

CONSULTATIVE COMMITTEE FOR MASS AND RELATED QUANTITIES (CCM)

The CCM is concerned about the following text in Appendix A1 in CIPM-MRA-P11.

"A CMC is deemed to cover services that meet all of the following criteria:

a) Use the same instrument type/measurement method as that identified in the CMC, noting that more than one instrument type/measurement method can be listed in one CMC, b)..."

This wording uses the same terminology "instrument type/measurement method" as column headers within CMC listings which typically refer to the unit under test or its method of calibration. Whereas the term "instrument type/measurement method" as written in Appendix A1 (a) can also be interpreted as referring to the reference device/method used (by the CMC owner) for the calibration.

In Appendix A1 (a), if "instrument type" is interpreted as referring to the unit under test rather than the reference then the present wording indicates calibration of an instrument with a greater (larger) intrinsic uncertainty than that listed in the CMC line would not be MRA compliant. The text "noting that more than one..." could encourage listing of all possible devices that can be calibrated by the NMI to ensure they are in line with the MRA. (Noting that the CMC uncertainty value would not necessarily apply to all devices)

We believe, however, that it is not the idea of CMCs to list every possible device:

If several instruments with widely different quality are listed in one CMC, how should one know to which the uncertainty applies? Presumably the best one but how would that be indicated. We believe this is in conflict with CIPM-MRA-G13:

Section 2.3 "There should be no ambiguity as to the best measurement uncertainty that can be expected from a CMC."

and

Appendix A, Note 1, "The meanings of the terms Calibration and Measurement Capability, CMC, (as used in the CIPM MRA), and Best Measurement Capability, BMC, (as used historically in connection with the uncertainties stated in the scope of an accredited laboratory) are identical."

and

Note 5 "CMC uncertainty statements anticipate this situation by incorporating agreed-upon values for the best existing devices."

and

also, indirectly, with Section 4 "The KCDB is not intended to be a catalogue of CRMs that can be delivered by the institutes." although this is specifically dealing with reference materials.

The CCM asks the JCRB to review Appendix A1 in CIPM-MRA-P11 to clarify whether "instrument type/measurement method" as worded should be interpreted as referring to the reference or the unit under test. Further, as Appendix A1 and a CMC header may be interpreted as being related due to common terminology, we also seek clarification as to what should be considered as potential entries under "Instrument Type or Method" within CMC listings.