

less than 2 percent. The minimum number of datum to represent each target concentration are 5; we strongly suggest more since you must calculate and report an uncertainty range around the measured concentration based on these recoveries. If the recovery is outside 100 ± 10 percent, then the reason for the bias should be determined and reported. As a condition of your using this option, you must document and confirm that during the entire test you operated within the ambient temperature and pressure and voltage ranges certified by the manufacturer. You must also list all manufacturer fault and alarm codes and identify any that were activated during the test.

16.1.3 Example spiking procedure using a tracer gas. Introduce the spike/tracer gas at a constant flow rate of 10 percent of the total sample flow. (**Note:** Use the rotameter at the end of the sampling train to estimate the required spike/tracer gas flow rate.) Use a mass flow meter (± 2 percent), to monitor the spike flow rate. Record the spike flow rate

every 1 minute. Wait for at least 2 times the response time T, then record at least 5 successive 1 minute averages of the spiked sample gas. The spiked concentration shall be within 5 percent of the mean of the 5 measurements. Calculate the dilution factor using the tracer gas as follows:

$$DF = \frac{SF_{6(\text{direct})}}{SF_{6(\text{spike})}} \quad \text{Eq. 7E-17}$$

$$CS = \frac{\text{Spike}_{\text{dir}}}{DF} \quad \text{Eq. 7E-18}$$

16.2 Manufacturer's Stability Test. Subject each analyzer model to a range of potential effects to demonstrate its stability following the procedures provided in 40 CFR 53.23, 53.55, and 53.56 and provide the information in a summary format. A copy of this information must be included in each test report.

16.3 Annual Primary Interference Gas Recheck. Perform an interference gas check using the 4 primary interference gases identified in the manufacturer's stability test on an annual basis, when indicated as corrective action by an alarm or fault and, whenever major component repairs are required. Record the responses. For each of the 4 primary interference gases, the 95 percent confidence interval determined in the manufacturer stability test must include the abbreviated interference gas check value prior to returning the analyzer to service.

17.0 References

1. "EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards" September 1997 as amended, EPA-600/R-97/121.

18.0 Tables, Diagrams, Flowcharts, and Validation Data

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