Report of the 35th Meeting of the JCRB

Held on March 16 and 17, 2016

BIPM, Sevrès

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Participants

BIPM-CIPM

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Mr. Andy Henson	(Director, BIPM ILC Department) BIPM
Dr. Douglas Olson	(Executive Secretary) BIPM
Dr. Susanne Picard	KCDB Coordinator
Dr. Takashi Usuda	

Delegations

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Mr. Dennis Moturi
Ms. Zakithi Msimang AFRIMETS Dr. Peter Fisk APMP representative to the JCRB Dr. Toshiyuki Takatsuji APMP Dr. Peter Manson APMP Dr. Isao Kishimoto APMP Dr. Pavel Neyezhmakov COOMET representative to the JCRB Mr. Sergey Komissarov
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Regrets

Dr. Vladimir Krutikov	COOMET
Dr. Valery Hurevich	COOMET

1. Welcome by the Chairman and approval of the agenda

Dr. Martin Milton, Director of the BIPM and Chairman of the JCRB, welcomed the delegates to the 35th meeting of the JCRB and gave apologies from Dr Jim McLaren, the CIPM Secretary, who had been unable to attend the meeting on this occasion. He noted that both Dr. Takashi Usuda and Dr. Wynand Louw are CIPM members. For this meeting, Dr. Usuda will stand in for the CIPM Secretary. Members of the delegations introduced themselves.

The agenda of the 35th JCRB meeting was presented. Items added under other business (agenda item 13), were "the terms of reference of the JCRB" and "a possible JCRB strategy". GULFMET comparisons were added under item 5.6. With these additions, the agenda was approved.

2. Approval of the minutes of the 34th meeting of the JCRB and review of pending actions

The minutes of the 34th meeting of the JCRB were approved without amendments.

M. Milton reported on the status of actions agreed to at the 34th JCRB meeting:

- Action 34/1 (regarding RMOs' review of RMO/BIPM webpages and providing updated information to the BIPM), AFRIMETS, COOMET, and APMP stated they either have or will provide the information to the BIPM. AFRIMETS provided the update prior to the end of the meeting. EURAMETS had provided review and feedback prior to the meeting.
- Action 34/2 (regarding World Metrology Day 2017), SIM confirmed that they will provide the contact information of INM Colombia to the BIPM. INM Colombia will work with the BIPM in developing the poster for 2017. EURAMET was selected to work with the BIPM in developing the poster for 2018.
- Action 34/4 (regarding the BIPM investigating the programming burden of providing customized deadline reminders to RMO reviewers of CMCs), the BIPM reported that such customized reminders would require several weeks of programming time. An additional one-week reminder, common to all RMO reviewers, was added as part of the upgrade for the inclusion of GULFMET in the review process.
- Action 34/5: CC executive secretaries and CC presidents have been notified of the revised policy for publishing results of comparisons involving non-signatories to the CIPM MRA.
- Actions 34/6: Procedural documents of relevance to the revised policy of publishing results of comparisons involving non-signatories to the CIPM MRA will be covered in agenda item 10.
- Action 34/7 (regarding review of the current practice of listing non-signatories and non-designated institutes in the drop-down menus of the KCDB) will be covered in agenda item 9.

 Recommendation 34/1: The CIPM granted provisional acceptance of GULFMET as a Regional Metrology Organization in accordance with the procedures of the JCRB and within the meaning of the CIPM MRA (CIPM/104-38).

3. Report on progress since the 34th JCRB meeting

A. Henson reported on developments at the BIPM since the 34th meeting of the JCRB, including an update on the revision to ISO/IEC 17025. The important points of the report included:

- Qatar became an Associate of the CGPM on 10 March 2016 and signed the CIPM MRA on 16 March 2016;
- Iran signed the CIPM MRA on 26 January 2016 and United Arab Emirates signed the CIPM MRA on 3 February 2016;
- World Metrology Day 2016 poster has gone live, with thanks to VNIIMS. The theme is "Measurements in a dynamic world". All countries wanting to raise their profile were encouraged to participate. A problem which arose in 2016 with nonbackward compatibility of the poster design software has been resolved.
- The number of projects in the BIPM Capacity Building and Knowledge Transfer (CBKT) continues to grow. In 2016 the "Leaders of Tomorrow" course will take place as well as the 2016 Varenna Metrology School and METAS placement. The Safe Food and Feed Metrology Infrastructure program has begun, as well as planning for training related to the calibration of time transfer equipment for UTC. The BIPM is developing additional program ideas with their sponsors.
- The BIPM webpage has been revised to include information on GULFMET, and direct links to RMO training pages have been added. RMOs were reminded to provide updated information to the BIPM on several topics.
- Working group WG44 on revisions to ISO/IEC 17025 has now met four times. The next drafting meeting is scheduled for July 2016, and the next WG44 meeting is scheduled for September 2016. Two working documents and one CD have been developed, with over 2600 comments received. CD 2 is expected in late March with a two month consultation. The goal is still to publish in 2017.

[The BIPM report is available on the restricted-access JCRB working documents webpage. listed as <u>JCRB-35/03.0</u>]

3.1. Update on the status of the BIPM QMS

A. Henson reported on the status of the BIPM QMS. This included BIPM measurement services activity statistics, numbers of QMS documents, dates and status of peer and internal reviews, status of preventive/corrective actions raised internally and from complaints, customer feedback, and continuous improvement. The next global peer review is scheduled for September 2016 and will be conducted by E. Sadikoglu, the EURAMET TC-Q Chair. Some details were provided on the corrective action following identification of the value of the drift of the BIPM as-maintained mass unit.

[The BIPM report is available on the restricted-access JCRB working documents webpage. listed as <u>JCRB-35/03.1</u>]

4. Report from the CIPM

M. Milton delivered a verbal report of the CIPM. He gave details of the decisions from the 104th CIPM (II) meeting of October 2015. M. Milton pointed out the decisions related to finances, the BIPM pension and provident fund, and the BIPM Health Insurance fund. Several decisions related to the CCU and the redefinition of the SI base units. The CC presidents will meet in June 2016 and discuss their policy on membership and observership of the Consultative Committees (decisions on applications for membership/observership of CCs are on hold pending the outcome of these discussions and any subsequent CIPM decisions).

5. Highlights of the RMO reports to the JCRB

5.1. AFRIMETS

W. Louw and N. Khaled presented the highlights of the AFRIMETS report.

5.2. APMP

P. Fisk presented the highlights of the APMP report.

5.3. COOMET

P. Neyezhmakov presented the highlights of the COOMET report.

5.4. EURAMET

B. Jeckelmann presented the highlights of the EURAMET report.

5.5. SIM

C. Santo presented highlights of the SIM report.

5.6. GULFMET

M. Al Mulla presented highlights of the GULFMET report. Discussion following the presentation emphasized the roles of the established RMOs to support the integration of GULFMET into the global metrology structure. GULFMET presented their numbering scheme for comparisons which aligns with those described in CIPM MRA-D-05. The JCRB took the following action:

Action 35/01: GULFMET is encouraged to register their comparisons (except those used for training purposes) in the KCDB and is reminded of the guidance on comparisons given in CIPM MRA-D-05, particularly section 5.1, regarding linkage between CIPM and RMO key comparisons.

It was pointed out to GULFMET that CC WGs for RMOs have as their members the TC/WG chairs from the RMOs, now including GULFMET TC chairs. The BIPM will inform the CC executive secretaries of the GULFMET TC chairs, and request them to invite GULFMET to all future CC WG-RMO meetings and planning activities.

[The individual RMO presentations are available on the restricted-access JCRB working documents webpage, listed as <u>JCRB-35/05.1</u>; <u>JCRB-35/05.2</u>; <u>JCRB-35/05.3</u>; <u>JCRB-35/05.3</u>; <u>JCRB-35/05.5</u>; and <u>JCRB-35/05.6</u> respectively.]

6. Feedback from the Working Group on the CIPM MRA Review

M. Milton presented a summary of the meeting of the Working Group on the Implementation and Operation of the CIPM MRA, held March 14 and 15, 2016. The process and structure of the meeting of the Working Group was described, and a broad discussion took place that focussed around the 9 questions the Working Group had considered in its review and the proposed recommendations based on the questions. RMO Delegates of the JCRB who also participated in the Working Group included J. Olthoff, P. Fisk, D. Moturi, B. Jeckelmann, H. Laiz, W. Louw, and C. Santo.

The discussion at the JCRB included (inter alia) the roles of the JCRB and the CCs in implementing the recommendations of the review; the importance of improved communication between CCs, RMOs, the CIPM, and the JCRB; the strategic approach the JCRB should take and how to best develop it; how to balance the needs of NMIs from countries and economies with emerging metrology systems against the desire to manage the workload of developed NMIs; what the JCRB envisages as "broader scope" CMCs and their support for services; and how to define the scope for the update of the KCDB/JCRB IT suite. It was agreed to continue discussion of various issues at the 36th JCRB meeting in September 2016, which will occur prior to the NMI Directors and CIPM meetings of October 2016 when the report of the Working Group will be discussed. The JCRB agreed to the following actions:

Action 35/02: The RMOs to include an update on strategic planning with respect to KCs and SCs undertaken at the RMO TC level in their reports to the JCRB.

Action 35/03: The BIPM to present a draft scope for the update to the KCDB/JCRB IT suite to the next JCRB meeting.

Action 35/04: The BIPM will identify possible metrics that might measure the quality of the intra-regional CMC reviews carried out by each RMO.

Action 35/05: The BIPM to ask RMOs about the availability of materials to support the involvement of NMIs from countries and economies with emerging metrology systems in the work of the CIPM MRA.

Action 35/06: The JCRB charged a subgroup (comprising Alan Steele (convenor), Peter Fisk, Beat Jeckelmann, Pavel Neyezhmakov, Wynand Louw, Mohammed Al Mulla and Andy Henson) to prepare a draft position paper on its response to the MRA review for discussion at the next meeting of the JCRB.

Action 35/07: The JCRB charged a subgroup (comprising Claudia Santo (convenor), Beat Jeckelmann, Toshiyuki Takatsuji and Zakithi Msimang) to prepare a draft position paper on the feasibility of "broader scope" CMCs for discussion at the next meeting of the JCRB.

7. KCDB report and KCDB tomorrow

S. Picard presented a summary of the semi-annual KCDB report to the JCRB. The report included the following points:

- As of 1 March 2016, the KCDB has a total of 24 580 CMCs, including 18 502 in physics (including ionizing radiation) and 6 078 in chemistry. In the last 12 months, the number of physics CMCs has increased by 1.7 % and the number of chemistry CMCs has increased by 5.4 %.
- 142 CMCs are in grey-out status (temporarily removed from the KCDB), compared with 253 CMCs as of 1 September 2015. CMCs from Netherlands (AUV/6), New Zealand (EM/5), Canada (PR/4 and L/11) and Portugal (L/1) were permanently deleted from the KCDB. The USA had CMC reinstatements, while CMCs from Italy, Kazakhstan, Mexico, Slovakia, and Portugal entered grey-out status. There presently are no greyed-out CMCs in the 1-year reinstatement period. CMC sets that will reach the 5-year greyed-out limit in the next 12 months are Korea (5 CMCs in pH) on 20 December 2016 and Mexico (3 CMCs in PR) on 15 March 2017.
- 22 of the 40 Associates who have signed the CIPM MRA have CMCs currently published in the KCDB. The first CMCs declared by Montenegro were added in November 2015. The total number of CMCs of Associates decreased by 26, due to Lithuania moving from Associate to Member State.
- As of 01 March 2016, there were 1387 total comparisons in the KCDB (933 KCs, 454 SCs). Since the 34th JCRB, there have been 18 KC and 21 SC new registrations, and 39 comparisons have been archived.
- As of 1 March 2016, 93 KCs and 57 SCs were started 5 or more years ago which have not reached a conclusion. In the last six months, 19 KCs and 12 SCs have been added to the category (as they were started in 2011). In the same period, 6 KCs and 1 SC moved out of the category due to being approved, 2 KCs were abandoned, and 7 KCs and 4 KCs had updates in their status but did not reach conclusion. The complete list of comparisons remaining in this category has been provided to the RMOs.
- A summary of the KCDB 'pop-up' survey showed that 243 replies have been received since December 2014. The KCDB requested that this survey be retired and the JCRB took the following action.

Action 35/08: The KCDB will retire the use of the pop-up survey on the usage of the KCDB website.

- A brief overview was given of the general requirements for the revision to the KCDB/JCRB IT suite. There is a minimum requirement to maintain the KCDB and replace unsupported software, along with an improved graphical interface. Possible improvements being considered are modernized technology, creation of a web platform for CMC submission and review, and options for exporting and analysing data. Consideration of the implications of the outcome of the CIPM MRA review will also need to be taken into account.

[The KCDB report is available on the restricted-access JCRB working documents webpage listed as <u>JCRB-35/07.0</u> and on the unrestricted BIPM website at <u>http://www.bipm.org/jsp/en/ViewKCDBReport.jsp</u>]

8. Status of CMC submissions and review / issues from Consultative Committees

D. Olson made a presentation on the status of CMC submissions and review, and issues arising from the CCs and operation of the JCRB CMC review. Since the 34th JCRB, 17 CMC sets have been published, 24 CMC sets have been submitted, one set was not approved, and two sets were abandoned. As of 15 March 2016, 16 sets were in the status of "review in progress". 4 of those sets were waiting for the inter-RMO review, while the remaining 12 were waiting for the revised file to be posted. One CMC set had its last update in 2013, and two sets had their last update in 2014. RMOs whose CMCs sets were last updated in 2014 or earlier were asked to take appropriate action to bring the review process to conclusion. Several of the CMC sets that were published during the previous six months took 200 days or longer for the inter-regional review (elapsed time of file post to publish). In all these cases, the longest portion of the review was the posting of the revised file by the submitting NMI/RMO.

Inter-RMO review performance (the number of reviews performed according to meeting process deadlines) shows continued overall improvement, with COOMET taking a significant jump in the last six months. RMO performance ranges from 62 % to 100 %. Specific information on reasons for loss of rights to review was provided to the RMOs.

D. Olson presented an analysis that showed that in the last six months 63 % of CMC sets were submitted for inter-RMO review without the confirmation of the QMS evidence, even though it is a requirement for submission as documented in CIPM MRA-D-04. Confirmation of QMS evidence is always verified before a CMC set is published, but its omission when required can cause delays in publication (e.g., this recently affected APMP.QM.24.2015 and APMP.QM.35.2015) and produces additional work for the BIPM. The current JCRB CMC website does not enforce the inclusion of the confirmation of the QMS evidence at the time of CMC submission, although a reminder of the requirement has been added in the submission process. CMC sets currently in review and awaiting the QMS confirmation were listed. The JCRB agreed to the following action:

Action 35/09: The RMOs to remind TC and WG chairs of the requirement stated in CIPM MRA-D-04 to submit, at the beginning of the inter-RMO review, the confirmation that the QMS evidence supports the CMC set, and to consider how this will be embedded in the update to the KCDB/JCRB IT suite.

D. Olson described some of the features of the recent JCRB CMC review website update that occurred in conjunction with providing GULFMET the capability of reviewing CMC files posted by the other RMOs. The updated version went live March 1, 2016. Several improvements in the interface design were made along with additional process reminders and a revision of the user's manual. There were no changes to the underlying database or review processes.

[The CMC status report is available on the restricted-access JCRB working documents webpage listed as <u>JCRB-35/08.0</u>].

9. Listing of comparison participants in the KCDB who are non-signatories to the CIPM MRA or non-designated institutes of signatory states

D. Olson presented the results of the analysis required from Action 34/7, which was to look at the current practice within the KCDB website of listing non-signatory participants in comparisons. Currently, the KCDB lists on the website all participants that are submitted on the comparison registration form, regardless of status as a signatory participant. For the analysis, an excel listing of the KCDB as of 12 October 2015 was sorted to identify participants who were from non-signatory countries or non-designated institutes in signatory countries. That listing had a total of 11 736 participants in 1 348 comparisons. The results showed that 68 participants were from non-signatory countries and 127 participants were non-designated institutes. A further breakdown was given of these participants by comparison originator (RMOs and CC), metrology area, and comparison type (key or supplementary). 37 comparisons have one or more participants from non-signatory countries, and 62 comparisons have one or more participants who are non-designated institutes. Possible options were presented and discussed for establishing a consistent policy of listing of non-signatory participants. The JCRB decided upon the following action, along with text changes in CIPM MRA-D-05 (to be mentioned in agenda item 10.1) to document the policy:

Action 35/10: The BIPM will delete the listings of non-signatory and non-designated participants of comparisons that currently appear in the drop-down menus of the KCDB (recalling that all participants will continue to be listed in the comparison reports).

[The presentation on agenda item 9 is available on the restricted-access JCRB working documents webpage listed as <u>JCRB-35/09.0</u>, along with a background paper that explains the analysis and results in more detail listed as <u>JCRB-35/09.1</u>].

10. Procedures to be discussed

Action 34/6 tasked the BIPM to look at procedural documents of relevance to publishing reports of comparisons involving non-signatories participants, and draft proposed changes. The two documents found to be relevant were CIPM MRA-D-05 and CIPM/2005-06/(REV).

10.1. CIPM MRA-D-05 "Measurement comparisons in the CIPM MRA"

D. Olson presented proposed changes to CIPM MRA-D-05, "Measurement comparisons in the CIPM MRA". Changes were detailed both in response to **Action 34/6**, and to the decision in agenda item 9 as detailed in **Action 35/10**. The text from **JCRB Resolution 34/1**, which is the revised policy on reporting results of comparisons with non-signatory participants, will be inserted into Paragraph 8 of CIPM MRA-D-05. Paragraphs 5.1 and 7.1 will be revised to remove reference to previous policy and to point to Paragraph 8. Paragraph 3, which discusses the registration of comparisons, will have a sentence added to state that only signatory participants will appear on the drop-down menus of the KCDB.

The JCRB agreed to the revisions and decided upon the following action:

Action 35/11: The JCRB approved the revision to CIPM MRA-D-05, "Measurement comparisons in the CIPM MRA" and the BIPM will inform the CIPM of the revision.

10.2. CIPM Interpretive document (CIPM/2005-06/REV)

D. Olson presented the text within CIPM/2005-06/REV which states the policy of reporting results of comparisons from non-signatories of the CIPM MRA (specifically, Point of Clarification 6). If the document is left unchanged, it is in conflict with the *JCRB* **Resolution 34/1** and revised guidance document CIPM MRA-D-05. As this is a CIPM document, the JCRB can only make recommendations to the CIPM for changes. Options discussed were (1) recommend a revision to the document to include the text of **JCRB Resolution 34/1**, or (2) recommend retiring the document and include the other points of clarification made in the document within existing procedural documents. It was felt that retiring the document would disperse useful information on a variety of topics and defeat the utility of a concise guidance document. The JCRB agreed to the following recommendation:

Recommendation 35/1: The JCRB recommends to the CIPM to revise Point of Clarification 6 to CIPM 2005-06(REV); the revision to include the text of JCRB Resolution 34/1 regarding measurement comparison reports.

[The presentations on the procedures to be discussed are available on the restrictedaccess JCRB working documents webpage listed as <u>JCRB-35/10.1</u> and <u>JCRB-35/10.2</u>].

11. Application of ARAMET to become an RMO

A. Henson presented information on an ARAMET request made in December of 2015 to become an RMO within the meaning of the CIPM MRA. ARAMET currently has 12 member states, and was established in 2012 under the umbrella of the Arab Industrial Development and Mining Organization (AIDMO). Four members of ARAMET are member states (Egypt, Iraq, Saudi Arabia, and Tunisia) and two members of ARAMET are associate members of the CGPM (Sudan and Yemen). Dr. Milton stated that he would be asking the CIPM to reflect more widely on the implications of an initiative for an RMO that cut across the existing RMOs. He asked AFRIMETS and GULFMET if it was aware of the ARAMET initiative and if they knew the positions of their members named by ARAMET as participating in and supporting ARAMET. The representatives from AFRIMETS and GULFMET stated they were not aware of this request and there had been no coordination between ARAMET and the RMOs. AFRIMETS and GULFMET representatives agreed to contact ARAMET and gain further information.

12. Cross membership of RMOs

P. Fisk raised the issue of cross membership of RMOs in the context of providing assistance to GULFMET to progress their status as an RMO, without unduly burdening Technical Committees. APMP has had a number of requests from GULFMET to become associate members of APMP. JCRB members affirmed that various RMO activities are open to GULFMET within the resources available to accommodate them, including RMO comparisons, RMO trainings, and attendance at RMO plenaries.

13. Any other business

Items which had been added to any other business were "the terms of reference of the JCRB" and "a possible JCRB strategy". (CIPM MRA-D-01 contains the Terms of Reference for the JCRB which are reproduced from Appendix E of the CIPM MRA). The meeting agreed that both other business items had been discussed in agenda item 6.

14. Next meetings and meeting closure

D. Moturi gave a presentation on KEBS, the proposed site of the 36th JCRB. The JCRB agreed to the following resolutions regarding the next two JCRB meetings:

Resolution 35/1: The 36th meeting of the JCRB will take place on September 14 and 15, 2016 at KEBS in Nairobi, Kenya.

Resolution 35/2: The 37th meeting of the JCRB will take place during the week beginning March 13, 2017 at the BIPM, on days to be decided.

M. Milton read the resolutions, recommendations, and actions. He thanked the delegates for their attendance and called the 35th meeting of the JCRB to a closure.

15. Resolutions, Recommendations, and Actions

Action 35/01: GULFMET is encouraged to register their comparisons (except those used for training purposes) in the KCDB and is reminded of the guidance on comparisons given in CIPM MRA-D-05, particularly section 5.1, regarding linkage between CIPM and RMO key comparisons.

Action **35/02**: The RMOs to include an update on strategic planning with respect to KCs and SCs undertaken at the RMO TC level in their reports to the JCRB.

Action 35/03: The BIPM to present a draft scope for the update to the KCDB/JCRB IT suite to the next JCRB meeting.

Action **35/04**: The BIPM will identify possible metrics that might measure the quality of the intra-regional CMC reviews carried out by each RMO.

Action **35/05**: The BIPM to ask RMOs about the availability of materials to support the involvement of NMIs from countries and economies with emerging metrology systems in the work of the CIPM MRA.

Action 35/06: The JCRB charged a subgroup (comprising Alan Steele (convenor), Peter Fisk, Beat Jeckelmann, Pavel Neyezhmakov, Wynand Louw, Mohammed Al Mulla and Andy Henson) to prepare a draft position paper on its response to the MRA review for discussion at the next meeting of the JCRB.

Action 35/07: The JCRB charged a subgroup (comprising Claudia Santo (convenor), Beat Jeckelmann, Toshiyuki Takatsuji and Zakithi Msimang) to prepare a draft position paper on the feasibility of "broader scope" CMCs for discussion at the next meeting of the JCRB.

Action **35/08**: The KCDB will retire the use of the pop-up survey on the usage of the KCDB website.

Action **35/09**: The RMOs to remind TC and WG chairs of the requirement stated in CIPM MRA-D-04 to submit, *at the beginning of the inter-RMO review*, the confirmation that the QMS evidence supports the CMC set, and to consider how this will be embedded in the update to the KCDB/JCRB IT suite.

Action 35/10: The BIPM will delete the listings of non-signatory and non-designated participants of comparisons that currently appear in the drop-down menus of the KCDB (recalling that all participants will continue to be listed in the comparison reports).

Action 35/11: The JCRB approved the revision to CIPM MRA-D-05, "Measurement comparisons in the CIPM MRA" and the BIPM will inform the CIPM of the revision.

Recommendation 35/1: The JCRB recommends to the CIPM to revise Point of Clarification 6 to CIPM 2005-06(REV); the revision to include the text of JCRB Resolution 34/1 regarding measurement comparison reports.

Resolution 35/1: The 36th meeting of the JCRB will take place on September 14 and 15, 2016 at KEBS, Nairobi, Kenya.

Resolution 35/2: The 37th meeting of the JCRB will take place during the week beginning March 13, 2017 at the BIPM, on days to be decided.