



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
RESEARCH TRIANGLE PARK, NC 27711

DEC 18 2018

Mr. Charles Franklin
Vice President & Counsel, Government Affairs
Portland Cement Association
1150 Connecticut Avenue NW, Suite 500
Washington, DC 20036-4104

OFFICE OF
AIR QUALITY PLANNING
AND STANDARDS

Dear Mr. Franklin:

I am writing in response to your letter dated November 11, 2018, on behalf of cement kiln owners and operators, requesting broad approval of an alternative test method for 'above span' calibration of mercury (Hg) continuous emissions monitoring systems (CEMS) used to demonstrate compliance with mercury emission limits under 40 CFR 63, Subpart LLL, National Emission Standards for Hazardous Air Pollutants from the Portland Cement Manufacturing Industry (Subpart LLL). The Office of Air Quality Planning and Standards, as the delegated authority, must make the determination on any major alternatives to test methods and procedures required under 40 CFR Part 63, including those governing CEMS serving as the performance test method as per §63.7(f) and §63.8(f)(4)(i). It is our understanding that you are requesting this alternative in anticipation of the expiration of ALT-120 (www.epa.gov/emc/broadly-applicable-approved-alternative-test-methods) on January 1, 2019.

More specifically, you request approval of an alternative calibration procedure for use by owner/operators of cement kiln systems with in-line raw mills using instrumental mercury CEMS and having mercury concentrations that exceed the regulatory span for periods of two or more consecutive clock hours. You explain that the alternative calibration method would follow the current requirements for mercury CEMS under Subpart LLL, except for two modifications to the requirements in §63.1350(k)(2)(iii). Section 63.1350(k)(2) of Subpart LLL sets forth the requirements for conducting 'above span' calibration of mercury CEMS when the mercury concentration measured exceeds the span value for more than two hours; this "above span" calibration serves to quality assure the "above span" mercury measurements from these time periods. The changes you request to the procedures in §63.1350(k)(2)(iii) would increase the upper limit for the mercury concentration of the calibration or reference gas standard used to perform the "above span" calibration check and clarify the requirement for data normalization conducted if the calibration check result does not meet the ± 20 percent criterion. The specific requested changes to the procedure in §63.1350(k)(2)(iii) are shown using underline/strikeout in the attachment to this letter.

Your request includes details on the NIST-traceable mercury gas generator technology and associated data acquisition systems (DAS) in use by the Portland cement industry explaining the reason for the requested changes, which are two-fold. First, you have proposed an expanded range for the above span calibration gas, changing the range from 50-150% to 50-250% of the highest expected hourly concentration during the above span period; we understand that this

change is designed to provide sufficient flexibility so that virtually all the required "above span" calibration gas concentrations needed can be provided by the NIST-traceable elemental reference gas generators. If a needed "above span" calibration gas value should fall in a gap not covered by a generator's NIST-certified values, it would be acceptable to default to use of the lowest certified "above span" gas concentration. Second, you have proposed a modified procedure that would allow for a timely repeat of an "above span" calibration check should it not be executed correctly and be invalid. We recognize, based on Portland Cement Association study data that you submitted earlier in the year, that the Hg gas generator technologies interfaced with a DAS may occasionally and unpredictably yield an invalid calibration for a number of reasons, including the generator itself failing to change calibration ranges and the calibration sequence being interrupted before completion.


We understand the challenges faced by the Portland cement industry in quality assuring "above span" mercury measurements using NIST-traceable elemental mercury gas generators to provide high quality calibration gases and we are approving your requested modifications to the calibration procedures of §63.1350(k)(2)(iii) as fully documented in the attachment to this letter.

Affected facilities using these approved alternative procedures must notify their respective enforcement authority (1) prior to using the alternative procedures and provide this letter and the attachment and (2) prior to discontinuing use of the alternative procedures as required by §63.7(f)(5).

As this alternative test method is appropriate for broad application by Portland cement facilities subject to 40 CFR 63, Subpart LLL, we will announce it on the EPA's website as ALT-132 at <http://www3.epa.gov/ttn/emc/approalt.html>.

If you have any questions regarding this approval or need further assistance, please contact Robin Segall at (919) 541-0893 or segall.rob@epa.gov.

Sincerely,



Steffan M. Johnson, Group Leader
Measurement Technology Group

Attachment

cc: Sara Ayres, OECA/OC
Louis Baer, PCA
Keith Barnett, OAQPS/SPPD
Robert Lischinsky, OECA/OC
Jeff Ryan, ORD/APPCD
Brian Storey, OAQPS/SPPD
EPA Regional Testing Contacts

Attachment

Approved Alternative to “Above Span” Calibration Procedures of §63.1350(k)(2)(iii)

(iii) Quality assure any data above the span value established in paragraph (k)(1) of this section using the following procedure. Any time two consecutive 1-hour average measured concentrations of Hg exceeds the span value you must, within 24 hours before or after, introduce a higher “above span” Hg reference gas standard to the Hg CEMS. The “above span” reference gas must meet the requirements of PS 12A, Section 7.1, must target a concentration level between 50 and ~~150~~250 percent of the highest expected hourly concentration measured during the period of measurements above span, and must be introduced at the probe. While this target represents a desired concentration range that is not always achievable in practice, it is expected that the intent to meet this range is demonstrated by the value of the reference gas. Expected values may include “above span” calibrations done before or after the above span measurement period. If a specific target value for the Hg reference gas concentration falls in a gap not covered by available certified values on the Hg reference gas generator, automated data acquisition system programs may default to use of the lowest “above span” calibration concentration value. Record and report the results of this procedure as you would for a daily calibration. The “above span” calibration is successful if the value measured by the Hg CEMS is within 20 percent of the certified value of the reference gas. If the value measured by the Hg CEMS exceeds 20 percent of the certified value of the reference gas, then you must normalize the 1-hour average stack gas values measured above the span during the 24-hour period preceding or following the “above span” calibration for reporting based on the Hg CEMS response to the reference gas as shown in Equation 22. Provided there is a technical justification that the “above span” check is not executed correctly (e.g., the Hg gas generator failed to change range or the “above span” sequence was interrupted before completion), the resulting data must be invalidated and not be normalized; an additional above span calibration check must be performed within the 24-hour period and used to replace invalidated data. Only one valid “above span” calibration is needed per 24-hour period. Records of all adjustments and any corrective actions resulting from “above span” calibration checks must be maintained.