Participation in the CIPM MRA

National Metrology Institutes, Designated Institutes, International organizations

CIPM MRA-P-13

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Acronyms used in this document are listed in CIPM MRA-P-11.

1. Introduction

The CIPM MRA is open for signature by Directors of the NMIs and by representatives of intergovernmental and international organizations designated by the CIPM.

All laboratories, institutes or other bodies taking part in the CIPM MRA have to be designated by a responsible body in one form or another: only one, however, is the signatory (coordinating organization).

This policy document (CIPM MRA-P-13) describes the roles and responsibilities of NMIs, DIs and international organizations within the CIPM MRA framework. It supersedes CIPM MRA-D-06, and together with CIPM MRA-G-12 and CIPM MRA-G-13 supersedes CIPM MRA-G-03. It incorporates the requirements set out in CIPM/2005-09.

2. National Metrology Institutes

Only one institute can sign the CIPM MRA on behalf of a Member State or Associate of the CGPM. When more than one institute is designated to hold national measurement standards in State or economy, the signatory must notify the BIPM so that all institutes can be identified in the KCDB.

The signatory of the CIPM MRA takes responsibility for establishing an appropriate mechanism so that CMCs designated at the national level follow the approval process established by the JCRB and that CMCs do not overlap between institutes.

NMIs that are not members of RMOs may participate under the provisions of paragraph 13 of the CIPM MRA, which states*: "Those NMIs that wish to participate in this arrangement but are not members of an RMO, should either form a new RMO, or for the purposes of this arrangement, associate themselves with an existing RMO, whichever is the more appropriate. If neither approach is possible, they should seek to make special provisions."*

3. Designated Institutes

In many countries, the NMI shares responsibility for dissemination of metrological traceability with one or more DI, which, like the NMI, operate at the top of the national metrology system.

These DIs participate in the CIPM MRA within their limited area of activity in the same way as the NMIs. After successfully undergoing the same review process, their CMCs are accorded the same recognition and can be published in the KCDB.

The metrological scope and responsibilities of the NMI and other DIs of the same State or economy must always be clearly differentiated. DIs cannot claim calibration and measurement capabilities already declared under the CIPM MRA by other participating institutes (NMI or other DI) in the same State or economy. It follows that the scope of the designation must be specified and CMCs offered by DIs must be complementary (in terms of quantity, measurand, matrix environment, measurement range) and not overlapping with those of other DIs or the NMI in the country. It is the responsibility of the coordinating NMI, or the authority within the government responsible for the national metrological infrastructure, to ensure the complementarity.

Under the CIPM MRA, designation is a sovereign right assigned to the appropriate national authority in the State or economy. Other than the correct completion of the registration process, the BIPM does not judge whether an officially announced designation of a DI is in compliance with the criteria set in the CIPM MRA. The CIPM MRA assigns responsibilities (and workload) related to NMIs and DIs to the RMOs. Thus, whilst the designation of an institute is a national responsibility, the RMOs play an important role in establishing that DIs satisfy the CIPM MRA criteria.

Participating in the CIPM MRA as a DI requires resources and creates additional workload for other institutes participating in the CIPM MRA. Experience also shows that DIs with very narrow scopes find it difficult to engage effectively at the international level. Alternative ways of satisfying metrological traceability, not involving the creation of a DI, may be more appropriate when national demand for metrological traceability in a particular area of metrology is limited.

3.1 Designation of an institute

Institutes should only be designated if they have appropriate metrological experience and scientific expertise, and:

a) hold (or will hold) and maintain national measurement standards, and

b) will deliver metrological traceability through the provision of calibration services and/or reference materials in a well-defined metrology area, and on an equal basis to all customers, and

c) will act in a similar way as the NMI within a limited and well-defined area of metrology, and understand and accept the obligations of participation in the CIPM MRA, and

d) are appropriately resourced and sufficiently stable for their role within the national measurement system and as a DI within the CIPM MRA.

Designation of an institute in the private sector needs special attention. The CIPM advises: *"designating authorities should be aware that designating other laboratories in the private sector, may have a direct influence on the market position of other commercial companies in their own or even in other countries. Great care is needed to ensure that designation does not confer unfair market advantage."*

The designation must be done by the authorised body of the State or Economy, that is:

a) the responsible ministry or authority within the government, or

b) the NMI, if authorised to do so by its government.

Performance of the DI with respect to the CIPM MRA should be monitored by the authorised body.

The NMI, which will usually have a good understanding of the CIPM MRA, can advise on the need for and selection of new DIs. Involving the NMI in this decision also helps to ensure that the scope of designation meets national requirements and is complementary to that of the NMI.

3.2 Notification to the BIPM of a DI

The body in the State or Economy authorised to designate any additional institute(s) is charged with informing the BIPM of the designation using the form given in this policy document. This form provides the necessary information for the DI to be listed in the KCDB. Before listing the new DI in the KCDB, the JCRB Executive Secretary will confirm that the scope of the DI is sufficiently differentiated from other DIs or the NMI in the country.

3.3 Communication with the DI and notifying the RMO

The JCRB Executive Secretary will send the new DI a welcome letter, detailing the expectations for their active participation in the CIPM MRA. The letter will be copied to the CIPM MRA signatory of the State or Economy, and to the Chairperson and Secretariat of the relevant RMO. Where special arrangements have been made for

NMIs that are not members of a recognized RMO, those arrangements shall also apply to any DI from that State or Economy.

3.4 Responsibilities of DIs

Since the sole purpose of designation is to allow participation in the CIPM MRA, DIs are expected to participate actively, including publishing CMCs in the KCDB within a reasonable time after its designation. More specifically DIs are expected to:

a) meet any specific requirements for membership/participation laid down by their RMOs to ensure CIPM MRA requirements are met;

b) participate in appropriate measurement comparisons;

c) operate a quality system complying with ISO/IEC 17025, (and for those producing reference materials, ISO 17034) and subject it to the CIPM MRA peer review process;

d) declare their CMCs, and subject them to the CIPM MRA peer review process;

e) participate in relevant technical committee activities of their RMO and, if relevant, Consultative Committees;

f) contribute to the CIPM MRA processes as reviewers (within their scope of designation).

4. NMIs and DIs of Associates of the CGPM

Participation in the activities of the CIPM MRA is open for all signatories. However, the participation of NMIs and DIs from Associates is under special provisions.

The participation in Consultative Committee comparisons or other activities shall be carefully considered by the relevant Consultative Committee on a case by case basis. Details of the participation in comparisons are described in the CIPM MRA-G-11.

In the special case of an Associate comprising several individual states (such as CARICOM, which is a formally recognized economic entity):

- the CIPM MRA should be signed by the relevant Economy as the recognized coordinating body for the CIPM MRA;
- each state of the Economy may have their own CMCs; and

- each state of the Economy would designate their own NMIs or other DIs. The Economy would, however, be the channel through which such national designations are notified to the Director of the BIPM.

5. Intergovernmental and international organizations

The CIPM may consider and approve relevant international organizations' participation in the CIPM MRA. As every international organization's participation in the CIPM MRA is unique, early contact should be made with the JCRB Chairperson and JCRB Executive Secretary who will facilitate the process with all parties. For international organizations participating in the CIPM MRA, two available routes for review of quality management systems and CMCs are offered: Route A (Panel option) and Route B (Elected option).

As experts undertaking panel or on-site reviews are not funded for these activities, the international organization shall cover the costs in accordance with the practice established in each RMO.

Details of the quality management system and CMC review processes for the international organizations are described in the CIPM MRA-G-12 and CIPM MRA-G-13.

6. Subcontracting under the CIPM MRA

In special cases, an institute may subcontract a small part of its calibration, measurement or CRM certification activities under the CIPM MRA to another competent laboratory. Within the CIPM MRA, "externally provided products and services", "subcontracting of tests and calibrations" and "use of collaborators" involving other parties than institutes participating in the CIPM MRA are considered as "subcontracting" and treated in the same way, irrespective of how the cooperation is organized, formulated or financed. Examples of such cases are:

- An institute does not have an expensive facility like a reactor for instrumental neutron activation analysis, but this facility is needed in addition to in-house capabilities and competences in the same field. In this case, subcontracting to a competent reactor institute should be possible. Usually the staff of the institute participating in the CIPM MRA is involved in the performance of the work at the reactor institute.

- In order to increase the reliability of values assigned to a CRM which is provided by an institute participating in the CIPM MRA, and which is delivered as a means of disseminating traceability to its customers, the institute may make use of another expert laboratory and may routinely establish a collaboration as part of the certification process. This form of subcontracting to a competent, collaborating expert laboratory should be possible.
- An expensive and unique length comparator with a better performance than an in-house device is available at another laboratory. Establishing a collaboration to enable subcontracting of part of the calibration work to this "collaborating laboratory" should be possible. Usually the staff of the institute participating in the CIPM MRA is involved in the performance of the work at the collaborating laboratory.

Criteria for subcontracting is described in Appendix A

7. Withdrawal from the Arrangement

To withdraw from the arrangement, the Director of a signatory institute should notify the Director of the BIPM six months prior to the effective date of withdrawal, copying the notification to the RMO through which the institute participates. The Director of the BIPM will notify all other signatories and relevant Consultative Committees of such notice of withdrawal not later than one month after it has been received.

Particularly, withdrawal of DIs is presumed to be within the prerogative of the same authority (or any successor) that originally approved the entry of the NMI or DI into the CIPM MRA. Once the BIPM has received confirmation of withdrawal, the DI and all its CMCs will be permanently deleted from the KCDB. Information on removal of the DI from the CIPM MRA and deletion of its CMCs from the KCDB is sent to the authorizing body, the CIPM MRA signatory of the State or Economy, and to the Chairperson and Secretariat of the relevant RMO and the relevant Consultative Committees.

8. Resources related to the CIPM MRA

CIPM-D-01, *Rules of procedure for the Consultative Committees (CCs) created by the CIPM, CC working groups and CC workshops.*

CIPM MRA (https://www.bipm.org/en/cipm-mra/cipm-mra-text/)

CIPM MRA-P-11, *Overview and implementation of the CIPM MRA*

CIPM MRA-P-12, *Coordination within the CIPM MRA: Consultative Committees, Regional Metrology Organizations, JCRB*

CIPM MRA-P-13, *Participation in the CIPM MRA: National Metrology Institutes, Designated Institutes, International organizations*

CIPM MRA-G-11, *Measurement comparisons in the CIPM MRA: Guidelines for organizing, participating and reporting*

CIPM MRA-G-12, *Quality management systems in the CIPM MRA: Guidelines for monitoring and reporting*

CIPM MRA-G-13, *CMCs in the context of the CIPM MRA: Guidelines for their review, acceptance and maintenance*

JCGM 100:2008, *Evaluation of measurement data – Guide to the expression of uncertainty in measurement (GUM)*

ILAC-CIPM guidance on the accreditation of NMIs, *Joint ILAC–CIPM Communication regarding the Accreditation of Calibration and Measurement Services of National Metrology Institutes*

PG0128E1, *Customs Convention on the temporary importation of scientific equipment* (http://www.wcoomd.org/en/about-us/legal-instruments/conventions.aspx)

JCRB directory (https://www.bipm.org/en/committees/jc/jcrb/)

KCDB web portal (https://www.bipm.org/kcdb)

RMO websites (http://www.afrimets.org; http://www.apmpweb.org; https://www.coomet.net; https://www.euramet.org; https://www.gulfmet.org; https://sim-metrologia.org)

9. Revision History

Document and Version number	Date of Issue/ last review	Summary of change
CIPM MRA-P-13 V 1.0	11 January 2021	New document following the CIPM MRA review.
CIPM MRA-P-13 V 1.1	25 November 2024	Updated the DI Nomination form.

Nomination of a Designated Institute

Name of State/Economy: _____

Name of body that has the authority to designate: _____

Name of the institute to be designated (DI): _____

DI legal entity: _____
(if different from above)

DI Acronym: _____DI website_____

Digital Identifiers*: ROR:_____ Wikidata:_____

DI mailing address: _____

Post code: _____ City: _____ Tel: _____

Contact Person at DI: _____

Contact Person's e-mail: _____

Metrology area of designation:**

_____

*Note that within the meaning of the CIPM MRA only one institute per State or Economy can be designated for any given metrology area****

We confirm that we have the authority to designate within the meaning of the CIPM MRA and this designation is compatible with the spirit, rights and obligations of the CIPM MRA and with document CIPM MRA-P-13. Furthermore, we confirm that the organization being designated understands and accepts the rights and obligations of designation.

Your name and position within the designating body:

_____

Signature: Date:_____

Please return to:
BIPM Pavillon de Breteuil
F-92312 Sèvres Cedex, France
e-mail: jcrb_es@bipm.org

_____

* Please register with the Research Organization Registry (ROR) (ror.org) and indicate the digital identifier above.

**Chemistry, photometry, force, flow, volume, radioactivity, etc.

***The metrological responsibilities of signatory NMIs and other DI of the same State or Economy must always be clearly differentiated. If within a State the signatory NMI and a DI both have responsibilities within the same metrology area, the designation scope must be specified in sufficient detail to distinguish their responsibilities. This should be done using the classification of services as available on the KCDB: https://www.bipm.org/kcdb/

NOTE 1 Starting date of participation in the CIPM MRA will be considered as the date when the BIPM receives the signed designation form and it is this date that the BIPM will display.

Appendix A - Criteria for subcontracting under the CIPM MRA

In cases of subcontracting the following criteria have to be fulfilled:

a) The institute that subcontracts work to another laboratory shall assure itself of the capability and competence of the subcontracted laboratory. The subcontracting institute shall also keep records of evidence of the capabilities and competences of the subcontracted laboratory and its compliance with ISO/IEC 17025 and/or ISO 17034 or equivalent.

b) The subcontracting institute shall take full responsibility for the work carried out by the subcontracted laboratory, as well as for the use of the results obtained from the subcontracted laboratory by the subcontracting institute.

c) The subcontracting institute shall have its process of subcontracting described in its quality management system.

d) A competent subcontracted laboratory is one that, for example, complies with ISO/IEC 17025 for the work in question.

e) A reference material producer subcontracting part of its work shall ensure that the subcontracted laboratory complies with any clauses of ISO 17034 relevant to the tasks performed by it for the reference material producer.

f) The subcontracted laboratory's quality management system must cover, as a minimum, the part of the work subcontracted to it.

g) In its internal and external reports to clients, the subcontracting institute shall clearly state which part of the work has been carried out by a subcontracted laboratory.

h) If possible, the subcontracting institute shall inform its clients in advance when subcontracting is considered.

i) Subcontracted laboratories may only be used when these laboratories have an added value in addition to in-house capabilities and competences in the field concerned, for example by having an additional technique available.

j) The subcontracting institute shall keep a register of subcontracted laboratories used.

k) The name of a subcontracted laboratory is not published in the KCDB because this laboratory is not designated to act on the national level for measurements of those quantities, measurands and measurement ranges

that are subcontracted to it. However, the contribution of the subcontracted laboratory should be mentioned in the calibration, measurement or certification report.

l) The calibration certificate, measurement report or CRM certificate which includes results of subcontracted work, shall be issued and signed by the subcontracting institute in the usual way. If an important or significant part of the work has been subcontracted, it is possible that the certificate is co-signed by the subcontracted laboratory.

m) A subcontracted laboratory carrying out work subcontracted to it as part of a CMC claim of a subcontracting institute cannot claim the same CMC if it subsequently becomes designated.

n) Participation of a subcontracted laboratory in a key comparison is possible, if not required in some cases, under the name of the subcontracting institute; eventually indicated as “name of subcontracted institute/name of subcontracted laboratory”.

o) Subcontracts are restricted to the scope and designation of the subcontracting institute.

Bureau International des Poids et Mesures

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