

EURO-ASIAN COOPERATION  
OF NATIONAL  
METROLOGICAL INSTITUTIONS

**COOMET**



ЕВРО-АЗИАТСКОЕ СОТРУДНИЧЕСТВО  
ГОСУДАРСТВЕННЫХ  
МЕТРОЛОГИЧЕСКИХ УЧРЕЖДЕНИЙ

**КООМЕТ**

*Approved on the COOMET Quality Forum  
25<sup>th</sup> February 2002*

## **RECOMMENDATION**

**on the Evaluation of Quality Management System  
of National Metrology Institutes**

**Bratislava, 2002**

## 1. SCOPE

This Recommendation specifies the requirements and procedure of evaluation of quality management system of National Metrology Institutes regarding results of their calibration and measurement performance, which are subject to recognition in accordance with the Agreement on mutual recognition of national standards and calibration and measurement certificates, issued by National Metrology Institutes (hereinafter referred to as Agreement).

This Recommendation applies to activities of State Metrology Institutions – COOMET-members on behalf of which Agreement is signed. Recommendations comply with the requirements of international standards ISO 9000, ISO 9001, ISO 9004, ISO/IEC 17025.

## 2. NORMATIVE REFERENCES

These Recommendations have the references to the following standards:

ISO 9000:2000 Quality management system. Fundamental regulations and vocabulary.

ISO 9001:2000 Quality management system. Requirements.

ISO 9004:2000 Quality management system. Recommendations for improvement of activity.

ISO/IEC 17025:1999 General requirements for the competence of testing and calibration laboratories.

\*ISO 10011-1-93 Guidelines for auditing quality systems. Part 1: Auditing.

\*ISO 10011-2-93 Guidelines for auditing quality systems. Part 1: Qualification criteria for quality systems auditor.

\*ISO 10011-3-93 Guidelines for auditing quality systems. Part 1: Management of audit programmes.

ISO Guide for expressing uncertainty of measurement.

JCRB-5/1 Regulations and procedure of including data of measurement capabilities in Appendix C.

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\*) It is planned to be substituted by *Directives on assessment of quality systems*.

### 3. DEFINITIONS

For the purpose of this Recommendation, definitions are applied according to the standards given in Part 2 as well as the following:

*National Metrology Institutes* (NMI) - organisations (institutions) which develop, maintain and improve state measurement standards of the highest precision in a given country, provide for their inter-comparisons and transfer of unit to measuring instruments of calibration and measurement laboratories including other countries.

*Calibration and measurement laboratories* (CML) – organisations which carry out calibration (verification) of measuring instruments and measurements for external customers.

### 4. GENERAL

4.1 Based on the criteria approved (see the Annex 1) the assessment of quality management systems of NMI is carried out by COOMET experts and auditors commission, appointed by the Chairman of Quality Forum. Experts and auditors from other RMO can be included in this commission.

4.2 Qualification requirements for experts and auditors should be in accordance with the requirements of this recommendation (Annex 2) and ISO 10011-2 or \*ISO 19011.

4.3 In case the NMI develops and produces measurement standards or other metrology equipment for external customers, except activity categories given in Part 3 of this recommendation, it should also have quality management system according to ISO 9001.

### 5. ASSESSMENT PROCEDURE OF QUALITY MANAGEMENT SYSTEM

5.1. For at site evaluation of quality management systems of NMI, through the COOMET Quality Forum Technical Committee member of the given NMI country, to the commission for consideration according to 4.1 the following is to be presented:

- documents regulating organisation structure and performance of the system and confirming accordance with the requirements of ISO/IEC 17025 and this recommendation;
- measurement capabilities data of NMI confirmed by Joint committee of RMO and BIPM;
- results of inter-comparisons;

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\*) Document is being developed

- information about participation in review of measurement capabilities data of other NMIs and NMI activities in Consultative Committee of BIPM and COOMET, EUROMET projects or other regional (sub-regional) metrology organisations pointing level of participation and results obtained.

Additional data concerning evaluation of quality management system of NMI can be presented to the commission. For example, comments of experts and auditors who are not members of the commission (including other RMO).

5.2. In case of carrying out evaluation of quality management system of NMI by commission according to 4.1, a review is assumed provided of system operation. At the same time it is recommended to use questionnaires given in Annexes 3 and 4.

5.3. Evaluation of quality management systems of NMI is carried out in two directions:

- management requirements;
- technical requirements.

5.3.1. Management requirements include:

- organisation and management;
- description and documentation of quality management system;
- document control;
- service to client;
- complaints (appeals, claims);
- control of non-conforming calibration and measurement work;
- corrective action;
- preventive action;
- control of records (protocols, reports, certificates);
- internal audits;
- management reviews;
- analysis of operation and improvement system (analysis of results of interregional reviews of measurement / calibration capabilities (CMC) of NMI, data from clients, self-analysis, analysis of financial indicators, management of non-conformities).

5.3.2. Technical requirements include:

- qualification of personal including qualification of scientist-keeper of national standards requirements to which are given in Annex 3 of these recommendations;
- accommodation and environmental conditions;
- equipment;
- calibration procedures and measuring methods and capability of their realisation of a given NMI;

- data on control;
- data control;
- implementation of Guide for expressing uncertainty of measurement and regulations and principles of Joint Committee of RMOs and BIPM;
- conformation of data of measurement / calibration capabilities (CMC) of NMI, results of performed comparisons of standards by Joint committee RMO and BIPM;
- traceability of measurements results to standards recognised by BIPM (in case of calibration of standards in other NMIs);
- registration of protocols and calibration and measurement certificates;
- capability of using ATA Carnet System by foreign customers;
- quality assurance of measurement and calibration results;
- assurance of calibration and measurement results and temporarily imported equipment.

5.4. Using review results of quality management systems of NMI commission draw out an act signed by all its members.

5.5. Chairman of the commission send to Secretariat of COOMET Quality Forum an act according to item 5.4 with documentation submitted to the commission for consideration.

5.6. Representative of NMI claimed to recognition its quality management system reports on its system status on the COOMET Quality Forum.

5.7. In accordance with the results of data consideration according to item 5.5 on COOMET Quality Forum a document (in Russian and English) will be elaborated and signed by the Forum Chairman and the Secretary.

## **6. ANNEXES**

1. Criteria for accepting Quality Management Systems in COOMET NMIs
2. RULE - The scientist- keeper of the national standard
3. QUESTIONNAIRE (Recommended) for an expert performing evaluation of quality management system of NMI
4. QUESTIONNAIRE (Recommended) for an expert performing evaluation of quality management system of NMI according to the requirements of ISO 17025