



GLOBAL LABORATORIES ACCREDITATION BOARD

MEASUREMENT TRACEABILITY POLICY

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1. Scope

- 1.1. The following pages describe the responsibilities of organizations seeking accreditation by GLAB in reference to measurement traceability. The policy detailed within this document applies only to tests for which an accredited result is to be reported.

2. Introduction

- 2.1. For the purpose of this procedure, the term ‘traceability’ is defined as the process by which the result of a measurement is compared to an international or national standard. Traceability is characterized by a number of essential elements:
- 2.2. An unbroken chain of comparisons going back to a standard acceptable to the parties; usually a national or international standard;
- 2.3. Measurement uncertainty; the measurement uncertainty for each step in the traceability chain must be calculated according to defined methods and must be stated so that overall uncertainty for the whole chain may be calculated or estimated;
- 2.4. Documentation; each step in the chain must be performed according to documented and generally acknowledged procedures; the results must be equally documented;
- 2.5. Competence; the organizations or bodies performing one or more steps in the chain must supply evidence for their technical competence (e.g. by demonstrating that they are accredited);
- 2.6. Reference to the SI units; the chain of comparisons must, where possible, end at primary standards for the realization of the SI units;
- 2.7. Calibration Intervals; calibrations must be repeated at appropriate intervals; the length of these intervals depends on a number of variables, (e.g. uncertainty required, frequency of use, manner of use, stability of equipment).

3. Definitions

- 3.1. Metrological traceability



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3.1.1. 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.

3.2. Metrological Traceability Chain

3.2.1. Metrological traceability where the reference is the definition of a measurement unit through its practical realization. Note 1-The expression “traceability to the SI” means metrological traceability to a measurement unit of the International System of Units.

3.3. NMI-National Metrology Institutes (NMI) and Designated Institutes (DI)

3.3.1. Maintain standards in countries (regions) all over the world. Throughout this document the term “NMI” is used to cover both National Metrology Institutes as well as Designated Institutes.

4. Traceability Requirements: Testing Organization

4.1. GLAB recognizes the calibration of equipment and standards from National Physical Laboratory or any of NMI and DI which is signatory of CIPM MRA as per the economy need.

4.2. Calibration service which is used by testing laboratories shall be accredited with ISO 17025: 2005 by an accreditation body that is signatory to ILAC or other regional bodies

4.3. If calibration is not a dominant factor in the testing result(s) and the associated uncertainties the laboratory is to have evidence to substantiate or confirm the fact that traceability (of the equipment calibration results) does not need to be demonstrated.

4.4. The applicant testing organization shall have documented procedures detailing the verification, transport and storage of reference standards. In addition, the applicant organization shall have documented policies and procedures regarding measurement traceability. If the organization chooses to reference this traceability on test reports/certificates, it must refer traceability to the SI when possible and relevant and if not possible and relevant the appropriate measurement standards as listed in ISO/IEC 17025:2017 Section 6.5.2 must be identified. This can be accomplished through inclusion of



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a statement similar to the following on the certificate or report. “The test results published in this report were obtained using equipment capable of producing results that are traceable through NMI/DI to the International System of Units (SI)” This statement is intended only as an example and other statements which express the same intent would be acceptable.

5. References

- 5.1. ILAC-P10:01/ 2013 Policy on Traceability of Measurement Results
- 5.2. ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories