

Question 9.26

Topic: MPV, MPF, MPC, MEC, Span and Range -- Annual Evaluation

Question: What must I do to comply with the provisions of Sections 2.1.1.5, 2.1.2.5, and 2.1.4.3 of Appendix A to Part 75, which require an annual evaluation of the span and range of my continuous emission monitors? Are there any other times at which span and range evaluations would be required?

Answer: To comply with the annual span and range evaluation provisions of Part 75, you must examine your historical CEMS data at least once per year to see if the current span and range values meet the guideline in Section 2.1 in Appendix A. According to that guideline, the full-scale range of a monitor must be selected so that data recorded during normal operation are kept, to the extent practicable, between 20.0 and 80.0% of full-scale.

Section 2.1 also describes several allowable exceptions to the "20-to-80 percent of range" criterion. These guidelines do not apply to: (1) SO₂ readings obtained during the combustion of very low sulfur fuel (as defined in § 72.2); (2) SO₂ or NO_x readings recorded on the high measurement range, for units with SO₂ or NO_x emission controls and two span values, unless the emissions controls are operated seasonally (for example, only during the ozone season); or (3) SO₂ or NO_x readings less than 20.0 percent of full-scale on the low measurement range for a dual span unit, provided that the maximum expected concentration (MEC), low-scale span value, and low-scale range settings have been determined according to Sections 2.1.1.2, 2.1.1.4(a), (b), and (g) of Appendix A (for SO₂), or according to Sections 2.1.2.2, 2.1.2.4(a) and (f) of Appendix A (for NO_x).

The annual evaluation may be done in any quarter of the year. At a minimum, the evaluation consists of examining all measured CEMS data (not substitute data) from the previous four calendar quarters, for each pollutant or parameter (i.e., SO₂ concentration, NO_x concentration, CO₂ concentration, and flow rate). You may also include data recorded in the quarter of the evaluation. For example, if the data analysis is performed in the fourth quarter of the year, the analysis must include all data from the fourth quarter of previous year through the third quarter of the current year, and may (at the discretion of the owner or operator) include additional data from the fourth quarter of the current year.

Determine the percentage of the data that fall between 20.0 and 80.0% of full-scale and the percentage of the data that fall outside this range. The introductory text to Sections 2.1.1.5, 2.1.2.5, and 2.1.4.3 of Appendix A makes it clear that data recorded during short-term, non-representative operating conditions (such as a trial burn of a different fuel) should be excluded from the data analysis. If the majority (> 50%) of the historical data are found to be within the 20.0 to 80.0% band, the current span and range values are acceptable and may continue to be used.

The results of the annual evaluation must be kept on-site, in a format

suitable for inspection (see introductory text to Sections 2.1.1.5, 2.1.2.5, and 2.1.4.3 of Appendix A). Do not send these results to EPA. If, for any pollutant or parameter, the results of the annual evaluation fail to meet the guideline in Section 2.1 of Appendix A, Sections 2.1.1.5(a), 2.1.2.5(a), and 2.1.4.3(a) of Appendix A, then you must adjust (as applicable) the MPV, MPF, MPC, MEC span and range. When adjustments are required, you have up to 45 days after the end of the quarter in which the need to adjust (as applicable) the MPV, MPF, MPC, MEC span and range is identified (in this case, the quarter of the evaluation) to implement the change, with one exception -- for MPC, MEC, span and range changes (as applicable) to a gas monitor that require new calibration gases to be purchased because the current calibration gases are unsuitable for use with the new span value, you have up to 90 days after the end of the quarter of the unsatisfactory evaluation to implement the changes (as applicable).

In addition to the annual evaluations, you may also have to conduct evaluations whenever you plan to change the manner of operation of the affected unit(s), such that the emissions or flow rates may change significantly (see Sections 2.1.1.5(a), 2.1.2.5(a), and 2.1.4.3 of Appendix A).

For example, installation of emission controls may require certain monitors to be re-spanned and re-ranged. You should plan any MPV, MPF, MPC, MEC, span and range changes needed to account for such changes in unit operation, so that they are made in as timely a manner as practicable to coordinate with the operational changes.

References: Appendix A, Sections 2.1.1.5(a), 2.1.2.5(a), and 2.1.4.3(a)

History: First published in March 2000, Update #12; revised in 2013 Manual