UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
RESEARCH TRIANGLE PARK, NC 27711

JUN 28 2016

OFFICE OF
AIR QUALITY PLANNING
AND STANDARDS

Mr. Michael Schon
Vice President and Counsel, Government Affairs
Portland Cement Association
1150 Connecticut Avenue NW, Suite 500
Washington, DC 20036-4104

Dear Mr. Schon:

This letter is in response to your letter dated May 6, 2016, requesting approval of an alternative method for cement kiln owners and operators to use in calibration of mercury (Hg) continuous emissions monitoring systems (CEMS) that have been installed 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). In particular, you request an alternative test method that entails suspension of the requirements of 40 CFR 63.1350(k)(2)(ii) and (iii) until 12 months following an EPA determination and announcement that certified National Institute of Standards and Technology (NIST)-traceable high-level elemental mercury gas generators are widely available. You also request that the 12-month date be no sooner than September 9, 2017.

Section 63.1350(k)(2) of Subpart LLL sets forth the requirements for conducting 'above span' calibration of Hg CEMS when the concentration of the exhaust gas stream being measured exceeds the span value for greater than 2 hours; this 'above span' calibration serves to quality assure the 'above span' measurements from these time periods. You state that suspension of the §63.1350(k)(2) requirements is necessary because the high-level elemental mercury gas generators with NIST-traceable certifications at mercury concentrations above 40 $\mu g/m^3$, which are needed to meet the requirements of §63.1350(k)(2), are not currently widely available to Hg CEMS users. You contend that additional time is needed for NIST, Hg CEMS vendors, and affected Hg CEMS users to complete the necessary activities to acquire and put into place the certified NIST-traceable high-level elemental mercury gas generators needed to meet the §63.1350(k)(2) 'above span' calibration requirements. You point out that virtually all of the Hg CEMS now installed for use under Subpart LLL are dilution extractive systems and include analyzers with a broad measurement range going beyond the range which will be used under Subpart LLL, and that the analyzers have been demonstrated to be highly linear over these ranges. You also note that during the time period until NIST-traceable high-level elemental mercury gas generators are widely available, (1) the installed Hg CEMS will still be subject to the Hg CEMS certification requirements of Performance Specification 12A (40 CFR 60,

Appendix A), the on-going quality assurance requirements of Procedure 5 (40 CFR 60, Appendix A), and daily calibrations within the span range; and (2) your proposed alternative would not affect the averaging period of the emission standard nor any of the procedures to calculate the 30-day rolling averages used to demonstrate compliance under Subpart LLL.

We understand your, as well as your constituents', concern that additional time is needed for NIST, the Hg CEMS vendors, and affected Hg CEMS users to complete the activities underlying the acquisition and placement of the certified NIST-traceable high-level elemental mercury gas generators needed to meet the §63.1350(k)(2) 'above span' calibration requirements. This will entail NIST-certification of the 'Vendor Prime' high-level elemental mercury gas generators[1] that Hg CEMS vendors use to certify the 'User' high-level elemental mercury gas generators that are installed at the affected facilities in the field, purchase of those 'User' high-level generators, and installation/integration of the 'User' high-level generators into the existing Hg CEMS. We estimate this overall process could take 10 to 18 months. In the interim, while this process is occurring, we are approving your request to suspend the 'above span' calibrations requirements of §63.1350(k)(2). However, as an alternative to these requirements, the affected facilities must conduct an alternative, higher level calibration of each Hg CEMS to demonstrate linearity beyond span and, thus, qualify data measured above span during that time period as set forth below:

- Conduct the alternative calibration at least weekly or within 24 hours of any time two consecutive 1-hour average measured concentrations of Hg exceeds the span value.

- **High-Level System Calibration Check** - Conduct a high level system calibration check by injecting a NIST-traceable mercury calibration gas[1] from an elemental mercury gas generator at the sample probe upstream of the particulate matter filter at a level of ≥ 35 $\mu g/m^3$. The value measured by the Hg CEMS must be within 10.0 percent of the certified value of the reference gas. If the Hg CEMS response is not acceptable, the operator shall take corrective action and repeat the high-level system calibration check until acceptable response is obtained. If your elemental mercury gas generator is not certified for a NIST-traceable elemental mercury calibration gas at a level of ≥ 35 $\mu g/m^3$, you may use one of the following three approaches:

    - **High-Level System Calibration Check Using Gas Cylinder** - Conduct a high-level system calibration check by injecting a NIST-traceable mercury calibration

[1] "Interim Traceability Protocol for Qualification and Certification of Elemental Mercury Gas Generators," July 01, 2009; see: *https://www3.epa.gov/ttn/emc/metals.html.*

gas from a compressed gas cylinder[2,3] at the sample probe upstream of the particulate matter filter at a level of ≥35 μg/m^3. The value measured by the Hg CEMS must be within 10.0 percent of the certified value of the reference gas. If the Hg CEMS response is not acceptable, the operator shall take corrective action and repeat the high-level calibration check until acceptable response is obtained.

- **Direct Analyzer Calibration Check -** For dilution extractive Hg CEMS, conduct the direct analyzer calibration check by injecting a NIST-traceable mercury calibration gas from an elemental mercury gas generator[1] or compressed gas cylinder[2] at a Hg CEMS probe dilution level equivalent to direct (undiluted) emissions effluent Hg concentrations ≥120 μg/m^3 at least weekly. (For example, a direct analyzer calibration at 5 μg/m^3 for a CEMS probe 30:1 dilution ratio is equivalent to an undiluted effluent concentration of 150 μg/m^3.) The analyzer response must be within 10.0 percent of the certified value of the reference gas. You must also verify that the Hg CEMS meets the daily zero and upscale system calibration check requirements. If the Hg CEMS response is not acceptable, the operator shall take corrective action and repeat the direct analyzer calibration check and daily system calibration checks until acceptable responses are obtained.
- **High-Level System Calibration Check Using a Predetermined Reference Gas Value -** Conduct this high-level system calibration check by injecting a mercury reference gas from an elemental mercury gas generator, with the reference gas concentration value predetermined by the operator, at the sample probe upstream of the particulate matter filter at a level of ≥35 μg/m^3. The reference gas value for this check is established for this Hg CEMS as the initial observed stable response for the introduction of the specific gas level ≥35 μg/m^3 following a successful elemental Hg Measurement Error Test conducted according to Performance Specification 12A (40 CFR 60, Appendix B). The value measured by the Hg CEMS during each subsequent high-level calibration check must be within 10.0 percent of the value established for the reference gas. If the Hg CEMS response is not acceptable, the operator shall take corrective action and repeat the high-level calibration check until acceptable response is obtained.

- This alternative method approval will be effective from the date of this letter until January 1, 2018. This time period will provide ample time for affected Hg CEMS users to acquire and put in place NIST-traceable high-level elemental mercury gas generators or secure Hg compressed gas cylinders in appropriate concentrations.

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[2] EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards, U.S. Environmental Protection Agency, Office of Research and Development, EPA/600/R-12/531, May 2012. Robert S. Wright, Air Pollution Prevention and Control Division, National Risk Management Research Laboratory, Research Triangle Park, NC 27711, EPA/600/R-12/531, May 2012.

[3] Letter from Mr. Steffan M. Johnson, EPA/OAQPS to Mr. Doug King, Airgas Specialty Gases, dated May 24, 2016. (see www3.epa.gov/ttn/emc/approalt/alt118.pdf).

- Affected facilities using this alternative must notify their respective enforcement authority (1) prior to its use including identification of the calibration check approach which will be applied, and (2) at such time that the facility discontinues use of the alternative if prior to January 1, 2018.

Because we believe that this alternative is appropriate for broad application under 40 CFR 63, Subpart LLL, we will announce it on the EPA's website as ALT-120 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.robin@epa.gov*.

Sincerely,

Steffan M. Johnson, Group Leader
Measurement Technology Group

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