27th ASIA-PACIFIC LEGAL METROLOGY FORUM ONLINE MEETINGS

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Economy Report – 2020

Australia

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SECTION 1 – Organisation and structure for metrology

Organisation Structures

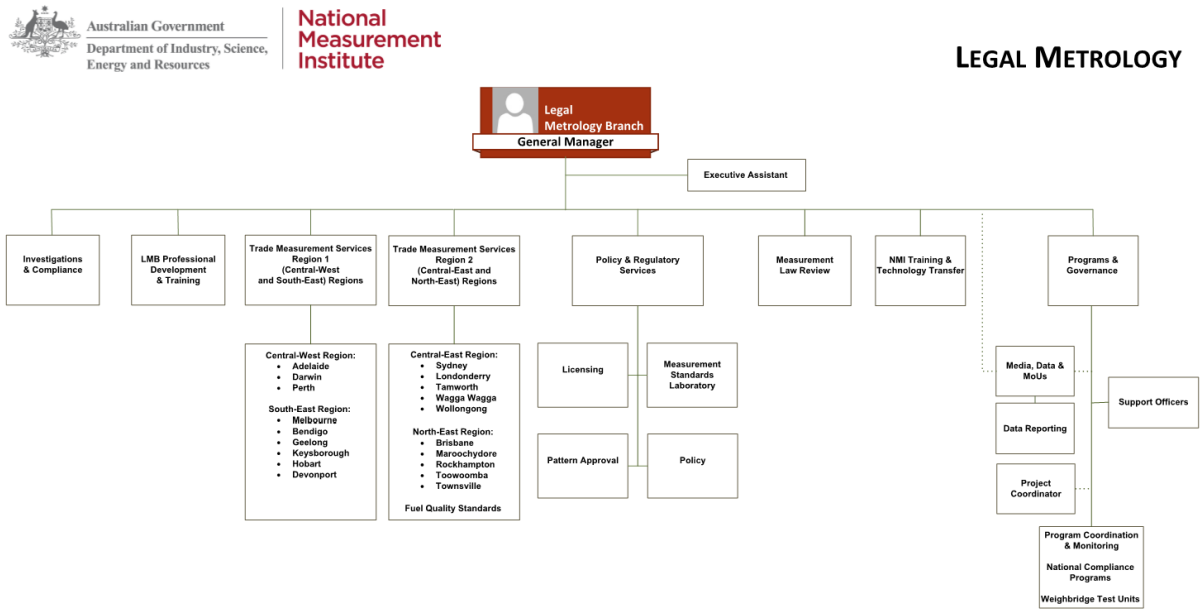
The National Measurement Institute, Australia (NMIA) is a division within the Department of Industry, Science, Energy and Resources. NMIA is Australia's peak measurement body responsible for trade measurement, biological, chemical, legal and physical metrology. Our vision is to provide measurement policy, science and regulation that underpins the economy and well-being of Australia.

Legal Metrology Branch

The Legal Metrology Branch of NMIA administers Australia's legal metrology infrastructure. Its policy aims are to provide an efficient and effective national legal metrology system across Australia for the benefit of community, business and government. A key focus of NMIA is enhancing confidence in all aspects of trade measurement through the ongoing administration of a trusted and unified national trade measurement system. The Legal Metrology Branch also work with other regulators that depend upon the measurement system to develop and maintain systems and services that support the use of accurate measurement in areas such as road safety and resource management.

The Legal Metrology Branch's objectives are to maintain a high level of confidence, general awareness and transparency in trade measurement transactions; to ensure an effective compliance framework; and to continually improve Australia's legal metrology framework.

The Legal Metrology Branch consists of five sections – Policy and Regulatory Services (PARS); Measurement Law Review (MLR); Training and Technology Transfer (TTT); Programs and Governance (PAG); and Trade Measurement Services (TMS).



The Legal Metrology Branch (LMB) is currently trialling a restructure which has included:

- Consolidating four Trade Measurement Services' regions to two, to promote greater consistency in operational delivery of programs and streamline communication delivery to frontline staff.
- Creating a specialised Investigations & Compliance Unit to create efficiencies in the preparation of substantive enforcement actions, create further consistency in enforcement actions briefs and further develop staff capabilities and skillsets in multi-faceted investigations.
- Establishing the Programs and Governance Section as a single point of reference and oversight for the research, creation, communication, reporting and review of LMB's National Compliance Programs as well as provide support to the LMB General Manager through overseeing the Support Officer Network, Media, Data, MOUs, Business Systems, Corporate Reporting, Safety and Asset Management/Acquisition.
- Creating a specialised LMB Training Unit to support: staff on-boarding; ongoing development of current staff; preparation for upskilling/retraining as an outcome of the MLR; and assigning appropriately qualified TMS staff to specific training and assessment activities for both Assistant Trade Measurement Officers and verifiers, together with overseeing the LMB training register.
- Integrating TMS Laboratory Operations into the PARS Section to create opportunities for cross development and upskilling of roles between the Pattern Approval Unit and Measurement Standards Unit. This integration has potential to create efficiencies within LMB by integrating documentation associated with the maintenance of National Association of Testing Authorities (NATA) accreditation.
- Implementing LMB Document Management to transfer responsibility for facilitating the development, review, coordination and maintenance of all LMB policy/technical/operational documents to the Policy Unit within PARS. This will create a single point of reference to oversee the governance of LMB document management.

Regulator performance structure and reporting requirements

The Australian Government has developed the Regulator Performance Framework (RPF) to give business, the community and individuals confidence that regulators effectively and flexibly manage risk. The framework consists of six outcomes-based KPIs focused on: reducing regulatory burden; clear and effective communications; risk-based and proportionate approaches; efficient and coordinated monitoring; transparency; and continuous improvement.

The Framework also includes a requirement for regulators to undertake an annual self-assessment against the RPF KPIs and publish a report on the outcomes of that self-assessment that is externally validated by stakeholders, along with any external reviews of their performance.

Legislative Frameworks

Update on the Measurement Law Review

In November 2017, the Australian Government announced the first comprehensive review of Australia's measurement legislation since the commencement of the *National Measurement Act 1960*.

The Measurement Law Review (the Review) aims to simplify, streamline and modernise Australia's legal measurement framework to ensure it meets Australia's measurement needs now and into the future. The Review has now completed the initial public consultation phase, feedback from which has informed the development of a range of detailed options now being considered by Government. These options will be subjected to thorough cost/benefit analysis and released for public consultation to help inform the legislative framework that will support Australia's measurement system into the future.

International arrangements and engagement

Meetings attended

Australia was represented at the following international meetings since the 2019 APLMF meeting:

- OIML-CS Working Group Meeting – 28 April 2020
- OIML-CS Management Committee Meeting 1 – 19 May 2020
- OIM-CS Management Committee Meeting 2 – 2 June 2020
- OIML D 31 (Software requirements) TC/SC Sub Group Meeting (Machine Learning) Meeting 1 – 10 June 2020
- APMP Knowledge Management System Meeting 17 June 2020
- APMP Developing Economies Committee (DEC) Meetings 17 & 23 June 2020
- Joint APLMF/APMP Science Communication for Metrology webinar 19 June 2020
- OIML D 31 (Software requirements) TC/SC Sub Group Meeting (Remote Verification) Meeting 1 – 23 June 2020
- European Metrology Cloud Node Rollout Workshop – 25 June 2020
- OIML-CS Management Committee Meeting 3 – 2 July 2020
- Ad-hoc TC/SC meeting regarding the CIML draft of the new OIML Recommendation for continuous totalising automatic weighing instruments of the arched chute type – 15 July 2020
- OIML D 31 (Software requirements) TC/SC Sub Group Meeting (Machine Learning) Meeting 2 – 22 July 2020
- OIML D 31 (Software requirements) TC/SC Sub Group Meeting (Machine Learning) Meeting 3 – 27 August 2020
- OIML D 31 (Software requirements) TC/SC Sub Group Meeting (Remote Verification) Meeting 2 – 10 September 2020
- CEEMS Advisory Group Meeting – 6 October 2020
- RLMO Roundtable Meeting – 8 October 2020
- OIML D 31 (Software requirements) TC/SC Sub Group Meeting (Terminology) Meeting 2 – 13 October 2020
- PTB Digital Calibration Certificate Conference – 20-21 October 2020
- 55th CIML Meeting – 20-22 October 2020
- APLMF Annual Meeting – 3-4 December 2020.

International Training

NMIA's Training and Technology Transfer Section has worked on the following projects:

- Ongoing contribution to Metrology Enabling Developing Economies in Asia (MEDEA) program
- Completed development of verification of fuel dispensers e-learning that will be available to APLMF members
- Completed development of an instructor-led online training course in the verification of bulk flowmetering systems.

NMIA's Training and Technology Transfer Section offers the following courses:

Legal metrology courses available as e-learning:

- Verification of non-automatic weighing instruments
- Verification of fuel dispensers
- Verification of point of sale (POS) systems
- Weighbridge operations

Physical metrology courses:

- Advanced concepts of geometric dimensioning and tolerancing
- Calibration and measurement fundamentals*
- Calibration of liquid hydrocarbon flowmeters
- Calibration of weights and balances*
- Dimensional measurement
- Electrical measurement*
- Fundamentals of geometric dimensioning and tolerancing*
- Humidity measurement*
- Introduction to estimating measurement uncertainty*
- Pressure measurement*
- Photometry and radiometry*
- Temperature measurement
- Testing temperature controlled enclosures
- Time and frequency measurement

Chemistry and biology courses:

- Analytical method validation*
- Estimating measurement uncertainty for biologists
- Estimating measurement uncertainty for chemists*

* Available as instructor-led online courses

SECTION 2 – Key activities of 2019–20

Working with industry

Public consultations

In the period November 2019 to October 2020, the following public consultations were undertaken:

- Measurement Law Review Papers 5 and 6 "Third Party Arrangements" and Compliance Arrangements"
- Proposal to adopt OIML R 50 (2014) as Australia's pattern approval standard for belt weighers
- Development of new OIML Recommendation – Continuous totalizing automatic weighing instruments of the arched chute type. NMIA sought comments from Australian stakeholders on the 3rd Committee Draft
- Revision of OIML Recommendation – Multidimensional measuring instruments. NMIA sought comments from stakeholders on the 4th Committee Draft
- Revision of OIML Recommendation – Electrical energy meters – Alternating current. NMIA sought comments from Australian stakeholders on the 3rd Working Draft
- Revision of OIML Recommendation – Automatic instruments for weighing road vehicles in motion and measuring axle loads. NMIA sought comment from Australian stakeholders on the 2nd Working Draft.

Domestic training

- In 2019–20 the Training and Technology Transfer Section offered classroom-based training courses and consultancies as well as training through online platforms, with 236 participants attending face-to-face metrology courses and 92 participants attending online metrology courses. A total of 31 courses were delivered in total. NB: Training and Technology Transfer provides services across all branches of NMIA. Courses include courses provided for other branches of NMIA.
- The following e-learning courses were commenced in 2019–20:
    - Verifying fuel dispensers
    - Verifying bulk flowmetering systems.

Protecting consumers

NMIA is committed to ensuring that its legal metrology compliance activities will be consistent with best-practice approaches to regulation. This approach incorporates three compliance principles:

1. Proportionality – any regulatory response is proportionate to the impact of any actual or potential harm.
2. Consistency – a consistent approach is taken when interpreting, applying and enforcing national trade measurement legislation.
3. Transparency – NMIA is accessible, provides clear guidance on all aspects of our legislation and is open about our policies, processes and, where permitted, its decisions.

A Risk-Based Approach to Minimise Harm

The aim of NMIA's administration of legal metrology regulatory compliance is to minimise harm without creating unnecessary compliance costs or burdens for business.

We measure risk in terms of the harm and likelihood of regulatory non-compliance. Some of the factors used to determine harm include:

- impact on confidence in the measurement system
- extent of financial detriment to consumers or industry
- impact on maintaining a level playing field for business competition
- ability of consumers to make informed purchasing decisions.

In assessing risk we consider the impact of any single instance and/or the cumulative effect of many individual instances of non-compliance.

We use a risk-based approach when:

- prioritising the development and maintenance of legal metrology infrastructure (for example, pattern approval standards, National Instrument Test Procedures and appointment of Authorities)
- targeting compliance activities
- determining the appropriate and proportionate regulatory response where non-compliance is identified.

Recognising compliance history

Consideration of risk when determining regulatory responses will also be guided by previous compliance history. For example, NMIA may:

- consider appropriate levels of surveillance for particular traders that have demonstrated a commitment to compliance through adoption of robust quality assurance systems or an industry code of conduct
- prioritise responding to complaints received about potential breaches of trade measurement law based on the compliance record of industry sectors and/or particular traders.

Program-Driven Compliance Activities

NMIA combines market intelligence, consumer complaints and stakeholder feedback with compliance history to plan and implement targeted inspection programs for industry sectors that have a higher risk of non-compliance with the requirements of trade measurement law.

NMIA undertakes pilot programs to assess the level of risk associated with non-compliance in particular or emerging industry sectors. These pilot programs are used to determine whether a targeted program needs to be introduced.

NMIA allocates a small portion of its resources to maintain a base level of compliance monitoring activity through random audits. These provide visibility in the wider market. The ‘potential’ for a low-risk entity to be subject to some form of compliance activity can be a sufficient incentive for these entities to continue to voluntarily meet their obligations.

NMIA also takes advantage of the presence of its trade measurement inspection force in the field to undertake market surveillance and investigation activities on behalf of other Commonwealth agencies, such as the Department of Health and the Australian Competition and Consumer Commission.

Major projects - What we did and what we learned

Fee structure for the provision of regulatory services

Under the newer, more sustainable fee structure for the provision of regulatory services introduced last year, NMIA is continuing with staged implementation over a period of four years, to better manage the impact on regulated entities and the market.

Belt Weighers

NMIA has now adopted the latest OIML Recommendation for belt weighers – published as:

- NMI R 50-1 (2020) *Continuous Totalising Automatic Weighing Instruments (Belt Weighers)*, Part 1: Metrological and Technical Requirements
- NMI R 50-2 (2020) *Continuous Totalising Automatic Weighing Instruments (Belt Weighers)*, Part 2: Test Procedures
- NMI R 50-3 (2020) *Continuous Totalising Automatic Weighing Instruments (Belt Weighers)*, Part 3: Test Report Format

The adoption of OIML R 50, was supported by public consultation specifically focused on the means by which belt weighers may demonstrate appropriate durability as per the general requirement of the OIML Recommendation. NMIA has implemented a program of mandatory in-service testing of newly-approved belt weighers as a means of assessing the general durability requirements specified in OIML/NMI R 50.

SECTION 3 – Future focus

New initiatives planned (next 1-2 years)

National Compliance Plan

The National Compliance Plan for 2020–21 has been launched and aims to help support confidence in the accuracy for measurements used in trade for Australian consumers and businesses.

Concentrated national audit programs

Under this program methodology, first introduced in 2018–19, all trade measurement inspectors will be involved together in a concentrated national audit, focused on a single industry sector over a specific time period, to assess compliance with trade measurement regulations.

Two major factors determining which traders are targeted in these national audits will be:

- previously identified non-compliance
- relative market shares of industry participants

Four concentrated national audit programs will be undertaken in 2020–21:

Fruit and Vegetable Retail

This program will focus on fruit and vegetable retail traders, including those traders previously identified as non-compliant, and will gather information to identify wholesale sites for future audits of grower direct facilities and market distribution centres.

Meat and Seafood Wholesale

This program will focus on compliance of measurement transactions and trading practices of wholesalers, packers and importers in the meat and seafood industries.

Licensed Premises

This program will follow up on traders found non-compliant during 2019-20 and also include audits in new market segments, such as in-house restaurants and bars at hotel accommodation.

Retail Fuel

This program will revisit traders found to be non-compliant during the 2019-20 Retail Fuel program and inspect retail fuel sites not recently audited. Data gathered during the audits will also be analysed to identify whether there are issues related to the performance of particular models of fuel dispenser.

Verified instrument audits

The integrity of most trade measurement transactions depends on accurate measuring instruments. NMIA appoints organisations called Servicing Licensees to ensure trade instruments are accurate before being used (verification).

This program will continue auditing recently verified instruments to ensure that verification is being undertaken correctly. The program is expanding to also:

- Improve systems for importing verified instrument data to support NMIA activities more broadly
- Streamline processes for identifying and communicating alleged non-compliances that relate to administrative conditions on licences
- Re-allocate resources to investigate high-risk licensees based on non-compliance identified through the inspectorate, complaints and desktop auditing
- Collaborate with the compliance unit to test evidentiary requirements for other licence conditions for servicing licensees and public weighbridges
- Develop a stakeholder engagement strategy to outline various approaches needed to more effectively communicate with licensees and invoke behavioural change to support the national measurement system

- Continue to develop and improve the content available on the departmental website for public weighbridge and servicing licensees and legal metrology authorities
- Transition to web-based forms where possible for the majority of licence and appointment administration functions

Pre-Market Surveillance

NMIA is conducting conformity to type testing as part of a pre-market surveillance pilot program in 2020. The objectives of the pilot project are to investigate:

- the risks of non-conformance with approved type
- the potential benefits of an on-going national or regional program

Electricity Meters and Systems

Following consultation with Australian industry stakeholders, NMIA has partly implemented an update of Australia's national standard for the pattern approval of electricity meters. An updated NMI M 6-1 provides a second pathway for approval based on a suite of Australia Standards, in turn based on IEC standards (IEC 62052.11, 62053.21 and 62053.22). The next step would be to adopt OIML requirements (OIML R 46) as a third pathway. These updates provide greater flexibility and support for a range of instruments and systems such as, smart street light metering and electric vehicle charging stations.

Emerging issues – challenges and opportunities

Digital metrology

Global markets and economies are undergoing the fourth industrial revolution (industry 4.0). NMIA is currently examining how Australia's measurement framework can effective and efficiently transform to support the digital systems and processes of the future as well as opportunities to provide enhanced services and regulatory responses that result in significantly better economic and regulatory savings for Australian industry.

Shift towards Principles-Based Legislation

The Australian Government is committed to reducing the amount of prescription in regulations and to have more principles-based legislation where appropriate. By having a clear articulation of the underpinning policies for legal metrology, innovative technologies could be accommodated in the legal metrology system more easily, brought to market sooner and not be delayed due to prescriptive arrangements.