



Australian Government  
Department of Industry,  
Innovation and Science

DISCUSSION PAPER:

# MEASURING INSTRUMENTS

Measurement Law Review  
2019

# Have your say

The Australian Government is seeking responses to the issues and questions raised in this paper. You can submit your comments via the Department of Industry, Innovation and Science's Consultation Hub <https://consult.industry.gov.au/measurement-law-review/measurement-in-everyday-life>

Australia's measurement laws can be found on the Federal Register of Legislation <https://www.legislation.gov.au>.

Submissions will be considered by the government to finalise options for reform.

If you have difficulties or questions, please call **1300 686 664** or email [measurementlawreview@industry.gov.au](mailto:measurementlawreview@industry.gov.au).

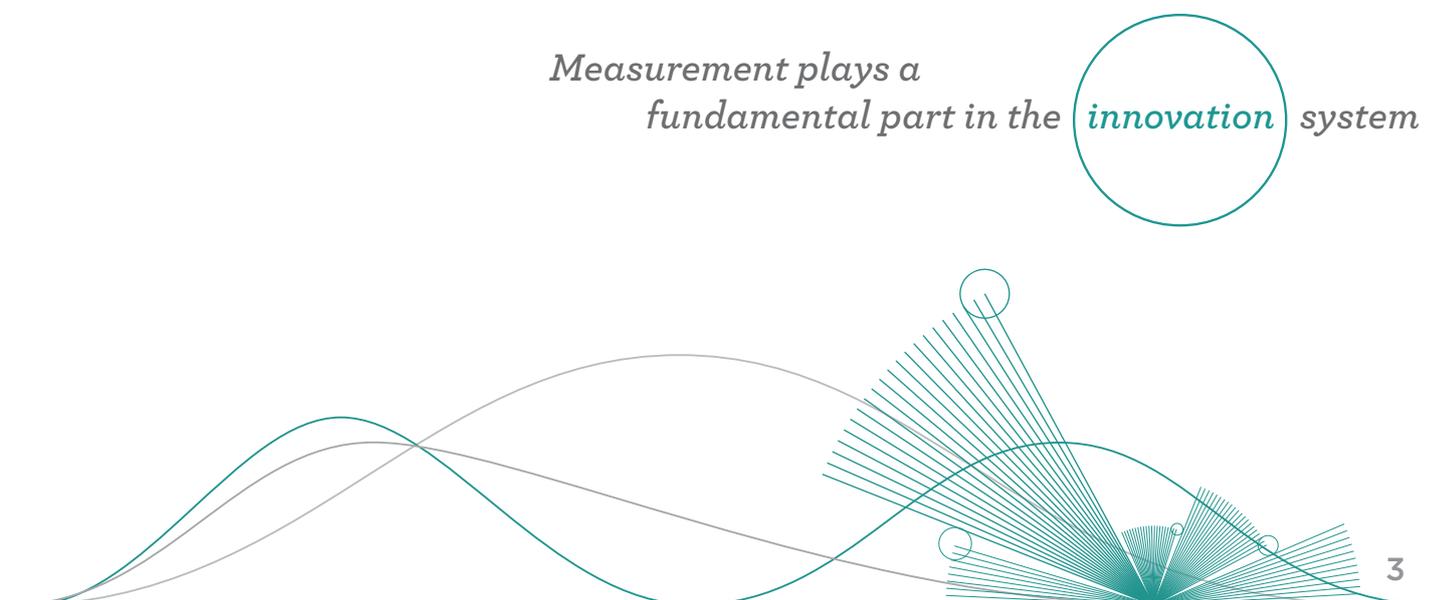
The closing date for submission is **31 May 2019**.

Submissions received may be made public on the consultation website unless otherwise specified. Submissions should indicate whether any part of the content should not be disclosed to the public.

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*Measurement plays a  
fundamental part in the **innovation** system*





## MEASUREMENT LAW REVIEW - DISCUSSION PAPERS



## 1. Overview

Measurement plays an important role in Australia's economy. As detailed in section 51(xv) of the Constitution, the Australian Government has responsibility for weights and measures and, in keeping with this responsibility, has enacted legislation to carry out its metrological functions. The objectives of this legislation include establishing and coordinating a uniform national system of measurement, including trade measurement.

A 2015 independent review of Australia's legal metrology activities indicated while the national measurement system is working well, the legislation is:

- very prescriptive and needs to address matters of policy and principle, reduce prescription and remove matters of detail (regulatory processes) into subordinate legislation or guidance material
- complicated and needs to enable the public to understand their obligations and the implications of regulatory measurements, and
- not easy to understand and needs to be written in plain language to improve clarity and simplicity.

The measurement law needs to: better reflect and integrate current policy and principles into the legislation; articulate performance outcomes; and enhance flexibility, with consideration given to the application of a principles-based approach.

## 1.1 The Measurement Law Review (the Review)

The Australian Government is conducting a review of Australia's measurement laws. The Review aims to ensure Australia's measurement framework can support the economy now and into the future as technology, industry and consumer needs evolve.

The Review provides an opportunity to consider whether the current legislation continues to be appropriate, effective and efficient. This paper is not an exhaustive exploration of the topic and you are welcome to raise issues and views not outlined in this paper in your submission. Questions are provided at the end of each section to prompt feedback. Any calculations of costs or benefits of the current regulations or in response to identified issues would be useful to include in your submission.

The Review secretariat would be interested in receiving responses from parties including, but not limited to:

- businesses or individuals involved in making or relying on measurements under the legislative framework
- providers of physical, chemical and/or biological measurement services
- providers of measuring instruments
- innovators of measurement technology
- legal professionals, and
- consumers and the general public who rely on or are impacted by measurement in their daily lives.

For more information on the Review, please visit [www.industry.gov.au/measurement-law-review](http://www.industry.gov.au/measurement-law-review)

## 1.2 This Discussion Paper

**This paper outlines the metrological control systems under Australia's measurement laws to establish the reliability of a measuring instrument. It discusses the tension between flexibility and reliability in regulation, provides some examples of international approaches and then poses a series of questions to prompt feedback.**

This discussion paper on *Measuring Instruments* will refer to:

- The *National Measurement Act 1960* (the Act), Part IV (Using measuring instruments for trade) and Part V (General provisions on using measurement in trade)
- The *National Measurement Regulations 1999* (NMR)
- The *National Trade Measurement Regulations 2009* (NTMR).

This paper covers: establishing reliability of measuring; approval for use; verification; certification; and accommodating flexibility for new measuring instrument technology.

For additional information on other discussion papers, refer to the [Guide to the Discussion Papers](#).





## 2. Measuring Instruments

Section 3 of the Act defines a measuring instrument as:

***A thing by means of which a measurement may be made or a component of such a thing.***

This definition means that instruments as simple as a tape measure or a ruler through to something as large and complex as an LPG bulk flow-metering system are all considered to be measuring instruments for the purposes of the Act. Measuring instruments that reliably produce accurate and reproducible measurement results help to sustain confidence in the measurement system. Australia's measurement laws provide a legislated framework for demonstrating the reliability of certain measuring instruments, including those used for trade.

### 2.1 Current approach

The legislation does not intend to capture all measuring instruments that could conceivably fall within the definition of a measuring instrument. Instead, it covers and makes a distinction between measuring instruments used for trade and those used for other legal purposes. The legislation treats them differently.

#### ***Measuring instruments used for trade:***

A measuring instrument is considered 'in use for trade' under section 3 of the Act when it is used for determining:

- the consideration in a trade transaction
- the amount of a tax, or
- the amount of a tax credit/adjustment where specified in the measurement regulations.

An example of a measuring instrument used for trade purposes is a public weighbridge.

#### ***Measuring instruments used for any other legal purpose:***

Section 3 of the *National Measurement Regulations 1999* (NMR) defines a legal measuring instrument (that is, one used for a legal purpose other than trade) as one used in determining a physical quantity:<sup>1</sup>

- a. for:
  - i. law enforcement
  - ii. demonstrating compliance, or lack of compliance, with a law of the Commonwealth or of a State or Territory, or
- b. that is, or may be, relevant to a proceeding in which the quantity is an issue.

<sup>1</sup> Under the NMR, 'physical quantities' includes 'chemical quantities'. Relevantly, Regulation 5 of the NMR provides that "the Australian legal unit of measurement for a physical quantity mentioned in an item in Schedule 1 is the unit of measurement the name, symbol and definition of which are mentioned in the item." Item 1.2 of Part 1 of Schedule 1 of the NMR specifies that the physical quantity for the amount of a substance is the mole.

Measuring instruments used for any other legal purposes are covered by other Commonwealth and state/territory legislation. For example, evidential breath analysers used for law enforcement are regulated by relevant state/territory jurisdictional laws and are considered legal measuring instruments under Australia's measurement laws.

The legislation has different mechanisms for measuring instruments used for trade and measuring instruments used for any other legal purposes. The Act:

- requires instruments used for trade to be pattern approved<sup>2</sup> (and establishes offences for breaches of this requirement), but does not similarly compel the pattern approval of measuring instruments used for other legal purposes. Other government regulators may require pattern approval for these instruments, but breaches of those requirements are not covered by the measurement law; and
- establishes a verification<sup>3</sup> process to ensure accuracy in measuring instruments used for trade and a certification<sup>4</sup> process to ensure accuracy in measuring instruments used for other legal purposes.<sup>5</sup>

Some measuring instruments are exempt from the national measurement framework.<sup>6</sup> Under Australia's measurement laws there are exemptions for:<sup>7</sup>

- automated packing machines
- instruments used to determine:
  - charges relating to telephone calls or internet services
  - taxi fares
  - charges for hiring a motor vehicle
  - tyre pressure
  - the expiration of time, or calculation of time, for parking a vehicle
- instruments to measure greenhouse gas emissions, and
- certain types of gas, water and electricity meters.

## QUESTIONS:

### 2.1.1 What costs/benefits are incurred by you or your business as a result of the current regulation of measuring instruments in Australia?

## 2.2 Reliability

To provide the user with confidence in the validity of a measurement, a measuring instrument intended for trade purposes must meet pattern approval and verification requirements before use in Australia.

- Pattern approval confirms that the design of the measuring instrument meets relevant documentary standards and would be expected to perform as intended over a range of environmental and operating conditions.
- Verification checks that the measuring instrument used for trade is marked with an approval number and that it operates within allowable maximum permissible errors.

Service licensees, verifiers, certifiers and Approving Authorities support the reliability of measuring instruments. Government administrators can use Australia's measurement law framework<sup>8</sup> to facilitate efficient and effective programme delivery by using pattern approval and certification to assure the accuracy and reliability of measurements.

<sup>2</sup> Refer to Pattern Approval section of this discussion paper in "Approval for use".

<sup>3</sup> Provided for under Division 3 of Part IV of the Act.

<sup>4</sup> Provided for in Division 2 of Part 4 of the NMR.

<sup>5</sup> See Division 2 of Part IV of the Act.

<sup>6</sup> See sections 4A and 4B of the Act. A range of measuring instruments are exempt from regulation by the national measurement framework. For example, state and territory laws may require pattern approval and verification of meters that are exempt under the Act. State and territory laws may specify laws relating to improper practices in connection with utility meters used for trade. Sub-section 4A(1A) makes it clear that the Act is not intended to exclude or limit the concurrent operation of any state or territory law to the extent the state and territory law relates to verification of exempt utility meters used for trade or approval patterns of exempt utility meters used for trade.

<sup>7</sup> See sections 4A and 4B of the Act.

<sup>8</sup> Administrators may consider the option of using a verified artefact that may provide assurances of accuracy for some physical objects used in simple applications. Regulation 3 of the NMR: *Artefact means a physical object that is not a standard of measurement.* An example of an artefact used for legal purposes is a crab gauge used to determine whether caught crabs meet mandated size limits.

**QUESTIONS:****2.2.1 In your opinion, does the current legislative framework strike an appropriate balance between the interests of various parties in the supply chain? If not, how could current arrangements be made more efficient or effective?**

In answering this question, you may wish to consider the competing priorities of consumers, regulators and entities at various levels in the supply chain and those of measurement instrument suppliers (manufacturers and importers).

**2.2.2 How should Australia's measurement laws specify the types of measuring instruments to which they apply? For instance, would exemption or inclusion requirements be effective?**

In answering this question, you may want to provide your views on the currently listed exemptions. Are these appropriate to continue? If not, why?

**2.3 Flexibility**

Metrological control systems such as pattern approval, verification and certification under Australia's current measurement laws are only applied to a defined range of measuring instruments and in specific circumstances. Significant volumes of measuring instruments in Australia are not used in trade and therefore are not subject to metrological control under Australia's measurement laws. However, where an instrument is for a legal purpose other than trade it may be subject to the requirements of other Commonwealth, state or territory legislation that sits outside Australia's measurement laws.

**This review provides an opportunity to consider whether the current scope of application of metrological control systems is appropriate or if Australia's measurement framework can be designed differently to benefit industry and government while maintaining consumer confidence in measurement-based trade transactions.**

Benefits of these control systems under Australia's current measurement laws can include:

- regulated measuring instruments used in the market are fit-for-purpose
- greater protection from fraudulent measurement practices for consumers who rely on measuring instruments used for trade, and
- helping to establish a level playing field between commercial competitors based on the independently attested performance of regulated measurement instruments.

For the most part, measuring instruments used for non-trade purposes are not constrained by these controls.

This includes a range of chemical and biological measurement instruments used for scientific purposes. This means that new, innovative measuring instruments for non-trade purposes can find their way into the market and into practical use quickly and easily, for example a pedometer app for mobile phones. This is arguably an example where the costs of regulating would exceed the benefit.

For trade measuring instruments, the requirements of compliance with the metrological control systems discussed in this paper can result in delays in those instruments reaching the market. For example, developing documentary standards for pattern approval as well as verification processes can take time, which reduces the framework's ability to keep pace with developments in the technology of measuring instruments used for trade.

The degree to which flexibility exists for regulated measuring instruments under the current measurement framework is demonstrated through the following case studies.

### Case Study: Metrological control systems for measuring instruments used by government

Australia's measurement laws provide a framework that can be used to enable the confident use of measurements across sectors including health, environment, safety and trade. For example, the framework provides for measurement standards used to support high-speed global communication and satellite navigation and high-accuracy certified reference materials to support the detection of harmful toxins in food and pollutants in the environment.

Except for measuring instruments used by the Surveyor General and law enforcement agencies, there has been limited uptake by other government regulators to use the pattern approval aspects of the framework. This may partly be due to limited flexibility of the metrological control systems under Australia's measurement legislation to support measuring instruments used in non-trade applications such as in health, environment and safety.

### Case Study: Approval process for new measuring instrument developed by industry

Recent developments in the sugar industry have seen the new adoption of near infrared (NIR) technology to measure sugar content in sugarcane. There is currently no accepted international standard for this measuring instrument despite their rapid uptake by industry due to efficiency increases. With neither an international nor a domestic standard being developed, it is not possible for these measuring instruments to be approved for use in trade. In response, industry has been working with the National Measurement Institute (NMI) to develop a national standard and with the international community to develop an international standard for the measurement of sugar content in sugarcane using NIR.

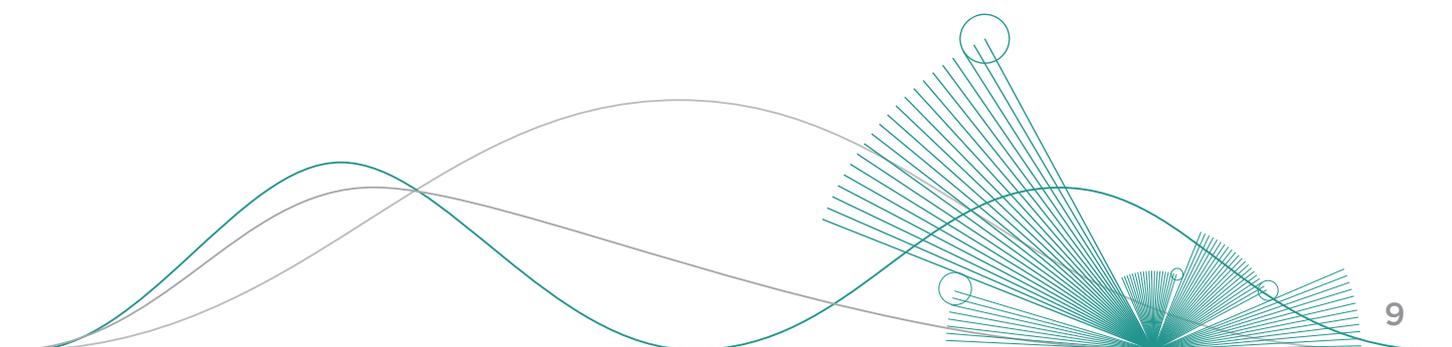
## QUESTIONS:

### 2.3.1 How could flexibility be introduced to Australia's measurement laws to allow industry to take greater advantage of new developments in measuring instruments?

In answering this question, you may wish to consider:

- appropriate timeframes for the acceptance of new measuring instrument technology, and
- possible risks associated with rapid technology uptake.

### 2.3.2 Do you have any further observations, issues or thoughts regarding the current regulation of measuring instruments?





## 3. Approval for use

Except if exempted under the Act, measuring instruments used for trade (e.g. supermarket checkout scales) must be pattern approved and verified before being used in Australia.<sup>9</sup>

### 3.1 Pattern Approval

Manufacturers, importers and suppliers of regulated measuring instruments intended for trade use in Australia must submit an application to the Approving Authority<sup>10</sup> to approve that measuring instrument for use, even if that instrument is already approved overseas. This process is known as pattern approval.

The Chief Metrologist may appoint Approving Authorities<sup>11</sup> to examine and approve measuring instruments on their behalf, although to date such Authorities have only been appointed to undertake examinations.

**Under Australia's measurement laws, the steps associated with the pattern approval process are:**



The pattern approval examination process checks if an instrument's design is suitable for its purpose, reliable, repeatable, and capable of maintaining its calibration over an extended period and under a wide range of operating parameters (e.g. environmental conditions). The process includes:

- submitting an application to the Approving Authority seeking the approval of the pattern of the measuring instrument. The application is accompanied by detailed drawings and specifications of the pattern of the measuring instrument. Documentation can, for example, include test reports, schematics, operating manuals and technical specifications;
- testing of the instrument to check its performance;
- examining the operation of the instrument against relevant documentary standards which are usually based on harmonised international standards; and
- the Approving Authority makes a decision and issues a pattern approval certificate<sup>12</sup> if the instrument passes the examination process.

Although Australia's measurement laws do not prescribe a period of validity for the approved pattern, the National Measurement Institute (NMI) has typically issued certificates valid for up to 5 years.

<sup>9</sup> Section 18GA of the Act requires measuring instruments used for trade to be verified. Section 18GK sets out the requirements for verification, including that the instrument must be of an approved pattern.

<sup>10</sup> See for example, section 18GC of the Act and regulation 58 of the NMR.

<sup>11</sup> Regulation 76 of the NMR (*Approving authorities*).

<sup>12</sup> Regulation 60 of the NMR (*Approval of patterns of measuring instruments*).

Pattern approval helps in providing consumer confidence in measurement results and assists with access to overseas markets for Australian businesses. This reduces technical barriers to international trade for manufacturers, suppliers and exporters of measuring instruments.

#### International Comparison: European Union Measuring Instrument Directive

The [Measuring Instruments Directive](#) (MID) was established by the European Union to harmonise the European market for measuring instruments. The MID aims to protect the consumer and to create a basis for trust and fair trade in the public interest.

The MID provides multiple flexible approval pathways to demonstrate that an instrument is fit-for-use. Each measuring instrument manufacturer decides which approval pathway they want to use<sup>13</sup> and proves to a notified body (which is generally a country's national metrology institute, such as the [Physikalisch-Technische Bundesanstalt](#) (PTB) in Germany) that their instrument complies with the MID requirements. By comparison, in Australia pattern approval is the only pathway for an instrument to be legally used for trade.

The directive is limited to ten types of measuring instruments that have special economic importance because of their number or their cross-border use. These are: water meters; gas meters and volume conversion devices; electricity meters; heat meters; meters for liquids other than water; automatic weighing instruments; taximeters; material measures; dimensional measuring instruments; and exhaust gas analysers. The MID defines basic requirements for these measuring instruments, e.g. protection against tampering and the display of billing-related readings.

There is a [separate directive](#) issued by the European Union for non-automatic weighing instruments.

#### QUESTIONS:

##### 3.1.1 What is your experience regarding accessing or gaining pattern approval for measuring instruments?

In answering this question, you may wish to consider:

- challenges you may have faced with the process for approving a measuring instrument in Australia or incorporating new measurement technologies
- how the current approval process could be improved, including what costs and benefits would arise
- whether you think the current process meets the needs of measuring instrument manufacturers/suppliers, servicing licensees and users of measuring instruments, and
- ways in which flexible approval pathways could be introduced to Australia's measurement laws.

<sup>13</sup> Approval pathways under the MID are referred to as technical solutions.



## 4. Ongoing confidence

Australia's measurement laws include a number of elements that aim to ensure ongoing confidence in measuring instruments. These elements are discussed below.

### 4.1 Verification

Verification<sup>14</sup> is the process of testing the performance of a measuring instrument to be used for trade. It aims to ensure that individual measuring instruments operate within legislated error limits. Measuring instruments intended for trade use must be verified before they can be used for trade in Australia.<sup>15</sup>

Only measuring instruments of an approved pattern may be verified. Depending on the kind of instrument, verification can be performed at the manufacturer's premises, at a third-party laboratory or on site. While it is preferable to verify a measuring instrument in the actual location where it will be used, this is not always practical. If the instrument passes the verification test, a verification mark is affixed to it. Alternatively, a verification certificate may be issued for some measuring instruments (such as utility meters).

Verification can be undertaken by:

- a trade measurement inspector
- a servicing licensee or an employee of a servicing licensee (verifier), and/or
- a utility meter verifier.

There is no mandated fixed re-verification period under Australia's measurement laws except for public weighbridges.<sup>16</sup> Businesses can maintain confidence in the ongoing accuracy of their measuring instruments through various ways, including statistical models, verification history including re-verification, the fact that the instrument is pattern approved, overall instrument design, diagnostics and single point tests.

In certain industries, there has been a shift from businesses owning their measuring instruments to businesses leasing measuring instruments from suppliers/manufacturers under an in-service lease agreement. These agreements typically specify the periods of verification for the instrument. This change in market behaviour causes complexities concerning the perceived responsibilities for verification under the Act.

<sup>14</sup> Section 18GG of the Act.

<sup>15</sup> There are a number of offences under Australia's measurement laws relating to using or supplying a measuring instrument that has not been verified.

For more information regarding offences relating to verification, see our upcoming companion *Compliance Arrangements discussion paper*.

<sup>16</sup> Section 18GG(1)(b) and 20(1)(o) of the Act and Regulation 3.61 of the *National Trade Measurement Regulations 2009*.

### International comparison: New Zealand's Certificate of Accuracy

New Zealand requires measuring instruments to be verified and stamped with a Mark of Verification by an Accredited Person before it can be used for trade. There are no requirements for periodic re-verification. Businesses using a measuring instrument for trade can ask an Accredited Person to issue a Certificate of Accuracy for the instrument. The certificate is a self-adhesive label that cannot be removed without being destroyed and is valid for 12 months from the date of the test.

Maintaining a current certificate is voluntary; however, having one may provide a business with a defence if the instrument is found to be inaccurate. The defence is available where the instrument's certificate is current and the operator or owner of the instrument did not know or have any reason to suspect or believe the equipment was inaccurate.

## 4.2 National Instrument Test Procedure (NITP)

The legislation requires that verification of trade measuring instruments be undertaken in accordance with the relevant National Instrument Test Procedure (NITP) developed and determined by the Chief Metrologist.<sup>17</sup> There are currently 24 **published** NITPs covering a range of categories or classes of measuring instrument used for trade in Australia.

Servicing licensees, verifiers and trade measurement inspectors use the NITPs to verify measuring instruments used for trade. Public consultations undertaken in June 2015<sup>18</sup> identified that the majority of the servicing licensee industry supported maintaining mandatory test procedures.

For measuring instruments using new and emerging technologies, the requirement to test an instrument against an NITP presents challenges. Where there is no existing NITP, test procedures need to be developed and published to satisfy the verification requirements under the legislation.

As noted above, NITPs are developed and determined by the Chief Metrologist under Australia's measurement laws.<sup>19</sup> However, the mandatory use of NITPs may place a regulatory burden on industry. Removing the need to wait for the Chief Metrologist to develop and publish the relevant NITP for new measuring instruments may reduce potential delays and costs to businesses. Although NITPs provide advantages such as clarity of requirements, consistency in test methods and a level playing field for licensees and small local manufacturers, some alternative approaches to mandatory NITPs exist, such as:

- modification of the procedures or legislation to allow licensees (and manufacturers) to develop their own verification test procedures for review (which may include approval by the Chief Metrologist), and
- allowing certain low-risk measuring instruments to be in the market under provisional arrangements while relevant procedures and approvals are developed.

### Case Study: Delays to market for new and emerging technology – NITPs

Innovation in the weighing technology used for waste disposal trucks (wheeled loader weighing devices) resulted in new types of measuring instruments to which existing NITPs did not apply. As a result, a new NITP needed to be developed by NMI. As the process to develop the new NITP (NITP 6.8) took approximately two years, there was a significant market delay for the technology to be used for trade purposes in Australia.

<sup>17</sup> Section 18GG of the Act.

<sup>18</sup> For more information see the Review of the National Instrument Test Procedure (NITP) Reform consultation page: <https://consult.industry.gov.au/national-measurement-institute/nitp-reform/>

<sup>19</sup> Section 18GG(2) of the Act.



### 4.3 Pattern compliance

Australia's measurement framework also provides for the Chief Metrologist to examine whether a measuring instrument complies with its approved pattern.<sup>20</sup> This is a form of post-market surveillance.

The requirement under the current legislation is for the Chief Metrologist to have the measuring instrument in their possession to examine it and ascertain whether the instrument complies with the approved pattern. If the instrument is found not to comply with the approved pattern, then the Chief Metrologist may decide to withdraw or cancel the approval for all instruments operating under that pattern. To date, this form of post-market compliance has not been widely used by the Chief Metrologist.

#### International Comparison: Conformity to Type (CTT)

The process of assessing whether an instrument complies with an approved pattern has some similarities to the process of CTT undertaken in some overseas jurisdictions. For example, under the CTT process of the EU's MID, instruments are assessed to determine whether they conform to type based on a range of alternative methods, including assessment against certain controls, production assurances or quality assurances.<sup>21</sup> This CTT process minimises delays in time-to-market for the manufacturer because the assessments typically occur after products go to market.

NMI has worked with the Australian water-metering sector to develop a voluntary code of practice and coordinates a national pattern compliance program for water meters that have existing pattern approvals. This approach involves the checking of production water meters and is based on a CTT model.

### 4.4 Certification

Certification is the process of ensuring the accuracy of legal measuring instruments and is undertaken by the Chief Metrologist or other Certifying Authorities appointed by the Chief Metrologist.<sup>22</sup> Commonwealth, state and territory legislators may use the Australian Commonwealth laws to ensure the suitability and accuracy of legal measuring instruments used in law enforcement (e.g. evidential breath analysers) or for demonstrating compliance with a law (e.g. relating to environmental contamination).

Certification helps provide confidence in measurements used for non-trade (legal) purposes, particularly where there is a need for a legal assurance under the Act.

<sup>20</sup> Regulation 64 of the NMR (*Examination of instruments for compliance with approved patterns*).

<sup>21</sup> See Modules C through H of the [MID](#).

<sup>22</sup> Regulation 37 of the NMR (*Certification of measuring instrument*).

The Chief Metrologist may appoint entities as Certifying Authorities. Certifying Authorities need to meet appropriate capability requirements or hold National Association of Testing Authorities (NATA) accreditation that the Chief Metrologist considers appropriate to certify measuring instruments.<sup>23</sup>

The process of certification involves government agencies, instrument manufacturers or other parties submitting a measuring instrument to a Certifying Authority for accuracy testing. There have been instances where Commonwealth, state and territory legislators have used Australia's measurement framework for a non-trade legal purpose (e.g. law enforcement, and safety). However, some aspects of the framework exist exclusively for trade applications, for instance, NITPs and servicing licensee status, limiting the ability of the framework to be adopted by Commonwealth, state and territory legislators for non-trade applications.

Other government administrators or industry self-regulators requiring accurate measurements may be able to reduce operational costs associated with developing their own frameworks by adopting elements of the national measurement law framework such as pattern approval and certification.

#### Example of measuring instrument for non-trade or legal purpose

Evidential breath analysers (EBAs, also known as breathalysers) are measuring instruments used for a legal purpose (non-trade). These instruments are used by traffic enforcement agencies under road safety legislation. Based on a measurement reading, people may be penalised. State and territory enforcement laws determine whether these measuring instruments are to be certified. While not mandated by the Commonwealth, some States require the certification of EBAs.

#### QUESTIONS:

##### 4.4.1 Are verification and certification an effective and efficient means of ensuring and demonstrating accuracy for the purposes to which they are applied?

In answering this question, you may wish to consider if:

- methods assuring accuracy should be harmonised or streamlined, and
- verification and certification are sufficient for the variety of regulated measuring instruments under Australia's measurement laws.

##### 4.4.2 Are there additional types of measuring instruments that should have mandated re-verification periods? If so, why? What costs/benefits or risks might arise?

##### 4.4.3 Does the current framework, which aims to ensure the ongoing confidence of measuring instruments, serve your needs? How could it be modified to better meet the needs of the community?

<sup>23</sup> The capability requirements are outlined in Regulations 73 of the NMR (*Verifying and certifying authorities*).



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**...a better framework for  
measurement in Australia**