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OWM Publication Updates

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NISTIR 6969, *Selected Laboratory and Measurement Practices, and Procedures to Support Basic Mass Calibrations*

Several procedures have been updated in NISTIR 6969 and are posted on the OWM Calibration Procedures website (http://www.nist.gov/pml/wmd/labmetrology/calibration.cfm). The "Revision Control" document posted with the publication provides a highlight of the changes that were made to the following documents:

- GLP 9, Rounding Expanded Uncertainties and Calibration Values
- GMP 11, Assignment and Adjustment of Calibration Intervals for Laboratory Standards
- SOP 2, Applying Air Buoyancy Corrections
- SOP 33, Calibration of Weights Carts
- SOP 34, Selection and Use of Sensitivity Weights and Tare Weights in Weighing Procedures

NISTIR 7383, *Selected Procedures for Volumetric Calibrations*

Several procedures have been updated in NISTIR 7383 and are posted on the OWM Calibration Procedures website (http://www.nist.gov/pml/wmd/labmetrology/calibration.cfm). Again, the "Revision Control" document posted with the publication provides a highlight of the changes that were made to the following documents:

- SOP 14, Gravimetric Calibration of Volumetric Ware Using an Electronic Balance
- SOP 18, Calibration of Graduated Neck-Type Metal Volumetric Field Standards, Volumetric Transfer Method
- SOP 19, Calibration of Large Neck-Type Metal Provers, Volume Transfer Method
- SOP 21, Calibration of LPG Provers
- SOP 26, Gravimetric Calibration of Dynamic Volumetric Systems used as Standards

The primary reasons for changes were to add options for rounding practices to GLP 9. A few changes were made to SOPs 14, 18, 19, 21, 26, and 33 to note that the mean calibration value from replicate runs should be used when reporting mass and volume results and to note which values should be tracked on standard deviation charts if/when there are adjustments. SOP 2 was changed to add a formula from SOP 28 for calculating effective density. GMP 11 changes included an addition of 100 g starting restraints and check standards to the Mass Echelon I table and to change the calibration intervals for liquid in glass thermometers used as reference standards. The calibration interval for liquid in glass thermometers was changed in response to a complaint that was submitted with additional supporting references regarding the stability of that type of thermometer. SOP 34 was changed based on confusion about selecting tare weights and sensitivity weights that was observed in the last Mass Metrology Seminar.

There was a web presentation on February 25, 2016, that provided a detailed overview of the changes made to these procedures. If you missed the session and want to review a recording of it, please contact Georgia Harris at gharris@nist.gov for the link and password.

NIST Handbook 105-4, *Specifications and Tolerances for Liquefied Petroleum Gas and Anhydrous Ammonia Liquid Volumetric Provers* (2010)

A concern was raised within the Office of Weights and Measures (OWM) regarding Section 4.10 and the use of bleed lines in NIST Handbook 105-4. Note that this section was added in the 2010 version of Handbook 105-4 but did not exist in the 1997 version. There has been a request by the Legal Metrology Devices Program to remove Section 4.10. The use of bleed valves facilitates testing and enables inspectors to more quickly establish a zero condition during meter evaluations. Additionally, the procedures used in Canada that were updated in October 2015 also reference the use of bleeder valves to adjust the volume during the meter tests. Limited comments were submitted during the reviews between 1997 and 2010 that resulted in adding this requirement, but the comments did not provide legal requirements or a basis for not allowing bleed lines. However, there were also no comments opposing the addition of Section 4.10 during the final draft reviews. The OWM Laboratory Metrology Program has no metrological basis for retaining this section. Therefore, it is the proposal from the NIST Office of Weights and Measures to remove this requirement from the handbook (section 4.10, page 14), pending input and justification from users of this document.

You can review a posted draft of Handbook 105-4 (2016), a memorandum that identifies the issue in more detail, and submit comments via the OWM Contact System (https://tsapps.nist.gov/WMD/default.aspx). After logging in, follow these steps:

- Select My Comments from the menu bar (4th item in from the left).
- Select "Submit" a Comment radio button that is above any lists of comments you may have previously entered.
- Select "Handbook 105-4 (2016)" from the list.
- Enter your Section, Page, and Comment.
- Press Continue.
- Review your submission and press Edit or Submit.

Action Items:

Be sure to review the latest procedures and revision control document, update your Quality Management System master file (if these measurements are on your laboratory Scope), and implement them into your normal operations.

Review the latest draft of NIST Handbook 105-4 and memorandum, and submit your comments on the document.

*Note: Good Laboratory Practices (GLPs)
Good Measurement Practices (GMPs)
Standard Operating Procedures (SOPs)