

REPORT ON THE SEVENTEEN MEETING OF THE JCRB

Held on 6 October 2006, in BIPM, Sèvres, France

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0. Attendants

<i><u>Name/email</u></i>	<i>RMO</i>
<u>Dr William Anderson</u>	SIM
<u>Dr Seton Bennett</u>	EUROMET
<u>Prof. Matej Bílý</u>	COOMET
<u>Prof. Humberto Brandi</u>	SIM
<u>Ms Iveta Botkova</u>	COOMET
<u>Dr Steve Carpenter</u>	SIM
<u>Prof. Dr Hoda Eissa</u>	SADCMET
<u>Prof. Dr Ahmed A. El-Sayed</u>	SADCMET
<u>M. Luc Erard</u>	EUROMET
<u>Dr Pedro Espina</u>	(Executive Secretary) BIPM
<u>Mr Ichiro Fujima</u>	(Representative) APMP
<u>Prof. Luiz Carlos Gomez</u>	SIM
<u>Mr Keith Jones</u>	APMP
<u>Dr Chang Hsu</u>	APMP
<u>Dr Barry Inglis</u>	APMP
<u>Dr Robert Kaarls</u>	CIPM
<u>Dr Sergey Korostin</u>	(Alternate Representative) COOMET
<u>Prof. Dr Michael Kühne</u>	(Representative) EUROMET
<u>Dr Mukayi Musarurwa</u>	(Representative) SADCMET
<u>Prof. Luis Mussio</u>	(Representative) SIM
<u>Mr Mike Peet</u>	ILAC
<u>Dr Attilio Sacconi</u>	EUROMET
<u>Dr Claire Saundry</u>	SIM
<u>Mr Michael Streak</u>	SADCMET
<u>Dr Alan G. Steele</u>	SIM

[Dr Claudine Thomas](#) (KCDB Manager) BIPM
[Dr Takashi Usuda](#) APMP
[Prof. Andrew Wallard](#) (Chairman) BIPM
[Dr Nikolai Zhagora](#) COOMET

1. Welcome by the Chairman and changes to the agenda

The Chairman welcomed all delegates and observers to the BIPM and asked them to introduce themselves.

2. Approval of the minutes and discussion on matters arising from the report of the 16th meeting held at PTB Berlin-Charlottenburg, Germany

The Chairman explained that in an attempt to improve the quality of the meeting record, the 16th meeting had been recorded in audio, but due to technical difficulties, portions of the meeting were not available. The Executive Secretary said that more than half of the minutes were completed and he expected to be able to save the rest of the material in the coming months.

Action 17/ 1 Salvage as much as possible from minutes of the 16th meeting of the JCRB.
(Executive Secretary)

3. Report by the Chairman on progress since the 16th meeting

Aided by a [Power Point presentation](#), the Executive Secretary summarized the progress since the 16th meeting.

Dr Anderson asked for clarification on Item 4 in the Executive Secretary presentation; specifically, how COOMET arrived to the conclusion that they did not need to remove any of their CMCs from the KCDB. The Executive Secretary explained that he was satisfied with the documentation provided by COOMET in support of their quality management system (QMS). Prof. Mussio said that in his view the problem was that some of the COOMET laboratories were to be peer-reviewed in 2007, and yet their CMCs remained in the KCDB without the final approval of COOMET. Prof. Bílý asked if other RMOs perform peer-review visits as part of their QMS reviews. Prof. Kühne said that peer-review visits are not required by the CIPM MRA; thus the second QMS review step in COOMET is not required by the CIPM MRA. Prof. Bílý agreed with the comments of Prof. Kühne. Mr. Jones said that APMP requires both QMS review steps

(review of the QMS documents {equivalent to COOMET's first QMS review step – *COOMET Confidence*} plus peer-review visits {equivalent to COOMET's second QMS review step – *COOMET Recognition*}), but he thinks that COOMET Confidence alone might not be sufficient to support CMCs. Dr Steele explained that in SIM, the two QMS review steps are needed and that currently in COOMET only half of the laboratories with CMCs in the KCDB have undergone the two QMS review steps; SIM objects to CMCs in the KCDB from the laboratories that have not completed COOMET Recognition.

Prof. Bílý said that with the exception of Cuba, all the other laboratories are expected to attain COOMET Recognition by the end of 2006; laboratories in Cuba will attain COOMET Recognition by April 2007. Dr Steele then asked why the CMCs from those laboratories should remain in the KCDB pending these reviews; he suggested that they be removed until such time when they receive COOMET Recognition. Dr Kaarls said that those CMCs have remained in the KCDB because they have received COOMET Confidence and that is all required by the CIPM MRA. Dr Steele said that peer-review visits might not be required by the CIPM MRA but their absence lowers the level of confidence between RMOs. Dr Kaarls disagreed as COOMET reviews the QMS of their laboratories and then they further implement peer-review visit to increase their level of confidence in the performance of their QMS. Prof. Kühne said that it is mandatory for each RMO to review the QMS of its laboratories; in the 16th meeting we had confusion with the COOMET two-step QMS review process but now we understand it better, and the first QMS review step is all that is needed. Prof. Kühne went on to say that no other region can force additional requirements on other RMOs. Prof. Mussio said that he thought that during the 16th meeting, the delegates believed that both COOMET QMS review steps were needed for approval. The Chairman said that now, the committee understands that only COOMET Confidence is needed.

Dr Anderson said that after the 16th meeting, the SIM delegation felt encouraged by the COOMET two-step QMS review process and he went on to say that if the other RMOs are not going to be serious about the review of their QMS then, SIM will not continue demanding from its laboratories both QMS review steps. Mr Jones went on to reaffirm the APMP position that is: the two QMS review steps are needed by COOMET for satisfying the requirements of the CIPM MRA. Prof. Bílý reasserted that only the first QMS review step (COOMET Confidence) is needed and COOMET performs the

second QMS review step (COOMET Recognition) for the benefit of its laboratories. Prof. Bílý said that Dr Kaarls has participated in the second QMS review step and he has seen first hand how good this second QMS review step is for the laboratories. Prof. Kühne said that the question on the table is: does COOMET Confidence satisfy the CIPM MRA requirements? If the answer is “yes”, then there is nothing further required, but if the answer is “no”, then the process has to be modified. Prof. Bílý asserted that COOMET Confidence is all that is needed; COOMET Recognition is for the benefit of the laboratories. Prof. Mussio said that he thought that during the 16th meeting, COOMET had said that both QMS review steps are needed. The Chairman clarified that Prof. Kühne is right; COOMET Confidence is enough. Dr Carpenter said that each RMO has its own set of rules and if COOMET required the two-step QMS review process, then they should live by it; but if they are not going to follow their own process, how are other RMOs expected to have confidence in their procedures. Dr Carpenter then asked: are the two QMS review steps needed or has the COOMET policy been changed? The Chairman said that the Committee now understands that COOMET Confidence is all needed. Dr Steele said that although it is COOMET’s decision, the SIM delegation was not satisfied with COOMET Confidence alone.

The Chairman asked for clarification on the scope of the review performed during COOMET Confidence. Prof. Bílý explained the review process and asserted that COOMET Confidence satisfies all the requirements of the CIPM MRA. Dr. Inglis reminded the committee that after all, this is a mutual recognition arrangement and if the other RMOs do not have confidence in COOMET Confidence alone, there is a real problem. He went on to say that until COOMET has shown a change in their process which instills confidence in the other RMOs, then we have to stop the process. Dr Thomas said that the KCDB Office had gone over the CMCs from COOMET, with regards as the requirements of the two-step QMS review process, and found that very few CMCs would be removed due to the lack of the second QMS review step. Prof. Kühne noted that we have to followed the CIPM MRA requirements and we have to be worried of increasing the requirements as we proceed; the CIPM MRA clearly says that is the RMO who decides on the scope of the QMS review process, but nowhere does the CIPM MRA says that the other RMOs have to approve that process. The Chairman said that the committee would look at the COOMET website for clarification on the COOMET Confidence review process and come back to it later in the meeting.

After the coffee break an agreement was reached. COOMET agreed that both QMS review steps are needed for the inclusion of its CMCs in the KCDB. The CMCs with COOMET Confidence only will be removed from the KCDB. All RMOs were in agreement with this decision.

The Chairman encouraged the other RMOs to attend each other QMS review meetings as means to increase inter-RMO confidence. Prof. Kühne said that PTB staff has attended a number of such meetings. Dr Anderson agreed with Prof. Kühne and declared that SIM has invited all RMOs to their most recent SIM QSTF meetings. But Dr Anderson complained that SIM is yet to receive an invitation from another RMO. M. Erard invited all delegates to the next EUROMET TC-Q meeting which is to be held during February 2007 in Madrid (ES). M. Erard said that he will send official invitations to the other RMOs as soon as the details of the meeting are finalized.

The Chairman went on to talk about the need to respond more proactively to the email traffic between meetings, as it ensures the promptly completion of the Committee's work.

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| Action 17/ 2 | All COOMET CMCs currently lacking COOMET Recognition are to be removed from the KCDB. (list of CMCs contained in JCRB-17/17)
<i>(Executive Secretary + KCDB Manager)</i> |
| Action 17/ 3 | All RMOs are to extend invitations to their QMS review meetings to the members of the RMOs.
<i>(RMO QMS Chairs)</i> |

4. Report on the present status of the KCDB

Dr Thomas presented the [KCDB report to the JCRB](#).

Dr Bennett asked for a clarification on the “grey-out” CMCs and Dr Thomas provided an explanation on the matter. Prof Kühne said that in the case of Greece, their CMCs had been temporarily removed but they would be brought back shortly, once the EUROMET review of the laboratory was completed. Dr Thomas reminded the Committee that no CMC is ever deleted from the CMC tables that support the KCDB; they just do not appear on the KCDB when they are grey-out. Dr Hsu asked if there was clear indication of who is visiting the KCDB. Dr Thomas said that the Appendix B section is mostly visited by NMIs; in the case of the Appendix C it is more difficult to say as some of the visits appear to be made by robotic search engines like those used by

Yahoo, etc. Also there are many visits coming from people who appear to be using their home computers and we cannot determine their affiliation. People from accreditation bodies often visit as well. Dr Hsu asked if any thought had been given to the idea of conducting a survey to determining how the KCDB could be made more user-friendly. Dr Thomas said they had not consider the idea of a survey but they hope that the new programmable search engine, which will be implemented as part of the KCDB, will help make it more user friendly. Dr Sacconi asked if a customer satisfaction survey, to be filled out by visitors, could be added to the system. Dr Thomas said that this could be done with the help of *pop-up windows*. Dr Sacconi said that the visitor could be encouraged to fill the survey by providing an incentive, like a free copy of the SI Brochure. Dr Thomas said this could indeed be done but she alerted the committee to the fact that some web browsing programs, like Firefox, block pop-up windows. Dr Sacconi then asked if the users could see the removal date of a CMC in the KCDB. Dr Thomas answered that the user could not see it as the CMCs were removed, but that she places an annotation in the Excel files stating the date of removal. The Chairman said that the BIPM would like to complete the implementation of the new KCDB search engine prior to asking for further improvement input. Dr Thomas said that one of the problems facing the KCDB Office is that they do not know what additional information is needed but she is sure that the system could be improved to provide better information to the users. The Chairman said that those questions could be made to the members of the CCs who are typical users of the KCDB. Dr Inglis asked Mr Peet to please ask the ILAC membership whether the KCDB is currently satisfying the needs of the accreditation community. The Chairman said that he would bring this question to the next ILAC General Assembly in Cancun.

Action 17/ 4 Ask the ILAC membership if the KCDB is providing them with the information needed by the accreditation community.
(Chairman)

5. Reports by RMO representatives to the JCRB

APMP: Mr Fujima presented the [APMP report to the JCRB](#).

Mr Fujima informed the committee that Jordan (JO) is a new Associate Member of APMP. He went on to say that from the APMP Members that are Associates of the CGPM, only the Philippines and Vietnam remain with no CMCs in the KCDB.

Mr Fujima announced that the next meeting of the Technical Committee on Quality Systems (TCQS) will be held December 13, 2006 in Delhi as part of the APMP General Assembly.

COOMET: Dr Korostin presented the [COOMET report to the JCRB](#).

Dr Korostin informed the committee that Gorislav Sydorenko (UA) will be the next president of COOMET starting April 2007. Dr Korostin went on to say that Georgia (GE) has become the latest member of COOMET. Also there are two new technical chairs (see complete list in the COOMET report) and two peer-reviews are planned for the November-December timeframe; Prof Bílý will provide details as they become available.

The Chairman asked for clarification of the intent to use the logo by some of the COOMET NMIs. He went on to asked for clarification on Appendix 5 of the COOMET report in the matter of NMIs with COOMET Confidence versus COOMET Recognition.

Dr Sacconi thought to be a good idea if the RMO reports to the JCRB could provide up-to-date information on the status of pending KCs and/or on changes to CMCs in the KCDB due to KC results. Dr Thomas said that those tasks fall under the jurisdiction of the CCs. The Chairman said that nonetheless, the Committee could bring it to the attention of the CCs (see Action 17/ 5). Dr Sacconi asserted that the JCRB could serve a harmonizing function among the CCs for this task.

EUROMET: Prof. Kühne presented the [EUROMET report to the JCRB](#).

Prof. Kühne asked if the CMCs statistics included in the individual RMO reports to the JCRB are useful and wondered if it would be more efficient for Dr Thomas to prepare a single CMC report with data from all RMOs (see Action 17/ 6). Prof Mussio supported Prof. Kühne's idea. There was agreement that this would be a welcomed change in the structure of the RMO reports to the JCRB and agreed that it would be beneficial to have a *pro-forma* for these reports (see Action 17/ 7).

Prof. Kühne reported on the results of the latest EUROMET elections and told the JCRB delegates that EUROMET is to change into a legal entity: a legal entity for iMERA plus an RMO for purposes of the CIPM MRA. The members of EUROMET are optimistic that they will receive funding from the European Commission for the iMERA projects. The new legal entity will be known as EURAMET but the change will not take effect until the next EUROMET General Assembly. According to Prof. Kühne, there

will be two types of members in EURAMET: Members – with voting rights, and Associates – with no voting rights. Dr Carpenter asked what will happen with the EURAMET members who are not members of iMERA. Prof. Kühne explained that the internal structure of EURAMET will take care of it.

Prof. Kühne informed the Committee that EUROMET asked for the temporary suspension of the Hellenic Institute of Metrology, [EIM](#) (GR) CMCs from the KCDB as a result of the QMS review process. Dr Sacconi proposed a change to the appendix of the EUROMET report to take reflect changes in the names of the Italian NMIs. The next meeting of the EUROMET Technical Committee Quality (TC-Q) will be held that CEM, Madrid (ES) on February 22-23, 2007. EUROMET is to forward invitations to JCRB Members (see Action 17/ 3).

SADCMET: Dr Musarurwa presented the [SADCMET report to the JCRB](#).

The main regional issue continues to be capacity building. Kenya and Egypt are currently preparing CMCs for submission in the near term; Tanzania is working on its CMCs for a later submission. In the matter of the inter-RMO CMC reviews, Dr Musarurwa explained that not all the SADCMET WG Chairs perform the reviews but rather, staff members from CSIR-NML (ZA) perform that function. The BIPM was informed about the names of the new reviewers.

Dr Musarurwa informed the committee that the next SADCMET General Assembly will be held in Madagascar in April 2007. The Chairman reminded both, EUROMET and SADCMET that the CIPM needs to approve EURAMET and AFRIMET (Inter-Africa Metrology System) as RMOs.

Dr Musarurwa closed by reminding the committee that the theme for the next World Metrology Day will be *The Environment*.

SIM: Prof. Mussio presented the [SIM report to the JCRB](#).

Prof. Mussio introduced to the Committee the New President of SIM, Prof. Humberto Brandi (BR). Prof. Mussio also informed the committee that the next SIM seminar on mechanical CMCs and KCs will held this year, and training on CMCs preparation is schedule to take place in Queretaro at the end of November 2006. Prof. Mussio announced that Kenya (KE) and [ASTM](#) are new Associate Members of SIM. No changes were reported in the SIM technical contacts.

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| Action 17/ 5 | Ask the CIPM Consultative Committees to provide reports to the JCRB with up-to-date information on the status of pending KCs and/or on changes to CMCs in the KCDB due to KC results.
<i>(Chairman)</i> |
| Action 17/ 6 | Future KCDB reports to the JCRB are to include the information on CMC statistics (per RMO) thus avoiding the inclusion of this information in the RMO reports to the JCRB.
<i>(KCDB Manager)</i> |
| Action 17/ 7 | Modify existing pro-forma (JCRB-7/22) for RMO reports to the JCRB.
<i>(Executive Secretary)</i> |

6. Report on current CMC reviews in the JCRB website

The Executive Secretary reviewed the current situation with the help of an Excel file ([JCRB-17/06](#)). Conspicuous for their tardiness were the following CMC submissions:

- [SADCMET.QM.2.2003](#)
- [EUROMET.RI.2.2001](#)
- [APMP.QM.4.2004](#)
- [COOMET.QM.6.2005](#)
- [APMP.TF.3.2005](#)
- [EUROMET.AUV.6.2005](#)
- [SIM.RI.6.2005](#)

The Committee instructed the Executive Secretary to investigate why these CMC reviews are pending and report back to the Committee at its next meeting.

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| Action 17/ 8 | Investigate why SADCMET.QM.2.2003, EUROMET.RI.2.2001, APMP.QM.4.2004, COOMET.QM.6.2005, APMP.TF.3.2005, EUROMET.AUV.6.2005, and SIM.RI.6.2005 are pending and report back to the Committee at its next meeting. <i>(Executive Secretary)</i> |
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7. Reports from the CC WG on CMCs

The Executive Secretary reported that all significant issues that resulted from meetings of the CC WG on CMCs had been singled out for discussion in Agenda item 8. The Executive Secretary also reported that he intended to step down as Chair of the SIM MWG-Flow at the end of 2007. He expected that his replacement would be selected during an informal meeting of the working group to take place in Queretaro (MX) on October 25, 2007.

8. Matters arising from work from the CC WG on CMCs and or RMO QS reviews

(8.1) Traceability of the kg

The Executive Secretary explained that there are at least 23 NMIs who claim traceability to themselves for all their mass CMCs without making reference to the [International Prototype](#). With the aid of [JCRB-17/08.1](#), the Executive Secretary provided the Committee with a review of the chronology of events associated with this issue: starting with the initial observation by the staff of LATU (UY) and ending with a commitment from the [CCM WGCMC](#) to change the current situation. The Executive Secretary explained that the CCM WGCMC, under the leadership of [Dr Chris Sutton](#), had taken the matter under advisement and was working on fixing the problem.

Dr Kaarls said that at least one mass CMC of each NMI should be traceable to the International Prototype. The Executive Secretary explained that the problem is that the NMIs do not want to claim traceability to the BIPM. Dr Sacconi asked if this was a particular difficulty only experienced by the CCM. The Executive Secretary said that the CCM is currently considering that question: is traceability to the International Prototype a unique case? Dr Bennett said that he was not sure where the difficulty resides; traceability should be to the International Prototype. Dr Steele made an analogy to thermometry and he asserted that in the case of mass metrology, there needs to be traceability to the International Prototype. Dr Sacconi said that one of the unique elements of mass standards is that the traceability to the International Prototype can only be established every 50 years or so. The Chairman agreed that mass metrology is a special case as there are no regular calibrations of the national prototypes.

The Executive Secretary brought to the attention of the Committee the content of the email by Dr Ruben Lazos (page 4 of [JCRB-17/08.1](#)) in regards to the wording use in [JCRB-14/06\(2a\)](#). Dr Steele said that he saw the source of confusion and perhaps different wording might clarify. Prof. Kühne agreed and concluded that the wording in [JCRB-14/06\(2a\)](#) could be better. The Chairman saw the source of confusion but declared that in his opinion, the Committee should avoid changing the document. Prof. Kühne said that he believes that metrologist will understand the language in the document as it currently stands. He went on to say that the Committee should avoid reviewing documents at every meeting as it slows progress. Dr Steele said that in this particular case, the comments of Dr Lazos were germane as they addressed a language

clarification and not a change in policy. The Chairman concluded by saying that spite the slight language confusion, the Committee is happy with JCRB-14/06(2a) in its current form.

(8.2) Terms of Reference of CC WG on CMCs {JCRB-11/6(2)}

The Executive Secretary presented a request for clarification of the *Terms of Reference of CC WG on CMCs {JCRB-11/6(2)}* made by the CCEM WGRMO (see [JCRB-17/07.CCEM.WGRMO](#)). In question was the meaning of the following statement in JCRB-11/6(2):

f) To coordinate the review of existing CMCs in the context of new results of key and supplementary comparisons.

Such clarification is of special interest as the CCEM WGRMO has developed a document entitled *Impact of Comparisons on CMCs* (see [JCRB-17/08.2](#)) that outlines the process by which the CCEM WGRMO would review published CMCs in the context of new comparison results. The JCRB was asked for clarification because it is ambiguous what the role of the CC WG on CMCs should be in light of the following statement, which appears in the document *Monitoring the Impact of Key and Supplementary Comparison Results on CMC Claims {JCRB-11/7(a)}*:

The chain of responsibility to ensure that CMC claims made by an NMI are consistent with the results obtained in key and supplementary comparisons is identified as:

- 4. If, based on the results of a key or supplementary comparison, an RMO/NMI has concerns about the CMC claims of a particular NMI within another RMO, it should contact the NMI directly to seek resolution. If this is not successfully concluded, then the matter should be directed to the relevant RMO of the NMI making the CMC claims. In the event that further intervention is required, the JCRB Chairman should then be requested to help resolve the issue.*

The JRCB agreed to consider the matter and provide more clear guidance to the CC WG on CMCs on this issue.

Action 17/ 9 **Develop more clear guidelines and include them in the minutes.**
(Executive Secretary, Michael Kühne and Alan Steele)

(8.3) Changes on the CMCs of Malaysia

Prof. Mussio presented this topic. The issue was that [NML-SIRIM](#) mass and pressure laboratories were peer reviewed by Dr Chris Sutton (NZ) on 14-17 March, 2005 during the re-assessment of their accreditation to ISO/IEC 17025 by the Malaysian national accreditation body, the [Department of Standards Malaysia \(DSM\)](#). The existing CMC were accepted with some minor change to their uncertainties. In response, APMP asked for a reduction in the scope of three CMCs in mass (details contained in [JCRB-17/08.3](#)).

Prof. Mussio argued that the significance of this change in scope of these CMCs is that they were approved by technical committees (*i.e.*, intra- and inter-RMO reviews), in spite of the fact that the laboratory in question did not meet the conditions to attain the claim uncertainties. Prof. Mussio went on to say that a similar event occurred when a SIM QMS peer review found the equipment available incapable of delivering the level of uncertainty claimed in the published CMCs. In that case, the finding was also in a mass CMC and the values claimed fell between those covered by the results of available KCs.

Prof. Mussio argued that perhaps these are indications that there is a need for more KC coverage in Mass, or at least we need to have this conversation in the Mass WGs.

Action 17/ 10 **In light of the examples provided, ask the CCM if key comparison results available offer appropriate support to the mass CMCs listed in the KCDB.**
(Executive Secretary via the Executive Secretary of the CCM)

(8.4) Industrial thermometry protocol

Prof. Kühne introduced this topic. The issue in question is: does a CC WG on CMC have the authority to tell the RMOs how to vote on CMCs reviews? The CCT WG8 created a protocol for the review of industrial thermometer CMCs which was in conflict with a previous recommendation on what items should be considered in an uncertainty budget for an industrial thermometer and this led to a conflict over how to draft these CMCs for the KCDB. The issue was solved by the CCT WG8, via a vote in which four questions were balloted. According to Prof. Kühne, the important thing is that as a result of the vote, there will be uniformity in the presentation of CMCs in the KCDB.

Dr Kühne asserted that the recommendations of the CC WG on CMCs should be accepted by all RMOs; otherwise they need to go to the CCs as the final authority in technical questions.

Dr Steele, who also monitored the issue, commented that there were four votes and none of the RMOs came on top in all the votes. He went on to say that there is a meeting of the CCT WG8 scheduled for October 2007 at NIST where adjustments to all the CMCs will be made per the newly voted recommendations. Dr Steele said that it was worth noting that the issue in the case of industrial thermometers was one of CMC reporting convention and not a technical matter.

Dr Kaarls said that he would like to see a summary of the uncertainties that resulted as a consequence of the voted recommendations and he would like to ask the Chair of the CCT WG8 for it. Dr Steele said that the presence of explanatory notes on the uncertainty statements, in the comments section of the CMC tables, will go a long way to solve this type of problems. Prof. Kühne explained that some of the problems came from the BMC vs. CMC controversy because some NMIs were accredited and they needed to make use of the BMC definition as per ILAC rules. The common definition shall help prevent such problems in the future.

Action 17/ 11 Request from the Chair of the CCT WG8 a summary of the uncertainties in industrial thermometry CMCs that resulted as a consequence of the CCT WG8 voted recommendations.
(Executive Secretary)

(8.5) Traceability of industrial instrumentation with capabilities better than those of the local NMI

Prof. Mussio presented this item. Prof. Mussio explained that in some countries, commercial laboratories with ILAC accreditation have measurement capabilities with lower uncertainties than some of the regional NMIs because they are traceable to NMI in other countries that have lower uncertainties. Prof. Mussio introduced a proposal ([JCRB-17/08.5](#)), by Harold Sánchez (CR), for a change in the *Criteria for acceptance of data for Appendix C* {[JCRB-14/06\(2a\)](#)} that would allowed NMIs to obtained traceability for their equipment from ILAC accredited commercial laboratories who have traceability to NMIs with CMCs in the KCDB.

The Chairman said that the proposed change would represent a major departure from CIPM MRA philosophy. Mr Jones said that the main problem he saw with the proposal

is that the information on the measurement capabilities of the accredited laboratories is not available to the JCRB. Prof. Kühne said that the proposal is not acceptable as it blurs the distinction between CIPM MRA participants and ILAC accredited laboratories. Dr Kaarls was not in full agreement with the statement of Prof. Kühne as there are some NMIs who have traceability from a company with an accredited laboratory – measurements of hardness are one such case. Dr Steele asked – cost issues aside – why are those accredited laboratories not designated? Mr Peet said that this is one of the issues that ILAC and the Metre Convention need to sort out, but the Chairman agreed that designation would take care of situations like those seen in the field of hardness metrology. Dr Kaarls explained that there are better primary methods in hardness metrology than those used by the company with the accredited laboratory but the NMIs do not realize them. Dr. Steele said that designation in this case would be an issue of transparency as NMIs are traceable to it. Dr. Bennett said that transparency would result if the accredited laboratory provided all its documentation.

A task group was charted with looking into this issue and deliver recommendations to the full committee by the next meeting. The task group is to be composed of Prof. Kühne, Mr Jones, plus volunteers from ILAC, COOMET and SADC MET; it is to be led by Dr Steele.

Action 17/ 12 A task group was charted with looking into this issue and deliver a recommendation to the full committee in their next meeting.
(Prof. Kühne, Mr Jones, plus volunteers from ILAC, COOMET and SADC MET; lead by Dr Steele)

(8.6) Temporarily suspension of Greek CMCs from the KCDB

Prof. Kühne presented this issue. An internal EUROMET review showed that there was no record of a QMS in support of the CMCs from the Hellenic Institute of Metrology (EIM) in the area of flow. Further, the review unearthed that the EIM acoustic laboratory is currently not staffed (staff is in transition). Thus EUROMET recommended the temporary removal of the CMCs in question from the KCDB until such time when they were fully supported by a QMS and EIM staff is delivering the services claimed. Prof. Kühne went on to say that EUROMET plans to conduct on-sight visits to assess changes in the situation. As of last reports, the EIM flow CMCs appears to be supported by a QMS and EUROMET expects their reinstatement in the near future; the acoustic CMCs might require longer time to be reinstated.

**Action 17/ 13 The KCDB Office is to be advised of any changes in the situation in EIM which might lead to the reinstatement of their CMCs.
(EUROMET)**

9. Report on the QMS review meeting of the [IAEA](#)

Dr Kaarls reported on the outcome of the IAEA quality management system (QMS) review meeting ([JCRB-17/09](#)), which took place on October 5, 2006 at the BIPM.

The Chairman said that the review process outlined in document [CIPM 2006-03](#) had worked well for the review of the IAEA and he expected that other international organizations, who are close to signing the CIPM MRA, will also benefit from the process. Dr Anderson said that he would like for International Governmental Organizations (IGOs) to have their QMS reviewed by the RMOs – using their established processes – or follow an alternative process were the IGO pays for the costs associated with the review as is expensive to bring quality experts to this type of meetings. The Chairman said that ideally presenting to one of the RMOs would be the preferred way to review the QMS of the IGOs, but unfortunately in the case of the IAEA, this was not possible as presenting to only one RMO was deemed by their lawyers to violate their international charter. Prof. Kühne expressed his dissatisfaction with the finding of the IAEA lawyers and said that it was unfair for the RMOs to shoulder the costs that resulted. In his opinion, the IGO should then pay for the cost of the review meeting. The Chairman insisted that the process outlined in CIPM 2006-03 came as a result of having to maneuver around legal constraints not previously anticipated. Prof. Kühne said that the IGOs should live with the process already set forth by the CIPM MRA, or pay the costs for special treatment.

Dr Inglis asked if a technical review was performed as part of the QMS review of the IAEA. The Chairman answered that a technical review had been conducted and he had recommended that the bios of the technical reviewers be provided to the review panel. Dr Steele said that the review of the QMS of the IAEA was satisfactory, but his concerns were that they wanted to join the CIPM MRA on terms different from those used by other signatories and that they should pay for the additional costs. Dr Steele has further objections to the way in which the document CIPM 2006-03 was created. He thought that by going directly to the CIPM, thus avoiding input from the JCRB, the process had been less than transparent. Dr Carpenter said that it was essential that a

precedent was not set with this review of the IAEA; the RMOs cannot be asked to shoulder the cost of these meetings. The Chairman said that it was the legal constraints imposed by the international charter of the IAEA that led to the creation of CIPM 2006-03.

Dr Bennett asked for clarification on who had approved the QMS of the IAEA: the JCRB or the review panel created under CIPM 2006-03. Dr Kaarls said that it had been the representatives of the RMOs who attended the review meeting. Dr Carpenter said that he was not clear in that point. As further explanation, Dr Kaarls said that RMOs are not organs of the Metre Convention nor are they legal entities. Dr Carpenter insisted that the RMOs are organs of the Metre Convention. The Chairman said that the Metre Convention does not mention in its text the existence of RMOs. Dr Bennett agreed that that was the case and reminded the Committee that the RMOs were organs of the CIPM MRA and not of the Metre Convention.

Mr Jones said that APMP could not support the QMS review process outlined in CIPM 2006-03 without a peer-review. Dr Sacconi said that in EUROMET, if there were findings of none compliance, then the review committee would only give conditional approval to the QMS. Dr Sacconi asked who will make sure that the IAEA follows through with resolving all none compliances found by the review panel.

Dr Steele said that the Committee needed a letter assuring that this review of the IAEA did not set a precedent. The Chairman explained the importance of the IAEA to the world of metrology and why accommodating their needs was also in the interest of the other signatories of the CIPM MRA. Dr Steele questioned if their importance to world metrology merit the special rules they were afforded. The Chairman insisted that the review process created by CIPM 2006-03 had in no way deviated from that afforded to other NMIs through their RMOs; CIPM 2006-03 follows well established CIPM MRA policy and applied it to the case of laboratories not affiliated with an RMO.

Prof. Kühne said that currently there are only two organizations participating in the CIPM MRA that fall in this category: the BIPM and IAEA. He then asked if it followed that NMIs who do not belong to an RMO can make use of the review process set forth by CIPM 2006-03. Mr Peet said that that would be an alternative for organizations like the World Anti-Doping Agency ([WADA](#)). The Chairman assured the Committee and

Mr Peet that the process established by CIPM 2006-03 is not a backdoor route to accreditation.

The Chairman said that in view of the opinions expressed, it is clear that we need to review CIPM 2006-03.

Per the terms in [JCRB-10/8\(1c\)](#), the JCRB was informed of the acceptance the QMS of the IAEA by a review panel convened under the authority of CIPM 2006-03 on October 5, 2006 and of which, Dr Kaarls was chairman.

- Action 17/ 14 The bios of technical reviewers participating in QMS reviews operating under the umbrella of the process outlined in CIPM 2006-03 are to be provided to the review panel.**
(IGOs seeking approval of their QMS for purposes of participation in the CIPM MRA)
- Action 17/ 15 Review CIPM 2006-03 in light of the comments made by the Committee.**
(Chairman)

10. Report on the implementation of Quality Management Systems in the area of Chemical Metrology

The Executive Secretary reviewed the status of the current situation using a [PowerPoint presentation](#). Dr Erard indicated that EUROMET would make a full report on all their CMCs within two weeks. SADC MET said they would consult with their colleagues and see why South Africa had not responded yet. Brazil and Canada said that they would respond shortly.

- Action 17/ 16 RMOs to submit missing QMS acceptance reports in the area of Chemical Metrology to the JCRB.**
(EUROMET, SADC MET, and SIM)

11. Progress towards the harmonization of the terms BMC and CMC

Aided by a [Power Point presentation](#), Dr Bennett introduced the subject.

The Chairman followed by discussing document [17/11.2](#) and said that some of the good suggestions made during the meeting in Nashville will be given to the group tasked with modifying the definition. Ms Peet said that the RMO-RAB redefinition group had made tremendous progress towards avoiding having two terms; the redefinition group would like to see the process completed as soon as possible. The Chairman asked the Committee for a general endorsement of the process currently underway.

Mr Jones said that APMP was very please with the process for it had tried to arrive to consensus prior to starting crafting words. Prof. Kühne said that EUROMET supported the work as well and in his opinion, the next step was to try to craft a new definition using the lest ambiguous and simplest wording possible. Prof Mussio said that SIM supported the process as well. Mr Streak said that SADC MET supports the work of the redefinition group as well, and Prof. Bíly endorsed the work of the redefinition group on behalf of COOMET.

Mr Jones reminded the Committee that APMP had no problem with the current CMC definition (see [JCRB-8/18](#)) and they made extensive use of it while crafting their CMCs. APMP remains concerned that changes in the redefinition of the term CMCs due to this harmonization process, might lead to changes in the CMCs in the KCDB. The Chairman stated that the definition group is aware of this potential problem and they will try to be as clear as possible and avoid such problems with the aid of the supporting statements in the new definition. Dr Steele said that the discussion in Nashville included all aspects needed by both communities. Dr Inglis reminded those members of the redefinition group on attendance that the definition is for the users of the CIPM MRA, thus it is important to keep them in mind while crafting the new definition.

Dr Inglis asked what are the next steps in the redefinition process were. The Chairman said that he is to report to ILAC on the progress made in Nashville and on the endorsement of the process by the RMOs during the next ILAC General Assembly to be held in Mexico in November 2007. The process will continue via email for the actual crafting of the new definition, and a follow-up meeting will be in the March 2007 at the BIPM. Prof. Kühne said that he expects the redefinition group to be finished in time for the March 2007 meeting. Dr Steele asked if it would be a good idea to keep the Chairs of the CC WGs informed on the process. Prof. Kühne was of the opinion that it was not wise to inform them at this stage because it might open the pool of potential opinions, which would significantly slow the redefinition process. The Chairman said that the Chairs of the CC WGs will be informed if further ideas are needed. Dr Steele said that it is important to keep the Chairs of the CC WGs aware of what is happening.

- Action 17/ 17 Report to ILAC on the progress made in Nashville by the BMC-CMC redefinition group and on the endorsement of the redefinition process by the RMOs.**
(Chairman)
- Action 17/ 18 Continue the definition crafting process via email and conduct a follow-up meeting in the March 2007 at the BIPM.**
(BMC-CMC redefinition group)

12. Discussion on how to assist NMIs that lack support of an RMO

Prof. Kühne explained the issue. According to him, NMIs that wish to participate in the CIPM MRA and are not affiliated with an existing RMO have two alternatives: (a) they can become associate members of existing RMOs or, (b) they can search for other NMIs in the region to form a new RMO. Prof. Kühne is of the opinion that (b) is best for these NMIs as it allows their issues to receive more attention. Prof. Kühne asked the Committee for a statement endorsing the formation of new RMOs, when appropriate, and asking the current RMOs to support their development.

Dr Inglis said that the practical demands of the formation of an RMO are often too great and such initiative is, therefore, rarely undertaken. Dr Carpenter endorsed the position expressed by Prof. Kühne because in his opinion each region can benefit from an RMO which reflects local culture and economic trends. Dr Carpenter went on to say that is beneficial for RMOs to have a diverse membership because with such, they are able to better support members at different stages of development. The Chairman agreed with Dr Carpenter's comments and said that the current situation in Africa is a good example of the development of such local structures capable of supporting the needs of countries at diverse levels of development.

Prof. El-Sayed supported the concept of establishing new RMOs – tailored to regional needs but – he said that there are other factors (e.g., political) that need to be considered before such organization can be viable. He said that in the case of AFRIMET, they decided to be all inclusive when it comes to NMIs from the African continent. According to Prof. El-Sayed, it is clear that NMIs wishing to participate in the CIPM MRA need practical means by which to fulfill the demands of the Arrangement. As an example, Prof. El-Sayed said that the review of QMS can be a great obstacle to participation in the CIPM MRA for those NMIs currently not associated with a mature RMO. AFRIMET is considering transitional mechanisms that will enable its members to fulfill all CIPM MRA requirements early during the development of the new RMO. Dr Carpenter said that including all countries in the region within a new RMO – even

those currently without an NMI – is a good idea as their participation can aid regional coordination and provide the countries without NMIs with training when eventually needed. The Chairman said that indeed, the participants in the CIPM MRA would like to aid all countries, as appropriate, as hopefully they will become part of the CIPM MRA in the future.

Dr Kaarls said that he believes that currently, all NMIs participating in the CIPM MRA have at least become associate members of one of the existing RMOs. He thinks that the proposal for *Corresponding NMI of the BIPM*, which is been developed by the CIPM and will be proposed to the CGPM on 2007, will aid other countries seeking development in metrology. Mr Peet said that often there is a strong alliance between these countries and ISO. The Chairman spoke of the recent work of the JCDCMAS aimed at coordinating a comprehensive approach to the development of the metrology, accreditation, and standardization (MAS) infrastructure in developing countries, thus avoiding any unbalance emphasis seen in the past. The Chairman went on to say that, however, we would bring a JCRB recommendation to the JCDCMAS as per Prof. Kühne's suggestions.

Dr Inglis endorsed the approach proposed by the Chairman but encouraged the current RMOs to continue to make use of the associate membership tool to aid those countries seeking to strengthen their participation in international metrology. Prof. Kühne said that perhaps it was best not to make a recommendation as the (b) approach is not concurrent with the (a) approach. Dr Inglis disagreed as he sees the RMO development process as a two-step progression which combines both approaches previously mentioned. Dr Bennett agreed with the view expressed by Dr Inglis.

Prof. Brandi said that typically, when there is a specific regional issue of great concern to all, the formation of a regional structure to tackle it follows. Mr Peet said that in those cases, an effort should be mounted to seek donor funding for the development of such regional structures.

13. Activities aimed at NMIs in the developing countries

The Chairman spoke of a number of activities aimed a developing countries and highlighted recent developments in the JCDCMAS. Among the items mentioned were:

- [ISO JCDCMAS Brochure](#): this is promotional material prepared by ISO on behalf of the JCDCMAS alerting the reader to the benefits of MAS to their local economy.
- [ISO Focus JCDCMAS article](#): this article, which was written by the Executive Secretary, appeared in the October issue of ISO Focus.
- [Material for the JCDCMAS Workshop](#): this material was sent to the delegates of a workshop held in Lima (PE) on October 2006. The purpose of the workshop was to raise awareness of the benefits of MAS efforts to metrologist, accreditors and legislators in the region of the Andes. The meeting was organized by [UNIDO](#) who currently hold the secretariat of the JCDCMAS.
- [Memorandum of Understanding between BIPM-OIML-UNIDO](#): This is the draft of an MOU between the three organizations aimed at clearly outlining the functions of each organization on joint projects aimed at improving metrology in developing economies. A final document is expected by 2007.

14. CIPM Update

The Chairman introduced the following documents for informational purposes only.

- [CIPM 2006-03](#): Guidelines for the review of CMCs and the monitoring and reporting of the operation of quality systems by international intergovernmental organizations who are signatories of the CIPM MRA (approved)
- [CIPM 2006-04](#): Guidelines for use of the CIPM MRA LOGO (approved)
- [CIPM 2006-05](#): Recommendations for on-site visits by peers and selection criteria for on-site visit peer reviewers (recommended by the JCRB for approval by the CIPM)¹

¹ This document was subsequently rejected by the CIPM during its October 2006 meeting. The CIPM made a number of recommendations and asked the JCRB to resubmitted it electronically for approval. (see Minutes of the 95th meeting of the CIPM)

- [CIPM 2006-??](#): Guide to the implementation of the CIPM MRA (under development)

The Executive Secretary introduced a document from APMP ([JCRB-17/14.1.APMP](#)) which suggested changes to document CIPM 2006-03.

The first four documents will be brought to the attention of the CIPM during their October 2006 meeting; the fifth document will be reviewed by the JCRB in their next meeting and if recommended, send to the CIPM for consideration in time for their October 2007 meeting.

15. Other JCRB business

The Executive Secretary introduced a new form to be used by NMIs for providing designation information of a laboratory participating in the CIPM MRA ([JCRB-17/15.1](#)). This form is to be completed by the NMI chartered with the implementation of the CIPM MRA in a state/economy and is to be sent to the Director of the BIPM. The information will be used to keep a current list of the designated laboratories in each Member State or Associate.

Dr Thomas requested that the NMIs be instructed to not only state the name of the designated laboratory, but also its acronym. Prof. Mussio asked why the form makes use of the term “state/economy” and the Chairman explained that that is the formal language use in matters related to the Metre Convention and the CIPM MRA. Dr Carpenter asked if the designation of a laboratory is made before the local RMO has had an opportunity to review their QMS. Dr Kaarls explained that the CIPM MRA adjudicates the matter of laboratory designation to each country and the RMOs have no say in the matter. Dr Steele agreed with Dr Kaarls. Dr Anderson said that the form should also include the period of designation. Dr Korostin said that the information requested in the form is very important in understanding the responsibilities of each of the laboratories within a state/economy. He then asked if the form needed to be sent to the BIPM by a certain date. The Executive Secretary said no, as the NMIs are encouraged to make use of the form whenever there is a change in any of the terms of designation.

The Executive Secretary went on to talk about a series of workshops aimed at guiding NMIs through the steps required to achieve full participation in the CIPM MRA. The

workshops are intended for signatory NMIs or designated laboratories that do not yet have CMCs in the KCDB. The first workshop will take place at [CSIR-NML](#), Pretoria (ZA) on May 2-3, 2007, prior to the next JCRB meeting (see item 16 below). Details on the workshop will be provided to the RMO Representatives to the JCRB for local distribution and will also be available at the BIPM website.

In other news, The Chairman said that he asked NIST to extend the secondment of Dr Espina as Executive Secretary until the spring of 2008 and NIST had graciously agreed. This extension will enable Dr Espina to assist with some of the preparations for the CGPM in November 2007. The Chairman formally thanked NIST for its continuing support of the activities of the JCRB through the secondment of Dr Espina.

**Action 17/ 19 Modify the Request for Designation Information form (JCRB-17/15.1) to request:
(a) the acronym use by the designated laboratory and
(b) the period of designation.
(Executive Secretary)**

16. Next Meetings

The Chairman reminded the Committee that the next meeting is to be held at [CSIR-NML](#), Pretoria (ZA) on May 3-4, 2007. The Chairman asked if the Committee would object to the cancellation of the 2007 fall meeting {normally to be held at the BIPM, Sèvres (FR)} so the staff of the BIPM could focus its attention on the preparations for the 23rd CGPM. No objection was registered.

Mr Jones said that APMP will host the spring 2008 meeting but the location and date are yet to be decided. Prof. Mussio asked, in light of the volume of work currently under the consideration of the JCRB, if it would be possible to hold the next meeting for a day and a half. The Executive Secretary said that he would arrange for a meeting of that length.

**Action 17/ 20 The spring 2007 meeting of the JCRB (18th Meeting) will be held for a day and a half.
(Executive Secretary)**

Resolution 17/ 1 The fall 2007 meeting of the JCRB will be canceled in benefit of preparations for the 23rd CGPM.

17. Meeting closure

ACTIONS

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Action 17/ 3	All RMOs are to extend invitations to their QMS review meetings to the members of the RMOs. (<i>RMO QMS Chairs</i>)	6
Action 17/ 4	Ask the ILAC membership if the KCDB is providing them with the information needed by the accreditation community. (<i>Chairman</i>)	7
Action 17/ 5	Ask the CIPM Consultative Committees to provide reports to the JCRB with up-to-date information on the status of pending KCs and/or on changes to CMCs in the KCDB due to KC results. (<i>Chairman</i>)	10
Action 17/ 6	Future KCDB reports to the JCRB are to include the information on CMC statistics (per RMO) thus avoiding the inclusion of this information in the RMO reports to the JCRB. (<i>KCDB Manager</i>)	10
Action 17/ 7	Modify existing pro-forma (JCRB-7/22) for RMO reports to the JCRB. (<i>Executive Secretary</i>)	10
Action 17/ 8	Investigate why SADC MET.QM.2.2003, EUROMET.RI.2.2001, APMP.QM.4.2004, COOMET.QM.6.2005, APMP.TF.3.2005, EUROMET.AUV.6.2005, and SIM.RI.6.2005 are pending and report back to the Committee at its next meeting. (<i>Executive Secretary</i>)....	10
Action 17/ 9	Develop more clear guidelines and include them in the minutes. (<i>Executive Secretary, Michael Kühne and Alan Steele</i>)	13
Action 17/ 10	In light of the examples provided, ask the CCM if key comparison results available offer appropriate support to the mass CMCs listed in the KCDB. (<i>Executive Secretary via the Executive Secretary of the CCM</i>)	13
Action 17/ 11	Request from the Chair of the CCT WG8 a summary of the uncertainties in industrial thermometry CMCs that resulted as a consequence of the CCT WG8 voted recommendations. (<i>Executive Secretary</i>)	14
Action 17/ 12	A task group was charted with looking into this issue and deliver a recommendation to the full committee in their next meeting. (<i>Prof. Kühne, Mr Jones, plus volunteers from ILAC, COOMET and SADC MET; lead by Dr Steele</i>)	15
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Action 17/ 17	Report to ILAC on the progress made in Nashville by the BMC-CMC redefinition group and on the endorsement of the redefinition process by the RMOs. (<i>Chairman</i>)20
Action 17/ 18	Continue the definition crafting process via email and conduct a follow-up meeting in the March 2007 at the BIPM. (<i>BMC-CMC redefinition group</i>)20
Action 17/ 19	Modify the Request for Designation Information form (JCRB-17/15.1) to request: (a) the acronym use by the designated laboratory and (b) the period of designation. (<i>Executive Secretary</i>) 24
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RESOLUTIONS

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