

BIPM Report to the AFRIMETS General Assembly

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Director of International Liaison and Communications



Towards a new SI

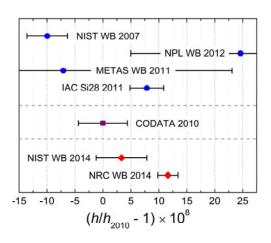
New data published in the latest edition of *Metrologia*.

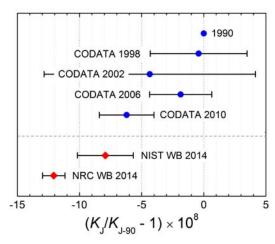
CCM

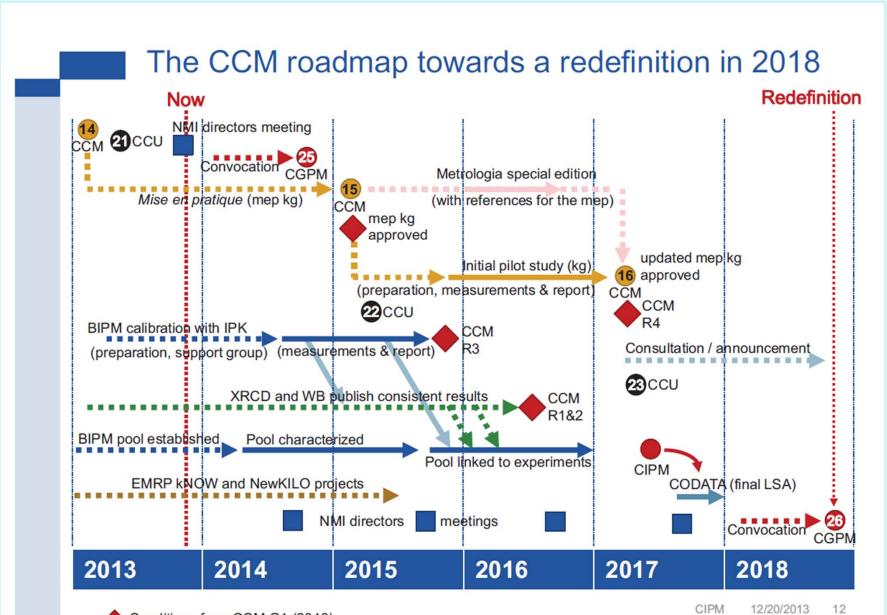
At least 3 experiments, using 2 different methods with u_r <50 ppb, at least one with u_r <20 ppb.

CCEM

There will be consequences for K_1 at the level of 0.1ppm.





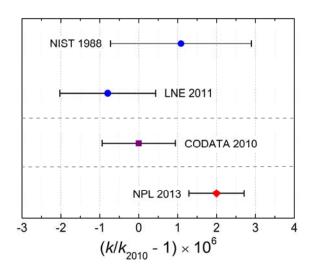


Towards a new SI

CCT

Value of Boltzmann constant (k) with u_r <1 ppm based on two "fundamentally different" methods with u_r <3 ppm.



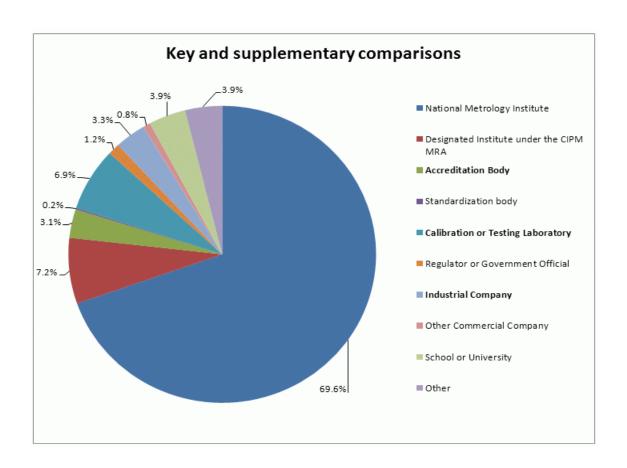


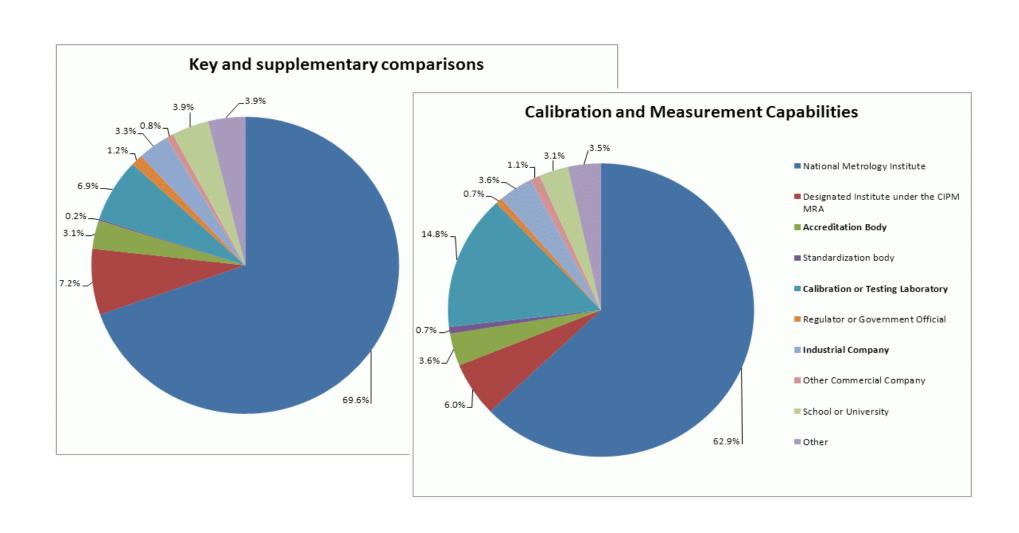
A very active area

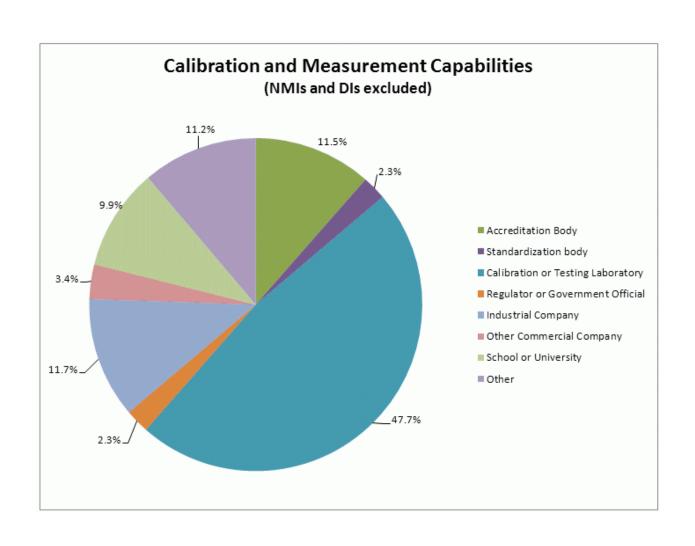
61 references 75% since 2011

It is approaching 15 years since the CIPM MRA was signed, and whilst considered a great success, Member States are calling for a rationalization of the workload to enter what is being termed a "sustainable" phase.

- In March 2013, the JCRB organised a workshop on CMC review which led to some incremental improvements in efficiency, but no substantive "step" changes.
- The CC strategies brought the planning of CC Key comparisons under a more strategic direction, and in many cases the number of planned comparisons was reduced.
- The CCQM have conducted an evaluation of their engagement in the CIPM MRA by questionnaire in early 2014.
- A "pop in" questionnaire on the KCDB provided useful information on users.







• Decision CIPM/103-12

"The CIPM charged the BIPM to hold <u>a meeting of NMI Directors in 2015</u> dedicated to the CIPM MRA review focusing on the benefits of the CIPM MRA, as well as establishing views on what works well, and what needs to be changed. Representatives from other key stakeholder groups will be invited to present their views. In the meantime, the CCs and the JCRB will be encouraged to continue their ongoing efforts to streamline operations within the existing framework, and prepare for the wider review in 2015."

http://www.bipm.org/utils/en/pdf/CIPM2014-I-Decisions-EN.pdf

Draft Resolution E

"On the importance of the CIPM Mutual Recognition Arrangement"

http://www.bipm.org/utils/common/pdf/25th-CGPM-Convocation.pdf#page=31

25th Conférence Générale des Poids et Mesures

- The General Conference on Weights and Measures (CGPM) is made up of delegates of the governments of the Member States with observers from the Associates of the CGPM.
- Meets in Versailles from 8-10 November 2014
- Will address five (*six*) resolutions:
 - A. On the future revision of the International System of Units, the SI
 - B. On the election of the International Committee for Weights and Measures
 - C. On the Pension and Provident Fund of the BIPM
 - D. Dotation of the BIPM for the years 2016 to 2019
 - E. On the importance of the CIPM Mutual Recognition Arrangement
 - F. On the impact of metrology and the importance of coordination for the world-wide measurement system

The BIPM Work Programme for 2016-19

The BIPM Work programme is supported by the "dotation" divided amongst Member States.

- Proposed Work Programme published on the BIPM website (end April) for comment.
 - Now open for comment from representatives of Member States
- Financial Statements for 2013 are now completed and audited by our external auditor (KPMG Ltd)
- Long-term financial plan is being revised
- Developing and costing a proposal for a "BIPM Visitor Programme"
- BIPM Long-term Strategy (for 2020, and beyond)

New Election Process for the CIPM

In preparation for the 25th CGPM (November 2014), the CIPM have developed a new election process:

- All 18 members of the CIPM will be elected at the CGPM in November.
- Candidates are requested to submit CVs together with supporting documentation.
- All documentation reviewed by the CIPM and submitted to the CIPM "Ad hoc Working Group" who will confirm the "slate" of candidates put forward for the election.
- The "old" CIPM will hand over to the "new" CIPM at the March 2015 meeting to maintain continuity..

Changes in the CIPM

- Following the retirements of **Prof. Göbel**, **Dr Hengstberger** and **Dr Schwitz** from the CIPM, three new members were provisionally elected in May 2013.
 - Prof. Humberto Brandi (Director for Scientific and Industrial Metrology, INMETRO, Brazil),
 - Dr Wynand Louw (Director, Technical Infrastructure Development, NMISA, South Africa)
 - **Prof. Joachim Ullrich** (President, PTB, Germany)
- In December 2013 **Dr Dae-Im Kang**, President of KRISS (Republic of Korea) was provisionally elected to the CIPM.

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World Metrology Day



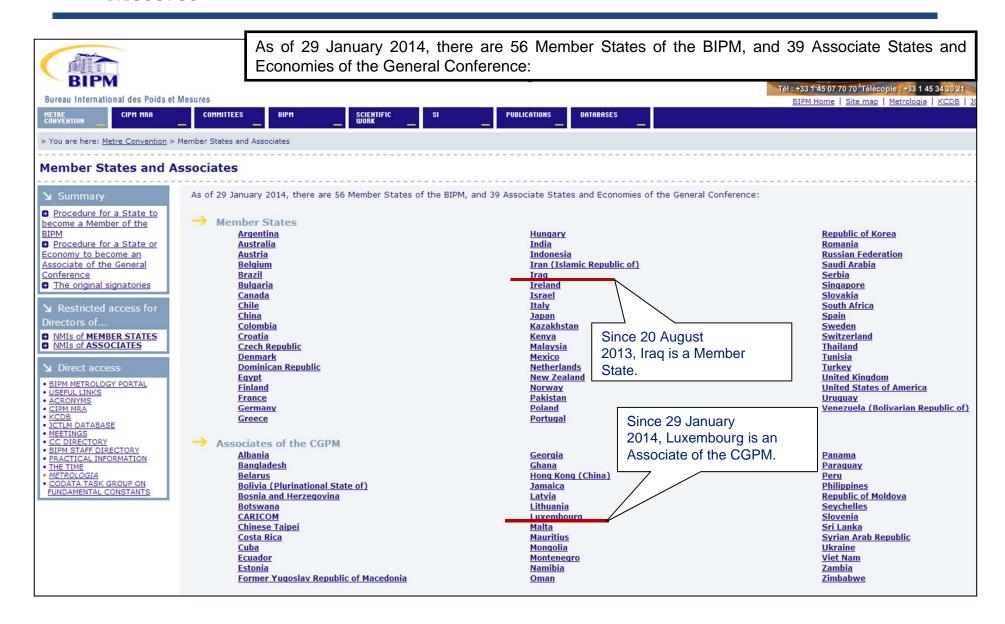
Events recorded on the website in 29 countries.

Poster translated into 20 languages.

A new record set according to all metrics: distinct visits, pages viewed, hits and volume

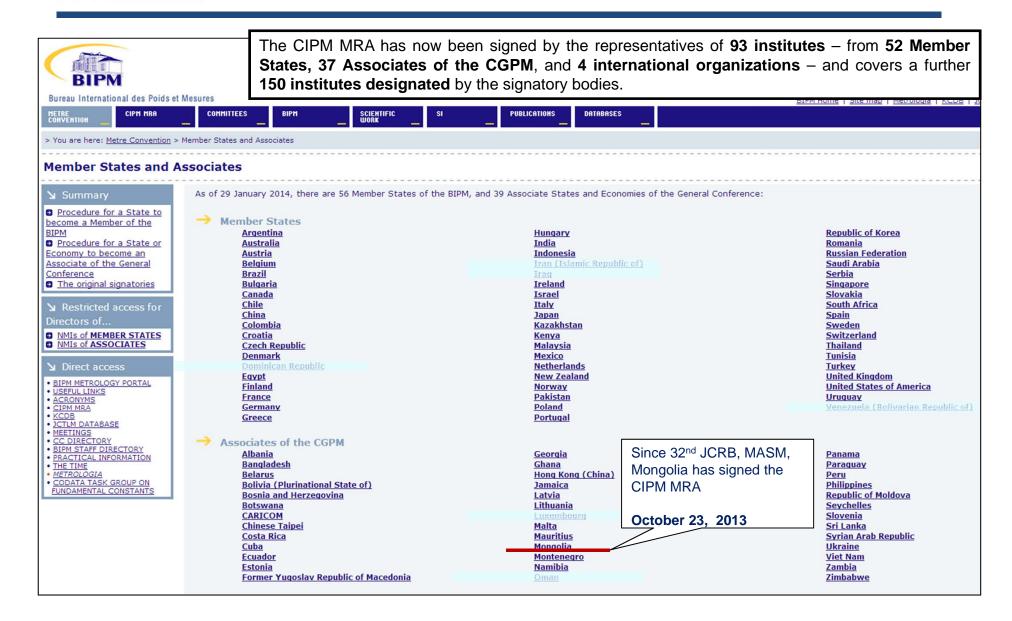
JCRB Action 32/15: AFRIMETS has volunteered to identify an NMI within its region to work with BIPM and BIML in developing the World Metrology Day poster for 2015.

Members and Associates



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CIPM MRA Participation



representatives of 93 institutes - from 52 Member States,

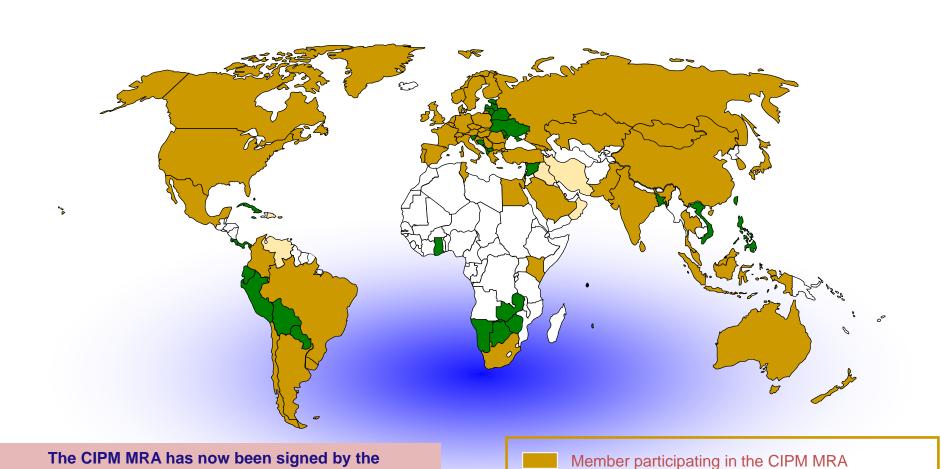
37 Associates of the CGPM, and 4 international

organizations – and covers a further 150 institutes designated by the signatory bodies.

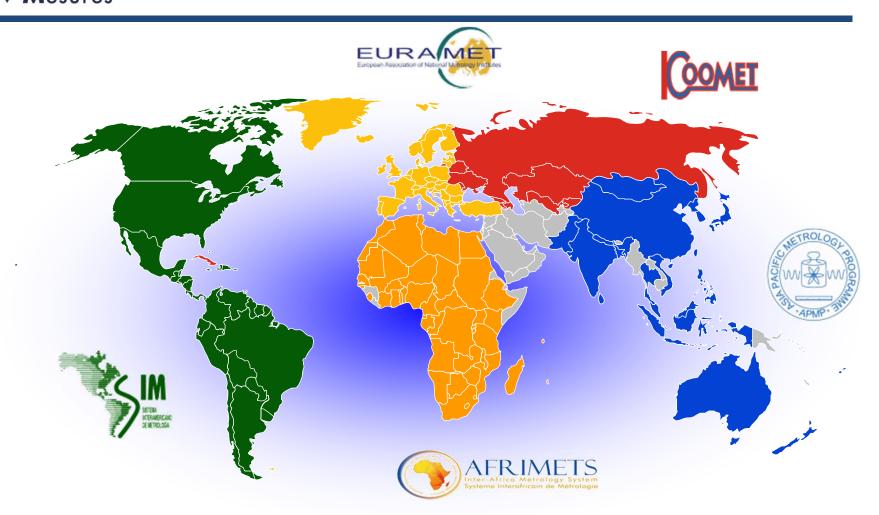
CIPM MRA Participation

Associate participating in the CIPM MRA

Members/Associates not yet signed the CIPM MRA



Regional Metrology Organizations

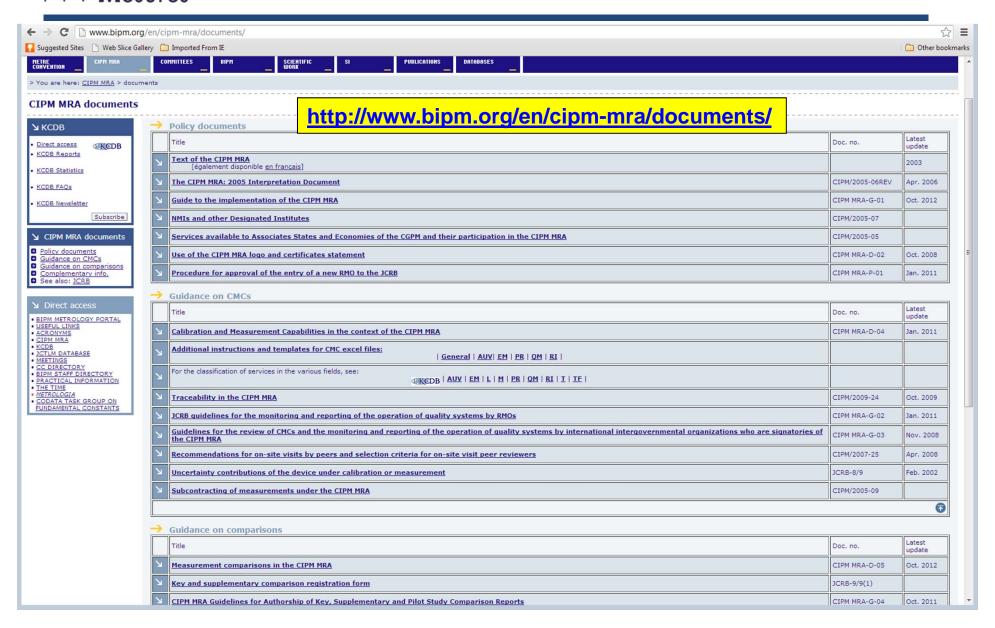


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Mesures

Highlights of the JCRB

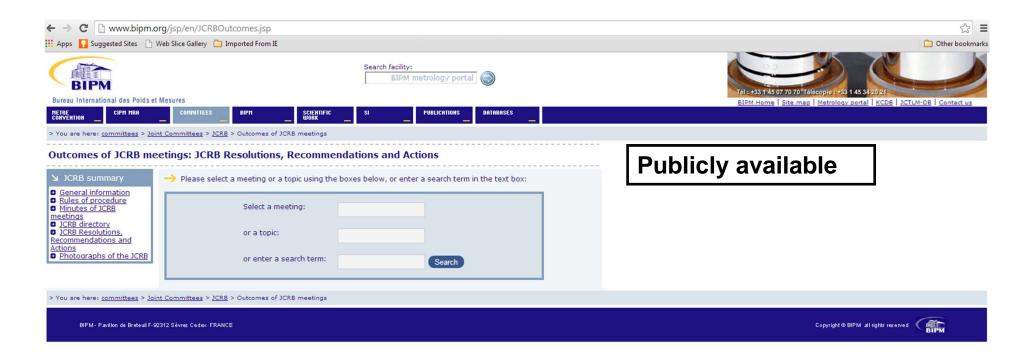
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CIPM MRA documents



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Outcomes of the JCRB

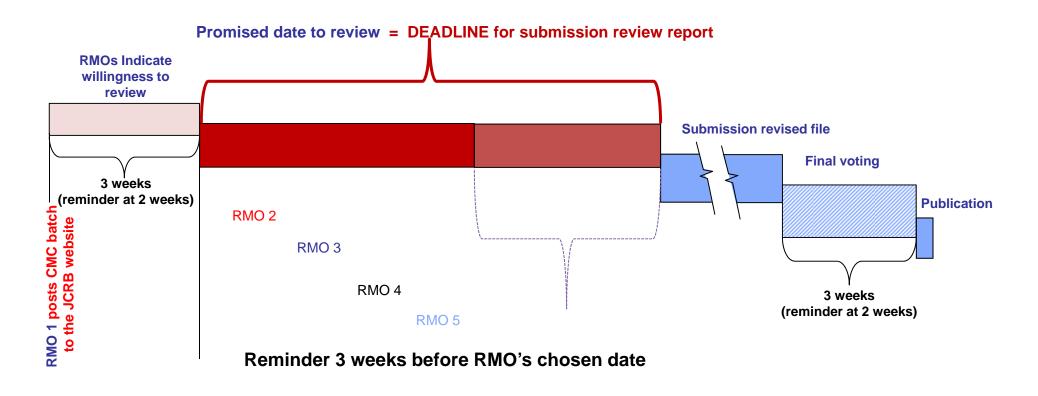


http://www.bipm.org/jsp/en/JCRBOutcomes.jsp

Improvements in Inter-regional CMC Review

Changes have been made to the CMC review process following the 30th JCRB meeting.

- The time to indicate "<u>intention to review</u>" has been reduced <u>from 6 to 3 weeks (with a reminder after 2 weeks)</u>;
- The deadline chosen by each <u>RMO for submission of its review report</u> has been made a <u>"hard deadline"</u> (with a reminder 3 weeks before);
- The deadline for approval of CMCs has been reduced from 6 to 3 weeks (with a reminder after 2 weeks).



Some statistics from the Database

Results of analysis of CMC sets which were posted and approved on the JCRB CMC review website

in the period of Jan	uary-July	/ 2013 (7 months)
CMC sets		Average time from posting to publication, days
Submitted to the JCRB	33	
Had not been yet approved	7	
Approved	26	
Fast track	13	17
Classic review	13	107

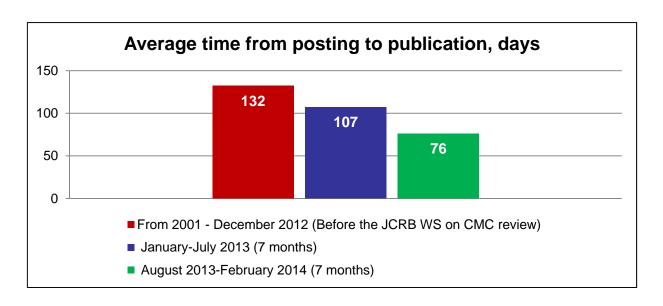
"Old deadlines"

- Indication intention to review 6 wks (reminder at 3 wks)
- Submission review report date chosen by RMO + 6 wks (reminder at 3 wks)
- Voting 6 wks (reminder at 3 wks)

in the period of August 2	013-F	ebruary 2014 (7 months)
CMC sets		Average time from posting to publication, days
Submitted to the JCRB	35	
Had not been yet approved	11	
Approved	24	
Fast track	11	17
Classic review	13	76

"New deadlines" (applied to the JCRB since August 2013)

- Indication intention to review 3 wks (reminder at 2 wks)
- Submission review report date chosen by RMO (reminder 3 wks before)
- Voting 3 wks (reminder at 2 wks)



Recommendation 30/1: The JCRB strongly encourages the CCs and the RMOs to <u>use the BIPM Web Forum</u> as a tool for effective information exchange and consider increased <u>use of the "fast track"</u> to promote more rapid processing of CMCs.

Recommendation 30/2: The JCRB recognizes the maturity and effectiveness of the CMC review process and the degree of trust established between the RMOs. Consequently, the JCRB strongly <u>recommends that duplication</u>, <u>resulting from RMO reviewing the same CMCs during interregional review, be reduced wherever possible</u>.

Recommendation 30/3: The JCRB recommends that <u>RMOs pay greater</u> <u>attention</u> to the appropriate guidelines during intra RMO review in order to improve the efficiency of the inter RMO review of CMCs.

Action 30/1: The JCRB Executive Secretary will develop text on "greying-out CMCs" and reinstating "greyed-out CMCs" for CIPM MRA-D-04 for approval at the next meeting of the JCRB.

Calibration and Measurement Capabilities in the context of the CIPM MRA
CIPM MRA-D-04



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12. Greying-out of published CMCs

A greyed-out CMC is a calibration and measurement capability that had been published in the KCDB, but for some reason has been temporarily suspended (with the intention to reinstate it at some future date).

The greyed-out CMCs are not visible in the open KCDB website, but are retained in the database so are not lost.

The maximum period for the greyed-out status is five years.

Greying-out of published CMCs usually arises through non-compliance with the criteria for acceptance of CMCs as described in Section 3, but may also occur when an NMI/DI indicates that the service has been temporary suspended.

CIPM MRA-D-04

http://www.bipm.org/utils/common/CIPM_MRA/CIPM_MRA-D-04.pdf

Bureau International des Poids et Mesures

Highlights of the JCRB

	Comparison conducted by	→ in	-	Da	te:	
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Action 31/1: BIPM to develop an electronic format for the form "Key and supplementary comparison registration form" in order to improve the accuracy and consistency of the information relating to KC status on the KCDB.

Action 32/4: BIPM to provide a list at each JCRB meeting of Associates of the CGPM who have been encouraged to become a Member State of the BIPM (in accordance with Resolution 4 of the 24th meeting of the CGPM).

Action 32/5: CIPM MRA: Each RMO to prepare bullet points identifying, from their perspective, the benefits and the successes of the CIPM MRA. The intention is to eventually combine these into a single presentation to be made at the CGPM as an introduction to the Draft Resolution to be presented at the 25th meeting of the CGPM on the CIPM MRA. It is envisaged that the common points will be compiled and supplemented by RMO specific perspectives (one slide per RMO). BIPM will add introductory statistics, and the presentation will conclude with progress already made towards a sustainable CIPM MRA and as an introduction to the Draft Resolution.

RMOs to coordinate and send the common and RMO specific bullet points to the BIPM (JCRB Executive Secretary) by the end of May, 2014 so that the presentation can be discussed at the June meeting of the CIPM bureau.

Action 32/6: Each RMO to individually contribute to the CIPM MRA review by highlighting the successes and challenges for them and their stakeholders, and suggest practical ideas for improvements in the operation of the activities falling within the responsibility of the JCRB. To facilitate collation of the information the RMOs will attempt to follow a common format... The final completed discussion document to be submitted by each RMO to the BIPM by the end of 2014 for discussion at the 2015 JCRB meeting.

Action 32/8: EURAMET to collaborate with the BIPM to produce a generalized version of the paper "Role of DIs within the CIPM MRA" for wider use by the other RMOs and for possible adoption by the JCRB.

Action 32/9: Noting that the RMOs indicated that they either already have a dedicated webpage (EURAMET) for training or are in the process of creating such page (AFRIMETS, APMP, COOMET, SIM), the BIPM will propose to the DCMAS Network to include the appropriate links on their website. Furthermore BIPM will enquire whether it is possible for them to make "training" more visible on the website. RMOs to provide the JCRB Executive Secretary with appropriate links as soon as they become available.

Action 32/14: The JCRB agrees on the proposed additional text to the guidance document CIPM MRA-D-02 (which a further suggested text amendment) in response to the request of the CIPM bureau regarding the use of the CIPM MRA logo on certificates/reports that include a statement of conformity. The text clarifies that the CIPM MRA logo attests only to the measurement component of such certificates/reports. The JCRB Chairman to inform the CIPM on the clarification.

Future meetings:

- November 2014 CGPM
- 2015 BIPM Workshops on the GUM and "Carbon Metrology"
- Autumn 2015 NMI Director's Meeting (to review the MRA)

Thank you for your attention

