CLARIFICATION NUMBER CAO-00-009, REV. 1
HEADSPACE GAS EQUIPMENT CLEANING AND STORAGE AND FIELD REFERENCE STANDARDS

ISSUE

1. Is it necessary to remove the sampling head and replace it with a gas-tight connector in order to perform manifold cleaning after collection of a field reference standard? B1-1a(1), B1-1c, and B1-1c(4)

2. Must headspace gas sampling manifolds be stored under pressure after cleaning? B1-1c(3)

3. What is the difference between the collection of field reference standards using a manifold method versus a direct canister method? B1-1b(3)

4. Can gas standards be produced by expanding samples of manufacturer-certified liquid standard solution into a known volume? B1-1b(3)

5. Do canister or manifold pressure gauges have to be calibrated? B1-1d

CONCLUSION

1. It is acceptable to use the sampling head, connected to the standard side of the manifold or a gas-tight connector in place of the sampling head to connect to the purge gas system for cleaning.

2. No. The text regarding pressure applies to the cleaning method and not to the storage.

3. Only one field reference standard is required for the direct canister method if the QAOs are met. Manifold methods require samples at the frequency provided in Table B1-2 for manifold and on-line sampling systems.

4. Manufacturer-certified liquid solution standards may be used to produce gas standards if the requirements pertaining to gas standards (e.g., NIST traceability) of the WAP are met. Sites must provide the documentation necessary to demonstrate compliance with the NIST-traceability requirement in the WAP for field reference standards.

5. Yes. The NMED added the requirement to the Permit for annual calibration of the pressure gauges.

DISCUSSION

1. The purpose of the sampling and cleaning configuration in Section B1-1a(1) and B1-1c(4) is to assure 1) that all portions are systematically and adequately cleaned and 2) that contamination during and after cleaning

does not occur. Alternative configurations may be used to satisfy these and other headspace gas sampling requirements. Configurations that meet these objectives are acceptable.

2. The text in Section B1-1d(3) of the Permit regarding storage of sampling manifolds is ambiguous. The statement regarding the use of pressure is interpreted to apply to the cleaning of the manifold before storage and not the method of storage. This interpretation is consistent with Compendium Method TO-14. Generator sites must document cleaning and storage practices in site standard operating.

3. The direct canister method utilizes very simple and static stable technology for the collection of headspace gas samples. Collection of a single, acceptable Field Reference Standard serves to demonstrate the efficiency and accuracy of the direct canister method of sampling, as long as the components remain the same and intact. Section B1-1b(3), states the following with regard to field reference standards:

> ...After the initial accuracy check, field reference standards collected through the manifold shall be collected at a frequency of one per sampling batch and submitted as blind samples to the analytical laboratory. For the direct canister method, field reference standard collection may be discontinued if the field reference standard results demonstrate the quality assurance objective (QAO) for accuracy specified in Appendix B3.

4. Generator sites may produce field reference gas standards by expanding samples of manufacturer-certified liquid standard solution into a known volume as long as the permit requirements (e.g., certificate of composition) are met. Specific guidance requirements for certified standard materials are given in various parts of SW-846 and in TO-14. The site must establish a program to provide the documentation necessary to demonstrate compliance with the NIST-traceability requirement in the WAP.

5. In the Permit Application, the CBFO proposed initial calibration and annual calibration for manifold pressure sensors used in the headspace gas sampling apparatus. This requirement is consistent with EPA Compendium Method TO-14. In drafting the Permit, the NMED added the requirement that canister pressure gauges also be initially certified and annually calibrated to a NIST traceable, or equivalent, standard.