

TC-Chair Annual Report 2013/2014

TC-MC

30 May 2014



1. General Aspects

The Technical Committee for Metrology in Chemistry (TC-MC) and its four Sub-Committees (SCs) for Inorganic Analysis (SCIA), Organic Analysis (SCOA), Electrochemical Analysis (SCEA) and Gas Analysis (SCGA), are very active in EURAMET comparisons and projects. A big amount of work is also carried out in Joint Research Projects (JRP) in the framework of the European Metrology Research Programme (EMRP). The seventh meeting of EURAMET TC-MC was held in Teddington, Great Britain, jointly hosted by NPL and LGC, from 3rd to 7th February 2014. All the four SCs had separate parallel meetings on the 5th of February and the TC-MC plenary meeting was held on 6th–7th February. About 80 representatives from various European NMIs/DIs participated in these meetings. Two extra days on 3rd and 4th February 2014 was reserved for the periodic meetings of EMRP projects.

Dr. Nilgün Tokman (Tubitak UME) was nominated as the new convenor of the Sub-Committee for Inorganic Analysis in the plenary meeting. She replaces Paola Fiscaro (LNE), who had acted as the convenor of this SC for four years (two mandates).

2. Projects

There are currently 11 active projects; they are all comparisons and mainly carried out in the field of gas analysis. Detailed information on the projects is given in the TC-MC project webpage. In 2014 4 new projects were identified.

Year	project started	completed projects
2003	5	4
2004	4	3
2005	5	4
2006	8	3
2007	4	4
2008	4	3
2009	3	3
2010	3	4
2011	9	8
2012	-	1
2013	2	3
2014	4	

3. Comparisons

7 EUROMET.QM Key Comparisons and 9 Supplementary Comparisons are registered in the BIPM KCDB:

EUROMET.QM-K1.c: completed, results available
 EUROMET.QM-K3: completed, results available
 EUROMET.QM-K4: completed, results available
 EURAMET.QM-K4.1: completed, results available
 EUROMET.QM-K17: completed, results available
 EURAMET.QM-K12: completed, results available
 EURAMET.QM-K26.a: ongoing
 EUROMET.QM-S1: completed, results available
 EUROMET.QM-S2: completed, results available
 EUROMET.QM-S3: completed, results available
 EURAMET.QM-S4: completed, results available

EURAMET.QM-S5: completed, results available
 EURAMET.QM-S6: completed, results available
 EURAMET.QM-S8: completed, results available
 EURAMET.QM-S7: ongoing
 EURAMET.QM-S9: ongoing

About the 80% of such comparisons is carried out in the gas field.

4. CMCs

A review of new claims as well as a re-review of a range of existing claims was carried out under cycle XV of the CMC claim period. A number of claims belonging to category 4 (Gases) referring to natural gas matrix underwent to the mandatory review, as decided by the relevant CCQM Working Group (KCWG) on 2013. The files and accompanying documents were received by the relevant SC convenors and discussed and evaluated by the SCs and appointed reviewing experts from different NMIs, already prior to the meeting. The evaluation was completed during Sub-Committee meetings on the 5th February 2014. 77 new and 143 revised and re-reviewed claims (22 of which were withdrawn) have been proposed by 16 NMIs and DIs from 14 countries covering 12 categories (from 1 to 12). In addition, 14 claims on natural gas to be revised, coming from 2 NMIs, did not pass the intraregional review and will have to be greyed out from the CMC database.

The complete set of CMCs after the intra-regional review was sent for inter-regional review on the 14th February 2014, together with all the relevant additional information, within the deadline fixed by the CCQM KCWG.

During the inter-regional review all the claims were subdivided into Fast Track (requiring minor modifications) and Non Fast Track (requiring major modifications and supplementary supporting evidence). All the EURAMET claims, except for one, were classified as Fast Track and are presently undergoing the final review before their publication in the BIPM KCDB.

EURAMET experts are currently taking part in the inter-regional revision process of claims from APMP, AF-RIMETS, COOMET and SIM.

5. Activities of the Sub-Committees

Meetings of all Sub-Committees were conducted in the same week of the TC-MC plenary meeting in Teddington, on the 5th of February 2014. The work in the SCs deals with CMC claims, both new and revised ones, and on EURAMET and EMRP projects.

A review of new claims as well the obligatory re-review of a range of existing claims was carried out under cycle XV of the CMC claim period and completed during the SC meetings.

During the meetings, running EURAMET projects, together with proposals for new ones were discussed in details in all SCs. In addition, discussions were carried out also on running EMRP projects, new EMRP projects and also proposals for upcoming EMPIR call on Metrology for Industry, that had been launched a few days before the meetings.

6. Participation in EMRP and EMPIR

The ongoing European Metrology Research Programme (EMRP) remains a dominant factor in the work and perspectives of TC-MC, which continues to be strongly involved in the EMRP process. TC-MC members participate in about 15 running projects in all the EMRP research fields, i.e. "Energy", Metrology for Environment", "Metrology for Industry", "Health", "SI broader scope", New technologies. In addition, the EMRP call of 2013 with the two Targeted Programmes (TPs) on "Metrology for energy", and "Metrology for environment" was very successful for the NMIs/DIs involved in metrology in chemistry, particularly for the TP "Metrology for environment" where more than one half of the financed projects are chemistry related ones.

Periodic meetings of the JRPs ENV05 "OCEAN-Metrology for ocean salinity and acidity", ENV08 "WFDtraceability – Traceable measurements for monitoring critical pollutants under the European Water Framework Directive (WFD-2000/60/EC)", HLT05 "Metallomics – Metrology for metalloproteins", SIB09 "ELEMENTS - Primary standards for challenging elements" were carried out on 3rd and 4th February in Teddington prior to the TC-MC meeting.

Chemical aspects related to the upcoming EMPIR call on Metrology for Industry” were addressed during the TC-MC plenary meeting. Only a few topics were presented and discussed, due to the huge commitments of the NMIs and DIs in the ongoing EMRP projects.

7. Meetings

TC-MC annual meeting:

3rd to 7th February 2014 (sub-Committees and TC-MC plenary meeting) in Teddington, Great Britain.

Highlights:

Reports on activities of:

- CCQM/CIPM/JCRB, *Robert Kaarls, Secretary of CIPM, Past President of CCQM*
- Metrology in chemistry at BIPM and CCQM strategy update, *Robert Wielgosz, Head of BIPM Chemistry Department*
- EURACHEM, *Bertil Magnusson, SP, EURACHEM Chair*
- EURAMET, *Kamal Hossain, EURAMET Chair*
- EURAMET TC-MC Sub-Committees, *Francesca Durbiano, Nilgün Tokman, Béatrice Lalere, Hugo Ent*
- CCQM WGs, *Francesca Durbiano, Marina Ricci, Robert Wielgosz, Mike Sargent, Alex Shard,*
- SIM Chemical Metrology Working Group, *Steve Wise, SIM Chemical Metrology Working Group chair*

Other issues:

- EMPIR and towards EMC, *Jörn Stenger, EURAMET Vice-chair, and Bernd Güttler*
- EURAMET Task Groups on Health and Environment, *Hans Koch and Andrea Merlone*
- Chemistry related topics for the upcoming EMPIR call on Metrology for Industry
- Designation of the EURAMET representatives in the CCQM KCWG

8. Issues

- CMCs review process between RMOs: great commitment of EURAMET experts
- Re-review process of existing CMCs sometimes exceeding new CMCs
- Need to organise new comparisons to support CMCs based on old KCs; need to established formal rules for comparisons that are not regional SCs nor KCs.
- Availability of final reports of comparisons to underpin CMC claims
- Implementation of the Core Competence approach to the inorganic and gas analysis field
- Differences between calibration and testing: activities of NMIs and DIs to realise traceability to SI and disseminate the units
- EURAMET DIs: needs of clarification of roles and responsibilities of NMIs and DIs inside some European countries; need of stricter cooperation with TC-Q for QMS related issues.

9. Strategic planning and 10. Outlook for 2014/2015

- Participation in future EMPIR projects
- Organisation of EURAMET comparisons
- Discussion about CMCs and intra-regional review of Cycle XVI claims
- Organisation of 2015 meeting in Malta