

Question 9.30

Topic: Overscaling -- Adjustment of Span and Range

Question: Sections 2.1.1.5(b), 2.1.2.5(b), and 2.1.4.3(a) in Appendix A to Part 75 say that when "overscaling" occurs (when the full-scale of a "high" SO₂, NO_x, or stack gas flow measurement range is exceeded), you should "make appropriate adjustments" (as applicable) to the MPF, MPC, span and range "to prevent future full-scale exceedances." If I am using the Method 1 or Method 2 procedure described in Question 9.19 to calculate the hourly averages when overscaling occurs, how much overscaling is allowed before I have to make "appropriate adjustments" to the MPF or MPC and adjust the span and range of the monitor?

Answer: Use the following guidelines:

(1) When the Option 1 procedure described in Question 9.19 is applied, no adjustments to the MPC, span, and range are needed, provided that:

(a) For each operating hour in which overscaling occurs, a value of 200.0% of the range is reported for that hour; and

(b) In a given calendar quarter, overscaling does not occur in more than two percent of the unit operating hours or 20 unit operating hours (whichever is less restrictive).

If overscaling occurs more often than this, re-span and re-range the analyzer.

(2) When the Option 2 procedure described in Question 9.19 is applied:

(a) No adjustments to the MPF, MPC, span, or range are needed, provided that the following conditions are met on a quarterly basis:

(i) For each fundamental averaging period (e.g., minute average) in which emissions are off-scale, a value of 200.0% of the range is used in the hourly average calculation (see exception in the Note below); and

(ii) None of the calculated hourly averages exceed the MPF, MPC, the span value or the full-scale range.

(b) If, in a particular calendar quarter, one or more calculated hourly averages exceed the span and/or the MPF or MPC, but none of them exceeds the full-scale range value, adjust the MPF or MPC to be equal to the highest such hourly average and (if necessary) reset the span. However, do not adjust the full-scale range. If the hourly average is deemed to be invalid due to a technical reason, then adjustments to the span and range should not be made. In such cases, keep onsite records of the technical reason(s) for invalidating the hour and not making the adjustment to span and range. Also include a statement in the comment field of the

quarterly emission report regarding the invalidation of such data.

(c) If, in a particular quarter, one or more calculated hourly averages exceed the full-scale range value, re-span and re-range the analyzer or flow monitor if the total number of such hourly averages exceeds two percent of the unit operating hours or 20 unit operating hours (whichever is less restrictive).

(3) If you must re-span or re-range the analyzer or flow monitor, make the changes no later than 45 days after the end of the quarter in which the need to re-span or re-range is identified or 90 days after the end of that quarter, if the calibration gases currently being used for daily calibration checks and linearity tests are unsuitable for use with the new span value (see Appendix A, Sections 2.1.1.5 and 2.1.2.5).

References: Appendix A, Sections 2.1.1.5, 2.1.2.5, 2.1.4.3, and Table 2-2

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