



ASIA-PACIFIC  
LEGAL METROLOGY FORUM

**24<sup>th</sup> APLMF Meeting**  
**Siem Reap, Cambodia**

## Economy Report - 2017

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### *Papua New Guinea*

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## SECTION 1 – Organisation and structure for metrology

### Organisation Structures

The Metrology Division of the National Institute of Standards and Industrial Technology (NISIT) operates the Measurement Standards Laboratory (MSL). The MSL maintains the PNG National Measurement Standards and thus takes on the responsibilities of an NMI in PNG.

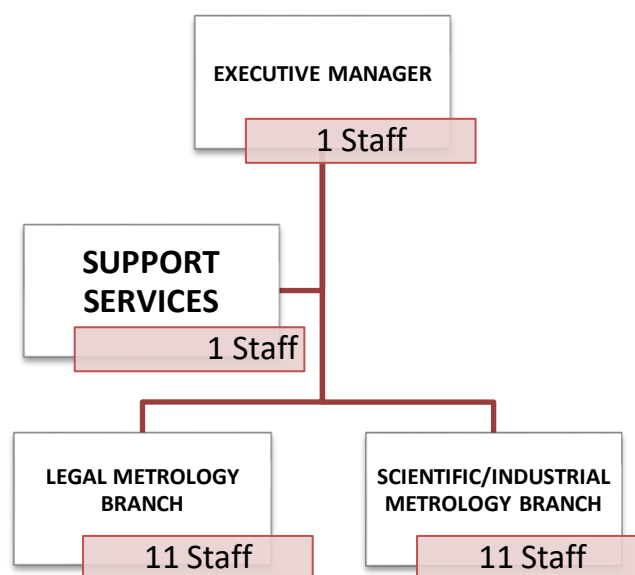
The same division also takes the legal metrology responsibilities of NIIST.

NISIT was fortunate to be given exemption from the National Government to roll out its restructure exercise. The organizational restructure will allow NISIT to grow from the current 27 to 117 staff by 2020. An increase of 90 staff for the entire institute.

The Metrology Division has had to handle all its Scientific and Legal Metrology functions and responsibilities with just 5 staff since 2007. The organizational restructure will allow the division to grow from the current 5 to 24 by 2020. An increase of 19 staff.

The additional staff means greater coverage for metrology functions, increased services to our clients and stakeholders, and greater influence to national goals and objectives.

#### Divisional Functional Structure (2017 - 2020)



### Legislative Frameworks

#### 1. LAWS OF METROLOGY

- I. Trade Measurement Act 1978 and Weights and Measures Regulation
- II. National Institute of Standards and Industrial Technology Act 1993
- III. Packaging Act 1978

##### *1.1 Legal requirements for traceability*

- (i) Trade Measurement Act 1978

(ii) NISIT Act 1993

## 2. LEGAL UNITS OF MEASUREMENT

Papua New Guinea declared the SI units as legal units of measurement in this country in 1980. Any other units of measurement other than the SI units used for trade purposes in PNG is illegal.

## 3. STRUCTURE OF METROLOGICAL CONTROL AUTHORITIES

### *3.1 National organisation for legal metrology*

In Papua New Guinea, this consists of two organisations, namely:

(i) National Institute of Standards and Industrial Technology (NISIT) for:

- advanced legal metrology;
- bulk measuring instruments and;
- pattern approval

(ii) Independent Consumer and Competition Commission (ICCC) for routine consumer protection areas, i.e.

- mechanical scales, supermarket scales, fuel dispensers etc.

All manuals and guidelines used are based on those of the National Measurement Institute of Australia and OIML.

### *3.2 Custodian of National Standards*

Under the NISIT Act 1993, the National Institute of Standards and Industrial Technology (NISIT) is responsible for the maintenance of primary, secondary and reference of PNG measurement standards, and from time to time, may appoint other regulatory authorities as custodian of measurement standards of certain physical quantities. In December 1994, NISIT adopted the Australian primary standards as PNG primary standards. Under the Trade Measurement Act, the Independent Consumer and Competition Commission is responsible for the maintenance of Inspectors' standards pertaining to mass, volume and length.

### *3.3 Regional and local verification organisations*

See clause 3.2 above.

NATA accredited laboratories in Queensland do also verify metrological equipment in Papua New Guinea.

### *3.4 Instrument calibration and evaluation systems*

In Papua New Guinea only NISIT currently provides basic calibration services in the fields of mass, thermometry, pressure, force, torque, length, volume, flow and electrical. In terms of national measurement standards, NISIT maintains its standards against the Australian primary standards which are in turn calibrated at the required interval against international prototype standards. There are calibration services provided by overseas agencies such as Australian Calibration Service Pty. Ltd and SGS to organisations in Papua New Guinea.

## 5. TYPE APPROVAL (i.e. PATTERN APPROVAL)

From its inception until now, NISIT requires that patterns must be approved by NMI of Australia.

## 6. VERIFICATION (CONFORMITY ASSESSMENT), INSPECTION AND REVERIFICATION

### *6.1 Legal and technical requirements for verification and reverification*

All legal and technical requirements for verification and reverification are outlined in the Trade Measurement Act and Weights and Measures Regulation. Where these legislations are limited, the OIMIL Recommendations come in.

### *6.2 Range of equipment verified and reverified and any statistical information available*

The following types of instruments are tested, and Table 1 describes the types and number of legal metrology equipment used in Papua New Guinea.

Hopper weighers;

- Masses;
- Master meter
- Vehicle tanks;
- Length measures; and
- weigh bridges
- taximeters
- fuel dispensers
- supermarket scales

With more trainings now being undertaken by our officers from NISIT and ICCC, the coverage will increase.

## **International arrangements and engagement**

PNG has yet again benefited greatly this year from trainings facilitated through the MEDEA Project. The trainings we participated in are;

- Bulkflow training by Sylvester Vovovon (NISIT)
- Water meters training by Sylvester & Jeffrey (NISIT)
- Modernizing Metrology Infrastructure by Jeffrey and Joe (NISIT)
- Weighbridges training by Jeffrey (NISIT) and Bill Boiu (ICCC)

There is an on-going project with EU on improving trade capacity and capability which NISIT will be supplied with reference standards. Most will be for the Scientific/Industrial Metrology. One key legal metrology equipment to be supplied is the pressure relieve valve test kit.

## SECTION 2 – Key activities of 2016/17

### Working with industry

The last year, one of our key plans was to continue to meet with our industry and make them understand our role and the difference between NISIT and ICCC when it comes to legal metrology. Much work still needs to be done here.

### Protecting consumers

Another key plan we had was to have strong collaborations with our regulators. ICCC is one of our key stakeholder in legal metrology. We have continued to build on the foundations of the work done in the past two years.

We continue to send our officers to be part of the inspection teams by ICCC to provide added technical support and identifying new areas where we can work on.

### Major projects - What we did and what we learned

This year has been very challenging for us due to limited funding and support for our programs. Much of what we planned for the year was not able to be implemented.

We have moved these projects to next year.

## SECTION 3 – Future focus

### New initiatives planned (next 1-2 years)

The projects we see as important and needs urgent work to be done include;

- National survey on the metrology infrastructure service gaps, skill gaps, knowledge gaps and the regulatory gaps.
- Trainings for stakeholders in NAWI and fuel dispensers.
- Review of the NISIT Act and possible introduction of a new Metrology Act for PNG
- Engagement of an experts from the APLMF to assist NISIT and work on the above items

### Emerging issues – challenges and opportunities

For PNG, the challenges are those that concern the very fundamentals of a strong National Metrology Infrastructure;

- **Legislation:**  
Appropriate legislative provisions defining the national metrology infrastructure, including elements of a national metrology policy and the role of the NMI. It will also define legal units of measurement.
- **Organisation:**  
A properly constituted NMI, suitable for the national needs.
- **Financing:**  
Sustainable financing of resources by government.
- **Personnel:**

The NMI has to have sufficient qualified personnel, with particular attention to the availability of experienced staff. Staff turnover is still an on-going concern.

- **Equipment:**

Lack of appropriate measurement facilities for the tasks to be performed.

- **Premises:**

The laboratories are not suitable and cannot provide proper environmental conditions, especially temperature stability and the elimination of vibrational and electromagnetic disturbances.

- **Traceability:**

Maintaining measurement traceability is always a challenge due to the limited funding available.

- **Quality system:**

Our quality system has a great impact on our business. We still have challenges due to limited staff. So the quality system is not given the attention it needs.

- **Intercomparisons:**

Participation in international comparison measurements is required to confirm a NMI's technical competence. We will need more of this in the future.

- **International recognition:**

The final goal should be international recognition of the declared calibration and measurement capabilities within the framework of the CIPM MRA.

This is our final goal.