

	<b>COOMET Recommendation</b> COOMET Quality Forum document	<b>COOMET R/AQ/9:2010</b>  Pages: 4 Version: 15.3.2010
	<b>Recommendation on the Evaluation of Quality Management System of National Metrology Institutes</b>	
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<i>Approval on the 11th COOMET Quality Forum Technical Committee Meeting (Chisinau, 4.12.2009)          Approved at the 20<sup>th</sup> COOMET Committee Meeting (Astana, Kazakhstan, on April 21–22, 2010)</i>		

## 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/IEC 17025, ISO 17000, International Vocabulary for Metrology (VIM) and recommendations of ISO 34.

## 2. NORMATIVE REFERENCES

These Recommendations have the references to the following standards:

ISO 9000:2000 Quality management system - Fundamentals and vocabulary.

ISO/IEC 17025:2005 General requirements for the competence of testing and calibration laboratories.

ISO 19011:2002 Guidelines for quality and/or environmental management systems auditing.

ISO The Guide to the Expression of Uncertainty in Measurement (**GUM**),

JCRB-5/1 JCRB Rules of Procedure for CMC entry into Appendix C.

International Vocabulary on Metrology (VIM).

**JCRB** Recommendations for selection criteria for peers conducting on-site visits and guide to the need for on-site visits.

## 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 keep, maintain and improve National (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 that of other countries’.

*Calibration and measurement laboratories (CML)* – organisations which carry out calibration 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 based on agreement with host party.

4.2 Qualification requirements for experts and auditors should be in accordance with the requirements of Joint Committee of RMO and BIPM JCRB “Recommendations for selection criteria for peers conducting on-site visits and guide to the need for on-site visits” as well as ISO 19011.

#### **5. ASSESSMENT PROCEDURE OF QUALITY MANAGEMENT SYSTEM**

5.1. NMI submits through the COOMET Quality Forum Technical Committee member to consideration of the commission for evaluation of quality management system according to 4.1:

- documents regulating organisation structure and performance of the system and confirming accordance with the requirements of ISO/IEC 17025 and this recommendation;

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 those from other RMOs).

While conducting the evaluation of quality management system of NMI by commission according to 4.1, a review of system operation is performed. The rules and procedure of evaluation of QMS NMI are defined in the document “Recommendation. The rules and procedure of evaluation of QMS NMI”.

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

- management requirements;
- technical requirements.

5.2.1. Management requirements include:

- organisation;
- management system;
- documentation control;
- review of requests, applications for tenders and contracts
- subcontracting of tests and calibrations;
- purchasing services and supplies;
- service to customer;
- complaints (appeals, reclamations);
- control of calibration work nonconforming to the defined requirements;
- improvement;
- corrective measures;
- preventive measures;
- control of records;

- internal audits;
- management reviews;
- analysis of system function and perfection (analysis of results of interregional reviews of measurement/ calibration capabilities (CMC) of NMI, data from clients, self-analysis, evaluation of financial indicators, management of non-conformities).

5.2.2. Technical requirements include:

- qualification of personal;
- accommodation and environmental conditions;
- calibration methods and method validation
- equipment;
- data on management;
- control of data;
- implementation of Guide on Measurement Uncertainty as well as the rules and norms of JCRB (Joint Committee of RMOs and BIPM);
- confirmation of CMCs (calibration and measurement capabilities) of NMI by JCRB, of results of performed comparisons of measurement standards;
- traceability of measurements results to measurement standards recognised by BIPM (in case of calibration of measurement standards in other NMIs);
- handling of calibration items;
- assuring the quality of calibration results
- reporting the results (preparation of calibration and measurements reports and certificates);
- quality assurance of calibration and measurement results.

5.3. Based on the results of review, provided that quality management systems of NMI exists, commission writes down a report according to point 4.1 that is to be signed by all members thereof.

5.4. Chairman of the commission submits the report according to the point 5.3 to the Secretariat of Quality Forum of COOMET for consideration.

5.5. Auditor that performed the peer review of QMS NMI reports its results at the meeting of Technical Committee of the COOMET Quality Forum.

5.6. Based on the results of consideration of data according to point 5.4 at the Technical Committee of the COOMET Quality Forum a Certificate (in English and Russian languages) will be issued under the signature of the COOMET Quality Forum Chairman.

The period of validity of the certificate should not exceed 5 years.

5.7. As the certificate period of validity expires re-evaluation should take place. Peer evaluation can be performed with a cut-down plan taking into consideration the QMS improvements, new CMC tables, structural changes and etc.

5.8. Before the Peer evaluation takes place an oral QMS presentation should be carried out at the COOMET Quality Forum. A written presentation should be introduced to the Secretariat of the Quality Forum by the NMI before the Forum takes place.

5.9. Written and oral presentations of the QMS NMI are carried out in accordance with the schedule of the COOMET Quality Forum.

Application of COOMET methodical data “Recommendations on carrying out oral presentation at the COOMET Quality Forum of Quality Management System of National Metrology Institutes (QMS NMIs)” (Annex A) is advisable while preparing to oral presentation of QMS NMI.

NMI that intends to present its QMS at the COOMET QF submits written presentations to the members of Technical Committee (TC) of COOMET QF a month before the oral presentation. It's advisable to use methodical material "Recommendations on preparation of written presentation of Quality Management System of National Metrology Institutes (QMS NMIs)" while preparing a written presentation (Annex B).

In case TC members have no comments on the presented documentation the QF of COOMET includes introduction of oral presentation by the QMS NMI in the agenda of the QF of COOMET.

For carrying out an oral presentation the NMI presenting its QMS at the COOMET QF prepares hand-outs of the presentation for each member of the Technical Committee.

After the oral presentation the TC of the COOMET QF makes a decision whether the NMI is prepared for peer evaluation of its QMS NMI, which is being written down into the minutes of a TC of COOMET QF meeting.

5.10. The COOMET QF carries out an annual monitoring of the state of QMS of NMI.

5.11. Based on the decision of TC of QF surveillance of QMS NMI can be performed. The surveillance is carried out in a case of:

- revision of CMC's;
- Inclusion of new CMC entries in the BIPM database;
- Significant changes in QMS NMI;

Surveillance is carried out in terms of peer evaluation.

## **6. ANNEXES**

1. Criteria for approval of Quality Management Systems in COOMET NMIs
2. A "Recommendations on carrying out an oral presentation at the COOMET Quality Forum of Quality Management System of National Metrology Institutes (QMS NMI)"
3. B "Recommendations on carrying out a written presentation of Quality Management System of National Metrology Institutes (QMS NMI)"
4. Status of the experts-auditors on the Evaluation of QMS of NMI.