



Report of the 22nd Meeting of the JCRB

Held on 17-18 March 2009 at the BIPM, Sèvres

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Participants**BIPM-CIPM**

Prof. Andrew J. Wallard	(Chairman) BIPM
Mr Luis Mussio	(Executive Secretary) BIPM
Dr Robert Kaarls	CIPM
Dr Mitsuru Tanaka	CIPM
Dr Claudine Thomas	(KCDB coordinator) BIPM
Dr Pedro Espina	BIPM
Mr Michael Streak	BIPM

Delegations

Dr Wynand Louw	(Representative) AFRIMETS
Dr Noha E. M. Khaled	AFRIMETS
Mr Donald Masuku	AFRIMETS
Dr Kwang Hwa Chung	(Representative) APMP & CIPM
Mrs Ajchara Charoensook	APMP
Dr Yoshio Hino	APMP
Dr WooGab Lee	APMP
Dr Angela Samuel	APMP
Dr Vladimir Krutikov	(Representative) COOMET
Dr Stanislav Musil	COOMET
Dr Pavel Neyezhnikov	COOMET
Dr Sergey V. Komissarov	COOMET
Dr Sergey Korostin	COOMET
Dr Vladimir Krutikov	COOMET
Dr Natalia Sedova	COOMET
Dr Michael Kühne	(Representative) EURAMET
Mr Luc Erard	EURAMET & CIPM
Dr Leslie Pendril	EURAMET
Dr Atilio Sacconi	EURAMET & CIPM
Dr Alan Steele	(Representative) SIM
Dr William Anderson	SIM
Mrs Gabriela de la Guardia	SIM
Dr Claire Saundry	SIM

1. Welcome by the Chairman and changes to the Agenda

The Chairman welcomed the delegates to the BIPM and asked the participants to introduce themselves. The Chairman proposed including item 12 of the agenda (World Metrology Day) under item 3, Report of the Chairman. The Chairman then invited any further changes to the Agenda. The Agenda was approved with no further changes.

2. Approval of the minutes and discussion on matters arising from the report of the 21st meeting held at the BIPM, Sèvres, France.

The minutes were approved with minor changes.

No further comments were made.

The Executive Secretary presented an update of the status of actions pending from the 21st meeting.

Action 21/2: "The BIPM will consult the CCs on the particular procedures used, or proposed, for the re-review of CMCs and report to the next JCRB meeting".
Completed, see item 9 of these minutes.

Action 21/3: "Prepare a guideline with instructions for the declarations of traceability in the CMC submissions. This guideline will be included in a future version of the document "Calibration and Measurement Capabilities in the Context of the CIPM MRA" (CIPM MRA – D- 04)".
Completed see document 22/08.2-1.

Recommendation 21/1 The JCRB recommends that the CIPM approve document CIPM MRA G 01, "Guide to the implementation of the CIPM MRA".
Done the document was approved by the CIPM and is now published in the BIPM website.

Recommendation 21/2 The JCRB recommends that the CIPM approve document CIPM MRA D 04, "CMCs in the context of the CIPM MRA".
Done the document was approved by the CIPM and is now published in the BIPM website.

Recommendation 21/3 The JCRB recommends that the CIPM approve document CIPM MRA D 01, "Rules of Procedure for the JCRB", Version 6.
Done the document was approved by the CIPM and is now published in the BIPM website.

Recommendation 21/4 The JCRB recommends that the CIPM approve document CIPM MRA P 01, "Procedure for approval of a new RMO".
The document was discussed by the CIPM and sent back to the JCRB for comments. The document was presented for discussion at this meeting under item 8.1.

Recommendation 21/5: The JCRB recommends that the CIPM approve AFRIMETS as an expansion of SADC MET.
The CIPM approved AFRIMETS as an expansion of SADC MET, with full rights in the JCRB.

3. Report by the Chairman on progress since the 20th JCRB meeting

See document [JCRB 22/03](#).

The report by the Chairman included the following points:

- New BIPM Members and Associates; activities to increase outreach;
- Approval of AFRIMETS;
- JCGM, JCTLM and JCDCMAS meetings;
- Bipartite and tripartite meetings (BIPM – OIML – ILAC);
- BIPM participation in RMOs and other organizations meetings; and
- IAEA annual report of the status of its quality system (see document [JCRB 22/03.1](#)).

On the problem of inclusion of DUT components in the uncertainty budget, A. Steele reported that the CCEM had discussed this issue. The result was that EM CMCs are in full compliance with the requirement and DUT components are always included in the declared uncertainties, but that it is not technically possible to identify them separately.

P. Espina then presented a report on the following activities (see document JCRB 22/12.1):

- Forum on coordination of NMI international activities;
- World Metrology Day;
- 2009 Director's Meeting; and
- Tenth anniversary of the CIPM MRA.

4. RMO reports to the JCRB

4.1 AFRIMETS report ([JCRB 22/04.1](#))

W. Louw reported on behalf of AFRIMETS.

4.2 APMP report ([JCRB 22/04.2](#))

K. H. Chung reported on behalf of APMP.

A. Charoensock reported on the status of greyed out CMCs within APMP.

A. Wallard commented that in the APMP General Assembly, there had been a discussion about linking proficiency test and key comparison. W. Lee answered that this issue will be discussed at the APLAC – APMP meeting.

A. Wallard also asked the APMP delegation to contact VAMAS and reinforce the need for VAMAS to nominate representatives to participate in CCs.

4.3 COOMET report ([JCRB 22/04.3](#))

The COOMET report was presented by S. Korostin.

A. Wallard asked if COOMET is planning additional events in Kazan, at the time of the next JCRB meeting. (See [action 22.4](#))

He pursued the question of multiple designated institutes within a single country and the risk that there may be postings of CMCs in overlapping areas.

S. Korostin described the “umbrella” designation. In some countries there is a network of institutes and not a strict designation, and that there were different ranges to the services offered by the organizations concerned. He also reported that a questionnaire is under development to make a full investigation of the situation, in hope that a clear separation of functions and institutes would be available within a year.

R. Kaarls asked about the use of sub-contracting in COOMET.

S. Korostin replied that this is in full compliance with the terms and requirements of the CIPM MRA in relation to Quality Systems.

A. Samuel asked about the sub-committee on assistance to developing countries established in 2008, and the characteristics of the MRA workshops held at the end of the year.

S. Korostin reported that the first workshop took place in June, and a second workshop is planned for the coming year. A project sponsored by PTB for developing countries is closely associated with the committee, and a community of countries who are planning to develop CMCs has been identified.

He also mentioned that there is an ongoing discussion about the mechanisms to improve international recognition – via the KCDB for countries with prime-level laboratories or via ILAC Accreditation for countries with secondary level laboratories. For some developing countries, accreditation may be chosen because it is faster but may be more expensive.

P. Espina pointed out that PTB is making a push into this area of development, and that the project is intended to be in support of the COOMET strategy and national priorities.

C. Thomas remarked that the “local identifiers” used by the RMOs is kept as extra information in the KCDB and registered comparisons can be searched by these identifiers.

R. Kaarls expressed concern that the accreditation process is much faster than the MRA process, noting that this might raise the question on the rigour of the accreditation process or whether the CIPM MRA is fast enough.

4.4 EURAMET report ([JCRB 22/04.4](#))

The EURAMET report was presented by M. Kühne.

A. Wallard remarked on ILAC interest in documents such as guide number 18 and its translation to Spanish, mentioned in the report. If any RMO has similar guides, they would be of great interest to the ILAC community.

S. Korostin mentioned a COOMET project to create this type of guides.

W. Louw added that there is also a project in collaboration with SANAS to write guides.

M. Kühne said that when European Accreditation had approached EUROMET in the past, a number of guides had been developed but at the moment there is no clear procedure of how the development of a guide should be initiated. In Germany, the procedure is that DKD technical committees approach the PTB for support to develop a guide. In the past these DKD guides were transformed into EA guides but this mechanism no longer exists. He suggested that ILAC should be asked to identify where the needs are and then it may be possible to look for Technical Committees in the RMOs to draw up guides.

R. Kaarls remarked that the question of who needs such guides must be clarified. He also pointed out that the need is probably at the level of accredited laboratories, not at the NMI level, so it is the accreditors who are responsible to express their needs.

M. Kühne pointed out that in Europe at the accredited laboratories level, different methods were used in different countries, which could lead to completely different uncertainties, therefore calibration guides were created to harmonize this issue. Later, with the separation of NMIs and accreditation bodies the NMI technical people were no longer part of the committees, which had stopped the work on the guides.

C. Thomas commented on point 4 of the report, remarked that there is a reference to a laboratory whose designation has been removed, but the BIPM has no official notice.

M. Kühne remarked that is not the role of the RMO to designate or de-designate, but the delegation will contact MIKES to sort out this problem.

4.5 SIM report ([JCRB 22/04.5](#))

The SIM report was presented by A. Steele.

W. Louw asked whether the language for SIM summer school will be English.

A. Steele replied that the working language will probably be Spanish as the primary audience is expected to be from Latin America. SIM is assuming that there will be translation or separate sessions depending on the language, but this will be decided according to the availability of funds.

A. Samuel noted APMP interest in having an active link with SIM on the activities for developing economies.

P. Espina reported on the work of AFRIMETS and BIPM with UNIDO to develop a mechanism for funding cooperation activities. One of the possible activities is to hold a summer school in Africa, for which any cooperation or suggestions would be welcomed.

C. Thomas noted that there are still many greyed out CMCs from SIM.

A. Steele replied that this problem would be taken back to the SIM Technical Committee and the information sent on to the KCDB office.

5. KCDB report ([JCRB 21/05](#))

The KCDB report was presented by C. Thomas.

On action 21/1: *The RMOs will include the status of their greyed-out CMCs in their reports to the 22nd JCRB* the following was reported:

- On 01 October 2008, EURAMET reported that the 143 CMCs declared by Latvia in RI were no longer covered by an approved quality system: these were immediately greyed-out from the KCDB.
- On 21 November 2008, the 33 CMCs declared by the Republic of Korea in PR that had been greyed-out in July 2005 were definitively suppressed.
- On 22 January 2009, the CMCs declared by Canada that were still greyed-out in T, RI, and QM (Cat 10) were also definitively suppressed. There remain thirty greyed-out CMCs declared by Canada, all in PR: they are kept in the “grey area” until further review of their QS.
- On 12 February 2009, 737 CMCs were greyed-out from the KCDB.

The report included:

- Publications of CMCs since the last JCRB meeting.
- KCDB statistics and the availability of these data to the RMOs.
- A summary of the contents of the KCDB newsletter.
- A draft for a new section of Frequently Asked Questions in the KCDB website.

The RMOs had requested that the Executive Secretary should send the JCRB news section of the KCDB newsletter to the RMO delegates for distribution.

**Action 22/1 The RMOs will send feedbacks to the KCDB office about the new FAQ facility.
Responsible: RMOs**

Resolution 22/1 The Executive Secretary will send an advance copy of the JCRB news section of the KCDB newsletter to the RMO delegates.

6. Status and problems arising with CMCs submission and review.

The Executive Secretary reported on the pending CMCs that may need attention from the RMOs.

APMP.M.18.2008 – Mass, KIM Lipi Indonesia (rejected in the final round)

COOMET.M.7.2008 – Viscosity, Belgim, Belarus (rejected in the final round)

COOMET.M.8.2008- Mass, INIMET, Cuba (rejected in the final round)

COOMET.M.9.2008 – Pressure, Belgim, Belarus (rejected in the final round)

SIM.RI.6.2004 – Activity, ININ, Mexico (lack of Quality System)

7. Report of the 97th meeting of the CIPM ([JCRB 22/07](#)).

The report was presented by R. Kaarls.

A. Samuel asked about the mechanisms for RMOs to get involved in the UNIDO cooperation.

A. Wallard gave a short report on the present situation of BIPM – UNIDO relations.

A. Sacconi asked about the reported status of JCDCMAS, where real progress has not occurred.

P. Espina explained that JCDCMAS main problems were in the terms of reference and the lack of mechanisms to share funds.

8. Documents remitted to the JCRB by the CIPM and documents to be submitted to the CIPM.

8.1 Procedure for approval of new RMOs (CIPM MRA-P-01)

The document was approved with the modifications proposed by the CIPM and it is re-submitted for CIPM approval.

Recommendation 22/1 The JCRB recommends that the CIPM approves document CIPM MRA-P-01, “Procedure for approval of new RMOs”.

M. Kühne, noted the importance of keeping the present model of “large RMOs”, and trying to avoid the multiplicity of small RMOs. Although such policy could be difficult to introduce in a document, it could be adequate adopt and kept in mind when promoting Membership of the BIPM.

8.2 Policy for traceability in the CIPM MRA (to be included in CIPM MRA-D-04)

The text proposed by the CIPM was modified, and is to be resubmitted for approval and inclusion in CIPM MRA-D-04.

The proposed text follows.

Recommendation 22/2 The JCRB recommends that the CIPM adopts the following policy for traceability in context of the CIPM MRA.

National Metrology Institutes (NMIs) and Designated Institutes (DIs) publishing Calibration and Measurement Capabilities (CMCs) in the BIPM Key Comparison Database (KCDB) have two choices for establishing their traceability routes to the SI:

1. via a primary realization of the unit of measurement concerned or by applying primary "higher-order" methods, in which case traceability must be declared to its own demonstrable realization of the SI;
2. via another NMI or DI having CMCs published in the KCDB or through calibration and measurement services offered by the BIPM, in which case the level of uncertainty in the relevant area must be appropriate.

Note 1: Paragraph 1 includes the case of NMIs or DIs using CRMs or high purity primary chemical references obtained from sources that are not recognized under the CIPM MRA only when the NMI or DI has the recognized capability to analyse the composition by itself.

Note 2: In Paragraph 2, where traceability to the SI is through a CMC published in the KCDB or a BIPM measurement service, the NMI or DI must still make a full assessment of the uncertainties involved in its measurement activity and must openly declare its chosen traceability route when submitting its CMCs for intra- and inter-regional reviews.

Note 3: For auxiliary influence quantities, not part of the main traceability path to the SI for a particular measurand and with uncertainties that can be shown to make only a minor contribution to the total combined uncertainty of the CMC, an NMI or DI is free to use measurement services provided by laboratories accredited by a signatory to the ILAC Arrangement for calibration of instrumentation, provision of reference standards or other elements of its measurement system.

8.3. Interlaboratory Comparisons in the CIPM MRA (CIPM MRA-D-05) – Compilation of existing procedures and policy documents.

The document was presented by the Executive Secretary together with a summary of the problems and contradictions found in existing documents and policies.

The document will be modified according to the discussion held during the meeting and circulated in the RMOs and the CCs, asking for opinions and inputs.

Action 22/2 The Executive Secretary will produce a new draft version of CIPM MRA-D-05 and circulate it to the RMOs. RMOs will send any comments to the Executive Secretary before the end of July. Responsible: Executive Secretary

9. Feedback from the CCs and CC Working Groups ([JCRB 22/09](#))

The Executive Secretary presented the questionnaire sent to the CCs and CCWGs together with the feedback received.

Problems detected:

- There is a need to improve the communication of resolutions and policies relating to the CIPM MRA to CCs and WGs (see [resolution 22/1](#))

- The inclusion of uncertainty components due to DUT is not done in a uniform way in all the CCs.

After a short discussion it was agreed that the CMCs should include the components of uncertainty due to the device under test (DUT), and only in those cases where the DUT is not included will the CMCs in the KCDB include a note in the Observations field stating this point.

This conclusion will be included in document CIPM MRA-D-04.

10. Problems arising from the application of JCRB resolution to review CMCs every five years.

A. Steele introduced the general problem for establishing procedures and mechanisms for the periodical review of CMCs.

After a general discussion the following points were agreed:

- the main responsibility for informing on whether a CMC is still valid relies in the NMIs;
- this information should be part of an NMIs annual quality report, including any changes to CMCs; and
- there should be a more thorough verification by the RMOs of whether CMCs were all up to date, through the five-year QS review cycle,.

However, it was noted that in some cases, such as the CCQM, the process may become more formalized and a re-review of the full list of published CMCs may be performed.

Resolution 22/2 The JCRB noting that:

- its statement about a five year review period for CMCs may have been misinterpreted,
 - that RMOs review of quality systems occurs every five years, and
 - that recently it was introduced a system of annual reports from NMIs in which NMIs report any changes which may affect CMCs,
- resolves that:
- the periodical review of published CMCs is performed by the RMOs and recommends that RMOs review the templates used for these annual reports to ensure that NMIs address this issue. The JCRB further notes that in some areas, CCs may wish to make a specific decision on the review period and review procedure which applies to their community.

Action 22/3 To modify CIPM MRA-D-04 (including the policies on traceability and re-review period) and circulate it among the RMOs (Executive Secretary). The RMOs will send comments before the end of July. Responsible: Executive Secretary.

11. Discussion on the problems and advantages of the harmonization of the process for the review of quality systems of NMI used by the RMOs, and the process used by accreditation bodies ([JCRB 22/11](#))

After a short discussion it was agreed that:

The BIPM should maintain the following policy position for the work in the ILAC WGs concerned with accreditation of NMIs:

- the Accreditation Bodies should accept the technical competence of the CMC reviews as undertaken through the MRA process. RMOs did not wish to add additional steps in the process; and
- BIPM should continue to look for ways to harmonize the processes, including the selection of assessors and in which ABs might be looking to avoid unnecessary duplications of efforts.

Resolution 22/3 The JCRB recommends that the BIPM participates in the preparation of the ILAC guide for accreditation of NMIs.

**Action 22/4 RMOs will send comments on the ILAC document for accreditation of NMIs.
*Responsible: RMOs***

12. Other business:

12.1 Presentation of World Metrology Day: Handled under BIPM Report

See item 3 of the present minutes.

12.2 Call for new JCRB Executive Secretary.

A. Wallard informed the meeting that L. Mussio ends his term as JCRB Executive Secretary in March 2010 and therefore the call for new candidates will be forthcoming.

12.3 Participation in NCSLI

A. Steele announced the NCSLI annual conference, July 2009 in San Antonio and encouraged RMOs and NMIs participation

12.4 AFRIMETS General Assembly

W. Louw announced the AFRIMETS General Assembly, July 2009 in South Africa and likewise encouraged participation.

13. Next Meetings:

13.1 Next meeting: COOMET, Kazan, Russian Federation. 23-24 September 2009.

**Action 22/5 COOMET will inform the other RMOs and the BIPM about other related activities in the same week of the JCRB meeting.
Responsible: COOMET**

13.2 16 -17 March 2010, BIPM, Sèvres, France

14. Meeting closure

The Chairman thanked the delegations for their participation in the meeting. Having no further issues for discussion, the meeting was adjourned.

15. Summary of Actions, Resolutions and Recommendations.

ACTIONS

Action 22/1 The RMOs will send feedbacks to the KCDB office about the new FAQ facility. 8

Action 22/2 The Executive Secretary will produce a new draft version of CIPM MRA-D-05 and circulate it to the RMOs. RMOs will send any comments to the Executive Secretary before the end of July. Responsible: Executive Secretary 10

Action 22/3 To modify CIPM MRA-D-04 (including the policies on traceability and re-review period) and circulate it among the RMOs (Executive Secretary). The RMOs will send comments before the end of July. Responsible: Executive Secretary 12

Action 22/4 RMOs will send comments on the ILAC document for accreditation of NMIs. 12

Action 22/5 COOMET will inform the other RMOs and the BIPM about other related activities in the same week of the JCRB meeting. 13

RESOLUTIONS

Resolution 22/1 The Executive Secretary will send an advance copy of the JCRB news section of the KCDB newsletter to the RMO delegates. 8

Resolution 22/2 The JCRB noting that: - its statement about a five year review period for CMCs may have been misinterpreted, - that RMOs review of quality systems occurs every five years, and - that recently it was introduced a system of annual reports from NMIs in which NMIs report any changes which may affect CMCs, resolves that: the periodical review of published CMCs is performed by the RMOs and recommends that RMOs review the templates used for these annual reports to ensure that NMIs address this issue. The JCRB further notes that in some areas, CCs may wish to make a specific decision on the review period and review procedure which applies to their community. 11

Resolution 22/3 The JCRB recommends that the BIPM participates in the preparation of the ILAC guide for accreditation of NMIs. 12

RECOMMENDATIONS

Recommendation 22/1 The JCRB recommends that the CIPM approves document CIPM MRA-P-01, "Procedure for approval of new RMOs" 9

Recommendation 22/2 The JCRB recommends that the CIPM adopts the following policy for traceability in context of the CIPM MRA. 9

National Metrology Institutes (NMIs) and Designated Institutes (DIs) publishing Calibration and Measurement Capabilities (CMCs) in the BIPM Key Comparison Database (KCDB) have two choices for establishing their traceability routes to the SI:

1. via a primary realization of the unit of measurement concerned or by applying primary "higher-order" methods, in which case traceability must be declared to its own demonstrable realization of the SI;
2. via another NMI or DI having CMCs published in the KCDB or through calibration and measurement services offered by the BIPM, in which case the level of uncertainty in the relevant area must be appropriate.

Note 1: Paragraph 1 includes the case of NMIs or DIs using CRMs or high purity primary chemical references obtained from sources that are not recognized under the CIPM MRA only when the NMI or DI has the recognized capability to analyse the composition by itself.

Note 2: In Paragraph 2, where traceability to the SI is through a CMC published in the KCDB or a BIPM measurement service, the NMI or DI must still make a full assessment of the uncertainties involved in its measurement activity and must openly declare its chosen traceability route when submitting its CMCs for intra- and inter-regional reviews.

Note 3: For auxiliary influence quantities, not part of the main traceability path to the SI for a particular measurand and with uncertainties that can be shown to make only a minor contribution to the total combined uncertainty of the CMC, an NMI or DI is free to use measurement services provided by laboratories accredited by a signatory to the ILAC Arrangement for calibration of instrumentation, provision of reference standards or other elements of its measurement system.