Question 9.21

Topic: Default High Range Value

Question: For units with dual span requirements, in lieu of operating and maintaining a high monitor range, Sections 2.1.1.4(f) and 2.1.2.4(e) of Appendix A to Part 75 allow the use of a default high range value of 200% of the MPC when the full-scale of the low range analyzer is exceeded. When the default high range option is selected, how is the hourly average SO_2 or NO_x concentration calculated? What happens when the full-scale of the low range analyzer is exceeded for only part of the hour?

Answer: To implement the default high range provision, you may use either of the following options:

Option 1

(1) Establish the shortest or fundamental averaging period for which data are continuously recorded by the monitor (i.e., the time "x" required for one complete cycle of analyzing, reading, and data recording, where "x" may be five seconds, ten seconds, sixty seconds, or some other time period, depending on the type of data collection used in the DAHS/CEMS).

(2) If any of the fundamental readings recorded during an hour exceeds the full-scale of the low range analyzer, report 200% of the MPC for that hour (see exception in the Note below) and report a method of determination code (MODC) of "19" to indicate the use of the default high range value.

Option 2

(1) Establish the shortest or fundamental averaging period for which data are continuously recorded by the monitor, as described in paragraph (1) of Option 1, above.

(2) Calculate the hourly average pollutant concentration as the arithmetic average of all quality-assured fundamental data values recorded during the hour, in the following manner:

(a) If a fundamental reading is less than the full-scale of the low range analyzer, use the reading directly in the calculation of the hourly average; and

(b) If a fundamental reading indicates that the low range is "pegged" (i.e., the monitor output voltage indicates that the full-scale of the low range has been reached or exceeded), substitute 200% of the MPC for that reading (see exception in the Note below) and use the substituted value in the calculation of the hourly average.

(3) Report the hourly average calculated in the manner described in step

(2) above as the unadjusted pollutant concentration and report an MODC of "19" to indicate that the default high range value was used for at least part of the hour.

Note: For new combustion turbines, the June 12, 2002 revisions to Part 75 disallowed the use of a NO_x MPC value of 50 ppm previously selected from Table 2-2 in Appendix A, after March 31, 2003 (see Appendix A, section 2.1.2.1(a), Option 2). Since April 1, 2003, the MPC must be determined in accordance with revised section 2.1.2.1(a), and any appropriate span and range adjustments or, if applicable, adjustments to the default high range value, must be made.

References: § 75.57, Table 4A; Appendix A, Sections 2.1.1.4(f), 2.1.2.1(a), 2.1.2.4(e); EDR v2.1/2.2 Reporting Instructions, Sections III.B.(1) and III.B.(2)

History: First published in March 2000, Update #12; revised in December 2000, Update #13; revised in October 2003 Revised Manual; revised in 2013 Manual