

	COOMET Recommendation	COOMET R/GM7:2014
	Procedure of performing an internal review of COOMET NMIs calibration and measurement capabilities (CMCs), and an interregional review of NMIs of other regional metrology organizations	
<p><i>Approved by President Council (October 2,2000) Approved at the 14-th COOMET Committee Meeting (Albena, Bulgaria, May27-28, 2004); specified(defined more précised) and supplemented at16-th COOMET Committee Meeting (Braunshweig, Germany, September 4-5, 2006), specified(defined more précised at the 24-th COOMET Committee Meeting (Ekaterinburg, RF, April 16-17, 2014) Updated (actualized) in 2004 ,Updated (actualized) in 2014</i></p>		

1. General regulations

The review of CMCs is performed with the purpose of providing an independent objective confirmation of correspondence of measurement uncertainties and measurement ranges claimed by NMIs to key/supplementary comparisons of national measurement standards and that quality systems realized by these NMIs support the CMCs data.

The review of CMCs is arranged by chairmen of Technical Committees (TCs) entering into the COOMET Joint Committee on measurement standards (JCMS) and realized by recognized COOMET technical experts on types of measurements. There is a possibility to establish a special subcommittee on the CMCs review or to appoint a person responsible for performing the review.

The review is made in accordance with requirements of the CIPM MRA-D-04 Calibration and Measurement Capabilities in the context of the CIPM MRA (Version 4).

When the COOMET review of NMI CMCs is internal, it is realized by means of E-mail. In case of need, the TC Chairman brings these CMCSs to discussion at a regular TC meeting. The interregional review of CMCSs belonging to NMIs of other regional organizations, which is performed by COOMET experts, is carried out in accordance with the rules established by documents of the Joint Committee of regional metrology organizations and by those of the BIPM.

The language of all official documents relating to CMCs is English. The internal review of COOMET permits the Russian language to be used with a mutual agreement of a particular NMI and experts.

Information about the performance of an intraregional review of CMCs in the COOMET TC has to be represented on the COOMET web-site.

2. Terms and definitions, abbreviations

The agreement on mutual recognition of national measurement standards, certificates of calibration and measurements issued by national metrology institutes (hereinafter referred to as CIPM MRA) is a technical agreement signed by Directors of NMIs with the purpose to establish a degree of equivalence of national measurement standards and to provide the mutual recognition of calibration and measurements certificates. The agreement is called upon to provide governments and other organs with a reliable normative-technical base for planning and realizing arrangements in the field of scientific and technical cooperation, international trade, commercial activity and work relating to development of normative documentation.

The National Metrology Institute (NMI) is a metrology institute appointed by a national government (or by some other government body) responsible for national measurement standards and which is a member of

a Regional Metrology Organization (RMO) and a participant of the Agreement realization.

Calibration and measurement capabilities (CMCs) are the highest level of a calibration or measurement, which is usually proposed for clients and represented by ranges of measurables and corresponding expanded uncertainties for a confidence level equal to 95%. Data on CMCs are published in a database on the BIPM web-site (Appendix C to the Agreement).

The Joint Committee of Regional Metrology Organizations (RMOs) and BIPM, (hereinafter referred to as JCRB), is the international body responsible for coordinating the RMO activities directed to the realization of MRA and creation of conditions for the mutual recognition of measurement and calibration certificates issued by NMIs. The JCRB is established by the CIPM and includes representatives of the RMO. All meetings are held under the Chairmanship of the BIPM director.

The Joint Committee on measurement standards of the COOMET (JCS) is the working body of the COOMET which realizes the coordination and methodical support straight away after publishing the CMCs on a special-purpose (dedicated) web-site of the CMCs review¹. The whole of subsequent review is performed in accordance with stages indicated in the given JCRB document.

An intraregional CMC COOMET review is the CMC review of NMIs of the COOMET member states, which is carried out by recognized experts on kinds of measurements performed by COOMET NMIs

An interregional CMC COOMET review is the CMC review of NMIs of member states of other regional metrology organizations, which is carried out by recognized experts on kinds of measurements performed by COOMET NMIs.

The designated institute (DI) is an institute having national measurement standards in the field within which there are no NMI measurement standards and which supports lines of calibration and measurement capabilities.

The coordinating organization is a NMI or some other organization that is responsible for this designated institute.

TC is the technical committee.

WG is the working group.

2. Order of a review procedure

The procedure establishes stages of carrying out internal reviews of the COOMET. Particular features relating to the participation of the COOMET in interregional reviews are set off in italics.

- 3.1 Any COOMET NMI, while presenting its CMCs in a specific field of measurements to a review, with the help of a TC member from its country sends by E-mail to the Chairman of the corresponding TC the CMCs data in the form of Appendix C to the Agreement and a copy of these data to the JCE COOMET Chairman. The TC Chairman can ask the NMI to send him information characterizing the NMI quality system management in the form of a questionnaire shown in Annex 1 of the given document. It is permitted to supplement the questionnaire with information at discretion of the NMI.

In case of the interregional review, the CMCs data sent by E-mail right away after putting them on the specialized web-site of the review are received by the TC Chairman¹. The whole subsequent review is carried out according to the stages indicated in the given document.

- 3.2 In accordance with the CIPM 2005-07 document "NMIs and other designated institutes" in case of the presence of designated institutes (DI), the TC member from the country of the NMI that submits CMCs, has to verify whether the CMCs submitted to the review coincide with the CMCs already published by some other NMI/DI of this country or they do not.
- 3.3 During **two weeks** the TC Chairman has to adjust with experts in their TC the date of presenting results of the review of the CMCs submitted and to inform the NMI that has submitted the CMCs about this date.

When performing the intraregional review, the TC Chairman provides the SC 4.2 /administrator of the web-site “coomet.org” with information relating to the name of the CMCs submitted for consideration, name of the NMI having submitted the CMCs for the review as well as the date of CMCs submission for the review.

The deadline for submitting the review results has not to exceed **three months** from the time of receiving the CMCs.

Provided due some reasons the TC considers that it is inexpedient to carry out the review of the CMCs submitted, then during two weeks the TC Chairman has to notify about this fact the COOMET JCS Chairman and Vice-President who monitors the JCS. If during **two weeks** from the moment of getting the CMCs for the review the JCS Chairman does not received any information concerning the time of review accomplishment, then a time-limit of **three months** is established for these CMCs.

In case of interregional review, provided the TC Chairman does not indicate the time period of submitting the review results, the COOMET is automatically deprived of the right to participate in the international review of CMCs data.

- 3.4 The TC Chairman (or a person responsible for fulfillment of the review) sends the CMCs Exe-files to experts.
- 3.5 The experts supplement the CMCs Table with a column “COOMET comments” according to the form of Appendix 2 of the given document and fills in this column in the following way2 :
 - if there are no remarks relating to a line under consideration, then in this line “OK” is entered;
 - if there is a remark relating to a line under consideration, then this remark is entered into this line. If the remark requires a detailed; comprehensive substantiation, then the latter is written in a separate file. It is also possible to give remarks in the form of a table (see Appendix 3).
- 3.6 Files with remarks are sent to the TC Chairman (to a person responsible for the fulfillment of the review). The TC Chairman writes a report on review results, where a number of the CMCs considered as well as names and places of the employment of experts should be indicated. The CMCs files with remarks are given in the form of Appendices to the report.
- 3.7 The TC Chairman sends a report on results of the intraregional review to the NMI that has submitted data of results. *In case of the interregional review, the TC Chairman places the report and remarks on a specialized web-site of the CMCs review.*
- 3.8 Provided the authors of CMCs have some questions or objections concerning remarks raised by experts, then these authors forward them to the TC Chairman who arranges a process of discussion and coordination of the data on CMCs and that of preparation a review report. In consent with the TC Chairman the experts and CMCs authors have the possibility to be in direct correspondence; copies of the correspondence being necessarily forwarded to the TC Chairman or to a person responsible for the CMCs review.

In case of the interregional review the process of discussion can be realized through the specialized web-site of the CMCs review directly by experts of the TK/WG, who carry out the review, and the TC having submitted the CMCs.

- 3.9 As a consequence of the discussion the NMI correct (refines) the CMCs submitted. If the experts agree with corrections inserted they inform the TC Chairman about this fact.
- 3.10 When the review is finished, the NMI submitting its CMCs sends by post the indicated below document to the Chairman of the corresponding TC as well as copies of these documents to the TC member by post:
 - final version of the CMCs;

- explanation note that contains all changes inserted into the CMCs according to the review results;
- copy of the certificate on recognition of the NMI management quality system.

All final documents submitted to the above persons are written in English.

- 3.11 Within the period of **three weeks**, the COOMET TC locates the CMCs, questionnaire on the system of quality management, as well as the report about the performed COOMET review on the specialized web-site of the CMCs review for the interregional review.
- 3.12 After completing the intraregional review the TC Chairman forwards information about the completion of the review for locating it on the COOMET web-site in the division of news. Information is presented in Russian and English and contains: names of calibration and measurement capabilities submitted for consideration, name of the NMI having submitted the CMCs, date of the intraregional review completion, name of the NMI/ full name experts having participated in the review.

Appendix 1

Questionnaire. Information on maintaining submitted CMCs by NMI's quality management system QUESTIONNAIRE FOR THE REVIEW OF COOMET CALIBRATION AND MEASUREMENT CAPABILITIES

This questionnaire is to be filled in by the COOMET Contact Person (Coordinator – for Russian Federation).

Subject-Field NMI

Sub-Field(s)

CMC entry or entries

Code	CMC review process	Yes	No	Comments
1	Comparison results relevant to the claimed CMCs			
1.1	CIPM key comparisons			
1.2	RMO KC			
1.3	Supplementary comparisons			
1.4	Bilateral comparison			
				Please, specify and provide source of publication
2	Knowledge of the NMI's work and activities			
2.1	Activities of this NMI:			
2.1.1	Reproducibility of units of physical quantities			
2.1.2	Verification and (or) calibration of measuring instruments			
2.1.3	Elaboration of documentary standards			
2.1.4	Certification and testing of measuring instruments			
2.2	Participation of this NMI in the work of international metrological organizations:			
2.2.1	In CIPM and (or) its Committees			
2.2.2	In IEC			
2.2.3	In OIML			
2.2.4	In ISO			
2.3	Availability of documentary standards regulating a measurement process (GOST, Guiding Documents, Measurement Procedures)			
3	Quality system			
3.1	Has the NMI an international accreditation?			Please, provide name of accreditation body and accreditation number
3.2	Has the NMI a national accreditation system?			Please, provide name of accreditation body and accreditation number
3.3	Has the NMI its own quality system?			
4	Additional information			
4.1	Have the NMI been visited by representatives of			Please, specify by whom

Code	CMC review process	Yes	No	Comments
	international metrological organisations?			
4.2	Have the NMI been visited by representatives of other RMOs?			Please, specify by whom
4.3	Availability of scientific publications on the results of the NMI activities in the given field of measurements since 1991.			Please, specify the quantity

Appendix 2

Column of COOMET experts

Calibration or Measurement Service			Measurand Level or Range			Measurement Conditions/ Independent Variable		Expanded Uncertainty				Reference Standard used in calibration		List of Comparisons supporting this measurement/ calibration service	COOMET Administration						COOMET Comments
Quantity	Instrument or Artifact	Instrument Type or Method	Minimum value	Maximum value	Units	Parameter	Specifications	Value	Units	Coverage factor	Level of Confidence	Standard	Source of traceability		NMI Service Identification	Service Category	NMI	Comments	Review status	Review comments	

Добавляется и заполняется экспертами в НМИ

Приходите с заполненным НМИ COOMET или из JCRB

Appendix 3

Form of the review

Name of the Institute carrying out the review (Use of a NMI logotype is possible)

Names and posts of experts

E-mail of a expert group leader

Identifier of the considered CMCs lines	Remarks and questions