



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
RESEARCH TRIANGLE PARK, NC 27711

Mr. Anthony Schneider
Ohio Lumex
9263 Ravenna Road, Unit A-3
Twinsburg, Ohio 44087

MAY 26 2016

OFFICE OF
AIR QUALITY PLANNING
AND STANDARDS

Dear Mr. Schneider:

We are writing in response to your letter of April 21, 2016, requesting approval of alternative testing procedures to apply in cases where very low-level mercury (Hg) measurement of sorbent traps is made using Performance Specification (PS) 12B (40 CFR part 60, Appendix B). The Office of Air Quality Planning and Standards, as the delegated authority, must make the determination on any major alternatives to test methods and associated procedures required under 40 CFR parts 59, 60, 61, 63, and 65.

In your request, you explain that Section 11.1 of PS 12B requires that the mercury mass collected on the sorbent traps fall within a calibrated range of the instrument. You point out that this provision is problematic when mercury concentrations are very low, specifically during 1) startup and/or shutdown events; 2) certified clean fuel combustion; and 3) when mercury concentrations are ≤ 10 percent of the very low mercury emission limits, such as those in 40 CFR part 63, subpart LLL (Portland Cement MACT) and subpart UUUUU (Mercury and Air Toxic Standards (MATS) Rule). In these circumstances, some mercury is collected in the sorbent traps, but due to low concentration and limited sampling time, the total mass collected could be less than the lowest calibration point, therefore, invalidating the sample. This criterion makes it difficult for well-controlled or clean-burning facilities to collect valid data to demonstrate compliance. To deal with this situation, you propose to use the quantification procedures found in Section 11.3 of Method 30B (40 CFR part 60, Appendix A), when the measured mass or concentration is below the lowest point in the calibration curve and above the minimum detection limit (MDL).

We recognize the need for this alternative, as PS 12B was developed for long-term sampling at facilities such as coal-fired electric generating units. The short sampling times, such as those experienced during startup and shutdown and sampling of extremely low-level sources, were not anticipated. These conditions were taken into account during the development of the similar Method 30B, and language was included so that low mercury concentrations could be properly quantified. Based on the rationale of your request and our intention to revise Performance Specification 12B in the future, we approve the following alternative test procedure, which may be applied to low-level mercury measurement.

Alternative Analytical Test Procedure:

- 1) *Determine the method detection limit (MDL) - The MDL must be determined at least once per year for each analytical system using an MDL study such as that found in Section 15.0 to Method 301 of Appendix A to 40 CFR part 63.*
- 2) *Perform the multipoint calibration according to PS 12B, Section 11.1; the lowest calibration point must be ≤ 5 ng. In addition, the mass of the first section of the sorbent trap must, at a minimum, be greater than the MDL determined in step 1.*
- 3) *Follow PS 12B, Section 11.2 – 11.3 as written.*
- 4) *Perform the analysis according to PS 12B, Section 11.4 with the following addition...If the measured mass or concentration is below the lowest point in the calibration curve and above the MDL, the analyst must estimate the mass or concentration of the sample based on the analytical instrument response relative to an additional calibration standard at a concentration or mass between the MDL and the lowest point in the calibration curve. This is accomplished by establishing a response factor (e.g., area counts per Hg mass or concentration) and estimating the amount of Hg present in the sample based on the analytical response and this response factor.*
- 5) *You must report the results and any associated raw data for the analytical procedures described above. The report should also include any deviations to the method and should include approval documentation of these deviation (e.g., this alternative method approval letter).*
- 6) *Should this alternative procedure be applied to samples collected for a relative accuracy test audit, the initial sample flow rate for each sample must be set to at least 1.0 liter/min to ensure adequate sample volume collection.*

Approval of this alternative procedure does not authorize deviation from any other QA/QC requirements of PS 12B other than the requirement that the result for the field samples analyzed must fall within the calibrated range of the instrument. It is reasonable that this alternative test method approval be broadly applicable to conducting mercury measurements using Performance Specification 12B. For this reason, we will post this letter on our website at <http://www3.epa.gov/ttn/emc/approalt.html> for use by other interested parties. This alternative is valid until revisions are made to PS 12B to address this issue, and at such time, this alternative will be withdrawn.

If you should have any questions or require further information regarding this approval, please call Ned Shappley of my staff at 919-541-7903 or email him at shappley.ned@epa.gov.

Sincerely,

A handwritten signature in blue ink that reads "Robin R. Segall for SMJ". The signature is written in a cursive style.

Steffan M. Johnson, Group Leader
Measurement Technology Group

cc: Barrett Parker, EPA/OAQPS/SPPD
Jeff Ryan, EPA/ORD/NRMRL
Robin Segall, EPA/OAQPS/AQAD
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