



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
RESEARCH TRIANGLE PARK, NC 27711

MAY 12 2014

Mr. James R. MacNeal  
Managing Partner  
Pangaea Gases, LLC  
P.O. Box 404  
Burton, OH 44021

OFFICE OF  
AIR QUALITY PLANNING  
AND STANDARDS

Dear Mr. MacNeal,

This letter is in response to your letter of March 8, 2014, to Dr. Connie Oldham requesting approval for users of Environmental Protection Agency (EPA) protocol gases under 40 CFR part 63, Subpart BBBBBB for Gasoline Distribution Bulk Terminals, Bulk Plants, and Pipeline Facilities; 40 CFR part 63, Subpart R for Gasoline Distribution Facilities; and 40 CFR part 60, Subpart XX for Bulk Gasoline Terminals to use alternative gases in instances where EPA protocol gases are not available due to lack of availability of appropriate national or international reference materials to which the protocol gases must be analytically and statistically traceable.

All of the referenced regulatory subparts require use of either Method 25A or Method 25B (40 CFR part 60, Appendix A) to measure total nonmethane organic compounds which, in turn, require use of calibration gases (for these subparts propane or butane in air or nitrogen) prepared in accordance with the "EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards"<sup>1</sup> to yield what are referred to as 'protocol gases.' Protocol gases are certified traceable by an unbroken chain of comparisons ultimately to national or international reference materials such as National Institute of Standards and Technology (NIST) standard reference materials (SRM), NIST-traceable reference materials (NTRM), certified gas materials (CRM), or reference gas materials (RGM) or Van Swinden Laboratorium (VSL)<sup>2</sup> primary reference materials (VSL PRM) and VSL CRM. You point out that there are cases where there are no NIST or VSL standards for the calibration gases needed for testing, for example, 2.5% propane in nitrogen. For cases such as this, Section 7.1 of Method 25A (which is also referenced by Method 25B) states "...For calibration gas values not generally available.....alternative methods for preparing calibration gas mixtures .....may be used with prior approval of the Administrator." To address this situation, you are proposing to produce a gravimetrically prepared primary standard to validate the measured concentrations of other gas cylinders in lieu

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<sup>1</sup> 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.

<sup>2</sup> The Van Swinden Laboratorium is the Swedish equivalent of the U.S. National Institute of Standards and Technology.

of using NIST or VSL standards; this primary standard would be traceable to NIST through the weights used to calibrate a high load, high sensitivity scale. The scale would be calibrated at the target mass range before each weighing and the weights would be calibrated to ASTM E617-97 Echelon 1 standards. You state that a gas mix prepared in this manner would have a total expanded uncertainty of under 1%. The provisions of Section 7.1 of Method 25A allow for approval of such an alternative, if appropriate, under our delegated authority for review and approval/disapproval of major alternatives to testing methods and procedures required under 40 CFR parts 60, 61, 63, and 65.

In recognition of the periodic need for protocol gases that are currently not available because national or international reference materials to which a protocol gas may be made traceable are not available, we are approving your proposed alternative to produce vendor certified calibration gases that meet the requirements listed below:

- Calibration gases must be prepared in accordance with ISO 6142.
- Calibration gases must be analyzed accordance with ISO 6143.
- Calibration gases must be filled at ISO 17025 accredited laboratories.
- The certified gas mixture must have a total expanded uncertainty of less than 1% (relative).
- If a National or International reference material appropriate for making the needed protocol gases should subsequently become available, you must revert to use of the "EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards" for gas certification and qualification and testers must, in turn, use the protocol gases for performing Method 25A/B calibrations under 40 CFR part 60, Subpart XX and 40 CFR part 63, Subparts R and BBBB.

Because we believe that this alternative is appropriate for broad application under 40 CFR part 60, Subpart XX and 40 CFR part 63, Subparts R and BBBB, we will announce it on EPA's website (at <http://www.epa.gov/ttn/emc/approalt.html>).

If you have any questions regarding this approval or need further assistance, please contact either Ray Merrill at (919) 541-5225 or [Merrill.raymond@epa.gov](mailto:Merrill.raymond@epa.gov) or Robin Segall at (919) 541-0893 or [Segall.robin@epa.gov](mailto:Segall.robin@epa.gov).

Sincerely,



Steffan Johnson, Acting Group Leader  
Measurement Technology Group

cc: Andrew Bouchard, SPPD  
Maria Malave, OECA