Traceability of measurement

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Bureau of Laboratory Accreditation

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Introduction

This publication outlines the policy of The Bureau of Laboratory Accreditation, Department of Science Service (BLA-DSS) with respect to traceability of measurement. The criteria for traceability, which must be met by all accredited laboratories, proficiency testing providers and reference material producers can be found in ILAC P10 - ILAC Policy on Traceability of Measurement Results.

Content

1. Scope

This document is applicable to all laboratories, proficiency testing providers and reference material producers applying for the laboratory accreditation and accredited laboratories , proficiency testing providers and reference material producers from the BLA-DSS.

2. Definition

2.1 The BLA-DSS means the Bureau of Laboratory Accreditation, Department of Science Service.

2.2 The formal definition of traceability is given in the International vocabulary of metrology - Basic and general concepts and associated terms (VIM), JCGM 200:2012 as the "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".

3. BLA-DSS policy on traceability of measurement

The BLA-DSS will apply the principles of ILAC P10, ILAC Policy on Traceability of Measurement Results. This document is available in website http://www.ilac.org.

4. Sources for traceability of measurement

4.1 Wherever possible equipment requiring calibration used for tests or internal calibrations shall be calibrated by one of the following

4.1.1 An appropriate National Measurement Institute (NMI)

a) an appropriate NMI is considered to be one that participate in the CIPM/BIPM Mutual Recognition Agreement (MRA). Acceptability is limited to the uncertainty levels published in the CIPM calibration measurement capability (CMC) tables that comprise an integral part of the MRA. The signatories to the MRA and their capabilities are listed on the BIPM website http://www.bipm.org

b) the BLA- DSS recognises the National Institute of Metrology (Thailand).

4.1.2 Calibration laboratories that are accredited to the requirements of ISO/IEC 17025 by an accreditation body that meets the requirements of this policy and is part of the ILAC Mutual Recognition Arrangement.

Note Where in-house calibration is carried out by a testing laboratory, it is not necessary for that testing laboratory to be accredited as a calibration laboratory. The laboratory shall, however, ensure that the following details are covered:

a) details of the traceability of measurement of the reference standards or reference materials used
b) unambiguous description of the item(s) subject to calibration
c) indication of the range and frequency over which the calibration was performed
d) refer to the method of calibration
e) results of the calibration
f) the uncertainty of measurement and associated confidence level.
g) the competence of personnel who perform the calibration.

4.2 In case where NMI service is not covered by the CIPM/BIPM MRA or calibration laboratory service is not covered by ILAC Arrangement or by Regional Arrangement recognized by ILAC or metrological traceability of measurement to SI units is not possible and/or relevant. In such cases the laboratory is required to provide confidence in the metrological traceability of the results generated by the use of

a) certified reference materials produced by NMIs or Designated Institutes (DIs) and reference material producer (RMP) according to ISO 17034.
b) a consensus method or standard.
c) evidence for the technical competence of the laboratory as described but not be restricted to the following :
   - records of calibration method validation
   - procedures for evaluation of uncertainty
   - documentation for traceability of measurements

- documentation for assuring the quality of calibration results
- documentation for competence of staff
- documentation for accommodation and environmental conditions
- audits of the calibration laboratory

In such situations participation in an appropriate proficiency testing scheme or interlaboratory comparison are strongly recommended.