

CBKT:

CMC

– Two-Tier-Review Process –

Bureau
International des
Poids et
Mesures

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BIPM

Modification of published CMCs

Primary responsibility for CMC validity lies with the institute making the claim. Four categories of modifications are identified:

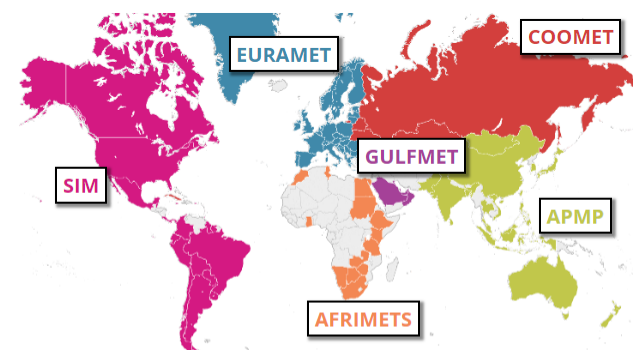
- material or editorial errors to the explanatory text. *Intra-regional and JCRB reviews not required but changes need to be confirmed by local RMO TC/WG Chair.*
- voluntary updating by reducing range and/or increasing measurement uncertainty. *Intra-regional and JCRB reviews not required but changes need to be confirmed.*
- deviation from a comparison result, resulting in reduced range or increased measurement uncertainty. *RMO TC/WG Chair to verify sufficiency to assure equivalence of measurements.*

but

- change of method, reduction of measurement uncertainty or increase in scope. *Modifications shall follow the full procedure of intra regional and JCRB reviews for published CMCs.*

Calibration and Measurement Capability

- Internationally recognized outcome of the CIPM MRA
- Measured quantity and associated measurement uncertainty
- Traceable to the SI
- Subject to open two-tier peer review process
- Backed up by technical evidence
- Supported by Quality assurance
- Published in the KCDB



Currently in the KCDB there are

252

CIPM MRA participants

1120

key comparisons

25714

CMCs

652

supplementary comparisons

In the context of the CIPM MRA and ILAC Arrangement the common definition is:
A CMC is a calibration and measurement capability available to customers under normal conditions:
–as published in the BIPM key comparison database (KCDB) of the CIPM MRA; or
–as described in the laboratory's scope of accreditation granted by a signatory to the ILAC Arrangement.

Calibration and Measurement Capability

HELD BY SIM PARTICIPANTS

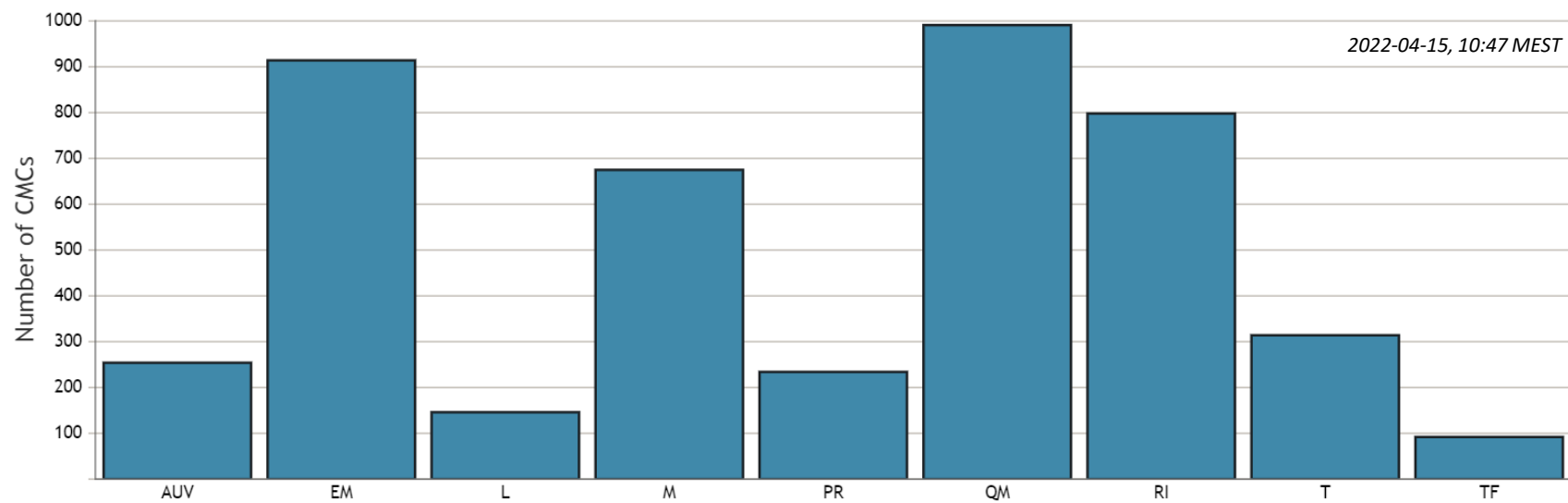
Number of CIPM MRA participants

54

Number of CMCs

4418

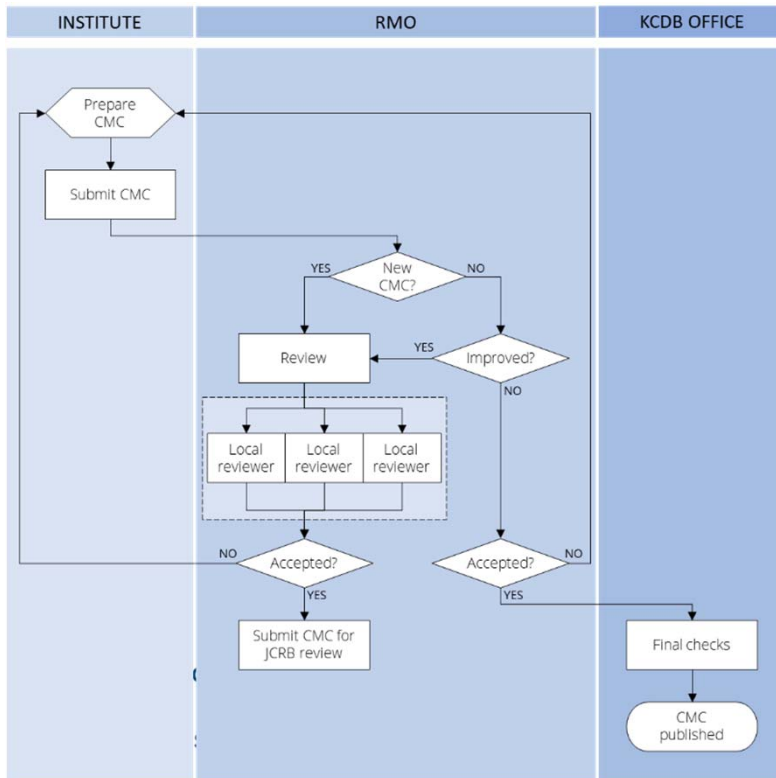
Calibration and Measurement Capability



Open two-tier peer review

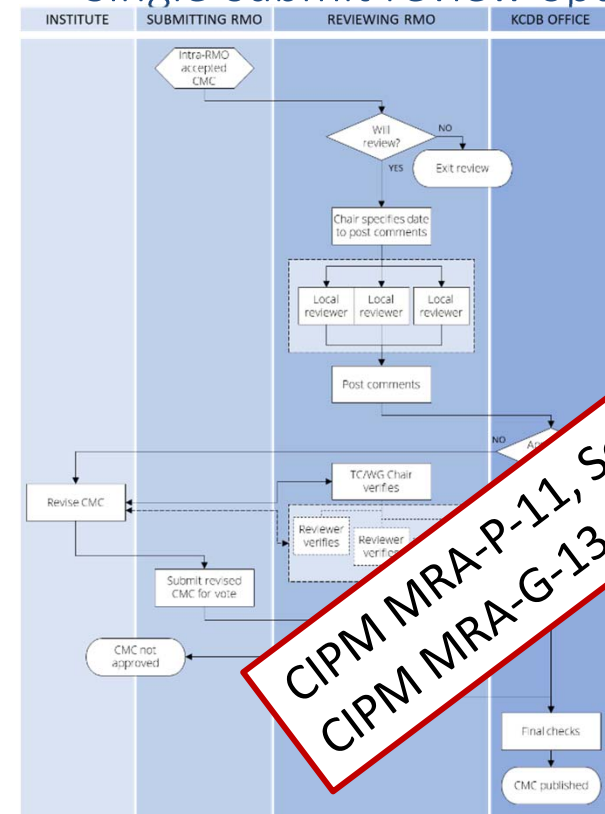
Intra-regional RMO review

- Locally organized
- Supported by KCDB



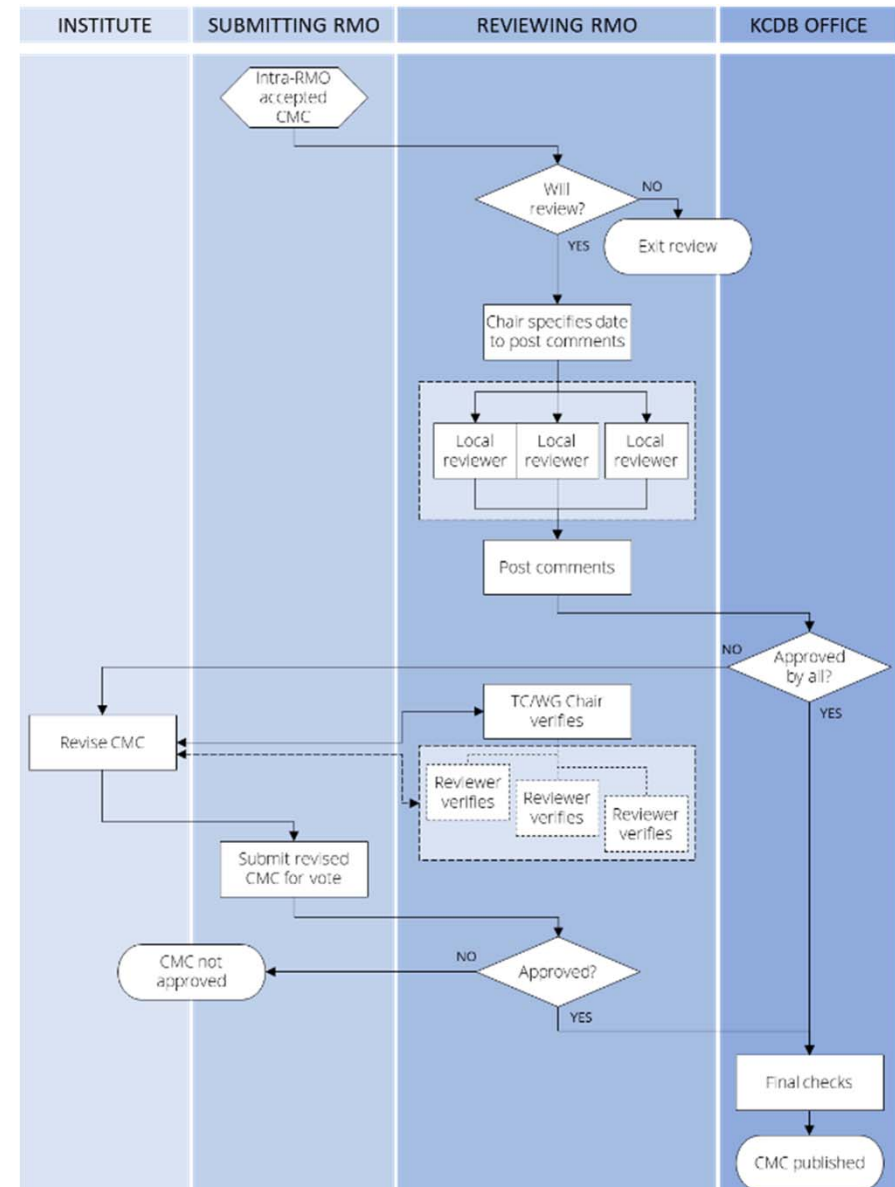
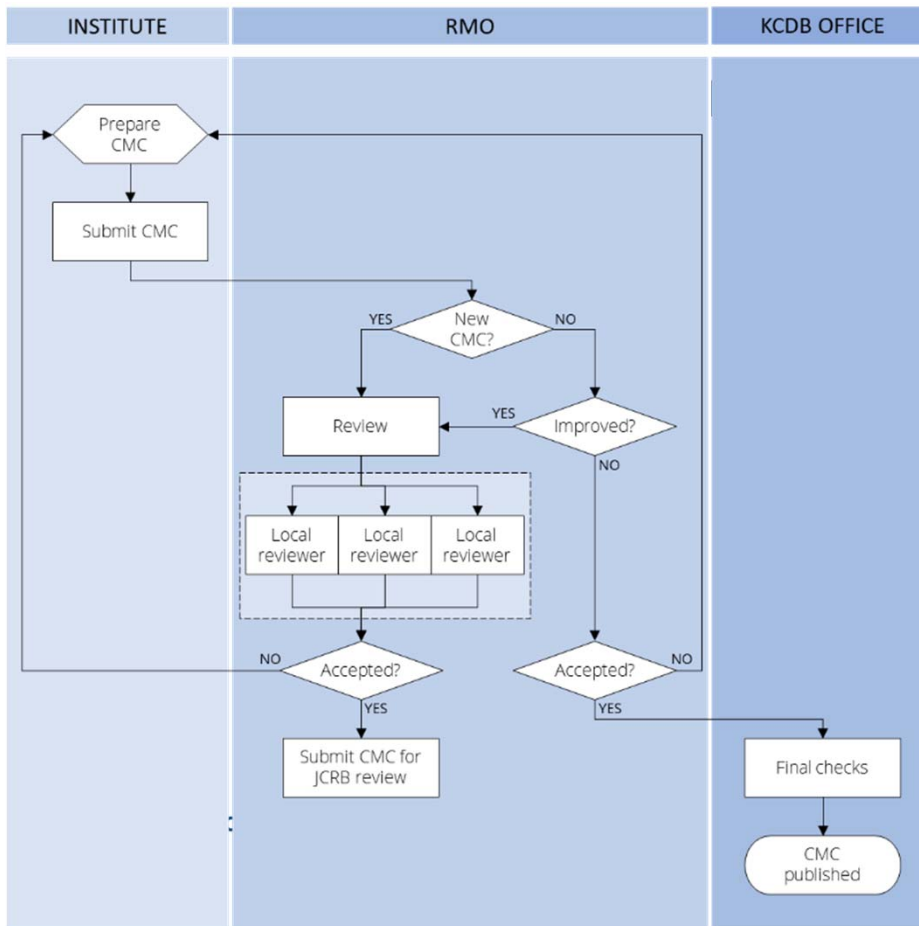
JCRB review

- Programmed deadlines
- Single-submit review option only



CIPM MRA-P-11, Section 8
CIPM MRA-G-13, Section 5

Two-tier review



Technical evidence

- Results of key and supplementary comparisons
- Publicly available information on technical activities including publications
- On-site peer-assessment reports, including those from accreditation assessment with appropriate technical peers
- Active participation in RMO projects
- Other evidence of knowledge and experience, as agreed by the appropriate Consultative Committee

Quality assurance

Requirements for the quality management system

- ISO/IEC 17025:2017 for calibration and measurement services
- ISO 17034 for certified reference materials production

Requirements for establishing confidence

- with the support of an accreditation body; or
- directly, without third-party involvement

Evidence of approval by RMO to be submitted with the CMC
following the practice adopted by the RMO

Tier one: intra-RMO review

Each RMO is responsible

- for establishing the intra-RMO review
- assuring that CMCs from the RMO have sufficient technical support, and
- assuring that the CMCs are covered by a QMS in both ranges and uncertainties;

The intra-RMO review

- is technically supported by and performed on the KCDB 2.0 platform;
- does not have any CIPM MRA-required deadlines.

Tier one: intra-RMO review

The intra-regional review is completed when the RMO TC/WG has accepted the CMC and the RMO TC/WG QS Chair has confirmed that the ranges and the measurement uncertainties of the CMCs are fully covered by the quality management system of the institute submitting the claims.

CIPM MRA-G-13
Section 5.1

Tier two: JCRB review

Each RMO TC/WG Chair after indicated interest to review is responsible

- for organizing the review in their region and
- should involve local reviewers (if considered necessary);
- are setting a deadline for the completion of the review in her/his region.

Each RMO should indicate whether they are interested or not to participate in the review.

The JCRB review

- is technically supported by and performed on the KCDB 2.0 platform;
- can only be pursued by an RMO if the expression of interest is made within a 4 week period.

Tier two: JCRB review

The JCRB review

- is technically supported by and performed on the KCDB 2.0 platform;
- can only be pursued by an RMO if the expression of interest is made within a 3-week period
- needs to be completed by an RMO within the period ending with deadline set by the RMO – after which the RMO's right to continue the review is relinquished.

Tier two: JCRB review

The JCRB review is completed

- when all reviewing RMOs have accepted a CMC.

The JCRB review is continued

- when at least one of the reviewing RMOs require revision, and
- the CMC has been made available to the Writer again for appropriate action.

A CMC revised by the Writer is possible to be re-submitted only once.

Tier two: JCRB review

A CMC revised by the Writer is possible to be re-submitted only once.

A revised CMC is submitted by the originating RMO TC/WG Chair for approval by the reviewing RMO TC/WG Chairs by

- voting (*as an additional step of action*);
- within a voting period of 3 weeks.

A negative vote from one or more RMO(s) prevents approval of the CMC

JCRB review conducted through CC working groups

CIPM Consultative Committees have working groups to facilitate the JCRB review, with objectives to

- detail CMC content, as possible service categories, rules for entries of CMCs;
- agree on detailed technical review criteria;
- coordinate and/or conduct JCRB reviews;
- Provide guidance on ranges of CMCs supported by KCs/SCs;
- Coordinate the review of existing CMCs in the context of new results from KCs/SCs

JCRB review conducted through CC working groups

CIPM Consultative Committees have working groups to facilitate the JCRB review that

- may establish own rules for coordinating the JCRB review on CMCs, but
- all should be processed on the KCDB 2.0 web platform.

Thank you

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