



AFRIMETS
Intra-Africa Metrology System
Système Intra-Africain de Métrologie



2019 TC-EM report

Presented by:

Alexander Matlejoane

11 July 2019

CCEM Issues of Importance to TC-EM

- The CC-EM WGRMO at the 2019 meeting decided that:
 - The “Electricity and Magnetism Supplementary Guide for the submission of CMCs” will be updated to include examples of matrices.
 - If a small number of CMC lines are delaying approval of a CMC batch, the reviewing RMO TC chair shall notify the submitting RMO chair, and if they cannot resolve the issue they should notify the WGRMO chair.
 - Any CMC reviews already started in the old system will be finalized and imported to the new system on completion of the review process.
 - RMOs should continue with the CMC review process as usual, however they should check with the KCDB Coordinator before submitting CMCs for review.
 - A Draft B report can be used as evidence to support CMC claims.
 - RMO TC Chairs must report at the next CCEM meeting on how their respective RMOs complies to the required 5 –year quality system periodic review.

CCEM Issues of Importance to TC-EM

- The TC-EM response is:
 - AFRIMETS TC-EM already conducted a training workshop on how to document CMCs based on use of matrices.
 - There will be future refresher training workshops during the upcoming meetings.
 - AFRIMETS TC-QS to ensure that NMIs comply to a five year quality system review interval.
- For the region, the most important plan for the next period is:
 - Completion of AFRIMETS.EM-S2 (DMM Comparison), that will cover a wider range of CMC claims.
 - Attendance of “Optimizing CIPM MRA-the KCDB 2.0” course scheduled for November 2019 at BIPM.

Comparison plan review

Year	Identifier	Description	Participants	Pilot	Status
2015	AFRIMETS.EM-S1	DC resistance at 1 Ω , 10 Ω , 100 Ω , 1 k Ω and 10 k Ω	NMISA, LPEE/LNM, DEF-NAT, KEBS, NIS, SIRDC-NMI, UNBS, ZABS	NMISA	Draft A approved
2017	AFRIMETS.EM.RF-S1	RF attenuation	NMISA, NIS, DEF-NAT	NMISA	Results published
2019	AFRIMETS.EM-S2	Digital Multimeter, ACV, ACI, DCI and DCV	NMISA, LPEE/LNM, DEF-NAT, KEBS, NIS, UNBS, NMIE, SIRDC-NMI, ZMA	NIS	Draft protocol to be circulated amongst participants in September 2019
2020	AFRIMETS.EM-K?	AC Power and energy	NMISA, LPEE/LNM, DEF-NAT, KEBS, NIS	NIS	Planned
2021	AFRIMETS.EM-S?	AC-DC transfer	NMISA, DEF-NAT, NIS, NMIE	NMISA	Planned
2022	AFRIMETS.EM-S?	DC & AC High Voltage DCV and ACV	NMISA, NIS, LPEE/LNM, DEF-NAT	NIS	Planned
2023	AFRIMETS.EM-S?	Radio Frequency power	NMISA, NIS, DEF-NAT	NMISA	Planned

Update on AFRIMETS.EM-S1 comparison

Draft A provisionally approved by TC-EM pending implementation of the following:

- Characterization of the resistors at different nominal currents since there are some participants who did not use the nominal currents stated in the technical protocol.
- The pilot will re-evaluate results used for establishing drift of travelling standards.
- Results should be stated in terms of deviations from the Comparison Reference Values (CRVs).
- Correction of the measurement methods to correspond with submitted reports from participants (KEBS and LPEE/LNM).
- Evaluate effect of the uncertainty compounded as associated with drift correction of the reported values by participants.
- Recalculate the CRV using the mean results of pilot laboratory, and use appropriate formula for calculating the uncertainty of the CRV.

2019-2022 TC-EM executive committee members

- **Chairperson:** Alexander Matlejoane, NMISA, South Africa
- **Vice chairperson 1:** Mohammed Helmy Abd El-Raouf, NIS, Egypt
- **Vice chairperson 2:** Abdelkrim MALLAT, DEF-NAT, Tunisia
- **Secretary:** Abdellah ZITI, LPEE-LNM, Morocco
- **Vice secretary:** Hala Mohamed Abd El Megeed, NIS, Egypt