



**DRAFT: MINUTES OF THE 17th SADC MET COMMITTEE MEETING HELD AT
GABARONE (BOTSWANA), 20 MARCH 2014**

Opening:

The Deputy Chairperson, Mr. Shadrack Kajane opened the meeting by welcoming all the members and observers present. A special acknowledgement is given to the PTB and the OIML as well as the associate members Kenya and Uganda. Further special welcome was given to Mr Ndwakhulu Mukhufhi the CEO of NMISA who was attending the SQAM meetings for the first time.

ITEM	Action by
<p><u>1. Procedural Matters:</u> An attendance list was circulated to identify members and observers present. There were no official apologies noted.</p>	<p>Chair</p>
<p><u>2. Finalization of the agenda</u> The agenda was discussed and amended as follows: 1) It was proposed that another item be added before the Resolutions. Mozambique adopted and Namibia seconded. 10. Hosting of the SADC MET Secretariat was added to the Agenda.</p>	<p>All</p>
<p><u>3. Approval of the minutes of the meeting of the 17th meeting of the SADC MET Committee, Luanda, Angola 21 March 2013</u> The minutes were discussed and the adoption proposed. Zimbabwe adopted as the true reflection of the record and Mauritius seconded.</p>	<p>All</p>
<p><u>4. Matters arising from the Minutes and Resolutions:</u> The RC reported on the matters arising and the actionable resolutions</p>	<p>RC</p>
<p><u>5. Technical Reports Presentations:</u> <u>5.1 SADC MET Annual Report – The RC, Mr. Donald Masuku reports</u> <u>Meetings attended</u> The RC reported on the meetings attended during the year under review which included the following: 1. SADC SQAMEG meeting held during the SQAM meetings in Angola 2. The SADC TBT Annex workshop held in South Africa to review the amendments to the TBT Annex 3. The 7th AFRIMETS GA held in Lusaka, Zambia from 1-5 July co-hosted hosted by ZABS and Zambia Weights and Measures. Zambia stepped in to host the GA after Botswana withdrew the offer to host. SADC MET thanks Zambia for stepping in at short notice to host the meetings. SADC MET was represented by the Chair of SADC MET, the Regional Coordinator and TC 1 Chair who attended</p>	

the various WG meetings and the GA.

4. The Test and Measurement conference and SADC Regional Laboratories Association (SRLA) hosted by the NLA South Africa held in Johannesburg, South Africa. The RC gave a report on the SADC Water PT and committed to collaborate with the SRLA on matters relating to PT schemes
5. The APMP GA and the Developing Economies Committee held in Taiwan from 24-29 Nov 2013. SADC MET was represented by the Regional Coordinator and 4 WG Chairs from NMISA who participated in the various TC meetings and the DEC meetings. The DEC is responsible for helping address the needs of NMIs from developing economies, and to oversee and coordinate associated work programs. Currently the DEC is proposing the following programmes:
 - Awareness raising and stakeholder engagement
 - Metrology Academy programme
 - Needs assessment of DEC NMIs, and
 - The Instrument Bank

During the GA, KRIS Korea launched the Global Metrology Academy Project which is aimed at capacity building and training metrologists from developing countries in the various metrology parameters. For 2014 programme, three courses are planned in Mass and related quantities, Length and Dimensional, Thermometry and Humidity. KRIS has agreed to offer preferential consideration for applicants from SADC MET countries. Since SADC MET is not providing training courses, it was recommended that members should take advantage of this training programme and encourage your staff to apply. The info has been circulated to members.

Participation at JCRB and NCSLI

It was reported that due to budgetary constraints and other national commitments SADC MET Secretariat was not able to participate in JCRB meetings and the NCSLI meeting in 2013. However Dr Wynand Louw from NMISA as CIPM member will now attend the JCRB meetings and represent SADC MET where possible if the RC is not able to attend. The next JCRB meeting will take place in Paris from 26-27 March 2014.

CGPM Meeting

Members were informed that the 25th meeting of the General Conference on Weights and Measures (CGPM) will be held from 17-20 November 2014 in Versailles, France. The CGPM is made up of delegates of the Member states and the Associates of the CGPM. CGPM meets once every 4 years to discuss and examine the arrangements required for ensuring the propagation and improvement of the International System of Units, and decides all major issues concerning the budget and dotation of the BIPM. SADC MET members of the BIPM and Associates of the CGPM are encouraged to participate in these meetings.

The Instrument Bank

The instrument bank programme entails identification and use of instruments that are no longer used by larger NMIs but still in good

condition to be used by less developing NMIs which have need for such instruments. SADC MET TC 3 was requested to look at the feasibility of such a programme and how it can be implemented to benefit the less developed NMIs in the region.

Technical Work programme:

Intercomparisons

SADC MET as a Sub-RMO

The RC emphasized that SADC MET as the sub-regional metrology organization within AFRIMETS does not conduct supplementary and key comparisons. It can only organize bilateral comparisons, pilot studies and proficiency testing activities for SADC MET members. Members are therefore encouraged to participate in the AFRIMETS comparison and benchmarking activities and a full report of the current AFRIMETS comparison will be given by TC 1 Chair. He requested that any needs of bilateral comparisons be identified in advance when drawing up your accreditation schedules and coordinated through the SADC MET Secretariat for purposes of planning with the reference laboratories.

PT Schemes

SADC MET Water PT scheme

SADC MET runs the SADC Water PT scheme for the chemistry and micro-biology analysis of water sponsored by the PTB. There are no membership fees but labs pay a participation fee of US\$200 for Chemistry and US\$150 for Micro PT schemes. Currently 60 laboratories participated in the chemistry PT round provided by NamWater and 45 labs participated in the Microbiology PT round provided by BOBS after the Micro PT scheme was revamped.

An evaluation workshop follows each PT round and the 2013 Water PT Evaluation workshop was held in Kenya for the 9th Chemistry PT round and 5th Microbiology PT round. During the evaluation workshop training was conducted on control charts. The evaluation workshop was followed by the SADC WATERLAB Ass General Assembly.

During the GA it was agreed that after 10 years the PT scheme for Chemistry is now self-sustaining and that PTB is handing over the Chemistry PT scheme to the SADC WaterLab Association. This means that Chemistry participants of the evaluation workshops will now pay their own costs. PTB would however still continue to fully support the microbiology PT as it is still in its early stages. PT providers will also continue to be supported. The GA also finalized its work programme for 2013-2014. The next workshop will be hosted by ZABS in Lusaka, Zambia in November 2014.

SADC MET Website

The SADC MET Website has a "SharePoint" facility where members are able to upload info on the website using a password.

An instruction manual was sent to all member states together with your unique username and password. However it has been noted that there are still challenges for members to upload documents and the updates are done by the Secretariat. For more info log on to

www.sadcmet.org

World Metrology Day

World Metrology Day posters for 2013 with the theme “Metrology in Daily Life” were printed by the Secretariat with funding from PTB and distributed to SADC MET members.

Conclusion

Unfortunately not many activities were carried out during the period under review. SADC MET thanked PTB for the continued support of its programmes.

5.2 Report from the PMC Meeting - Mr. V Facknath reports

The PMC was held as planned on 17 March 2014 and was attended by the Chair of SADC MET, Vice Chair, The Regional Coordinator and the TC Chairs of TC1, TC3, TC 4 and TC 5. TC 2 Chair was unable to attend.

Key issues discussed include:

- SADC MET feedback report 2013 delivered by RC
- Review of SADC MET GA 2013 resolutions
- SADC MET Codes of procedure COP 002 Rev. 1: 27/10/08
- Importance to hold PMC meetings at least twice a year.
- Noted the reports from the Chairs of TC1, TC 2, TC 3, TC 4 and TC 5 and the draft work programme for 2014-15 Necessity to create an measuring instrument bank and the
- Importance of participation in AFRIMETS key and supplementary comparisons for the six Associates to the CGPM intending to submit CMCs in the KCDB of the BIPM.
- For accreditation purposes only, laboratories can participate in ILCs under bilateral or multi-lateral arrangements

There were several PTB project proposals submitted for funding

- TC 1: Support for Associates to CGPM - Approved
- TC 2: Proposal for metrology training – Not approved
- Proposal for metrology awareness and support to SMEs – Not approved

A workshop was held before the PMC meeting to discuss and review the TC 1 project proposal for the PTB Support for the six Associates to the CGPM to align it with the anticipated process of submission of CMCs to the key comparison database of the BIPM and to develop the terms of reference for the consultant. A full report will be presented by TC 1 Chair under agenda point 5.3.

5.3 Report by the Chairman of SADC MET TC 1 (S.Kajane/Kame)

Operational matters

During the reporting period the TC-1 Chairperson participated in Working Groups workshop/meetings held in during AFRIMETS GA in Zambia, July 2013.

Working Group Progress in 2013/14

- A proposal for support for Associate to CGPM by PTB was made and consequently provisionally approved.
- TC1 is now chaired by Mr. Kame following Mr. Kajane's elevation to the office of Vice Chairman of SADC MET.
- Participation in WG meetings at AFRIMETS is improving; however, more can still be done. Member states are encouraged to participate in these working groups.
- A detailed list of the working group progress and a list of all the Working Group Chairs are discussed and is available on the presentation.

Conclusions

The period under review was progressive with some few challenges encountered. The challenges are mostly relating to slow progress on running inter-comparisons, customs related issues and unavailability of comparisons supporting the implementation of laboratory quality systems. Inter-comparisons at SRMO level should be enhanced and participation in AFRIMETS activities particularly WG meetings should be encouraged. Engagements in advance with Custom Office at individual member state level are also crucial in addressing the aforementioned Customs' challenge.

Proposed way forward

Enhanced loop inter-comparisons and bi-lateral inter-comparisons.

5.4 Report by the Chairperson of SADC MET TC 2 (Q. Lenka)

During the period April 2013 – March 2014, SADC MET Secretariat submitted a proposal to SADC PTB project requesting support for metrology trainings/activities in the region. Unfortunately the proposal was not approved; hence no training activities were undertaken in the year under review. The document outlining education and training needs for Member States is available for further information.

5.5 Report by the Chairperson of SADC MET TC 3 (V Kanama)

Introduction

Role of SADC MET TC-3, promoting the establishment and strengthening of National Metrology Institutes (NMI's) and producing project proposals for submission to SADC Governments and potential funding agencies on the establishment and strengthening of National Measurement Standards in those SADC member states, which currently have no such facilities or have inadequate metrology facilities.

Metrology development

No information were received from the other SADC MET Members, but he can report that the DRC NMI is developing - Calibration Laboratory in Lubumbashi / Katanga in the field of mass (weighing instruments calibration) and pressure calibration in Kinshasa.

Infrastructures and accreditation status

Most of NMIs are accredited by SADCAS, SANAS (NMISA), MAURITAS and COFRAC (DRC OCC) in the fields of Mass, Volume, Temperature,

Dimensional.

5.6 Report by the Chairperson of SADC MET TC 4 (V Mundembe)

Mr. Mundembe indicated that the mandate for SADC MET TC4 was to deal with issues of developing ingredients that could help Member States in the areas related to metrology legislation in the region. He informed members that Dr Eino Mvula resigned from the Namibia Standards Institute and as a result he has replaced Dr Mvula as the Chair of SADC MET TC 4. During the period under review the new Chairperson of SADC MET TC4 sent out requests to Member States to report on new developments in terms of the adoption and/or harmonization of metrology legislation in their respective countries. Unfortunately not many member states responded and the information from the countries that responded was discussed.

- Zimbabwe – no new developments as far as the Scientific Metrology Bill is concerned and also no new developments in Mozambique.
- Namibia – New Metrology Bill (based on SADC Model) still with the Legal Drafters, however Promulgation of Standards Act has enabled adoption of OIML R-76 as a Namibian Standard. This will enable making reference to this Standard in Legal Metrology Technical Regulations. NSI Metrology TC is active in the adoption of OIML Recommendations to become Namibian Standards.

5.7 Report by the Chairperson of SADC MET TC 5 (G Albasini)

Metrology Developments

Member states are carrying out activities to promote awareness on the importance of metrology, in particular the calibration of the instruments used in industry. The awareness has been done in various manners such as seminars, distribution of World Metrology Day posters, brochures, etc. However, in most countries, the small and medium enterprises are still facing difficulty in getting their instruments calibrated, due to the cost of the service or because they don't understand the increased value on the calibrated instrument.

Celebrating World Metrology Day on 20th May

An update on the World Metrology Day Celebrations from Angola, Botswana, Lesotho, Mauritius, Seychelles, and Zimbabwe was discussed. The celebrations included seminars, presentations, distribution of WMD posters, general metrology awareness through radio/TV interviews etc. Detailed activities are listed under each country report in agenda item 6.

No reports were received from the following countries – Namibia, Tanzania, Zambia, South Africa and Malawi.

He requested all members to report any activities that dealt with the awareness of metrology to be sent to the TC 5 Chair.

Future developments

The theme for 2014 World Metrology Day is “Measurements and the global energy challenges”.

6. Country Reports: Highlights

The Chair asked each country to be brief as the meeting was scheduled to finish in good time.



6.1 Angola
Presented by
Homar Simão

Metrology Activities (SADCMET)

IANORQ is not yet providing any calibration services due to constraints related with technical infrastructures. To cover these services IANORQ registered some private companies that perform the calibration of equipment. In the scope of industrial metrology, the registered companies calibrated the following equipment:

- Pressure: 2085 Equipment
- Mass: 506 Equipment
- Electric: 573 Equipment
- Flow: 133 Equipment
- Pressure (Valves): 1215 Equipment
- Temperature (and humidity): 1215 Equipment
- Force: 517 Equipment
- Dimensional: 628 Equipment
- Volume: 340 Equipment

About 20% of these equipment were calibrated in the premises of the Angolan offshore, with special highlight for the safety valve and/or the pressure relief.

World Metrology Day

This day was celebrated as follows:

- The posters produced by SADCMET was distributed to selected institutions with a cover letter introducing the subject of metrology and the objective of World Metrology Day.
- One day seminar was presented at “Agostinho Neto University”, and was attended by more than 100 students and 5 teachers.
- Another one day seminar was presented at CINFOTEC (Integrated Vocational Training Centre) and this was attended by about 120 people, among students and industrial businessmen.
- There was also an interview with the media and an article about the importance of metrology was published in the Angola Press.

Infrastructure

Angola developed a set of actions, which includes the acquisition of a plot of land with area of 20 000 square meters for the new IANORQ headquarters building. IANORQ already signed with engineering and construction companies and also hired a Portuguese company that will be supporting the institute in the definition and design of metrology laboratories building.

Perspectives/Future developments

The goal in 2014 is to obtain approval from the central Government to add the building of the new headquarters with several laboratories, on the 2015 budget and to continue creating metrology awareness for industry and laboratories. Angola is also hoping to increase the number of employees in the metrology department.

Quality System & Accreditation

Botswana was accredited with the ISO/IEC 17025 Quality System in the areas of Temperature, Dimension, Pressure and Mass.

Calibration Services – various

Various calibration services were provided during the period under review and the full list is available on the presentation.

Staff development

The Labs in Botswana have a staff compliment of seven, and they are all trained in ISO/IEC 17025 related courses and metrology courses. One of these staff members are also trained in advanced certification for Bio-Safety cabinet's validation.

Future developments

The future developments were discussed and they were grouped in terms of 2014/15, 2015/16. The full list is available on the presentation.

Challenges

The main challenges that Botswana faces are:

- The need for upgrading their membership to CGPM by 2015 (Fees)
- Unavailability of measurement comparison schemes
- Lack technical competence to participate in the implementation of CIPM MRA- Submission of CMCs

They are trying to combat these challenges by evaluating funding options and engaging in multilateral/bilateral comparisons.

**6.2 Botswana
Presented by
Tebogo Kajane**



6.3 DRC
Presented by
Kanama Viki Mbuya

New Developments

The Office Congolais de Controle (OCC) is in the process of purchasing a new mass comparator (resolution 0,01 mg) and working standards weights Class E2 have been purchased in order to improve laboratory capabilities of calibration (Class F1). Calibration Laboratory in Lubumbashi / Katanga (Mining Province) will be launched as an attached Laboratory to the Laboratory of Kinshasa in April 2014. For the first time, this laboratory will provide services in the field of mass (weighing instruments calibration).

Traceability

The measurement standards are calibrated by NMISA (South Africa) in the fields of Mass, Volume, Temperature and Length and by LNE (France) in the field of Force.

Measurement capabilities and calibration services

The measurement capabilities and calibration services were reported on and a full list is available on the presentation.

Inter-comparisons

Inter-comparisons were done in the field of Mass, Mass/Weighing Instruments, and Volume. The full list is available on the presentation provided.

Training

DRC has a staff component of seven - five people in Kinshasa under Scientific and Industrial Metrology and two people in Lubumbashi under Industrial Metrology. Metrologist in volume and temperature received in-house training by South African Experts respectively in September and October 2013.

WMD and regional activities

World Metrology Day was celebrated at Kinshasa by the speech of Industry Ministry and with a conference concerning the topic of the 2013 World Day.

DRC attended the AFRIMETS meeting in Lusaka / Zambia from 1- 5 July 2013.

Future Goals include:

- Adherence to CGPM as associate member
- Launching pressure calibration services at Kinshasa Metrology Laboratory and launching of Metrology Laboratory at Lubumbashi / Katanga province.

OCC is preparing to meet challenges of accreditation in order to build a very strong measurement quality infrastructure that will support service and manufacturing industries.



6.4 Lesotho
Presented by
M. Rabolinyane

The Department of Standards and Quality Assurance (DSQA), in the Ministry of Trade and Industry, Cooperatives and Marketing is responsible for the establishment of metrology infrastructure in Lesotho.

Lesotho is engaged in several activities to improve its metrology infrastructure, which include among others, awareness activities, procurement of legal metrology equipment through PTB’s technical assistance, and formulation of technical regulations.

World Metrology Day

Lesotho celebrated 2013 World Metrology Day (WMD) by undertaking the following activities:

- Holding a workshop for small enterprises
- Presenting on Introduction to metrology to High School students
- WMD speech was delivered by the Deputy Principal Secretary of the Ministry of Trade and Industry, Cooperatives and Marketing, and
- Distribution of 2013 WMD posters and brochures to stakeholders including academia, private sector and Government Departments.

Equipment – procurement of legal metrology equipment through PTB Technical Assistance

Following submission of a proposal to improve metrology infrastructure to PTB, procurement of legal metrology equipment commenced in August 2013. Equipment included MS 603s Precision Balance, ICS425k – 35LA, SQC 14/16 SQC – controller for 1 balance, KKC 150 floor scale and ICS 429d weighing terminal. The cost of equipment is approximately 19,000USD.



6.5 Malawi
Presented by
TC Senganimalunje

Developments

- The draft Metrology Bill which is to replace the current Act, the Weights and Measures Act (Chapter 48:04), is under consideration by the Ministry of Justice and Constitutional Affairs. It is hoped that the bill will be tabled in the National Assembly before the end of the year.
- The Malawi Government, with financial assistance from the EU/UNDP and technical assistance from UNIDO, is undertaking a four year project (2012-2016) to improve the metrology and infrastructure in Malawi. Support includes equipment, technical training and quality management systems implementation.
- During the period under review the MBS has procured equipment for calibration in the area of pressure (up to 60 bar pneumatic and 700 bar hydraulic).
- To spearhead the process of accreditation of testing and calibration laboratories, the MBS appointed a Management Systems Coordinator. Further at the Departmental level, an officer has been as a Quality

Manager to manage the day to day quality issues.

International liaison/meetings

Malawi attended the Water Proficiency Testing Evaluation held at the Boma Inn in Nairobi, Kenya on 11th – 13th November 2013.

World Metrology Day

The period under review Malawi commemorated the World Metrology Day in the following manner:

- **Publicity** – Press Releases; Air Jingles; Mounting of Banners; Interviews; Branded golf shirts.
- **Awareness** – Educational presentations on legal and non-trade measuring instruments
- **Commemoration event at a District Local Council Grounds** – Comedy; Presentations from Director General of MBS, District Commissioner and Traders Representatives etc.

Challenges

MBS are facing various challenges including:

- Delay in enactment of the new Metrology Bill continued to be a big challenge as effective Metrology controls could not be implemented. As stated in this report the bill is in the hands of Ministry of Justice and Constitutional Affairs for review before submission to the National Assembly.
- The MBS mass laboratory lacks proper equipment
- Technical capacity challenges due to staff turnover
- Lack of proper infrastructure despite plans to extend the scope of calibration.

However MBS is optimistic that the EU/UNDP/UNIDO Project will address this.

Developments in 2013:

MSB held discussions with the Ministry of Industry to look at the model for metrology for Mauritius:

- Option 1- Merging of scientific, industrial and Legal metrology to create an NMI - (Frozen due to the high investment costs involved)
- Option 2- Modernization of the scientific and industrial metrology Units (Under Study)
- Meetings- MSB/ BOI / MOI / MOF / to ensure investments required and availability of calibration facilities to the Medical Industries
- Investment Plan submitted for upgrading of Metrology facilities
- Purchased new sets (External micrometers, Dial gauges, Optical parallels

World Metrology Day Celebrations

A half day seminar at MSB in collaboration with (LMS & METEO office) was arranged and the presentations included:

Measurement challenges in weather forecasting, measurements in the ecological footprint for sustainable



**6.6 Mauritius
Presented by
Mr Veersingh
Facknat**

development, Measuring instruments and their behavior, Impact of measurement (past, present and future) and Legal metrology in daily life.

Other activities included electronic scrolls on importance of metrology, distribution of WMD posters to selected organizations, general awareness created through news channels on Radios/TV/newspapers and interviews/question time on national radio.

International liaison/meetings

Mauritius attended the SADC MET GA & SADC STAN GA Meetings (Angola/ March 2013) as well as the AFRIMETS GA (Zambia / June 2013).

Challenges & projects under discussions:

- Modernization of all labs. and establishment of higher CMCs so as to meet the demands of High-Tech Industries , conformity assessment bodies and Submission of CMCs in the KCDB.
- Achieving ILAC recognition.



**6.7 Mozambique
Presented by
Geraldo Albasini**

Calibration Services

No upgrade in 2013, maintained the 6 fields - Mass, Temperature, Volume, Length, Electrical and Pressure.

Personnel and Infrastructures

The Mozambique staff component grew from 15 to 21. The new premises were officially opened by His Excellence the president of Mozambique Mr. Armando Emilio Guebuza, in September 2013.

Equipment and calibrations

New equipment was purchased via the EU/UNIDO funding, and 611 instruments were calibrated in 48 companies.

Accreditation

The Mass and Temperature labs are ISO/IEC 17025 accredited. The Mass (balances) and Temperature (digital thermometers) were accredited by IPAC in March 2012 and renewed in 2013. In preparation for extension (Mass pieces, temperature installations and small volumes).



6.8 Namibia Presented by

New Developments

- Accreditation of Mass metrology laboratory by SADCAS. The Accreditation Certificate was handed over to the NSI at a Gala Dinner that coincided with the commemoration of the world Metrology Day. The event was officiated by the Minister of Trade and Industry.
- Live TV Interviews (Good morning Namibia & Business Today) and Radio interviews were conducted as part of awareness strategy.
- Posters and T-shirts were printed. A Metrology comic play was successful in raising awareness.
- Recommendation for extension of Mass metrology Range, Weights from 1mg- 20kg and Electronic Balances from 0 to 1500 Kg, December 2013
- Recommendation of extension of scope in Volume Metrology, up to 50 litres December 2013

Calibration services

During the reporting period the NSI provided calibration services to industry in the fields of mass, temperature and volume. Approximately 1400 Calibration Certificates were issued between January 2013 and January 2014. This represents a doubling in industrial calibration work load over the same period from the previous year. Additional information on the scope of calibration services are available on the presentation.

Inter-comparisons

Over the period under review, the Metrology laboratory participated in various inter-laboratory comparisons (information on presentation).

Accreditation

Complies with the requirements of ISO/IEC 17025:2005 Management Systems. NSI mass metrology continues to maintain its accreditation and the laboratory has been recommended to extend its accreditation scope to cover Volume metrology as well for accreditation following the most recent SADCAS surveillance assessment carried in December 2013.

Training and staff competence/development

The NSI Metrology continues to ensure staff competence, through its capacity building program with the support from the UNIDO, AFRIMETS, SIDA and NMISA and NLA-SA. NSI staffs were trained in the following areas:

- a. AFRIMETS workshop on publishing of Calibration and Measurement Capabilities (CMCs) Lusaka Zambia 2013
- b. Volume practical attachment NMISA 8-12 July 2013
- c. UNIDO-KRISS Training Program in Metrology; 15-26 April 2013

Participation in international/regional meetings

The NSI participated at the SADC-SQAM meetings held 17-22 March 2013 in LUANDA- ANGOLA and the 7th AFRIMETS General Assembly and Technical Committee Meetings for Mass and related quantities, Length and Thermometry held in Lusaka, Zambia from 1-5 July 2013.

Future Development

Focused on the preparation of the temperature laboratory for assessment and an extension of the laboratory operations in that field. The Laboratory also plan to make significant progress in the implementation of the CIPM-MRA by submission of its mass lab CMCs for publication, with the support of results from AFRIMETS.M.M-S6 ILC. The World Metrology Day will again be commemorated, but this time the plan is to take the activity outside Windhoek to other regions of the country.

Development

The Seychelles Bureau of Standards is in the final stage of finalising the new Metrology Act which will cover the legal framework for the establishment of the National Measurement Standards and National Metrology Services. The National Metrology Laboratory has obtained calibration ranging from -20c to 200c it will enable NML to calibrate thermometer to the range aforementioned and participate intercomparison with SADAC countries.



6.9 Seychelles did not attend the meeting but the report was submitted to the secretariat

Traceability of measurement

The reference standards used by the NML are traceable to international standards. They are calibrated by laboratories recognized by the BIPM to ensure reference standards are traceable to the international systems of units. They have to be recalibrated according to the established calibration schedule. Dead Weigh Testers were calibrated in 2013.

Calibration Services

NML provides calibration services to local customers in the fields of pressure, temperature, volume, mass, length, torque and dosimeter. A total of 127 requests for calibration services were received during 2013. Additional information on the calibrations carried out can be found on the presentation.

Accreditation Status

The Mass laboratory successfully underwent its third surveillance assessment under the ISO/IEC 17025 on 2nd October 2013 conducted by Assessors from SADCAS in partnership with SANAS. Since being issued with its certificate of accreditation on the 4th of November 2010, the laboratory has been striving to find ways to improve its processes and measurement capability. Better equipment and procedures were put in place and

this contributed to the success of the surveillance assessment whereby continued accreditation was recommended. In addition NML has two technical signatories.

Inter-comparisons

The laboratory managed to participate in inter laboratory comparisons to extend the scope of mass from 1kg to 20kg. They participated in an inter-comparison in the field of volume with SADAC countries and the results were good. They also participated in inter-comparison in the field of radioactivity with European countries with good results.

Training and development

One NML staff has started pursuing a university degree in Electro-mechanic 2013.

NMISA Key Technical Programmes

The technical activities of the NMISA are structured into technical divisions, which are supported by a Research and Development portfolio for cross-cutting projects. The various divisions within the NMISA gets listed (further information on the presentation).

CIPM Related Activities

The past year, the NMISA has participated or is currently participating in 27 key and supplementary comparisons and has 381 CMCs accepted in Appendix C of the KCDB.

Technical activities of laboratories

The various technical activities of the NMISA labs are provided and can be viewed on the presentation.

International Technical Cooperation

The NMISA is very active in the SADC region and the rest of Africa and during 2013 visited ZABS (Zambia), NMIE (Ethiopia), KEBS (Kenya), NSI (Namibia), SWASA (Swaziland) and SON (Nigeria). Outside Africa, technical experts visited INMETRO (Brazil), PTB (Germany), KRISS (Korea), NPL (UK) and NIST (USA).

Collaboration projects are currently underway with INMETRO (biodiesel), NMIE (accreditation of laboratories in electricity, mass and pressure), KEBS (pesticide analysis) and the Dimensional laboratory is developing a Double Ended Interferometer with NIS (Egypt) using a phase stepping technique.

Dr Wynand Louw of the NMISA was elected to the CIPM in May 2013. NMISA also hosted the CCQM and IMEKO conferences in Pretoria and Cape Town respectively.



**6.10 South Africa
Presented by
Oelof Kruger**

Accreditation status

NMISA follows the principle of a Total Quality Management System (TQMS), based on ISO 17025, with most of the laboratories accredited by SANAS to ISO 17025 and some also accredited to ISO Guide 34.

The scope of accreditation is checked against the CMC claims by the technical assessors (technical assessors are from NMIs from other RMOs). A list of the accreditation schedule at the NMISA is available on the presentation.

Accreditation scopes achieved are used to support the NMISA's existing and new measurement capabilities. These capabilities are published on the website of the BIPM in the Key Comparison Database (www.bipm.com).

Training and development of staff

The sustainability of NMISA's activities and its ability to deliver measurement solutions to South Africa and the region lies in its staff. Human capital is the key asset of the NMISA, and their development and the creation of a pipeline of future metrologists are high on the organisational agenda. The highlight of the year has been the appointment of the new CEO of NMISA, Mr. Ndwakhulu Samuel Mukhufhi who started his duties on 1 September 2013.

The organisation has grown in size as projects to develop and support national measurement standards have grown in number and depth over the years. With measurement standard demands on-going, the organisation will continue to grow and expand to meet new and more stringent requirements, as well as putting plans in place to move into new metrology areas.

NMISA has hosted and trained 13 metrologists from several NMIs in the region including DRC, Namibia, Mozambique, Zambia, Tanzania, Kenya, and Ethiopia etc. who have come for attachments, calibrations of national standards and inter-comparisons.

Future Plans

- The NMISA has embarked on a feasibility study for a new building and laboratories. Budget allocation of R150m was set aside for the 2014/15 financial year to purchase new equipment as part of the recapitalization programme. The process is expected to be finalised in 2015/16 and a final decision will then be taken on the model for a new NMISA.
- The NMISA has also embarked on a project to produce a 3D video to promote the importance of measurements to the Small to Medium Enterprises (SME).
- Materials Characterisation (MAT) is now preparing to conduct a particle size proficiency testing scheme (PTS) for SEMs in industry (mostly mining, automotive manufacturing, chemicals and plastics and

advanced manufacturing).

- The implementation and validation of the newly acquired systems and piloting of the AFRIMETS.AUV.A-S1 comparison will be the Acoustics Laboratory's main focus for the near future.
- The Vibration Laboratory is in the process of acquiring a new secondary calibration system which will broaden the Laboratories current scope.
- Length is developing a baseline for the calibration of long distances, for example total stations.
- The Ionizing Radiation laboratory has received funding assistance from the International Atomic Energy Agency to establish a national clinical radiotherapy and medical physics audit programme.

Activities

UNIDO engaged Mr Benjamin van der Merwe (NMISA) to perform a comprehensive technical assessment of capacity gaps inclusive of a gap analysis, a SWOT analysis and a risk assessment and to identify interventions; for example to identify standards and equipment needs and the training needs of staff.

The gap-analysis was to determine gaps in:

- Infrastructure (laboratory space/buildings)
- Equipment and standards
- Human resource capacity

Furthermore, he proposed recommendations to address the gaps/needs identified (equipment and the provision of metrology services), assist with the creation of calibration manuals and to facilitate training in the metrology parameters of mass, volume, pressure and temperature. SWASA is currently implementing the recommendations of the report.

Challenges

- **Laboratory Infrastructure:** SWASA currently working on establishing laboratory infrastructure to conduct testing and calibration activities. Royal Science and Technology Park (RSTP) through the Ministry of Information, Communications and Technology is under construction and will house the Metrology Laboratories.
- **Training and Capacity Building:** Currently one officer at SWASA that has been trained in some metrology fields, there is therefore need to have an extensive intervention by SADC MET in terms of training and SADC MET members in availing attachment opportunities for SWASA metrologists.

Future Development

SWASA is in the process of establishing calibration laboratories to offer the following services:



**6.11 Swaziland
Presented
by
Wilfred Mdluli**

1. Mass calibrations, OIML Class F₂ (range 1 mg to 20 kg)
2. Volume calibrations, range 20 µℓ to 5 ℓ
3. Temperature calibrations; range -40°C to 150°C
4. Pressure calibration; pneumatic (air) range 0 to 1 MPa and hydraulic (oil) range 100 kPa to 200 MPa

Metrology development/infrastructure

Metrology Laboratory at TBS maintains Tanzania Measurement Standards related to all physical parameters, at internationally accepted level of accuracy. The Metrology Laboratory at TBS provides traceable calibration services to private as well as public sector of the economy in various fields of measurements such as;

- Mass and related quantities
- Force
- Dimensional
- Electrical
- Volume
- Pressure
- Temperature
- Time and frequency

Traceability of measurements

TBS Metrology Laboratory continues to use National Metrology Institute of South Africa (NMISA) and Technical Research Institute of Sweden (SP) for calibration of its primary Standards as needs arises and as per calibration schedule of respective standards. Recalibration of National Measurements Standards done every three or five years depending on the field of measurement.

Calibration services

During the period under review the Laboratory continued to offer calibration services mostly to Fish processing industries, Food and drinks industries, Road construction companies, Tanzania Road Regulatory Authority (TANROAD) and Hospitals in Tanzania and in other countries like Mauritania, Burkina Faso and Benin.

Inter-comparisons

During the period under review inter-comparisons with National Metrology Institute of South Africa (NMISA), East African Community (EAC) and SADC MET were done.

Accreditation status

The TBS Metrology Laboratory continues to maintain its accreditation status as accredited by South African National Accreditation System (SANAS) in December 2006 in Mass, Temperature, Small Volumes and Time and Frequency measurements.

Also the laboratory continues to maintain accreditation status in the area of Dimensional accredited by



6.12 Tanzania
Presented by
Dunstan Kalugira

SANAS/SADCAS Twinning Partnership Arrangement in November 2010.

Training and staff development

Two staff members are pursuing Master's Degrees in Mathematics at the University of Dar es Salaam and Electrical Calibration training course at NMISA.

Participation in International/regional meetings

Tanzania attended the East African Community SQAM meeting and SADC MET meetings.

Future developments

- To conduct training to industries, SMMEs, Government and other customers on measurement issues;
- Increase number of calibration items from 2,415 in 2011/2012 to 6,200 in 2015/2016
- Expand scope of accreditation to cover Electrical AC and DC measurements, pressure and timer in a Mobile calibration van.
- Expansion of the metrology laboratory building.

Challenges

- Inadequate resources to procure reference standards for the equipment which currently cannot be calibrated;
- Inadequate laboratory space to allow expansion of scope of calibrations

Way forward

Mobilize resources from the Government and Development partners to construct new metrology laboratory, expand scope of calibration and accreditation and acquire more sets of measurement standards to meet customer needs.

Calibration services

The various calibrations done in the period under review was discussed and this totals to 1, 438 Instruments calibrated.

Accreditation

The Mass and Volume laboratories were accredited in June 2013. Assessment for additional Technical Signatories in Mass and Volume was rescheduled to 2015 due to audit time constraints. The Temperature and Dimension laboratories continued to be prepared for the accreditation process. Initial assessment was scheduled for February 2015.



**6.13 Zambia
Presented by
Peggy K Chituta**

Regional Activities

- AFRIMETS - ZABS and ZWMA with support from PTB co-hosted the general assembly and working group meetings in Lusaka Zambia
- SADC MET - ZABS continued to participate fully in SADC MET activities including inter-laboratory comparisons
- COMESA - ZABS participated in the COMESA-SQA meetings.

International memberships

Zambia continues to be an associate member of the GCPM in 2013 and attended the meeting of State Representatives and Directors of National Metrology Institutes from 23 – 24 October 2013 in Paris , France.

World Metrology Day

World Metrology day was launched by the Minister of Commerce Trade and Industry (MCTI). Activities to commemorate the day were held at ZABS premises and articles published in the national newspapers. The day was commemorated in conjunction with ZWMA.

National Quality Policy

Zambia is in the process of implementing its national quality policy (NQP) in which the ZABS Metrology department is expected to merge with the Zambia Weights and Measures Agency to form a national Metrology Institute. In 2013, the two institutions were tasked to submit plans to facilitate implementation. The draft Measurements bill is awaiting Parliament approval.

Staff and training

Staffing levels remained inadequate despite the increase of four members in 2012. Four additional recruitments are planned for 2014.

Training was held for staff, but was limited and did not include ISO 17025. The training was provided by KRISS in both mechanical and thermodynamics fields. Other training was done at the NLA in South Africa and the National Measurement Office in the UK.

Development

Construction of new NMI Dimensional laboratories is almost complete with just a little plumbing work remaining. Securing of NMI laboratories is also underway as well as acquiring more equipment and standards.

Traceability of measurement

SIRDC-NMI standards and equipment calibrated during the period under review namely Chub E-4 Temperature



6.14 Zimbabwe

**Presented by
M. Ranganai**

Readout, Agilent Multimeter and the FLUKE 744, Documenting Process Calibrator

Calibration Services

SIRDC – NMI received more than 160 job-orders for calibrations in Mass, Temperature, Electrical, Dimensional, Pressure, Volume and Chemical Metrology. Clients seeking calibration services and other industrial support services covered a broad spectrum of activities in health, environment, agriculture, mining, manufacturing, regulatory authorities and other national standards bodies.

Inter-laboratory comparisons

In order to develop and maintain the technical competence required for its laboratories and establishing measurement equivalence with peer laboratories, SIRDC-NMI took part in inter-laboratory comparisons. More information on this is available on the presentation.

A mass SADC MET laboratory inter-comparison was initiated in 2013 and will be carried out in 2014.

Accreditation status

The National Metrology Institute laboratories accredited to date, by the South African Accreditation System (SANAS) and the SADC Accreditation Service (SADCAS)/SANAS Twinning Partnership Arrangement, are discussed.

Surveillance assessments for the Temperature, Volume and Dimensional Metrology Laboratories were conducted by SADCAS in February 2013 and all the Laboratories were recommended to retain accreditation.

International Membership

SIRDC-NMI is an associate of the CGPM since September 2010 and signed the CIPM MRA in January 2011. It is also a member of the AFRIMETS, SADC MET and COMESAMET.

Conferences and workshops

One staff member attended the COMESA GA held in Lusaka, Zambia in June 2013 and two staff members attended the AFRIMETS GA, held in Lusaka in July 2014.

Training and staff development

Various training took place during the period under review and a full list of this is available on the presentation. Zimbabwe also appointed two new staff members - Mrs Esther Guranungo a Technician and Mr Raban Chikwanha, Electrical Metrologist (Research Scientist).

<p><u>Future developments</u></p> <p>Work on the accreditation of other parameters such as pressure, force, time and frequency and electrical metrology are at advanced stages of development. SIRDC-NMI is also working on procurement of a mobile laboratory as well as setting up satellite laboratories in Zimbabwe’s major cities. The laboratory is also hoping to register at least one CMC in the BIPM KCDB in the next few years.</p>	
<p><u>7. Statements by Associate members present:</u></p> <p><u>7.1 Statement by Kenya Bureau of Standards</u></p> <p><u>Metrology Services</u></p> <p><u>Measurement standards</u></p> <p>KEBS metrology maintains national measurement standards in the following fields:</p> <ul style="list-style-type: none"> • Mass • Temperature and Humidity • Force, Torque and Hardness • Density and Viscosity • Electrical energy (and Instrument Transformers) • Photometry • Ionizing Radiation Dosimetry • Length (Dimensional metrology) • Pressure • Volume and Flow • Electrical DC and Low Frequency (AC/DC) • Time and Frequency • Acoustics and Vibration <p>Calibration services are offered in all the noted measurement fields.</p> <p><u>Future measurement fields</u></p> <p>Metrology plans to establish Power and High Frequency, Radiometry and Quantum physics laboratories in the near future.</p> <p><u>Quality management and accreditation</u></p> <p>In line with the corporate policy, Metrology is committed to providing quality services to its customers. The department’s quality management system is based on the KS ISO/IEC 17025 standard. In order to demonstrate competence and ensure the quality of its services, Metrology has opted for the accreditation of its laboratories. Five out of the 13 laboratories have been accredited by the German Accreditation Body <i>Deutsche Akkreditierungsstelle (DAKKS)</i>, formerly <i>Deutsche Kalibrierdienst (DKD)</i>. Four of the remaining laboratories are already scheduled for initial assessment later in this year. The Mass laboratory was reassessed by DAKKS for purposes of expanding the measurement scope in March 2014.</p>	<p>KEBS – Steven Mboloi</p>

<p><u>International and regional co-operation</u> KEBS maintains several memberships to various apex international bodies including BIPM, AFRIMETS, IMEKO, SADC MET, EAMET, APMP and SIM. More details on these co-operations are listed on the presentation.</p> <p><u>Bilateral cooperation</u> KEBS has a memorandum of understanding with the National Metrology Institute of South Africa (NIMSA) and a close working relationship with the Physikalisch-Technische Bundesanstalt (PTB), Germany. It also cooperates with the National Institute of Standards and Technology (NIST), USA.</p> <p><u>World Metrology Day</u> World Metrology Day 2013 was celebrated on 20th May 2013 at KEBS Headquarters. The chief guest was the Managing Director Kenya Bureau of Standards. Key stakeholders including industry, higher institutions of learning and calibration centres were invited and attended the celebrations at KEBS.</p> <p><u>Conclusion</u> With the support of the Government, Metrology has continued to embark on an ambitious replacement and upgrading programme of its measurement standards and facilities. This is being implemented concurrently with personnel training to support the planned enhanced capabilities. Never the less, a commendable job has been done to maintain the old measurement standards within the laboratories. The upgrade is also being done to meet the increasingly sophisticated demands of industry.</p> <p>Major upgrading has already been done in Temperature, Density & Viscosity ‘Pressure and Mass laboratories.</p> <p>The upgrading programme is in line with the country develop strategy/agenda as envisaged in the Vision 2030 development goals.</p> <p>7.2 Statement by Uganda National Bureau of Standards UNBS did not submit a country report but their statement was delivered by Mr. Paul Musimani.</p>	
<p><u>8. Project Work:</u></p> <p>8.1 SADC EU REIS Project The report on the SADC EU REIS project was presented at the SQAMEG meeting.</p> <p>8.2 PTB projects Report The PTB reported on all the activities that had been carried out during the year under review. PTB continued to support the SADC MET</p>	<p>SADC Secretariat</p> <p>Ms Kathrin Wunderlich</p>

<p>activities i.e the SADC Water PT scheme, national workshops on the Train of Trainer programme etc. They also informed members of the new SADC PTB project for €1.5 million which will run for 3 years from 2014-2017. A more detailed report will be provided at the SQAMEQ meeting.</p>	
<p><u>9. 2013/14 Work Programme and Monitoring & Evaluation of Ongoing Programmes</u></p> <p>9.1 World Metrology Day Poster: “Measurement and the global energy challenge”. The theme for the 2014 World Metrology Day is “Measurements and the global energy challenges” and the design of the poster will be coordinated by the NMISA in consultation with the BIPM and OIML.</p> <p>9.2 Work programme for 2014/2015 The work programme was presented and outlined all the activities that will be carried out during 2014/15 (see Annex B attached).</p>	<p>PTB representatives</p> <p>RC</p>
<p><u>10. Resolutions:</u> The Resolutions were discussed and finalized. The final Resolutions are provided in a separate pdf document (see Annex A) and will be available on the website.</p>	
<p><u>11. Any other business</u> There was no other business to note.</p>	
<p><u>12. Closing</u> The Chair took the opportunity to thank all the participants for their contributions and the discussions that took place. He also thanked the SADC Secretariat and the PTB for the successful hosting of the SADC SQAM meetings.</p>	