BRIEF REPORT ON THE DECISIONS AND CONCLUSIONS OF THE SECOND MEETING OF THE JCRB HELD AT THE BIPM ON 15TH AND 16TH FEBRUARY 1999

Present:	Dr Barry Inglis	APMP
	Dr Hidetaka Imai	APMP
	Prof. Changyan Shi	APMP
	Dr Vladimir I. Belotserkovsky	COOMET
	Dr Alexander Astashenkov	COOMET
	Prof. Lev K. Issaev	COOMET
	Dr Luc Erard	EUROMET
	Dr Andrew J. Wallard	EUROMET
	Dr A. Shenhar	MENAMET
	Prof. Dr Hüseyin Ugur	MENAMET
	Dr Franz Hengstberger	SADCMET
	Dr Alan Robertson	SIM
	Dr Ismael Castelazo	SIM
	Dr Hratch Semerjian	SIM
	Dr W.R. Blevin	CIPM
	Dr Katharine Gebbie	CIPM
	Dr Kozo Iizuka	CIPM
	Dr Robert Kaarls	CIPM
	Dr Terry Quinn	BIPM

Notes on agenda items:

1. OPENING OF THE MEETING AND WELCOME BY THE CHAIRMAN

2. FINAL TEXT OF THE MRA AND GUIDELINES ON KEY COMPARISONS

The text of the MRA was examined in detail and a number of small modifications stemming from comments of directors of NMIs and decisions of the CIPM were noted. The JCRB agreed on some other small modifications to the text to improve clarity. In particular:

- the title of the MRA should be modified with "measurement" replacing "calibration"
- in the text, "calibration" should in general be replaced by "calibration and measurement"
- a note should be added to provide for participation in the agreement by international and intergovernmental organizations
- the designation of key comparisons was modified to make it clear that key comparisons are decided by the Consultative Committees and that key comparisons carried out by the CCs or the BIPM are better called CIPM key comparisons
- the paragraph on participation in CIPM key comparisons was clarified.

There were in addition various other minor editorial modifications. None of these changes are considered significant and do not affect the agreement given by directors to the July 1998 text but they improve its clarity and resolve certain ambiguities.

As regards the Guidelines for key comparisons, an important change was made in paragraph 9 concerning the possibility of withdrawing a result that appears anomalous. The new text will preserve the reputation of the MRA by making it much more difficult for a laboratory to appear to withdraw a poor result. Other minor changes were made to improve clarity.

All of these changes were submitted to the bureau of the CIPM which met on 17th February and were approved. Copies of revised MRA and Guidelines are enclosed. Please note that pending final proof reading these texts should not be distributed outside JCRB members.

3. DRAFT RULES OF PROCEDURE OF THE JCRB

The draft text of rules for procedure of the JCRB proposed by the chairman were discussed. The final agreed version is appended to this report. It was agreed that concerning approval by the local RMO of NMI's proposed calibration measurement capabilities (cmcs) offered under MRA paragraph 7.3(b), there are three main criteria:

1. Results of participation in key and supplementary comparisons
2. The past history of bilateral and multiliateral comparisons
3. The operation of a quality system:
    - the content of the quality system
    - the reports of regular visits by peers from the local RMO as foreseen in paragraph 7.3(b) of the MRA.

In the event that the proposed cmcs from an RMO are challenged at a meeting of the JCRB, the procedures now described under 3.2.2 and 3.2.3 are applied.

4. PROPOSALS FROM RMOS FOR CALIBRATION MEASUREMENT CAPABILITIES FOR INCLUSION IN APPENDIX C OF THE MRA

A broad discussion took place on the way in which proposals for inclusion in Appendix C should be prepared. It was agreed that

(a) I. Castelazo would convene a working group made up of a member from each of the RMOs to draft a format for presenting inclusions to Appendix C for distribution as soon as possible. RMOs to send name of representative to I. Castelazo as soon as possible.

(b) . each RMO will present for the next meeting specific proposals under both paragraphs 7.3(a) and 7.3(b),

(c) each RMO will present its own ideas on the minimum basic criteria for evaluating quality systems to meet paragraph 7.3(b) for distribution before the next meeting.

Items (b) and (c) should be sent to the BIPM by 21 June for distribution.

5. SUPPLEMENTARY COMPARISONS, THEIR IDENTIFICATION AND EXECUTION

It was agreed that supplementary comparisons carried out by the RMO in support of calibration and measurement services and to meet specific regional needs should be entered into the MRA Appendix B in a new section B3. These comparisons must be carried out following the Guidelines for key comparisons. Other supplementary comparisons and pilot studies are not to be entered into the Appendix B3.

In discussing key comparisons, it was agreed that insofar as it is possible, the key comparisons carried out by the RMOs should match those carried out by the CCs and in particular it should be made clear that a key comparison normally refers to the quantity being compared and not to the method of measurement used. In this way a key comparison carried out by a CC can be directly linked to the corresponding key comparison carried out by the RMOs even if in some cases the method used in the RMO key comparisons are much less precise and the uncertainties much larger. As an example, a gauge-block key comparison (denoted by L-K1 for example) should specify the length of the gauge blocks (as in fact was done by the CCL) but not the method of measurement. Thus, the CC gauge block comparison could be carried out by interferometry while the corresponding RMO comparison of gauge blocks of the same length could be carried by mechanical feeler gauges. Despite the uncertainties in the RMO key comparison being perhaps an order of magnitude larger, the link between the laboratories in the RMO and CC key comparison would have been established. In terms of nomenclature, the CC comparison using interferometry could be referred to as CCL-K1a while that in the RMO could be APMP.L-K1b. If different techniques are used all having about the same precision there is no need to distinguish them by a, b etc. Similarly in electricity, a 10V comparison could be denoted by EM-K1. When executed by a CC using Josephson arrays it would be CCEM-K1a and by an RMO using Zener diodes as EUROMET.EMK1b. The same RMO could carry out the comparison using Josephson arrays and then they would be executing the key comparison EUROMET.EMK1a.

6. POSSIBLE TASK OF THE JCRB TO DRAW UP AN APPLICATION GUIDE TO ISO GUIDE 25 FOR NMIS

It was agreed that this is a useful task for the JCRB but that it should be based on generic requirements and not limited to ISO Guide 25. This will be taken up in conjunction with the work already in hand under item 4 above.

7. POSSIBLE TASK OF THE JCRB TO DRAW UP A LIST OF ASSESSORS OF NMIS FOR THIRD PARTY ASSESSMENT.

It was agreed that it is premature to draw up a JCRB list of assessors and that following the discussion under 3 above it is first the responsibility of each RMO to choose appropriate peers to visit NMIs under paragraph 7.3(b).

8. FUTURE OPERATION OF THE JCRB

It was agreed that:

- RMOs should send to Executive Secretaries of the CCs their lists of provisional comparisons for Appendix B six weeks before the meetings of the CCs this year (see dates of CCs attached). A statement from RMO should be included confirming that these past comparisons have been reviewed and found suitable.
- We should try and have real data for Appendices B and C for the beginning of next year, noting that we hope to have the key comparison database operational by November 1999.
- The BIPM is preparing as soon as possible a complete list of current key comparisons for a provisional database on the BIPM web page. *(It would be useful if in due course corresponding lists of RMO comparisons could be provided by RMOs to the BIPM to be added to the BIPM list. TJQuinn).*
- All data for inclusion in database should be in Excel format.
- RMOs to send an updated list of Technical Committee membership to the BIPM for distribution to JCRB.

9. NEXT MEETING

It was agreed that the next meeting will take place in conjunction with the NCSL meeting in Charlotte NC probably on 15th and 16th of July 1999 (date to be confirmed). Papers for this meeting should be sent to BIPM for distribution by 21 June at the latest.

T.J.Quinn
22nd February 1999