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CIPM *ad hoc* Working Group on Implementing the Recommendations from the Review of the CIPM MRA

Terms of Reference

- To oversee and monitor overall progress with the implementation of the recommendations of the Working Group on the Implementation and Operation of the CIPM MRA.
- To ensure that the different roles during the implementation phase are understood and agreed by the parties concerned, taking account of input from the JCRB.
- To address recommendations that have specific actions for the CIPM, amongst others that relate to the review of the Terms of Reference for the JCRB, and to present proposals concerning these actions to the CIPM.
- To identify recommendations with actions that it considers would be better addressed by the CC Presidents collegiately rather than individually, and to facilitate that process.
- To consider whether, in the longer term, a CIPM standing subcommittee for oversight of the CIPM MRA is warranted, and to make a recommendation to the CIPM.

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Discussion points from the meeting of the CIPM *ad hoc* Working Group on Implementing the Recommendations from the Review of the CIPM MRA

Tuesday, 13-14 March 2017
BIPM, Sevres, France

1	Welcome	Dr Barry Inglis (Chair),
2	Confirmation of WG membership	<p>Working group members have been confirmed:</p> <ul style="list-style-type: none"> • Barry Inglis (Chair) • Ismael Castelazo (Member) • Wynand Louw (Member) • Gerrit Rietveld (Member) • Takashi Usuda (Member) • Luc Erard (Member) • Hector Laiz (Member) • Andy Henson (Member) • Martin Milton (Observer) and Chingis Kuanbayev (for taking notes) <p>Dr Willie May sent apologies as he was unable to attend the meeting.</p>
3	WG Terms of References, objectives¹	Confirmed
4	Confirmation of Agenda	Confirmed
5	Clarification and agreement on roles during implementation	At the end of the meeting the <i>ad hoc Working Group on Implementing the Recommendations from the Review of the CIPM MRA</i> produced a summary of actions that it will request CC Presidents and JCRB/RMOs to expedite.
6	Actions required by the WG to oversee and monitor progress on implementation	Action 1/03/2017: Excel monitoring tool developed by GR will be used as internal tracking document by the WG.
7	Agenda Item #7: Specific issues/actions for CIPM arising from Recommendations of the <i>ad hoc Working Group on the Implementation and Operation of the CIPM MRA</i>	<p>Topics discussed:</p> <ul style="list-style-type: none"> • <i>Governance of the MRA CIPM/JCRB</i> • <i>Clarify communication between CIPM, CCs, JCRB/RMOs – R7b</i> • <i>Designated CIPM Member to attend JCRB – R6c</i> • <i>Review of JCRB ‘Rules of Procedure’ – R6b</i> • <i>Review of JCRB ToR – R6a</i> <p>It was recalled that in recent times the RMO Chairs have started to meet regularly with the CIPM Bureau providing an opportunity to discuss matters beyond the CIPM MRA allowing the JCRB to focus on the CIPM MRA.</p>

¹ <http://www.bipm.org/en/committees/cc/wg/cipm-wg-mra-review.html>

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		<p>Most points discussed under agenda items 8 and 9 (and addressed in the communications to the CC Presidents and JCRB/RMOs).</p> <p>Action 2/03/2017: We recommend the following interpretation of terms:</p> <ul style="list-style-type: none"> • The term '<i>how far the light shines</i>' - is taken to refer to the use of comparisons as the evidence base supporting CMC claims. • The term '<i>broad scope CMCs</i>' - is taken to refer to the possibility of NMIs summarising 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. • That the term 'flexible scope' has a specialised meaning in accreditation, and is not applicable to the discussion on broad scope CMCs.
8	<p>Agenda Item #8: Specific issues/actions for CCs</p>	<p>Topics discussed:</p> <ul style="list-style-type: none"> • <i>Actions common for all CCs are identified in Recommendations R1 – 5 & 7</i> • <i>De facto it will be an action on CIPM/BIPM to implement and oversee these</i> • <i>Should the issues/actions be addressed with individual CCs or collegiately?</i> • <i>How best to maintain uniformity and consistency – R2c</i> • <i>Closer cooperation between the CCs and the JCRB</i> • <i>Repeat cycles for comparisons – R1a</i> • <i>Interpret KCs and SCs as widely as possible – R3a</i> • <i>Risk based approach, on what basis – R4a</i> • <i>Training – R4d</i> • <i>Harmonised evidence – R4b</i> • <i>Provision of tool – R5a</i> • <i>How should closer cooperation be best achieved?</i> <p>Action 3/03/2017: WG on Implementing the Recommendations from the Review of the CIPM MRA to produce a summary of actions that it will request CC Presidents to expedite (Appendix I).</p> <p>Recommendations 8 and 9 are specific to CCQM and CCRI, and are being addressed directly by the respective CC Presidents.</p>

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9 & 10	<p>Agenda Item #9: Specific issues/actions involving JCRB</p> <p>Agenda Item #10: Specific issues and actions for RMOs:</p>	<p>Specific issues/actions involving JCRB:</p> <ul style="list-style-type: none"> • <i>Actions for the JCRB are identified in R1 – 7, many are interactive and in the hands of the JCRB and the RMOs</i> • <i>Risk based approach to CMC reviews – R4a</i> • <i>Consistency in the implementation of intra (and inter) review process – R4c</i> • <i>JCRB should exercise its authority more fully – R6a</i> • <i>JCRB Rules of Procedure, ToR further discussion – if needed</i> • <i>JCRB Document on the MRA Review</i> • <i>Preparation for the meeting with JCRB on 14 – 15 March</i> <p>Specific issues and actions for RMOs:</p> <ul style="list-style-type: none"> • <i>Specific actions are identified in R1, 3, 4, 5 & 7</i> • <i>RMOs play a critical role in the JCRB and operation of the MRA</i> • <i>How can they be encouraged to be more active to ensure that the views of the JCRB are truly representative of all regions</i> • <i>Adoption of a risk-based approach to CMC review procedures- R4a</i> <p>Action 4/03/2017: WG on Implementing the Recommendations from the Review of the CIPM MRA to produce a summary of actions that it will request JCRB/RMO to expedite (Appendix II).</p>
11	<p>Agenda Item #11: Specific issues/actions for BIPM</p>	<p>Topics discussed:</p> <ul style="list-style-type: none"> • <i>BIPM has a key role to play in all of the recommendations</i> • <i>KCDB 2.0 is under discussion - R2a, report on progress - Andy Henson</i> <p>AH reported that the detailed technical specifications well advanced and presented the summary of the KCDB 2.0 functionality. Following on from consultations from 2016 this summary has been sent to CC Presidents/Exec Secs and also been included as the JCRB paper for discussion at the 37th JCRB on 15–16 March 2017. AH confirmed that the development of the specification had taken into account the various Recommendations from the WG. (R2a and R2b), (R4a)</p> <p>BIPM has a specific role in a number of recommendations related to training, which are being addressed through the BIPM CBKT programme. (R4d, R4f, R5a, R5b,)</p> <p>A dedicated action will be undertaken to provide promotional material to explain the value of the CIPM MRA. (R5d)</p>
11	<p>Any other Business</p>	<p>Various examples of risk based approach already adopted by CCEM, CCQM and CCT were reviewed, and the material has been circulated to the other CCs to inform them ahead of Action 6 of Appendix I (R4a).</p> <p>AH informally informed the ad hoc WG regarding the ‘RACI’ initiative of the JCRB. The WG looks forward to the discussions in the JCRB.</p>

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12	Conclusions and Recommendations	The ad hoc WG addressed the key points in its terms of Reference, noting that many will remain work in progress. Specific recommendations for action regarding implementation were developed for CC Presidents and separately for the JCRB/RMOs, and are included as Appendices I and II . Actions from this meeting, including those for the BIPM, are being implemented and will be monitored by the WG on an ongoing basis.
13	Next meeting	12 and 13 March 2018

Appendix I

Summary of actions for the CC Presidents

The *ad hoc* WG on Implementing the Recommendations from the Review of the CIPM MRA agreed the following summary of actions that it requests the CC Presidents to expedite for reporting and discussion at their June 2017 meeting in order to promote best practice, and where appropriate harmonization, of the approaches (*recognizing that CC's meet on different cycles and have had different opportunities for internal discussion*):

1. Progress on CC strategy updates particularly related to defining the long-term timetable for CC KCs (including the policy on repeat cycle). **(R1a)**
 - *R1a: The strategy documents of the CCs must clearly define the long-term timetable for KCs (including the repeat cycle). The RMO TCs should also plan regional KCs and SCs strategically, to reflect the needs of the RMO.*
2. The approach adopted to limiting participation in CC KCs that use sequentially travelling standards **(R1b)**
 - *R1b: Where travelling standards are used sequentially, participation in CIPM KCs should typically be limited to the minimum number of institutes necessary to provide effective linkage in each region, (typically no more than three institutes per RMO). Criteria for participation should include: measurement uncertainty, geographical spread and willingness to coordinate in the subsequent RMO KC.*
3. Progress towards better consistency in the expression of CMCs (e.g. units, uncertainty ranges) within their CC. **(R2c)**
 - *R2c: The CCs should work towards better consistency in the expression of CMCs (e.g. units, uncertainty ranges).*
4. The approach adopted or planned to clarify 'how far the light shines' such that KCs and SCs are interpreted as widely as reasonably applicable to indicate coverage of CMCs. **(R3a)**
 - *R3a: The results of KCs and SCs should be interpreted as widely as reasonably applicable to indicate coverage of CMCs.*
5. The approach taken to ensure CMCs cover as many services as is technically justified, constrain the proliferation of CMCs and express CMCs as concisely as practical. It was recalled that the objective is to manage workload rather than CMC numbers *per se*. **(R3b, R3c)**
 - *R3b: The use of CMCs to cover as many services as is technically justified should be encouraged, so that CMCs become representative rather than comprehensive. It should be emphasized that the goal is for NMIs to develop services and that CMCs are tools for describing the capabilities maintained to underpin the delivery of those services. The NMI Qs should document the relationship between services and CMCs.*
 - *R3c: The CCs and NMIs are encouraged to use uncertainty equations and matrices to reduce the number of CMCs where possible.*

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6. The approach adopted (or planned) to implement a 'risk-based' approach to CMC review. **(R4a)**
 - *R4a: The CCs should develop a "risk-based" approach to CMC review procedures, that defines the need for intra- and inter-RMO reviews, with inter alia the aim to minimize, or even avoid, the inter-RMO review where justified.*
7. The CC approach to CIPM MRA-D-04 section 3 (which addresses the evidence needed to support CMC claims when not supported by comparison) with a view to harmonizing the approaches across CCs. **(R4b)**
 - *R4b: The CCs and the JCRB should harmonize the use of evidence to support CMCs that does not arise from KC and SC participation.*
8. The availability of CCs specific methodologies for carrying out comparisons, including evaluation tools templates (including reporting) guidance/templates, and guidance material to ensure right first time CMCs. **(R5a, R4d, R4f)**
 - *R5a: The JCRB should work with the CCs to collate and develop, as far as possible, a small number of consistent methodologies for carrying out comparisons, including evaluation tools, templates (including reporting) and supporting training materials; noting the key role the BIPM Capacity Building and Knowledge Transfer Programme can play, particularly in dissemination of these and in training.*
 - *R4d: More training should be provided, together with improved guidance material to help ensure 'right first time' CMCs and common understanding of expectations when reviewing.*
 - *R4f: Training should be provided at both RMO and CC levels to ensure that those with operational responsibility within the CIPM MRA understand the relevant processes and specifically their obligations within them.*

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Appendix II

Summary of actions for the JCRB/RMO

In response to **Recommendation (R7a)**, the *ad hoc WG on Implementing the Recommendations from the Review of the CIPM MRA* agreed the following summary of actions that it requests the JCRB/RMO to expedite.

- *R7a: The CIPM should, as far as possible, use the JCRB to implement the agreed improvements in the operation/implementation of the CIPM MRA.*
1. In order for the JCRB to make full use of its mandate under the JCRB Term of Reference, which charges the JCRB (amongst other points) with ‘*making policy suggestions to the RMOs and to the CIPM on the operation of the CIPM MRA*’, the JCRB is encouraged to continue to make policy suggestions to facilitate a process of continuous improvement in the CIPM MRA. **(R6a)**
 2. Noting the above, the use of written papers supporting JCRB agenda points is encouraged. As these can be considered ahead of the meetings with time to allow consultation amongst RMO members, they lead to well informed delegations, and effective discussions at the meetings. **(R6a)**
 - *R6a: The JCRB should exercise its authority more fully as defined in its terms of reference in the implementation of the MRA.*
 3. RMOs are encouraged to make best use of the existing links between RMOs and CCs established in the CC RMO WGs, which also helps promote a harmonized approach. **(R7b)**
 - *R7b: The JCRB/RMO Chairs and members of CIPM should improve communication to ensure CIPM/CC/JCRB interfaces are clear.*

The JCRB is encouraged to reflect on, review and revise the ‘*Rules and procedures for the JCRB*’ (CIPM MRA-D-01) taking into account the following: **(R6b)**

- *R6b: Noting that several recommendations of the WG charge the JCRB with additional responsibilities, the CIPM should review the document ‘Rules of procedure for the JCRB’ (CIPM MRA-D-01).*
1. That CIPM representative is the CIPM Secretary or another designated member of CIPM (noting that the representative will be charged with ensuring effective communication and follow up with the CCs (section 3.4)). **(R6c)**
 - *R6c: A designated member of CIPM should attend all JCRB meetings.*
 2. The anomaly that the JCRB ToR state that “the Joint Committee operates by consensus” which appears to be at odds with the Rules of procedures for the JCRB which make multiple references to voting. **(R6a and R6b)**

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- **R6a:** *The JCRB should exercise its authority more fully as defined in its terms of reference in the implementation of the MRA.*
 - **R6b:** *Noting that several recommendations of the WG charge the JCRB with additional responsibilities, the CIPM should review the document 'Rules of procedure for the JCRB' (CIPM MRA-D-01).*
3. That Appendix I (suggested content of RMO reports to the JCRB) addresses the expectation that NMI Qs will document the relationship between services and CMCs. **(R3b)**
- **R3b:** *The use of CMCs to cover as many services as is technically justified should be encouraged, so that CMCs become representative rather than comprehensive. It should be emphasized that the goal is for NMIs to develop services and that CMCs are tools for describing the capabilities maintained to underpin the delivery of those services. The NMI Qs should document the relationship between services and CMCs.*

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Goal Statement for NMIs that Participate in the CIPM MRA

- Dr Willie May

"To deliver measurement/metrology services and/or products to their customers that are internationally recognized within the framework of the CIPM MRA."

- CMCs are merely descriptions of the capabilities that NMIs maintain to support consistent delivery of individual or a class of such services.
- Merely developing and articulating capabilities and not delivering measurement/metrology services that are underpinned by such capabilities is not consistent with the spirit of the MRA.