THE CIPM MRA:  
2005 INTERPRETATION DOCUMENT

1. Background
This document is based on a report, originally submitted to and agreed by, the CIPM in October 2004. It clarifies and interprets those original clauses in the CIPM MRA which require updating or interpreting in the light of experience and of developments since the CIPM MRA was originally signed. It does not replace the original CIPM MRA and should be read in conjunction with it. Page references are to the English version.

2. Signatories
There are many ways in which an institute or organisation (this term covers laboratories, National Metrology Institutes (NMIs), or any other relevant organisation) may become designated. Experience has shown that there is usually an authorized co-ordinating body which signs, or has signed, the CIPM MRA on behalf of all Designated Institutes in a country. The co-ordinating organisation, often an NMI or group of equal status NMIs in a country, should be designated\(^1\) as such by the appropriate national authority (Government Department, State Office etc) at the time at which an institute or institutes from that country accede to the MRA.

POINTS OF CLARIFICATION:

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

- All Designated Institutes must consider it their own responsibility to demonstrate conformity with the requirements of the CIPM MRA.

3. Paragraph 1.5
This paragraph states that Designated Institutes (DIs) from Associates\(^2\) could only take part in the CIPM MRA through Regional Metrology Organization (RMO) activities. However, it is now commonly accepted that NMIs and Designated Institutes from Associates, may, for specific reasons, take part in some of the activities organised by the Consultative Committees. So far their participation in Consultative Committee activities has in general been restricted to pilot studies arranged through a working group of a specific Consultative Committee (CC). In

\(^1\) See paragraph 1.4 of the CIPM MRA  
\(^2\) The term Associate is used as a shortened reference to an Associate of the General Conference on Weights and Measures
certain cases, however, a NMI or a designated institute from an Associate could be invited by the CC to take part in key comparisons or activities which it organises or which are organised by one of its Working Group. The criteria to be taken into account by the CC or WG include the potential for an improved efficiency in the comparison, one-off availability of reference sample or material, or because the institute may have a unique scientific contribution to make. Where this happens, the results from NMIs or DIs from Associates will not usually contribute to any Key Comparison Reference Value (KCRV). The Consultative Committees may, however, decide on a case by case basis, whether the results from these organisations adds significant scientific value, and so should contribute to the KCRV. International Atomic Time (TAI) is a special case to which this policy applies. If so, the results from such institutes will be clearly identified in reports as being from an Associate. The Consultative Committee or Working Group Chairman may invite NMIs or DIs from Associates as a guest to their meetings.

More details on the services available to Associate Members of the CGPM are specified in the document CIPM 2005-05 available on the BIPM web site.

**POINT OF CLARIFICATION:**

- This paragraph should be interpreted with greater flexibility than before. Participation from NMIs and DIs from Associates in CC comparisons or other activities should be carefully considered by the relevant Committee or Working group on a case by case basis and they may take part where this adds scientific or other value and effectiveness or efficiency to the relevant activity.

4. What may be published in Appendix B?

The first point to note is that Appendix B is not currently divided into three parts as stated on p 41 of the MRA. Reports of RMO key and supplementary comparisons in which NMIs and DIs from Associates take part are, however, now included in Appendix B. The reports published in Annex B of the KCDB must make it clear where results are from NMIs or DIs from Associates.

**POINT OF CLARIFICATION:**

- That reports of RMO comparisons in which Associates and DIs from Associates take part be included in the KCDB.

5. Paragraph 6.1

The word "nominated" in the fourth line of paragraph 6.1 means designated. Designation is done by the NMI if authorized to do so, or by another responsible authority as indicated in Paragraph 1.4.

**POINT OF CLARIFICATION:**

- To note the above.
6. Paragraphs 6.2 and 6.3

Paragraphs 6.2 and 6.3 allow RMOs to set rules for participation in RMO comparisons.

POINTS OF CLARIFICATION:

- It should be noted that only the results from NMIs or DIs from Members and Associates can appear in the graphs and tables of equivalence shown in the KCDB.

- Measurement comparison reports should be written to reflect the experiment that was actually performed, including summary results from all participants. These reports should be accessible from the online Key Comparison Database, but the graphs and tables of equivalence explicitly shown should include results only from signatory NMIs and DIs. The results for non-signatory participants should be considered as evidence of metrological competence for any future CMC submissions in the event that the laboratory becomes a signatory to the CIPM MRA. Note that this would not apply to laboratories participating in a measurement comparison under less stringent rules than the signatory laboratories (e.g. as a ‘pilot study’ participant for a measurement comparison in chemistry).

7. International and Intergovernmental bodies

Paragraph 1.6 states that these bodies should have been designated by the CIPM. CIPM, however, cannot designate international or intergovernmental bodies but should approve their participation.

POINT OF CLARIFICATION

- Applications from other international or intergovernmental bodies should be considered by the CIPM and be approved rather than designated.

8. Paragraph 7.2

This mentions "regular reports etc." from participating institutes. The CIPM agreed that the requirements of this paragraph are satisfied through the reviews of CMCs carried out by RMOs and by regular reports from Consultative Committee members to the Committees, but noted there is no similar process for Associates or other DIs.

POINTS OF CLARIFICATION:

- That the regular Technical Committee reviews of CMCs carried out in the RMOs is enough to satisfy this clause.
• Members of Consultative Committees should however be encouraged to continue to produce regular technical reports to the Committees. These should be available to the Committee's CMC Working Groups and to RMO Technical Committees in order to assist CMC reviews.

• RMOs are reminded that they have a responsibility to review CMCs from DIs and NMIs in Associates and are encouraged to make any reports from Associates available to other RMOs.

9. Paragraph 7.3.

This refers to ISO Guide 25 and ISO Guide 58. ISO Guide 25 was replaced by ISO/IEC 17025 and ISO Guide 58 was replaced by ISO 17011.

POINT OF CLARIFICATION:

• This requirement to comply with ISO Guide 25 is now taken as a general requirement to comply with ISO/IEC 17025 (2005) and to ISO 17034 (2016) for the certification and characterisation of Certified Reference Materials. The CIPM may endorse the use of other equivalent standards, depending on the area of application. ISO Guide 58 is now replaced by ISO 17011 with an interpretation as formulated in ISO 17001.

Document Origins and Revision History
BIPM, 12 April 2006
• Original approval 94th CIPM, October 2005
• Revision 1: June 2013 to update references, 102nd CIPM
• Revision 2: October 2016 to conform to Decision CIPM/105-12 regarding changes in policy on reporting the results of comparisons with participants who are non-signatories to the CIPM MRA (and aligned with CIPM MRA-D-05).
• Revision 3: March 2017 to update reference to ISO 17034:2016 to conform to JCRB Resolution 37/1.
• Revision 4: August 2018 Minor edits and formatting. Added the section on the Document Origins and Revision History, included a link to CIPM 2005-05, and spelled out acronyms and abbreviations for the first instances. Removed the suffix REV to the nomenclature/ID of the document. Approved by the JCRB.

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3 In March 2018, The Joint Committee of the Regional Metrology Organizations and the BIPM (JCRB) Resolution 39/3 determined that the Regional Metrology Organizations shall ensure that all NMI’s and DI’s declaring CMC’s within the CIPM MRA shall have demonstrated conformance of their quality management systems to the ISO/IEC 17025:2017 and ISO 17034:2016 (in so much as they are applicable to the CMCs of the NMI or DI), no later than three years after the publication date of the standards.