

1. Does the new interference test apply to analyzers that have already met the requirements of the old Method 6C, 7E, 10, and 20 interference tests?

No. Current instruments that will have already passed the interference test requirements under the old methods before August 14, 2006 are grandfathered from the new interference test requirements.

2. Section 8.2.7(2) implies that the interference test needs to be repeated after replacement of a major piece of equipment. Does this mean a like kind replacement?

This does not mean original replacement or like kind parts. The interference test must be repeated only when a different model replacement part is used and the effects of potential interferences on this part are unknown.

3. Specifically, which analyzers are required to conduct the Manufacturer Stability Test (MST)?

Only those analyzers that are dedicated to low-concentration (<20 ppm) measurements are required to conduct the MST.

4. Is the Manufacturer Stability Test (MST) performed by the manufacturer, the tester, or either?

The MST would primarily be performed by the manufacturer; however, it could be performed by the tester. The final rule reference to 40 CFR 53.55 and 53.56 were in error. Only the provisions in 40 CFR 53.23 for temperature and line voltage stability apply for the MST. The noted temperatures and line voltages in 53.23 should be modified, as necessary, to mimic the anticipated field conditions for the analyzer.

5. Would the MST requirements apply for multiple range instruments that are occasionally used with a calibration span of <20 ppm?

No.

6. The revisions to Method 7E require an NO₂ converter efficiency check before each field test. If we are at a facility for 4 days, and we test 4 separate sources for NO_x using the same instrument over the 4-day period, is that considered a single field test of that analyzer or is it considered 4 field tests? The language is different for calibration error, where it says to conduct the calibration error test prior to performing the first run. Wouldn't the same language be used if a daily converter check was intended? In another situation, a large number of Part 60 and Part 75 RATAs are conducted each year; during some of the RATA test programs, NO_x emissions will be measured from 6-8 boilers in as many consecutive days. In this instance, what is the appropriate frequency for the conversion efficiency check: prior to performing each RATA test set; at the beginning of each test day, or only at the beginning of the multi-day test program?

A fixed definition for "field test" might prove too restrictive. We recommend conducting the converter efficiency test before each test day. However, if one is willing to take the risk, an efficiency

test at the end of several days of testing is acceptable if the final efficiency check passes. If such a final test is failed, the data is invalidated beyond the last day the last converter test was passed.

7. Method 7E requires that the converter efficiency test for dilution systems be completed at a point in the sample system prior to dilution. Can this be changed to allow for direct injection to the analyzer, as per non-dilution systems?

Yes, this inadvertent requirement will be corrected in the future correction notice.

8. Section 10.0 requires that analyzers be calibrated for all species of NO_x that they detect. If your analyzer measures NO and NO₂ separately, then you must use NO and NO₂ calibration gases. Can an NO protocol gas (calibration gas that is certified for NO₂) be used for calibration if the NO₂ concentration is on the certification? There is a limited supply of NO₂ calibration gas; however, one can obtain an analysis for total NO_x which will give a good indication of this certified value.

The following answer only applies to analyzers that are used to measure NO_x. Remember Method 7E is a procedure for measuring NO_x in stationary source emissions, and not NO and/or NO₂ by themselves. In response to the question above, section 10.0 states that an analyzer must be calibrated for all the species of NO_x that it detects. Therefore, if an instrument measures NO and NO₂ and does not have a converter, then it must be calibrated with a calibration gas containing both NO and NO₂. Additionally, the language in section 3.3 defines a calibration gas as a gas mixture containing NO_x at a known concentration. Based on this, a gas cylinder with a certified concentration for both NO and NO₂ or a cylinder containing both NO and NO₂ with a certified concentration for total NO_x is acceptable for calibrating instruments that measure NO and NO₂ separately.

9. Currently, the lowest EPA protocol calibration gases we are aware that can be made are: 1. SO₂ – 5 ppm 2. NO – 1 ppm 3. CO – 1 ppm 4. CO₂ – 1000 ppm 5. O₂ – 0.2% The problem is that NIST currently does not have a zero standard from which we are allowed to create a zero protocol as required under the requirements to create a protocol gas. It is important for the testers to understand that the ranges listed above are the lowest ranges in EPA Protocol gases that are available. A tester could order a non-protocol zero gas to use as the low range (0–20%) calibration gas and find that the test is not valid because the gas is not of the appropriate quality.

In expanding the low-concentration calibration gas range from "zero gas" to "low-level gas," we retained the allowance to use zero gas. Not explaining that a zero gas did not have to be of traceability protocol quality was an inadvertent omission. We will correct this in Method 7E and require that zero gas meet the requirements for "zero material" in 40 CFR 72.2. These zero gas requirements limit: NO_x, SO₂, or THC < 0.1 CO < 1 ppm CO₂ < 400 ppm

10. Please confirm my understanding of the new calibration concentrations: High Level Gas = 20–100 percent of the calibration span Mid Level Gas = 40–60 percent of the calibration span Low Level Gas = Less than 20 percent of the calibration span

Only your understanding of the high-level gas is incorrect. The high-level gas concentration is equivalent to and sets the calibration span. Section 7.1.1 directs the high-level gas be chosen such

that the emission measurements fall between 20 to 100 percent of this high calibration gas (which is the same as the calibration span). The mid-level gas will then be 40–60% of this high-level concentration (or calibration span) and the low-level gas will be less than 20% of this high-level concentration (or calibration span). One may choose a zero gas as the low-level gas.

11. Method 7E specifies an NO₂ gas of 40–60 ppmv for converter efficiency tests. Would it be allowable to use a lower concentration on a case-by-case basis?

Yes. Approval would be required on a case-by-case basis.

12. Method 7E states that sample flow rate must be maintained within 10 percent of the flow rate used during system bias tests, and that sample components must be maintained below the dew point of the gas. Will testers be required to document these variables?

Documentation is recommended.

13. Method 7E requires that the particulate filter be included in system bias tests. Will using an in-stack filter and flood-the-probe approach to performing system bias tests be allowed?

Yes, as long as the filter is made of a non-reactive material.

14. If Methods 3A, 6C and 7E are used to test for multiple gaseous species (i.e., pollutants and/or diluents) at a site, is a stratification test required for each gas?

In some cases, yes. Section 8.1.1 of Method 7E states:

“Unless otherwise specified in an applicable regulation or by the Administrator, when this method is used to determine compliance with an emission standard, conduct a stratification test as described in section 8.1.2 to determine the sampling traverse points to be used...”

Further, Section 8.1.2 of Method 7E says to:

“Perform a stratification test at each test site to determine the appropriate number of sample traverse points. If testing for multiple pollutants or diluents at the same site, a stratification test using only one pollutant or diluent satisfies this requirement.”

In other words, it is acceptable to perform a stratification test using only one pollutant or diluent when performing a stack test to determine compliance with an emission standard, ***as long as no other requirement is specified by an applicable regulation, or by the Administrator.***

Please note that while this methodology for determining the number and layout of sampling points may be acceptable for stack testing purposes when no other applicable requirement exists, it is not to be followed when using Methods 7E, 6C and 3A for the relative accuracy test audits (RATAs) of CEMS. Section 8.1.1 of Method 7E makes this clear:

“For performance testing of continuous emission monitoring systems, follow the sampling site selection and traverse point layout procedures described in the appropriate performance specification or applicable regulation (e.g., Performance Specification 2 in appendix B to this part).”

Therefore, when Methods 7E, 6C, and 3A are used for Part 60 RATAs, the number and location of the reference method sampling points must be determined according to section 8.1.3 of Performance Specification 2 (PS 2), and for the RATAs of Part 75 CEMS, the procedures in section 6.5.6 of Appendix A to Part 75 must be followed. The traverse point layout and stratification test procedures in PS 2 are similar, though not identical, to those in section 8.1 of Method 7E. However, the corresponding procedures in sections 6.5.6 of Part 75, Appendix A differ significantly from those in Method 7E. One key difference being that when multiple pollutants and/or diluents are tested, the stratification test described in section 6.5.6 of Part 75, Appendix A must be performed for each pollutant and diluent gas, therefore, testing only one gaseous species is not acceptable under Part 75.

15. Should Equation 7E-4 be divided by CS and multiplied by 100?

No, it is already expressed as a percentage of CS.

16. Equation 7E-5 only works when a zero gas is used as the low-level calibration gas. Can the equation in old Method 3C be used when a non-zero calibration gas is used?

Yes. Equation 3A-1 in old Method 3A should be used when a non-zero low-level calibration gas is used. This equation will be added to Method 7E in the correction notice.

17. When we use new Equation 7E-9, we obtain results that are inordinately high. Is there an error in this equation?

Equation 7E-9 is incorrect. The equation should be a determination of how NO_x final differs from NO_x peak after the 30-minute converter evaluation period. The correct equation should be $\text{Eff NO}_2 = \text{NO}_x \text{ peak} - \text{NO}_x \text{ final} / \text{NO}_x \text{ peak} \times 100$. The current equation is a mistaken attempt to calculate the conversion efficiency of the converter without knowing the concentration of the test gas.

18. We do not understand the purpose of Paragraphs 16.2.2(2) and (3). Can you clarify their intent?

Paragraphs 16.2.2(2) and (3) were inadvertent inclusions in the rulemaking and do not make sense in the context of the converter efficiency test. These two paragraphs should be ignored; they will be deleted in the correction notice.

19. Do the test gases in the interference test have to be NIST traceable?

No.

20. Are ambient-level analyzers used in conjunction with dilution probes required to pass the manufacturer's stability test?

No. Ambient analyzers are grandfathered from this requirement. They are already designed to meet

the equivalent method requirements of 40 CFR Part 53.

21. If you have a source that does not have emissions above 4 ppm for CO and 4 ppm for SO₂, how do you pick the calibration span if you cannot obtain gases at that low concentration? The old standard would give you the option of picking the span based on the emission standard but I do not see that in the new requirements.

Section 3.4 of Method 7E defines the calibration span and states: "To the extent practicable, the measured emissions should be between 20 to 100 percent of the selected calibration span." It doesn't appear that this is practicable in your case. Therefore, you have the option of choosing gases that are more applicable for your source. This means gases that are reasonably available and at levels best suited to accomplish the data quality objectives. If the objective is to show compliance with an emission standard, then picking a calibration span gas based on the emission standard is reasonable.