

The activities carried out by SADC MET over the period under review are summarised below.

1. SADC MET TC-1

Terms of reference: Address all issues and deal with all actions arising from SADC MET's membership of the Joint Committee of Regional Metrology Organisations and the BIPM (JCRB).

Framework: Global recognition of calibration certificates issued by SADC NMIs requires participation of SADC NMIs in CIPM key comparisons, the organisation of SADC key and supplementary comparisons, compliance with ISO standard 17025 or equivalent and the verification of the claimed best measurement capabilities of regional NMIs by SADC MET.

Members: Mauritius, South Africa and Zimbabwe.

Chairperson: Mr Pieter de la Court (SIRDC, Zimbabwe).

Last meeting: 20 April 1999, Arusha (Tanzania)

The Regional Coordinator attended two JCRB meetings, one in July 1999 in Chalotte (USA) and the second in March 2000 in Gaithersburg (USA).

A second meeting of the JCRB in July 1999 was necessary to put the final touches on the International Mutual Recognition Arrangement (MRA) to be signed by National Metrology Institutes (NMIs) in October 1999. Concerns by the US State Department had to be addressed in the final wording, because the Director of the National Institute for Standards and Technology (NIST) would be signing as an official US Government member, being a political appointee. The version finally agreed to had the support of all the participants.

A further issue receiving a lot of attention was the format in which the measurement capabilities submitted for recognition by NMIs had to be presented. Agreement on this format was also reached and a sample spreadsheet in the required format was received by e-mail soon after the meeting. It can, however, be expected that the agreed format will still undergo further standardisation in each specialised area over time.

The NML (South Africa), which intended to submit its measurement capabilities to SADC MET soon after the signing of the International MRA, had to convert its claimed measurement capabilities into the new format and submit them together with evidence of its quality system to the metrology organisation of its home region (SADC MET) for scrutiny and verification.

A SADC MET TC-1 panel consisting of representatives of the TC-1 member countries (Zimbabwe, Mauritius and South Africa) was assembled and consisted of Mr P de la Court (Zimbabwe) as chairperson and Mr V Facknat (Mauritius) as member. South Africa did not want representation on the review panel, since its own NMI's measurement capabilities were being scrutinised. The SADC MET TC-1 panel was assisted by a team of international observers from other major metrology regions (EUROMET, APMP and SIM). They were Dr P I Espina of NIST (USA), Dr J Gardner of CSIRO (Australia) and Dr J Makepeace of NPL (UK).

Once the agreement of the appropriate SADC MET panel (TC-1) had been obtained, the corrected and verified NML measurement capabilities were forwarded to the BIPM with a covering letter indicating the review panel's support for the NML application. The deadline for this action, if the NML wanted its measurement capabilities in the MRA database together with the first group of NMIs, was 31 December 1999.

The BIPM has since circulated these documents, together with similar documents from other regional metrology organisations, to all JCRB members for scrutiny. A debate on the submitted data will take place and a decision on each submitted application will be reached at the next JCRB meeting, which is scheduled for March 20-21, 2000 at NIST (USA). A report on the attendance of this meeting will be presented by the Regional Coordinator at the SADC MET meeting in Gaborone in April 2000.

With the inclusion of the NML (South Africa) calibration and measurement capabilities (CMCs) in the international MRA database, the SADC region will have achieved the objective of having the capabilities of one regional NMI internationally recognised. SADC MET will then be in a position to extend this process to the other NMIs in SADC in a systematic way. Three processes will then have to happen in parallel to achieve this further objective:

a) In order to be able to participate in the international MRA, the other SADC countries have two options. They can either accede to the Meter Convention or they can apply to the BIPM for the status of an Associate of the General Conference of Weights and Measures (CGPM). The second option only exists since October 1999.

The processes involved in the first option could take several years, as they require the approval of the relevant political and Government structures in the country. It is also an expensive option, since the membership fee is comparable to joining other international organisations like ISO as a full member.

The text of Resolution 3 of the CGPM of October 1999, creating Associates to the CGPM, states that "A State or Economy wishing to become as Associate may do so by application to the Director of the BIPM, either directly or through its Embassy in Paris and by the payment of the first annual subscription." The process involved in the second option would thus seem to be satisfied by a letter from the line Department of the NMI to the BIPM, applying for the status of an Associate of the CGPM for the country and accompanied by the payment of the first annual subscription. According to information received from the Director of the BIPM, the annual subscription of all SADC countries would presently be in the lowest possible category, namely € 4284. When applying to the line Department to send the abovementioned letter to the BIPM, the NMI should simultaneously seek permission for its Director to sign the international MRA once the application of the country to become an Associate of the CGPM has been accepted by the BIPM. According to the Director of the BIPM, the process following the receipt of the letter and the payment by the BIPM will be short.

With a country accepted as an Associate of the BIPM and permission having been obtained for the Director of the NMI to sign the international MRA, the Director of the NMI can then send a letter to the Director of the BIPM, expressing the wish to sign the international MRA. The Director can do this at a mutually agreed occasion, without any additional financial obligation.

With a country having been accepted as an Associate of the CGPM and the Director of its NMI having signed the international MRA, the NMI can then proceed and submit its claimed calibration and measurement capabilities to SADC MET for scrutiny.

A SADC MET TC-1 panel will then conduct a peer review of the NMI to ascertain the correctness of the submitted claims. In case of discrepancies, it will then typically ask for some corrective actions and, once these are implemented, it will forward the original or modified CMCs to the BIPM, together with a letter of recommendation. The peer review panel will look for evidence that the claimed CMCs are in line with the results of intercomparisons, in which the NMI has participated, and that its laboratory quality systems comply with ISO standard 17025 or equivalent. Intercomparison evidence has to be based on either regional intercomparisons or bilateral comparisons with an NMI that is a signatory of the international MRA and that has its CMCs in the MRA database, like the NML (South Africa). Such intercomparisons have to comply with the applicable provisions of the international MRA.

The submitted CMCs will then be circulated amongst all member regions of the JCRB and a decision will be made at the next JCRB meeting on whether they will be accepted. If accepted, they will be entered into the MRA database and will from then on be recognized by all signatories of the international MRA.

It is hoped that at least some SADC countries will be able to embark on these steps over the next few years.

b) SADC MET member NMIs will have to gather evidence supporting their claimed CMCs by participating in as many SADC MET and bilateral intercomparisons over the next few years as possible.

c) SADC MET member NMIs will have to implement a laboratory quality system complying with ISO 17025 and will have to prove compliance with this standard (in terms of the SADC SQAM MOU) by third-party accreditation.

At present, there are plans, with the support of the PTB SQAM assistance programme, to conduct a new mass intercomparison, preceded by a training course focused on preparing participants for this regional exercise. The mass intercomparison has already been registered with the BIPM as a SADC MET key comparison. Countries unable to participate at this stage can prove their measurement comparability for mass at any stage later by bilateral comparisons with the NML (South Africa).

A pilot intercomparison for electrical resistance at the 10 k Ω level is still proceeding. The following countries have completed their measurements so far:

India, Mauritius, South Africa, Malawi, Zimbabwe and Tanzania.

Zambia still has to receive the intercomparison artifact. A preliminary report will be submitted at the SADC MET meeting in Gaborone in April 2000.

2. SADC MET TC-2

Proposed new

terms of reference :Participation in the implementation of a "SADC Resource Centre for Metrology Education" according to the guidelines agreed to jointly between SADC MET, SADC MEL and SADCA

Framework: At the first meeting of TC-2 it was agreed to form a joint SADC Resource Centre for Metrology Education at the NML (South Africa). This decision requires a proposal for a change in the terms of reference to be submitted at this SADC MET meeting.

Members: Tanzania, South Africa and Zimbabwe.

Chairperson: Mr Eddie Tarnow (NML, South Africa).

Last meeting of TC-2: 29 August 1998, Pretoria (South Africa)

Last meeting of joint task group: 29-31 March 1999, Harare (Zimbabwe)

Since the meeting of the joint SADC MET, SADC MEL and SADCA task group in Harare in 1999, which resulted in the formulation of a draft constitution incorporating the main SRCME operating principles, the main focus shifted to the creation of one of the national delivery arms of the SRCME, CMetSA in South Africa. This was required in order to prove that the regionally agreed principles could actually be implemented in one of the SADC member countries. With the recent formation of CMetSA and the clarification of the best operating structure for the SRCME, it is now possible to provide feedback to the joint task group and SADC MET TC-2 on the required small modifications to the draft SRCME constitution. The modified SRCME constitution will then be presented to SADC MET, SADC MEL and SADCA for approval. Full implementation will commence once this approval has been obtained. In the meantime, CMetSA will already provide a full programme of metrology training during the year 2000.

Between April 1999 and March 2000, the following metrology courses were presented through the SRCME, the Technikon Pretoria or CMetSA: