

CCAUV/15-36

CCAUV 2015 NMISA Report

Riaan Nel
November 2015

Outline

- Staff compliment
- Accreditation
- Acoustics (sound in air)
- Vibration
- Ultrasound & Underwater Acoustics



Staff compliment

- AUV Section has gained more staff members, from 3 to 5
 - Dr Aletta Karsten as Head of the Section
 - Mr Vumile Tyalimpi in the ultrasound & underwater-acoustics laboratory



Accreditation

- Underwent a full re-assessment in 2014 by SANAS with an international technical assessor.
- Improvements & extensions were made to our scope of accreditation.



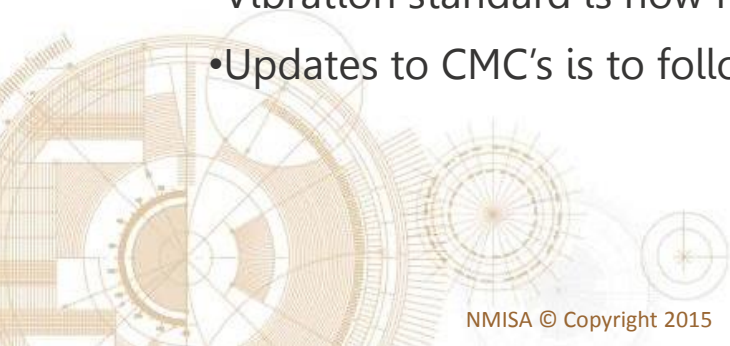
Acoustics

- Completed a process of replacing and upgrading aging equipment
 - New & re-established capabilities for realising the standard for sound pressure in air using both LS1 & LS2 microphones IEC 61094-2)
 - Reduced uncertainties
 - Increased frequency ranges
 - New parameter (phase)
- Currently in the process of participating in comparisons in support of CMC's



Vibration

- Completed a process of purchasing to replace aging equipment.
- The current focus is on commissioning of primary systems.
- Secondary systems has been commissioned.
- Improvements have been made to existing capabilities:
 - Extending frequency ranges (magnitude and phase) for secondary calibrations.
 - Extending acceleration level capabilities up to 4 000 m/s².
 - Establishing secondary shock capabilities (50 m/s² to 10 km/s²).
 - Improved primary low frequency capabilities with the implementation of a 450 mm peak-to-peak air bearing vibration exciter.
 - Upgrading of primary method software to enable homodyne as well as heterodyne demodulation techniques.
- Vibration standard is now realised down to 0,1 Hz.
- Updates to CMC's is to follow soon.



Ultrasound & Underwater-acoustics

- National requirements is being invested for Underwater Acoustics & Ultrasound Power traceability and suitable actions are being taken.

