

**National Accreditation  
Agency of Ukraine**

**Approved by**  
NAAU Decree  
dated 15.07.2015 No.199-Я

## **MANAGEMENT SYSTEM**

### **NAAU Policy on Traceability of Measurements That are Provided by Conformity Assessment Bodies According to Declared Accreditation Scope**

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<b>GD-08.00.09</b>			
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## **NAAU Policy on Traceability of Measurements That are Provided by Conformity Assessment Bodies According to Declared Accreditation Scope**

### **1. General provisions**

Metrological traceability is a property of the measurement result by which the result can be associated with a specified reference through a documented unbroken chain of calibrations, each of such calibration chains contributes to uncertainty of measurement.

Metrological traceability of measurement results is one of the key matters, to which the agreed policy is essential if the market desires to have confidence in calibrations, testing and assessments performed by accredited laboratories and inspection bodies that are covered by International Laboratory Accreditation Cooperation (hereinafter – ILAC) Mutual Recognition Arrangement scope.

With the aim of ensuring confidence in measurement results of accredited laboratories and inspection bodies, National Accreditation Agency of Ukraine (hereinafter – NAAU) applies ILAC policies and guiding documents for the purpose of unified and coherent approach towards accreditation criteria.

Provisions of this NAAU policy are mandatory for all accredited conformity assessment bodies (hereinafter – CAB) and CABs that are currently in accreditation process. The document is also mandatory for NAAU assessors who assess the fulfillment of requirements on the traceability in CABs.

### **2. NAAU Policy on traceability of measurement results through calibration**

General requirement for traceability of measurement results (during calibration, testing and inspection) are as follows:

All equipment that is used for testing, including equipment for auxiliary testing (for instance, for environment conditions) that has a significant influence on accuracy and reliability of the measurement result or sampling shall be calibrated before it is put into operation. Justification for calibration is the duty of a laboratory. In those cases, where CAB considers calibration not to be mandatory, justification of such decision shall be provided. This means, that the results of calibration do not contribute significantly to the measurement result and the measurement uncertainty and therefore the traceability can not be proved.

Equipment calibration program for CAB shall be developed and operate in the way that ensures traceability of measurement results.

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2.1. NAAU Policy on equipment that has to be calibrated states that it may be calibrated:

2.1.1. In national metrological institutes (NMI) for those measurements that have documented evidence of traceability to SI units in calibration and measurement capabilities (CMC) published on International Bureau of Weights and Measures (BIPM) web page and are uploaded on web pages of corresponding NMIs.

In the case that NMI issues the calibration certificate for performed calibration and this certificate includes the reference to the CIPM MRA agreement, it is considered as sufficient evidence of ensuring an acceptable traceability. If NMI issues the calibration certificate for performed calibration and this certificate does not include the reference to the CIPM MRA agreement, the authoritative source of information on ensuring an acceptable response is KCDB BIPM database.

2.1.2. In calibration laboratories that have documented evidence of accreditation for technical competence for given type of measurement with internal calibrated measurement standards that provide necessary traceability of measurement (unbroken chain of metrological traceability to international or national measurement standards). These laboratories shall be accredited by accreditation body that is a signatory for ILAC MRA or recognized regional MLA for calibration, e.g. EA MLA.

In the case that an accredited calibration laboratory issues a calibration certificate for performed calibration with the reference to accreditation, laboratory combined mark or accreditation mark of the accreditation body, it is considered as sufficient evidence of ensuring an acceptable traceability.

If an accredited calibration laboratory issues a calibration certificate for performed calibration without the reference to accreditation, laboratory combined mark or accreditation mark it is not considered that metrological service was performed by a competent provider.

2.1.3. An NMI, which service is suitable for the intended use, but is not covered by CIPM MRA or calibration laboratory, which service is suitable for the intended use, but is not covered by ILAC MRA agreement or regional agreement of MLA recognized by ILAC for the field of calibration.

In this case, CAB has to ensure the appropriate evidence of required traceability and measurement uncertainty and NAAU shall assess such evidence.

CAB is required:

- to perform client's audit in presence of NAAU representatives or another accreditation body, that is signatory to ILAC MRA (recognized regional MLA) in the

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field of calibration;

- to have a certificate of performed calibration, including at least: date of calibration; identification of equipment, that was calibrated; measured values and results, including uncertainty; information on traceability (or a reference on such data).

The following items are considered as sufficient evidence for cl. 2.1.3:

- positive results of interlaboratory comparisons in corresponding field,
- demonstration of internationally agreed standard or approved regulatory document on calibration;
- records on calibration method (methodic) validation,
- procedures and records on evaluation of the uncertainty of measurement results,
- documentation relating to the traceability of measurements, assuring the quality of calibration results, competence of staff, premises, environment and equipment,
- audits of calibration/testing laboratory, etc.

2.1.4. If variants, stated in clauses 2.1.1-2.1.3 are unavailable or non relevant, traceability may be ensured, for example:

- through certified reference materials,
- agreed methods and/or accepted consensus standards,
- if it is possible, the participation of CAB in appropriate programs of mutual comparisons/proficiency testing is required,
- or in the way, that is specified in the relevant standards used for the accreditation.

According to cl. 2.1.4 CABs are required:

- to justify, that the policy referred in cl. 2.1.1-2.1.3 can not be fulfilled or is not important,
- to provide evidence of the appropriate way of compliance with the policy listed in cl. 2.1.4.

### **3. NAAU policy in the field of ensuring the traceability through measurement standards and reference materials**

Values that are connected to reference materials (hereinafter – RM) shall be metrologically traceable, if possible, to SI system units or to certified reference materials. Internal measurement standards shall be checked depending on technical and economic needs.

NAAU policy in abovementioned field is as follows:

3.1. Values of State reference materials of Ukraine (SRMU) that are produced by

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NMI and are included in BIPM database or values of certified SRMs shall be in JCTLM database on BIPM web page. SRMUs produced by reference materials producers accredited against ISO Guide 34 and approved by Science-Technical Commission of the Ministry of Economic Development and Trade of Ukraine are permitted to use.

3.2. If other RMs and certified RMs do not comply with the conditions, mentioned above and are considered to be critical, CAB shall demonstrate that every RM and certified RM in use is suitable for given use as required by relevant accreditation standard.

As for variant from cl. 3.2 the following is required from CABs:

- demonstration of the appropriateness of RM and Certified RM,
- participation in proficiency testing or other appropriate mutual interlaboratory comparison;
- mutual comparison among CABs in cases when official comparisons are unavailable;
- comparison of RM, that is in use, with certified RM that complies with cl. 3.1;
- comparison of RM and certified RM from different producers;
- usage of two independent methods to confirm the values of RM and certified RM;
- comparison of newly used RM/certified RM with already used one which was tested by the above listed methods, etc.

### 3.3. Titrants and graduation samples

Records on titrants preparation and graduation samples preparation shall contain information on outgoing RMs and pure substances and also on uncertainties of chemical composition. Assessment of prepared titrants and samples for graduation uncertainty shall be provided according to documented procedure (instruction). Titrants, graduation solutions and graduation samples that are kept more than one day shall have value of assessed uncertainty.

### 4. Revision of this Policy – on necessity.

#### Document developed by:

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