

## **WG 7: Proposed Resolution on an Interpretation of the MRA**

March 21, 2003

Dear CCT Delegates,

the CCT 2003 Meeting Agenda includes a point 6, which includes the discussion on the “significant unresolved deviations” (SUD). This issue requires a CCT action at the same Meeting, concerning a case that is apparently implicit in the MRA text, which, on the other hand, requires CCT to resolve in connection, at present, to some problems related to the use of CCT K3 Appendix B data.

In order to prepare the discussion, in the WG7 a possible text of the CCT resolution was discussed and prepared, and it is reported here as a working document, for the above purpose, not necessarily reflecting the opinion of the totality of the WG7 members. On the other hand, WG7 did not have in 2001 a specific mandate on this specific issue, since the nature of the problem came clearly out only after the last CCT meeting. However, it allows to focus the problem and offers a viable solution.

The text below also introduces the problem and is self-explanatory.

Sincerely  
Franco Pavese  
CCT WG7, Chairman

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CCT WG7 Working Document to CCT delegates for the Meeting of May 2003

1) An interpretation of (not a change, an alteration, or an addition to) the MRA is proposed, concerning the following issue:

### **Interpretation of the MRA concerning the application of a T7 special requirement to the T3 alternate procedure for the purpose of temperature CIPM key comparisons**

Considering that the MRA Technical Supplement to the Arrangement indicates that the following relationship between Appendix B and Appendix C of the MRA holds

T7-1 "For calibration and measurement certificates, the quantities, ranges and calibration and measurement capabilities expressed as an uncertainty (normally at a 95% level of confidence but in some cases it may be at a higher, specified, level), are listed for each participating institute in Appendix C. They must be consistent with the results given in Appendix B, derived from the key comparisons.",

prescribing the following requirement in special cases

T7-2 "If, as a result of a key comparison, a significant unresolved deviation from the key comparison reference value persists for the standard of a particular participating institute, the existence of this deviation is noted in Appendix C. In this case, the institute has the choice of either withdrawing from Appendix C one or more of the relevant calibration and measurement services or increasing the corresponding uncertainties given in Appendix C.";

and considering that the MRA Technical Supplement to the Arrangement indicates the following normal procedure relevant to Appendix B

T3-1 "Although a key comparison reference value is normally a close approximation to the corresponding SI value, it is possible that some of the values submitted by individual participants may be even closer. In a few instances, for example in some chemical measurements, there may be difficulty in relating results to the SI. Nevertheless, the key comparison reference value and deviations from it are good indicators of the SI value. For this reason, these values are used to express the degree of equivalence between the standards of participating laboratories.",

but also indicates the following alternative procedure in the case a reference value is not used by a particular key comparison

T3-2 "In some exceptional cases, a Consultative Committee may conclude that for technical reasons a reference value for a particular key comparison is not appropriate; the results are then expressed directly in terms of the degrees of equivalence between pairs of standards." :

it is understood that the requirement T7-2, in the case T3-2, prescribes

"When the case, indicated in T3, of lack of a reference value occurs, if, as a result of a key comparison, a significant unresolved deviation persists for the difference between standards of a particular pair of participating institutes, the existence of this deviation is noted in Appendix C. In this case, each of the institutes has the choice of withdrawing from Appendix C one or more of the relevant calibration and measurement services, or the corresponding uncertainties given in Appendix C should be increased by one or both institutes, according to an agreed procedure."

2) The CCT as a body, directly and immediately adopts this interpretation for the specific purpose of some temperature KC's, with no prejudice for different solutions that might be adopted in different cases, or in other fields, or by other bodies.

3) The CCT asks WG7 to prepare, in co-operation with WG3, a technical proposal. The proposed procedure is adopted by CCT by mail voting.

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