NVLAP®	**DEPARTMENT OF COMMERCE** National Institute of Standards and Technology National Voluntary Laboratory Accreditation Program	**ISSUE DATE:** February 26, 2010
	ASSESSOR BULLETIN	**NUMBER:** AB-10-2010
		LAP: All
SUBJECT: Assessment of Requirements for Measurement Traceability		

This bulletin supersedes and replaces Assessor Bulletin AB-10-2008, issued August 5, 2008.

The purpose of this bulletin is to remind assessors of issues related to assuring measurement traceability during the assessments of laboratories seeking to attain or maintain accreditation.

Metrological Traceability and NIST Handbook 150:2006, Annex B

NIST Handbook 150:2006, Annex B, provides NVLAP-specific information for laboratories and assessors to use while evaluating whether or not the metrological traceability requirements as defined by JCGM 200:2008 (VIM 3), ISO/IEC 17025:2005, 5.6, and ILAC-P10:2002, *ILAC Policy on Traceability of Measurement Results* are being met. Displayed below is the text of these definitions and requirements.

> ***JCGM 200:2008 (VIM 3)**, **2.41: metrological traceability** – Property of a measurement result whereby the result can be related to a reference through a documented unbroken chain of calibrations, each contributing to the measurement uncertainty.*
>
> ***ISO/IEC 17025:2005, 5.6.2.1.1:** For calibration laboratories, the program for calibration of equipment shall be designed and operated so as to ensure that calibrations and measurements made by the laboratory are traceable to the International System of Units (SI).*
>
> ***ISO/IEC 17025:2005, 5.6.2.2.1:** For testing laboratories, the requirements given in 5.6.2.1 apply for measuring and test equipment with measuring functions used . . . .*
>
> ***ILAC-P10:2002, 2(a):** Laboratories accredited by ILAC Member Bodies shall be able to demonstrate that calibration of critical equipment, and hence the measurement results generated by that equipment, relevant to their scopes of accreditation, are traceable to the International System of Units (SI units).* It recognizes that there are instances where this metrological traceability is not technically possible, but indicates that, by example, using certified reference materials, specified methods and/or consensus standards that are mutually agreed upon is acceptable.

NIST Handbook 150:2006, Annex B describes the mechanisms by which NVLAP assessors and laboratories can satisfy the requirements of the ISO/IEC 17025 standard and ILAC policy. It states that it is a fundamental requirement that the results of all accredited calibrations and the results of all calibrations required to support accredited tests shall be traceable to the SI.

It is acceptable for laboratories to calibrate their own equipment to support their scope of accreditation, as long as they meet the requirements of NIST Handbook 150:2006. This means the entire process needs to be checked as if they were requesting to have the capability on their scope. Traceability may be evidenced by records indicating that there is indeed an unbroken chain of calibrations. One part of these records may be a calibration certificate from a laboratory accredited by an MRA signatory partner.

The certificate from a laboratory accredited by an MRA partner is not the end of the assessment of traceability. The laboratory and assessor must ensure that the certificate meets NIST Handbook 150:2006 requirements, that is:

- Does the certificate contain the measurement uncertainties and/or statement of compliance with an identified metrological specification?
- Do these uncertainties and/or specifications support the uncertainty analysis for the intended scope?
- Do they support and match any correction factors and measured data utilized in the measurement process?
- Are there nonconformities to ISO/IEC 17025:2005 in the certificates? If so, were these noted during document review on receipt?

Mutual Recognition Arrangement (MRA) Updates

NVLAP assessors should be aware that new signatories to the APLAC, IAAC, and ILAC MRAs are added on a regular basis.

Assessors may view up-to-date listings of the signatories by following the link “Mutual Recognition Arrangements” on the NVLAP home page <www.nist.gov/nvlap>.

NIST Handbook 150, Annex B, B.3.3 describes the demonstration of traceability with respect to the use of accredited laboratory services. Having additional signatories to the MRAs allows the laboratories additional means to obtain traceability. Assessors need to be aware of this when verifying traceability paths.

Please direct any questions about this bulletin to your NVLAP Program Manager.