

**Report of the 40<sup>th</sup> Meeting of the JCRB**

Held on March 13 - 14, 2019

BIPM, Sèvres, France

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## Participants

### **BIPM**

Dr Martin Milton.....Chairman, BIPM

Dr Sten Bergstrand .....Executive Secretary, BIPM

Mr Andy Henson..... Director, BIPM Int. liaison and com. dept., BIPM

Dr Susanne Picard..... KCDB Coordinator, BIPM

Mr Chingis Kuanbayev .....International Liaison Assistant, BIPM

### **Delegations**

Dr Wynand Louw ..... JCRB representative, AFRIMETS

Prof. Noha Khaled.....AFRIMETS

Mr Lotfi Khedir.....AFRIMETS

Ms Zakithi Msimang .....AFRIMETS

Dr Toshiyuki Takatsuji .....JCRB representative, APMP

Prof. Chu-Shik Kang ..... APMP

Dr Takehiro Morioka..... APMP

Dr Kazuaki Yamazawa ..... APMP

Dr Valery Hurevich.....JCRB representative, COOMET

Dr Sergei Golubev ..... COOMET

Ms Nino Mikanadze ..... COOMET

Prof. Natalia Muravskaya ..... COOMET

Prof. Pavel Neyezhmakov ..... COOMET

Mr Hans Arne Frøystein..... JCRB representative, EURAMET

Dr Miruna Dobre.....EURAMET

Dr Wolfgang Schmid .....EURAMET

Dr Kai Stoll-Malke .....EURAMET

Mr Salah Al-Rumaihi .....JCRB representative, GULFMET

Mr Mohammed Al-Mulla..... GULFMET

Dr Majed Al-Harhi ..... GULFMET

Mr Omar S Kanakrieh ..... GULFMET

Ms Amina Zainal ..... GULFMET

Dr James Olthoff..... JCRB representative, SIM

Dr Georgette Macdonald.....SIM

Dr Claire Saundry.....SIM

Dr Alan Steele .....SIM

## 1. Welcome by the Chairman and approval of the agenda

- i) The JCRB Chairman Dr Milton welcomed participants to the 40th JCRB meeting, and the delegates introduced themselves. The CIPM Vice President and designated representative Dr Willie May was excused, as was Dr Héctor Laiz. It was noticed that the new CIPM was well represented by the JCRB delegates and agreed that Dr Milton would present the Report from the CIPM as announced in agenda item 4.
- ii) The agenda as published on the Members' working area on the JCRB website was presented and approved by the delegates without amendment.

## 2. Approval of the minutes of the 39th meeting of the JCRB and review of pending actions

The minutes of the 39th meeting of the JCRB were approved without amendment. Dr Steele suggested to keep up and continue the strategic discussion within the JCRB, emphasized the need to keep the JCRB an action-oriented community and requested time for discussions and not only presentations during the meeting.

M. Milton reported on the status of actions agreed to at the 39th JCRB meeting, and the question whether to include the TCQ Chair discussion (TQD) addressed in JCRB Resolution 39/5 as a subject in 12. Any other business was raised. Dr Macdonald, who prior to the 40th JCRB volunteered to chair the TQD opened for everyone to join the meeting. It was agreed to keep the TQD informal and outside the agenda of the JCRB plenary, and to await the outcome of the said meeting before deciding whether or not to make it part of future plenaries.

[Related [Action 40/ 1](#).

The report of the 39<sup>th</sup> JCRB meeting is available on the unrestricted BIPM website <https://www.bipm.org/en/committees/jc/jcrb/publications-cc.html>]

## 3. Report from BIPM on progress since the 39th JCRB meeting

### 3.1. Member State changes, World Metrology Day, Outcomes from the 26th CGPM Meeting

Mr Henson reported on developments at the BIPM since the 39th meeting of the JCRB. The important points of the report included:

- Ukraine became a State Party to the Metre Convention (Member State) on 7 August 2018, Kuwait became an Associate State of the CGPM on 23 March 2018 and Uzbekistan became an Associate State of the CGPM on 13 July 2018. Venezuela was excluded as a Member State on 14 November 2018 due to non-payment. There are now 59 Member States and 42 Associate States and Economies;
- Seven Associate States of the CGPM are now on the highest Associate State subscription level and have been encouraged to become Member States;
- The brief information on the liaison works of the BIPM with the OECD was given;

- The theme for the 2019 World Metrology Day is “The International System of Units - Fundamentally better”. Thanks to SCL, Hong Kong, China for the poster;
- Following and expanding the sequence of poster designs, the World Metrology Day 2020 will be prepared by AFRIMETS;
- The 8th edition of the SI Brochure is available on the BIPM website and the 9th edition is expected to be published on 20 May 2019;
- The Resolutions adopted by the 26th meeting of the CGPM 13—16 November 2018 were briefly mentioned and made available in the presentation.

Dr Steele commented on the importance of bringing together a coordinated metrological infrastructure on all levels, supporting also political and economic policies.

*[The corresponding BIPM presentation is available on the restricted-access JCRB working documents webpage as [JCRB-40/03.1](#).]*

### 3.2. BIPM QMS report

Mr Henson presented the BIPM Quality System informing e.g. that the BIPM Quality manual has been updated. The oversight of the BIPM QMS (ref. document CIPM 2007-25) that has been performed by EURAMET in the period 2014-18 is transitioning to SIM as of 2019. The details of commencement with respect to the process handover between the different RMO cycles are being established between SIM and BIPM.

*[Related [Action 40/ 5](#) actually raised later, hence the numbering.*

*The BIPM QMS presentation is available on the restricted-access JCRB working documents webpage as [JCRB-40/03.2](#)*

### 3.3. Report on the CBKT activities

Mr Kuanbayev presented the CBKT Programme (<https://www.bipm.org/en/cbkt/>), i.e. activities coordinated specifically by the BIPM to help the world-wide metrology community obtain, strengthen and maintain capabilities needed to fulfil their missions and objectives. Six initiatives are currently being planned, and the programme is open for more sponsors and suggestions. Of particular and immediate interest are:

- 2019 Varenna Metrology School and METAS project in Italy and at METAS (July) <https://www.bipm.org/en/cbkt/varenna-metas-2019.html> applications open until 18 April.
- 2019 BIPM-COOMET "CIPM MRA review outcomes" Workshop at COOMET (April)

More detailed information is available in the powerpoint presentations. In the following discussion, Dr Takatsuji mentioned an APMP initiative in Mongolia and wondered whether this could be coordinated with the CBKT. Mr Kanakrieh wondered which participants that have been accepted for the “Metrology for safe food and feed in developing economies” project. Noting that the individuals have already been informed, Mr Kuanbayev will distribute participant list to GULFMET. Dr Steele enquired how to re-engage with graduates and how to get feedback from participants on the benefit of the courses, Mr Kuanbayev

informed that an impact analysis has been initiated. Dr Steele informed about correlation with major career steps and advancements for course participants. Though causality wasn't proven for career steps, a significant "First time right" improvement for CMC acceptance was shown from course participants. Ms Msimang emphasized that the impact of the course should be shown from RMOs to NMIs, which was supported by Dr Louw as AFRIMETS as a whole has gained from the individual participations. Dr Yamazawa expressed thanks for the courses on behalf of APMP.

Mr Henson clarified that

- RMO general assemblies are generally good opportunities to give courses, and BIPM ILC is generally ready to attend;
- Course concept and material are flexible and can be adapted to specific needs;
- The available material needs to be accompanied by tutoring, and is not suitable for distribution openly;
- Course material is distributed on a participants-only basis;
- JCRB delegates and participants are encouraged to spread information about the program in their RMOs;
- Online material may be available in the future, but no substantial plans or actions exist.

Dr Saundry expressed interest to correlate and align with already planned SIM initiatives and asked whether there were set financial models to give courses. Mr Henson replied that the most important constraint for the BIPM ILC to participate probably is the ability to plan ahead, and RMOs are therefore encouraged to communicate dates as early as possible. As the CBKT is a sponsor based program, the financial model needs to be addressed and communicated individually for each initiative.

*[The CBKT presentation is available on the restricted-access JCRB working documents webpage as [JCRB-40/03.3](#).]*

#### **4. Report from the CIPM**

Dr Milton showed the list of six new members being introduced to the CIPM and expressed his appreciation to those retiring from their posts for their service. He also showed the lists of CIPM decisions from the 107th meeting in June 2018 and highlighted the decisions of particular relevance to the JCRB:

- CIPM/107-14: The CIPM confirmed the working practice of inviting the Chairs of relevant Regional Technical Committees to the plenary sessions of the relevant Consultative Committees. The CIPM decided that when any Chair is not from a Member or Observer organization of the relevant Consultative Committee then he/she will be formally invited to participate as a guest of the President of the Consultative Committee.

- CIPM/107-15: The CIPM decided to adopt the following definition of consensus (which originates from the ISO/IEC Directives) for use in the Consultative Committees, Sub-committees and ad hoc Working Groups:

*Consensus - "General agreement, characterized by the absence of sustained opposition to substantial issues by any important part of the concerned interests and by a process that involves seeking to take into account the views of all parties concerned and to reconcile any conflicting arguments. Consensus need not imply unanimity."*

Document CIPM-D-01 will be updated accordingly.

- CIPM/107-25: The CIPM noted the letter from the Chair of the JCGM Working Group on the VIM (WG2) on the proposed broader definition of the term "measurement" to include ordinal and nominal properties. It expressed thanks for being given early information about an important topic under discussion by WG2. The CIPM concluded that there is merit in the proposed definition and asked WG2 to keep it informed of future developments with the definition.

*[The full text of the CIPM decisions are available on the unrestricted BIPM website <https://www.bipm.org/en/committees/cipm/meeting/107.html>.]*

## **5. Representative CMCs and amendments to the document CIPM MRA-D-02 "Use of the CIPM MRA logo and certificates statement"**

Mr Henson presented the updates and amendments to CIPM MRA-D-02, approved by the JCRB via email subsequent to the 39th JCRB meeting, and agreed at the CC Presidents' meeting in June 2018:

- « A CMC is deemed to cover services that meet all of the following criteria :
- *Use the same instrument type/measurement method as that identified in the CMC, noting that more than one instrument type/measurement method can be listed in one CMC,*
  - *Fall within the range covered by the CMC,*
  - *Have measurement uncertainty no less than the uncertainty quoted in the CMC, with appropriate treatment, documented in the quality system, for any methods/instruments listed that are derived, i.e. involve further steps in the metrological traceability chain. »*

Recommendations for the interpretation of terms from the "CIPM ad hoc Working Group on Implementing the Recommendations from the Review of the CIPM MRA" were presented (WG Action 2/03/2017):

- *'How far the light shines'* - is taken to refer to the use of comparisons as the evidence base supporting CMC claims.
- *'Broad scope CMCs'* - is taken to refer to the possibility of NMIs summarizing their capabilities with the smaller number of CMCs each with a broader scope.
- That the issue of what CMCs should/ or should not cover be articulated around the question of whether the CCs' service category lists are sufficiently detailed to cover the services delivered by the NMIs/DI participating in the CIPM MRA.

- That it is understood that some RMOs are considering the importance of NMI/DI services where recognition is required at regional level only.
- '*Flexible scope*' has a specialized meaning in accreditation and is not applicable to the discussion on broad scope CMCs.

Along with WG Action 5/03/2018:

- It is recommended that in future all parties should refer to what has so far been called the '*risk based approach*' as an '*efficient and effective*' review.

Mr Frøystein thanked on behalf of EURAMET as the amendment has improved clarity in usage. Dr Louw opened for discussions if CCs or RMOs should require further guidance on the use, and this question was left open to future feedback from these bodies.

[The presentation is available on the restricted-access JCRB working documents webpage, as [JCRB-40/05](#)]

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

Dr Bergstrand presented some JCRB statistics since the 39th JCRB:

- 54 CMC sets were submitted, 16+4 (classic+fast track) of these have been published
- 27 CMC sets were published with Classic review, median time 148 days
- 4 CMC sets were published with Fast track review (QM)
- 33 CMC sets were in review per 1 March 2019

It was noted that four submitted CMC sets were "Not approved", an increase from two per year the previous three years. This possibly indicates poor understanding or respect of the review process but no analysis has been made.

RMOs were also reminded to contact appropriate TC chairs regarding CMC sets that have been in the status of "review still in progress" for two years or more, currently relating to:

APMP:	M.41.2016, M.42.2016, RI.10.2015
COOMET:	L.12.2016
EURAMET:	RI.25.2016
SIM:	M.30.2016

Deadlines were generally adhered to at a level of 90%, apart from GULFMET whose performance has deteriorated considerably in the last year and therefore was requested if a bilateral discussion was needed. The GULFMET performance had already been raised internally with TC chairs, and improvement is anticipated.

It was also noticed that although the situation has improved, 20% of submissions since the 39th JCRB were submitted without the necessary affirmations of QMS stated in CIPM-MRA-D-04 Section 3 (first sentence), Section 4, and Section 5 (item 5.2.2).

In the period towards the 41st JCRB meeting and immediately thereafter, the following CMCs face the end of the 5-year period when CMCs will be near deletion from the KCDB. The RMOs are to remind the concerned NMIs/Dis.

APMP	Thailand	RI	2019-05-10
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SIM

Mexico

QM

2019-09-16

*[The CMC submission presentation can be found on the restricted-access JCRB working documents webpage as [JCRB-40/06](#).]*

## 7. KCDB report

Dr Picard presented the KCDB report. The following discussion mainly concerned the European Joint Research Centre (JRC) which currently has all CMCs greyed-out. JRC has a function for traceability in some areas for CCQM and CCRI. EURAMET has approached the JRC Director-General to better understand the JRC intention with respect to the CIPM MRA and requested assistance from BIPM in clarifying the issue. Dr Schmid was appointed to draft an action to clarify the EURAMET requests and possible needs with respect to the communication. Ms Mikanadze anticipated forthcoming traceability problems.

It was also communicated that IAEA as an international organization was to rotate from EURAMET to SIM; dates somewhat uncertain, but likely in 2021 (much like BIPM, cf. item 3.2).

*[Related [Action 40/ 3](#) and [Action 40/ 4](#).*

*The KCDB report is available on the unrestricted BIPM website [https://www.bipm.org/utis/common/pdf/KCDB/KCDB\\_Report\\_2019\\_March.pdf](https://www.bipm.org/utis/common/pdf/KCDB/KCDB_Report_2019_March.pdf).*

*The KCDB report presentation is available on the restricted-access JCRB working documents webpage as [JCRB-40/07.2](#)].*

## 8. Status of the scope for KCDB 2.0

Dr Picard presented the KCDB history, and an overview of the functionality and realization of KCDB2.0. Current status is that the program is going through internal BIPM alpha-testing. The beta-stage will commence with CCT, who has a relatively straight-forward database. Subsequent testing will follow with the different CCs. The system will be introduced with video clips as well as written manuals. The shift from KCDB to KCDB 2.0 will be gradual and follow the schematic time plan.

In responses to questions by Ms Msimang, Dr Steele, Ms Mikanadze and Dr Takatsuji, it was clarified that the system will be managed by BIPM, and that access to the system will be account based. Dr Picard continued the presentation with the current JCRB website and continued with a brief demonstration of the KCDB 2.0 functionalities. Following the demonstration Dr Golubev asked for data security, and Dr Milton assured that the best available security solutions had been chosen and that an external data audit had been performed with good results. Prof. Khaled wondered whether it should be one or several persons for each account, Mr Henson forwarded the strongest recommendations from the security advisors for a one person-one account policy in order to keep track of activities in the system. Dr Yamazawa wondered how the system would handle the parallel revision of QMS and technology, currently adapted by APMP, and it was envisaged that the system could accommodate this request.

Training was requested and Mr Henson stressed that “YouTube-like” tutorials would be produced. Mr Kanakrieh expressed concerns on system updates. Dr Schmid asked for an envisaged time schedule to alert the involved parties in the review (NMIs and TCs),

accordingly. Dr Steele addressed the integrity of the data migration, Dr MacDonald considered this check being covered as part of the ordinary SIM review. The end responsibility always lying with the NMI in accordance with CIPM MRA (item 10.3). Dr Stoll-Malke wondered how to harmonize in- and output, Dr Picard replied it is a process that will differ between metrology areas according to specific needs. Dr Louw informed that CCs are and have been involved in the development of the interface. Ms Mikanadze requested practical meetings and training prior to launch.

*[A pdf-version of the KCDB 2.0 presentation can be found on the restricted access JCRB working documents webpage as [JCRB-40/08](#)]*

## **9. CIPM MRA documents update**

Dr Bergstrand presented the outcomes of the work done by Dr Sally Bruce on her secondment to BIPM in 2018, and continued with a suggestion for the work ahead and a request to involve the RMOs in the work. Dr Steele wondered where the final approval of the restructure will lie, a responsibility that JCRB was charged with at the time of issuing and confirmed at the CC presidents meeting in 19-20 June 2018. Mr Henson advocated that the actual work should be undertaken by the BIPM ILC and overseen by the RMOs. Dr Yamazawa wondered whether this was an RMO TCQ chair responsibility, the response being that the decision lies within each RMO. It was decided to formulate an action to assign RMO representatives to the task. Mr Kanakrieh offered GULFMET resources to include flowcharts in the final documents. Dr Louw suggested to restrict official representation in the review committee to one person per RMO, the actual work being open to as many as decided by the individual RMO. Dr Olthoff asked for timing, and Dr Milton suggested that the final version would be after the 41st JCRB meeting.

*[Related [Action 40/ 2](#).*

*The presentation on the CIPM MRA documents update can be found on the restricted-access JCRB working documents webpage as [JCRB-40/09](#)]*

## **10.JCRB discussion on formalizing “Other available knowledge and experience”**

Dr Takatsuji introduced the subject of “Hybrid comparisons”, and emphasized that they were not intended to reach the same status as KCs and SCs. Dr Takatsuji commented on the apparent negative replies in the questionnaire sent to the CCs. Dr Louw clarified that the ‘No’ answers were responses to the question “Has the matter been discussed in the CC” and not an expression of the CCs’ actual opinions. The meeting’s interpretation of the outcome was for the JCRB to direct a recommendation to the CIPM.

Prof. Kang presented the scheme which was developed to meet the challenges that long time intervals between international comparisons is a hindrance to include developing NMIs, and also that there are no international comparisons available for some simple calibration services. This poses challenges for developing NMIs that wish to participate in bilateral comparisons, as well as for developed NMIs that participate as link labs on a voluntary basis but have to prioritize their activities on financial grounds. The concept has been presented at the RMO Chairs’ meeting (2017, no standpoint), the CCL WG-MRA

meeting (2017, supported), the 39th JCRB meeting (2018, supported), and the CC Presidents' meeting (2018, unanimously supported). In response to the APMP TC Chairs' meeting held in November 2018, it has been added that the default third party involved in the scheme is the TC Chair. Prof. Kang presented an exercise run by NIM (China) and PTB (Germany) which adhered to the proposed protocol and was used as evidence to reinstate a greyed-out CMC for NIM. The documentation of the APMP.L-C1.2017 is available on the open access area of the APMP TCL website ([http://www.apmpweb.org/fms/others3.php?tc\\_id=L](http://www.apmpweb.org/fms/others3.php?tc_id=L)).

In the following discussion, Dr Schmid informed that the concept has also been presented at the EURAMET TC Chair meeting, where it was well received but with some comments/questions:

- The scheme serves to formalize an example of the CIPM MRA-D-04 chapter 3. Criteria for acceptance of CMCs, list item "6. Other available knowledge and experience" and does therefore not have the status of a KC or SC.
- The concept shall not bypass KCs, and the conditions for usage should be clarified (these conditions are available in the presentation and documentation)
- How should results be registered?

Mrs Mikanadze informed that COOMET supported and shared the concerns from EURAMET, regarding the need to further clarify the criteria and conditions for usage of hybrid comparisons. Mrs Mikanadze also highlighted the need to prepare a more detailed guideline document regarding the criteria and conditions for application of such comparisons in support of CMCs than currently provided in the documents presented by APMP. Mrs Mikanadze asked what good this will do for developing NMIs, when there is a calibration fee and bilateral comparisons are free. The answer is that they pay for the work like any calibration customer would do and thereby gets the work done. Prof. Khaled strongly supported the scheme as heavy workload prevents NIS from delivering free services. Mr Al-Mulla strongly supported as well. Dr Louw approved, and considered the scheme a paid bilateral comparison. He proposed to hand over to the CCs to decide and discuss. He also expressed a wish to not overcomplicate the question. Prof. Neyezhnikov wondered how this would be addressed to ILAC. Dr Macdonald said the procedure was approved in Canada and pointed out that it is not the only way to support in case of a missing comparison. Dr Takatsuji as head of APMP was appointed to draft a text until the next morning.

[Related [Recommendation 40/ 1](#).

*The Hybrid Comparison Guideline, presentation and CC responses are available on the restricted access JCRB working documents webpage, listed as [JCRB-40/10.1](#), [JCRB-40/10.2](#), [JCRB-40/10.3](#)].*

Prior to adjourning the meeting to the next day, Dr Louw read the first draft of Action 40/1 which was subject to some rewording. Finally, it was agreed to draft an action to review the CIPM MRA documents related to guidance regarding an organization's withdrawal from the CIPM MRA.

## **11. Highlights of the RMO reports to the JCRB including status of RMO Quality Management Systems**

### **11.1. AFRIMETS**

Dr Louw presented the AFRIMET report highlights. South Sudan is now the most recent member of AFRIMETS, while Zambia and Namibia have published their first CMCs. Metrology in Africa is now integrated into the international metrology system and AFRIMETS along with the other Quality Infrastructure organizations will play a key role in the realization of the proposed Continental Free Trade Area (CFTA).

Prof. Khaled presented the AFRIMETS TCQS update. The transition policy and plan for AFRIMETS ISO/IEC 17025:2017 and ISO 17034:2016 includes submission of updated QMS documents by 1 January 2020.

### **11.2. APMP**

Dr Takatsuji presented the APMP report highlights and informed about the inclusion of Brunei Darussalam as a full member and the Republic of Uzbekistan as a new associate. APMP now includes 26 full member economies and 12 associate member economies. Some economies are preparing to submit their first CMCs with the intra-RMO review to commence in 2019.

Dr Yamazawa presented the APMP QMS. APMP will hold a TCQS workshop in Sydney, Australia on 30 November 2019 where one of the foci will be the monitoring of the transition to ISO/IEC 17025:2017 and ISO 17034:2016.

### **11.3. COOMET**

Dr Hurevich presented the COOMET report highlights and that COOMET includes 15 full members and 6 associates. A Memorandum of Understanding was signed between COOMET and EURAMET at the 28th COOMET Committee meeting 10–12 April 2018.

Prof. Muravskaya presented the COOMET QMS and by 20 November 2020 COOMET TCQF prepares to report to JCRB on the implementation of the transition policy and plan of COOMET with updated status of recognition of all concerned NMI/DIs regarding the ISO/IEC 17025:2017 standard.

### **11.4. EURAMET**

Mr Frøystein presented the EURAMET report highlights. Croatia changed NMI from HMI to DZM, and Portugal assigned IH-LQPM as new DI for Chemistry (Sea water, Sediments). EURAMET currently has 37 NMIs and 78 DIs while one NMI is applying for membership. The possible profile for a follow-up programme to succeed the EMPIR research programme, expected to commence in 2021 was briefly presented. It was also reported that the United Kingdom's membership in EURAMET will be remain unaffected of the outcome of current Brexit discussions, but that research programs and funding will experience direct impact.

Dr Stoll-Malke presented the EURAMET QMS and from the 2019 TC-Q meeting onwards (i.e. the next meeting) all initial presentations of NMIs/DIs shall be in accordance with the requirements of the ISO/IEC 17025:2017 and ISO 17034:2016 standards where applicable.

### **11.5. GULFMET**

Mr Kanakrieh made a presentation of GULFMET which has 7 member states and 5 associates. Of the 7 member states, 2 are BIPM members, 4 are associates and Yemen has been excluded.

Mr Al-Mulla informed about the GULFMET QMS. Approval applications submitted to GULFMET after 1 July 2019 shall be based on the latest standard. The three-year period will conclude on 30 November 2020 when all NMIs/DIs are expected to be in full compliance with ISO/IEC 17025:2017.

### **11.6. SIM**

Dr Olthoff made the first half of the SIM presentation. SIM which was established as a legal entity in 2016 held its first official General Assembly as a legal entity in September and is currently setting up a bank account and developing plans for membership dues. SIM has 27 signatories to the entity.

Dr Macdonald continued the presentation of the SIM QS task force, which has 16 voting members. SIM has approved conformance deadlines of November 2019 for ISO 17034:2016 and November 2020 for ISO/IEC 17025:2017.

*[The individual RMO reports, RMO highlights and QMS presentations are available on the restricted-access JCRB working documents webpage, listed as [JCRB-40/11.1.1](#), [JCRB-40/11.1.2](#), [JCRB-40/11.1.3](#), [JCRB-40/11.2.1](#), [JCRB-40/11.2.2](#), [JCRB-40/11.3.1](#), [JCRB-40/11.3.2](#), [JCRB-40/11.3.3](#), [JCRB-40/11.4.1](#), [JCRB-40/11.4.2](#), [JCRB-40/11.4.3](#), [JCRB-40/11.5.1](#), [JCRB-40/11.5.2](#) [JCRB-40/11.6](#) respectively.]*

## **12. Any other business**

Clarifying responses to JCRB Action 39/4, Dr Steele proposed to alter the standing program by ending the first day with an extended reception instead of a full or formal dinner, especially pertaining to meetings held at the BIPM where such arrangements are readily facilitated. This to encourage continued discussions as well as increased attendance and interaction between all participants at the informal parts of the meeting. The proposition was unanimously agreed.

## **13. Next meetings and meeting closure**

Ms Zainal showed a welcome video by the hosting organization for the 41st JCRB meeting, the Emirates Authority for Standardization and Metrology (ESMA). The final timing of the 41st JCRB was found hard to determine before the timing of the TQD had been finalized and the outcome of that meeting had been communicated. For planning and funding reasons, it was considered preferable to allocate the maximum foreseeable time slot and have it reduced if necessary. The agreed solution was therefore to allocate a time slot of

three days in total for the 41st JCRB meeting and await the outcome of the TQD before finalizing the detailed timing.

The 42nd JCRB meeting is to be held in BIPM and it was agreed to assign the week in which to hold it and to settle the final timing at the 41st JCRB meeting.

Dr Bergstrand read the actions, recommendations and resolutions and Dr Milton called the 40th meeting of the JCRB to a closure.

*[Related [Resolution 40/ 1](#), and [Resolution 40/ 2](#).*

*The approved outcomes are available on the unrestricted BIPM website <https://www.bipm.org/en/committees/jc/jcrb/meeting/40.html>]*

## **14. Actions, Recommendations, and Resolutions**

**Action 40/ 1** The JCRB decides that the informal QMS meeting after the 40th JCRB be open to all JCRB members and that minutes be taken for any recommended actions for the next JCRB. Any future QMS discussion meetings will take place before the JCRB as further preparation for the formal QMS items as an integral part of the plenary agenda.

**Action 40/ 2** In order to support the restructuring of the CIPM MRA document suite, the JCRB Delegate from each RMO will assign a person to support the review of the drafts by 31 March 2019.

**Action 40/ 3** JCRB Chair to consult the CCQM and CCRI Presidents and then write to request the EU-JRC to clarify whether their intention with respect to the CIPM MRA is to cease participation or to re-instate their CMCs.

**Action 40/ 4** BIPM to review existing JCRB documents for guidance relating to CIPM MRA participants that wish to cease their involvement in the CIPM MRA, and to prepare a summary and a proposal (if necessary) to be presented to the 41st JCRB.

**Action 40/ 5** Following Resolution 39/2, the BIPM will finalize arrangements with the SIM QSTF Chair for the review of the BIPM QMS (by the end of April 2019).

**Recommendation 40/ 1** The JCRB agrees that the Hybrid Comparison scheme proposed by APMP may be used as an example of “Other available knowledge and experience” in Section 3 of CIPM MRA D-04, which underpins CMCs. It was noted that the use of Hybrid Comparisons is not an alternative to participation in key or supplementary comparisons when accessible. It was also noted that it is not intended to include Hybrid Comparisons within Appendix B of the KCDB. This agreement is to be sent to the CIPM for approval in order to expedite communication to the Consultative Committees.

**Resolution 40/ 1** The 41st meeting of the JCRB will take place during 9 – 11 September 2019 in Dubai (UAE) with the QMS discussion meeting in advance of the plenary. The JCRB Executive Secretary will collaborate with the ESMA and GULFMET to host it and confirm the timing of the meeting by the end of April.

**Resolution 40/ 2** The 42nd meeting of the JCRB to take place in Sèvres, France, week 11 2020.