Question 9.34

Topic: Use of EPA Protocol Gas Components for Calibration

Question: Should the NO or the NO_X concentration on an EPA Protocol gas cylinder be used for NO_X analyzer calibrations and linearity checks?

Answer: Prior to 2004, only the NO component of EPA Protocol gas cylinders was certified as traceable to the National Institute of Standards and Technology (NIST); the NO_X concentrations shown on calibration gas certificates were for informational use only. However, since then, NIST has been certifying both the NO and NO_X concentrations of Standard Reference Materials (SRMs) and NIST Traceable Reference Materials (NTRMs). Therefore, it is now possible for specialty gas companies to produce EPA Protocol gas cylinders in which both the NO and NO_X concentrations are NIST-traceable.

In view of this:

(1) When both the NO and NO_X concentrations of an EPA Protocol gas cylinder are certified NIST-traceable:

(a) If you have an analyzer that measures total NO_X, you may use either the certified NO concentration[3] or the certified NO_X concentration when conducting calibration error tests or linearity checks, or when calibrating a reference analyzer for a Part 75 NO_X RATA or an App E NO_X test or

(b) If your analyzer measures only NO, rather than total NO_X, use the certified NO concentration for calibration error tests, and linearity checks.

(2) If only the NO concentration of the EPA Protocol gas cylinder is NIST-traceable but the NO_X concentration is not, use the certified NO concentration for calibration error tests and linearity checks, and for calibrating a reference analyzer[1] for a Part 75 NO_X RATA or an App E NO_X test.

References: Appendix A, § 6.2 and 6.3; Appendix B § 2.1.1 and 2.2.1

Key Words: EPA Protocol gas, calibration gas, calibration error test, linearity check, NO_X monitoring

History: First published in the 2013 Manual