

DIVISION OF AIR QUALITY

AMBIENT MONITORING SECTION

April 14, 2008

MEMORANDUM

TO: Regional Ambient Monitoring Staff

FROM: Hoke P. Kimball, Ambient Monitoring Section Supervisor *Hoke P. Kimball*

SUBJECT: Interim Procedure For The Verification of New Cylinder Concentrations

A rare, but reoccurring problem with the accuracy of gas concentrations of "Protocol" compressed gas cylinders as certified by and supplied by some vendors has surfaced again. As far as we know, the problem does not affect us at the moment. However, we (DAQ) need to have a procedure in place, to prevent us from *unknowingly* placing a "bad" cylinder" into service at one or more of our regional sites. Hopefully, within the year, we will be setup at the new ECB facility to implement an official verification of all newly purchased Protocol gases. In the interim, the following procedure should be implemented at each site when a Protocol gas cylinder is changed out by the ECB. This interim procedure is simple, should not take more 30-45 minutes to accomplish, and is easily incorporated into the current procedure as outlined in the appropriate instrument QA for activities regarding cylinder replacement. Document the results in the "Notes" section of the ELOG (site operator), in the site logbook (ECB) and on an ECB 109 form.

Interim QC Procedures for CO, and SO₂ Cylinder Change-Out (NO not included at this time)

- 1) (Current Procedure) Immediately prior to changing a cylinder, perform a "Calibration Check". Run Zero, Span 1, Span 2 and Span 3 making sure that the criteria are met (For example, see Section 2.8.2.3.4 of Sulfur Dioxide QA revision 9, dated 4/23/07). If the site operator is not available to perform the "calibration check", then the ECB must use the most recent "auto daily calibration check".
- 2) (Current Procedure) Change to new cylinder: ECB will update the 146C with the new gas cylinder concentration, and adjust 146C gas and/or air flow as necessary to achieve the correct Span 1, Span 2 and Span 3 concentrations;
- 3) (**New Interim Additional Procedural Step**) The ECB (or the site operator, if available) will re-run the "Calibration Check" using the high span point (Span 1) as in step 1 above (this must be done prior to "re-Calibration"). Compare the resulting instrument response

to the expected concentration as indicated by the 146C. If the instrument reading is within $\pm 4\%$ of the expected value, proceed to step 4. If not, contact the ECB supervisor or other appropriate ECB personnel.

- 4) (Current Procedure) The site operator will perform a "Calibration" (adjusted calibration) on the instrument with the new cylinder following the procedures given in the appropriate QA. (For example, see Section 2.8.2.2.6 of Sulfur Dioxide QA revision 9, dated 4/23/07);

If you have any questions, please direct them to Jim McGaughey at (919) 715-7961, Mark Yirka at (919) 733-5235 or Joette Steger at (919) 715-0762 of the Ambient Monitoring Section.

Cc:

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