitors once with each gas. Record the monitor response from the data acquisition and handling system. Using Equation A–5 of this appendix, determine the calibration error at each concentration once each day (at 24-hour intervals) for 7 consecutive days according to the procedures given in this section.

Calibration error tests are acceptable for monitor or monitoring system certification if none of these daily calibration error test results exceed the applicable performance specifications in section 3.1 of this appendix.

6.3.4 Flow Monitor 7-day Calibration Error Test

Measure the calibration error of each flow monitor according to the following procedures.

Introduce the reference signal corresponding to the values specified in section 2.2.2.1 of this appendix to the probe tip (or equivalent), or to the transducer. During the 7-day certification test period, conduct the calibration error test while the unit is operating once each unit operating day (as close to 24-hour intervals as practicable). In the event that extended unit outages occur after the commencement of the test, the 7 consecutive operating days need not be 7 consecutive calendar days. Record the flow monitor responses by means of the data acquisition and handling system. Calculate the calibration error using Equation A–6 of this appendix.

Do not perform any corrective maintenance, repair, or replacement upon the flow monitor during the 7-day certification test period other than that required in the quality assurance/quality control (QA/QC) plan required by appendix B of this part. Do not make adjustments between the zero and high reference level measurements on any day during the 7-day test. If the flow monitor operates within the calibration error performance specification (i.e., less than or equal to 3 percent error each day and requiring no corrective maintenance, repair, or replacement during the 7-day test period) the flow monitor passes the calibration error test portion of the certification test. Record all maintenance activities and the magnitude of any adjustments. Record output readings from the data acquisition and handling system before and after all adjustments. Record and report all calibration error test results using the unadjusted flow rate measured in the calibration error test prior to resetting the calibration. Record all adjustments made during the seven day period at the time the adjustment is made and report them in the certification application.

6.4 Cycle Time/Response Time Test

Perform cycle time/response time tests for each pollutant concentration monitor, and continuous emission monitoring system according to the following procedures. Use a low-level and a high-level calibration gas (as defined in section 5.2 of this appendix) alternately. While the monitor or monitoring system is measuring and recording the concentration or emission rate, inject either a low-level concentration or a high-level concentration calibration gas into the injection port. Continue injecting the gas until a stable response is reached. Record the amount of time required for the monitor or monitoring system to complete 95.0 percent of the concentration or emission rate stepchange using data acquisition and handling system output. Then repeat the procedure with the other gas. For monitors or monitoring systems that perform a series of operations (such as purge, sample, and analyze), time the injections of the calibration gases so they will produce the longest possible response time. (Note: for the NO_x continuous emission monitoring system test and SO_2-diluent continuous emission monitoring system test, it will be necessary to simultaneously inject calibration gases into the pollutant and diluent monitors, in order to measure the step change in the lb/mmBtu emission rate.)

Cycle time/response time test results are acceptable for monitoring or monitoring system certification if none of the response times exceed 15 min. The provisions in this section 6.4 are suspended from July 17, 1995 through December 31, 1996.

6.4.1 Cycle Time Test

Perform cycle time tests for each pollutant concentration monitor, and continuous emission monitoring system while the unit is operating according to the following procedures.

Use a zero-level and a high-level calibration gas (as defined in section 5.2 of this appendix) alternately. To determine the upscale elapsed time, inject a zero-level concentration calibration gas into the probe tip (or injection port leading to the calibration cell, for in situ systems with no probe). Record the stable starting monitor value and start time. Next, allow the monitor to measure the concentration of flue gas emissions until the response stabilizes. Determine the upscale elapsed time as the time at which 95.0 percent of the step change is achieved between the stable starting gas value and the stable ending monitor value. Record the