

**Report on**  
**Zambia Metrology Agency Quality**  
**Management System**  
**to AFRIMETS TC-QS**

*By*

*Mwiya G. Nyambe*

**Date: 9<sup>th</sup> July 2019**

## Agenda

1. Information on the national metrology system (**National Quality Infrastructure**)
2. Quality policy.
3. Organogram of the NMI.
4. QMS processes and steering mechanisms in the organization.
5. Current accreditations/international recognition.
- 6. Current status of transition plan to ISO 17025:2017**
7. List of updated calibration capabilities covered by the QMS
8. Continuous improvement
9. Audits / external review
10. Addressing weak and strong points
11. Addressing solutions for problems encountered

# INFORMATION ON THE NATIONAL METROLOGY SYSTEM NATIONAL QUALITY INFRASTRUCTURE

The National Quality Infrastructure is made up of 3 main institutions:

- The Zambia Metrology Agency(ZMA), the Zambia Bureau of Standards (ZABS) and the Zambia Centre for Compulsory Standards (ZCSA), all under the Ministry of Commerce Trade and Industry (MCTI)
- Efforts are underway to establish an accreditation body
- The Metrology Infrastructure is regulated and maintained under the Metrology Act Number 6 of 2017
- This act provided for the formation of the ZMA, merging metrology functions from ZABS (Metrology Department) and the former Zambia Weights and Measures Agency(ZWMA)

INFORMATION ON THE NATIONAL  
METROLOGY SYSTEM  
**THE ZAMBIA METROLOGY AGENCY**

The ZMA has two technical departments:

**i) Scientific and Industrial Metrology Department (SIM)**

- This department provides for international measurement traceability in 7 fields of metrology: Mass, Volume, Dimensional, Pressure, Force, Temperature and DC/LF Electricity
- The quality system based on ISO/IEC 17025 is established and implemented under this department

**ii) Legal Metrology Department (LM)**

- This department is in charge of all mandatory regulations related to the use of measurement instruments used in trade, health, safety and environmental protection as well as certain regulations on pre-packaged products

# QUALITY POLICY

- The documented policy highlights management commitment to the successful implementation of the Quality Management System
- Currently under review as part of the overall document review for the QMS to align to the new ISO/IEC 17025:2017

# ORGANOGRAM OF THE ZMA (EXCO)



## QMS PROCESSES AND STEERING MECHANISMS IN THE ORGANIZATION

- Documented Procedures based on ISO 17025:2005
- Internal Audits – Local Technical Signatories
- External Audits -SADCAS
- Management Reviews

# CURRENT ACCREDITATIONS/ INTERNATIONAL RECOGNITION

4 Laboratories are currently accredited by the Southern Africa development Community Accreditation Service (SADCAS). These include:

- Mass, Volume, Dimensional and Temperature Laboratories
- The ZMA Temperature CMCs Listed in the BIPM KCDB



# CURRENT STATUS OF TRANSITION PLAN TO ISO 17025:2017

## Training

- Training on the transition conducted for 4 staff
- 3 more to be trained by end of July,2019
- The rest are scheduled to be trained in the next quarter

## Document Review and Updating

- The Quality Manual and related documents have been updated with the drafts currently under review internally

## Activities remaining in the Transition Process

- Implementation of the updated documentation and subsequent internal audits, management review and then reporting and submission of documentation to the accreditation body

## LIST OF UPDATED CALIBRATION CAPABILITIES COVERED BY THE QMS

- No new calibration capabilities have been introduced to be covered by the QMS

# CONTINUOUS IMPROVEMENT

- The ZMASIL utilizes the deeming cycle (**PDCA cycle**) in its quest to undertake a continuous improvement process
- **Plan** - actions to be undertaken
- **Do** - implement the planned activities
- **Check** - audit the process affected by the implemented activities
- **Act** - act on the observations from the audit conducted
- after which the cycle reverts back to the planning stage

## AUDITS / EXTERNAL REVIEW

- The previous FULL external review of the QMS was done in May of 2018 by SADCAS
- These assessments recommended continued accreditation of all audited areas upto 2024 after successful clearance of raised findings
- The next annual review is scheduled for 16<sup>th</sup> October, 2019 by SADCAS

# ADDRESSING WEAK AND STRONG POINTS

## Strong Points

- Adequate infrastructure to handle the current customer demand for calibration services
- Highly skilled ,properly trained personnel undertaking calibration activities covered under the QMS
- Strong Ministerial and Top Management commitment to the functions undertaken by the institution
- Continuous training of personnel to keep abreast in their respective fields of metrology whenever possible

# ADDRESSING WEAK AND STRONG POINTS

## Weaknesses

- Budgetary constraints negatively affected the operations of the Quality Management System
- Challenges in the time it takes technical personnel to attend to raised NCs from internal audits
- Not enough manpower in some metrology fields resulting in overloading the existing personnel

## ADDRESSING SOLUTIONS FOR PROBLEMS ENCOUNTERED

- Periodic Round table discussions to discuss any challenges encountered during the implementation of the Quality System
- Allow for an atmosphere that encourages personnel to come forward and report as well as provide possible solutions to the encountered problems

**THE END!**

THANK YOU FOR YOUR ATTENTION