



Figure 6C-1. Interference Check Sampling Train.

BILLING CODE 6560-50-C

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Method 7E—Determination of Nitrogen Oxides Emissions From Stationary Sources (Instrumental Analyzer Procedure)

1.0 Scope and Application

What Is Method 7E?

Method 7E is a procedure for measuring nitrogen oxides (NO_x) in stationary source

emissions using a continuous instrumental analyzer. Quality assurance and quality control requirements are included to assure that you, the tester, collect data of known quality. You must document your adherence to these specific requirements for equipment, supplies, sample collection and analysis, calculations, and data analysis. This method does not completely describe all equipment, supplies, and sampling and analytical procedures you will need but refers to other

methods for some of the details. Therefore, to obtain reliable results, you should also have a thorough knowledge of these additional test methods:

(a) Method 1—Sample and Velocity Traverses for Stationary Sources.

(b) Method 4—Determination of Moisture Content in Stack Gases.

1.1 Analytes. *What does this method determine?* (All methods in this list appear in 40 CFR part 60, appendix A.)

Analyte	CAS No.	Sensitivity
Nitric oxide (NO)	10102-43-9	See discussion in section 1.3.
Nitrogen dioxide (NO ₂)	10102-44-0	

1.2 Applicability. *When is this method required?* Method 7E is required in specific New Source Performance Standards, Clean Air Marketing Rules, and State Implementation Plans and Permits where measuring NO_x concentrations in stationary source emissions is required. Other regulations may also require its use.

1.3 Data Quality Objectives (DQO). *What quality of data is this method designed to produce?* The data quality objectives define the quality of data you need for the test. Method 7E is designed for determining compliance with Federal and State emission standards. For this purpose, data acceptability is evaluated through performance tests whose accuracy is determined relative to the applicable emission standard concentration. Therefore, the quality of data is emphasized at the compliance concentration levels. However, we do not intend the method to penalize you for calibrating to measure accurately emissions well below the emission limit. In applications where there is no emission

limitation (e.g., market-based programs), acceptable performance is based on the span instead of the emission standard. You are required to calculate and report an uncertainty estimate for your data. This encourages the use of better technology and techniques but does not require it when not needed by your DQO. This uncertainty provides data quality information for future secondary data users.

1.3.1 Data Quality Assessment. It is possible to meet the method QA/QC requirements and still not be certain you are making the correct data decision. This is a phenomena with all measurements since measurements are inherently an estimate of the true value no matter how precisely and accurately they are made. However, by separating the reporting of measured data and uncertainty estimates, the method provides the data users various options to assess the data quality when the tester deviates from the procedures. For example, the data user might decide to look at the upper uncertainty estimate if the question of

concern is "Am I sure the average emissions are less than an emission limit?" or at the lower uncertainty estimate if the question of concern is "Am I sure the average emissions are greater than an emission limit?" Data of lesser quality may be accepted if the data user deems the testing objectives are met. For example, if the measured average emissions are less than the emission limit but a small fraction of the data exceeded the analyzer range, the data user may choose to accept this data as adequate to show compliance with the emission limit. The regulating agency is considered the data user and therefore makes the final assessment of data quality.

1.3.2 Data Quality Assessment for low emitters. *Is performance relief granted to low-emission units?* Yes, there are interim special sampling system bias performance criteria and allowances to use the alternative interference check and dynamic spike procedures. You should refer to section 13 for an explanation.

1.3.3 *How is the calibration designed when test units are covered by more than one*