

Borderline between CIPM MRA and testing activities

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TC-MC
Metrology in Chemistry
EURAMET Technical Committee

From the CIPM MRA....



1. The arrangement

1.1 This is an arrangement between national metrology institutes which specifies terms for the mutual recognition of national measurement standards and for recognition of the validity of calibration and measurement certificates issued by national metrology institutes. It is drawn up by the CIPM with the authority given it under Article 10 (1921) of the Rules Annexed to the Metre Convention.

1.2 This arrangement is in two parts as specified in paragraph 2 below: part one concerns national measurement standards and part two concerns calibration and measurement certificates.

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Services that are typically delivered by NMIs and DIs for disseminating the SI

- Calibration of transfer measurement standards and measuring instruments and issuing of calibration certificates
- Certified Reference Materials (CRMs) production, including certification, traceable to the SI and, where not (yet) possible, to other internationally agreed references
- Capability to assign traceable values to "in-house" reference samples of customers
- Validation of measurement methods/procedures used for disseminating the SI to the end user, for example, as a part of an accreditation process of a calibration laboratory.
- Reference value assignment of Proficiency Testing samples (for own PT schemes and/or third party PT schemes)

JCRB resolutions 28/1 and 28/2

- 28/1: The JCRB resolves that laboratories should only be designated under the CIPM MRA when they have responsibility for national measurement standards and the **dissemination of the units** (i.e. **providing traceability**) as demonstrated by **provision** of appropriate **services** to customers
- 28/2: The JCRB resolves that the QMS that must be in place prior to acceptance of CMCs must be according to ISO/IEC 17025 (and ISO Guide 34 for CRMs) in line with requirements for **calibration laboratories**

Borderline CIPM MRA activities

- The CIPM MRA deals with calibration and measurement certificates
- Testing activities are outside the CIPM MRA context
- Reference Material characterization and production have become a key issue for many NMIs and DIs (particularly in the field of chemistry)
- Many CMCs are related to Reference Material characterization and production
- Such services should not be TESTING activities
- At EURAMET and CC level a very strong revision process of these CMCs is carried out
- A big burden is given to TC-Q for QMS approval



Certified Reference Materials

- Certified Reference Materials (CRMs) are indeed measurement standards [VIM, ISO Guide 34].
- According to ISO Guide 34 “the concept “reference material” is included in the concept “measurement standard”, both of which also include physical reference materials used for calibrating instruments in mechanical, non-destructive and construction type-testing facilities”.
- Activities on CRMs are not only “chemistry related matters”.







Certified Reference Materials: when conformity to ISO Guide 34 is needed?

- Need to clarify when services and claims for CRMs require NMIs and DIs QMS compliant to ISO Guide 34
- ISO Guide 34:2009 “General requirements for the competence of reference material **producers**”
- Need to have a good knowledge of the kind of activities that are carried out case by case



Proposal at the last EURAMET TC-Chairs workshop:

prepare a short guideline focused on the main points to help the QMS revision and approval process

How to move further?

- A short guideline was drafted by M. Sega
- Need to clarify which kind of information is useful to identify CIPM MRA borderline activities and the cases where conformity to ISO Guide 34 is necessary
- In case of doubts, a peer visit should be recommended
- Give practical examples on the dissemination activities, including some «negative examples» (testing activities)
- Prepare a final draft (M. Sega, E. Sagikoglu, S. Hoffmanova, W. Schmid, J. Drnovšek)
- Involve NMIs and DIs in paying attention to the delivered services and to make a clear distinction between calibration and testing activities





Inputs for discussion...

Thank you for your attention!