



Australian Government
Department of Industry and Science

**National
Measurement
Institute**

Consultation Paper

New Pattern Approval
Requirements for Non-automatic
Weighing Instruments

August 2015

INTRODUCTION

The purpose of this document is to seek feedback on the proposed adoption of the revised international standard for pattern approval of non-automatic weighing instruments in Australia.

BACKGROUND

The National Measurement Institute

The National Measurement Institute (NMI) is the Australian government organisation responsible for the administration of the *National Measurement Act 1960* (Cth) (the Act) and subordinate legislation. Under this legislation NMI's responsibilities include the pattern approval of measuring instruments used for trade in Australia.

Pattern approval is important because it provides confidence that measuring instruments are capable of meeting metrological requirements over a range of operating conditions as well as affording protection to manufacturers and consumers.

NMI intends to align the Australian framework for the pattern approval of non-automatic weighing instruments with the recently updated international standard.

The International Organization of Legal Metrology

The International Organization of Legal Metrology (OIML) is an intergovernmental treaty organisation established in 1955 responsible for the development and promotion of internationally harmonised legal metrology procedures. Australia, represented by NMI, is one of 60 member states that are signatories to the OIML treaty.

OIML develops model regulations, or International Recommendations, which provide member states with an internationally-agreed-upon basis for the establishment of national legislation on various categories of measuring instruments.

As a signatory to the treaty, NMI has made an international commitment to adopt OIML Recommendations (OIML R documents). Australian law goes further than this, with the Act requiring NMI to harmonise its requirements with the recommendations of OIML. There are only two situations where the Australian standard may differ from the OIML Recommendation: where a requirement is not practicable due to particular circumstances in Australia; or where a requirement is not in the national interest.

NMI has previously adopted a series of OIML Recommendations covering a wide range of measuring instruments used for trade and other legal purposes. These adopted NMI R documents can be downloaded from the NMI website at:

<http://www.measurement.gov.au/Publications/PARrequirements/Pages/default.aspx>.

PROPOSAL

Adoption of the 2006 edition of OIML R 76 as NMI R 76

OIML R 76 is the OIML Recommendation intended for the pattern (type) approval of non-automatic weighing instruments. The latest version of OIML R 76 published by OIML is the 2006 edition and this provides the basis for the updated standard proposed by NMI for adoption in Australia.

A draft new NMI R 76 is attached to this consultation paper. NMI intends to adopt the Recommendation, including any modifications, as the updated pattern approval standard for non-automatic weighing instruments in Australia (the new NMI R 76). This consultation is an update to NMI consultations on OIML R 76 held in July 2012..

A separate document, NMI M 7, contains a national pattern approval standard for point of sale (POS) systems in Australia. NMI M 7 is based on the POS system requirements of the new NMI R 76, extracted to avoid the need to approve POS systems against the OIML R 76.

Table 1: Summary of key changes

Test Standard	Test Name	Old requirements NMI R 76 edition 3 Based on OIML R 76:1992	New requirements NMI R 76 edition 4 Based on OIML R 76:2006
IEC 60068-2-1 IEC 60068-2-2	Temperature Tests	Over working range (nominally -10 °C to +40 °C)	No notable changes
IEC 61000-4-11	Voltage Variations	Mains supply and battery operation	Testing requirement better defined
IEC 60068-2-78	Damp Heat	85% relative humidity at upper temperature range of instrument	No notable changes
IEC 61000-4-11	AC Mains voltage dips and short interruptions	AC mains short term power reductions	Different values of amplitude reductions and durations
IEC 61000-4-4	Bursts / Electrical fast transients	Bursts of voltage spikes applied to power supply, I/O, data and control lines.	No notable changes
IEC 61000-4-5	Surge	Not applicable (New test)	Surges applied
IEC 61000-4-2	Electrostatic discharge	Up to and including 6 kV for contact discharges and 8 kV for air discharges.	No notable changes
IEC 61000-4-3	Immunity to radiated electromagnetic fields	26 – 1000 MHz; 3 V/m	80 MHz – 2000 MHz; 10 V/m
IEC 61000-4-6	Immunity to conducted electromagnetic fields	Not applicable (currently the radiated test covers 26-80 MHz)	0.15 MHz – 80 MHz; 10 V/m
ISO 7637-1 ISO 7637-2 ISO 7637-3	Special EMC requirements for instruments powered from a road vehicle power supply	Not applicable (New test)	No change - Not applied yet ¹

Stakeholders should note that some of the technical content of the new draft NMI R 76 is substantially different to the current NMI R 76, including changes to functional testing requirements. NMI recommends that you review the new draft. NMI has identified the following principal differences in the new testing requirements:

¹ Currently NMI does apply these tests. It is NMI's intention to conduct these tests once it has developed the capability to do so. Further advice will be provided prior to implementing these tests.

- Additional software requirements;
- AC mains voltage dips and short interruptions;
- Introduction of the surge test;
- Introduction of the conducted immunity test radio-frequency fields;
- Some changes in the tests to be performed during initial verification; and
- Additional EMC requirements for instruments powered from a road vehicle power supply.

A table detailing the nature of these changes is attached in Table 1.

New requirements for the compatibility of modules

Another key difference introduced by the new standard concerns the requirements for the compatibility of modules in weighing instruments. The calculations in Annex F of the new standard differ from those of NMI General Certificate 6B/0 Weighing Instruments for Static Loads Not Less than 100 kg.

It is proposed that manufacturers may establish compatibility by using either the Annex F calculations, or those of NMI General Certificate 6B/0 (as expressed in the 6B/0 spreadsheet published on the NMI website).

Adoption timeline

To minimise disruption and undue expense to industry, NMI proposes that a substantial transition period would apply, as follows:

Key Dates

1 October 2015	<p><i>Approval</i></p> <p>From this date non-automatic weighing instruments would be assessed for approval by NMI against either the new requirements or the existing requirements. Applicants would be expected to specify which requirements they are applying for in their application for approval. The applicant would need to choose one set of requirements; instruments would not be approved as partly compliant with one set of requirements, and partly with another.</p>
1 August 2020	<p><i>Approval</i></p> <p>From this date non-automatic weighing instruments would be assessed for approval by NMI against the new requirements only.</p> <p><i>Reviews</i></p> <p>Up until this date, reviews would be permitted against the existing requirements. Applicants may request review against the new requirements. The period of validity would normally be five years. Any applications for review received after this date would be assessed against the new requirements.</p>

SUBMISSIONS

NMI is seeking feedback from stakeholders to ensure that the content and proposed adoption timeline for the proposed new NMI R 76 is appropriate and practicable for the Australian context.

Minor amendments and clarifications to OIML R 76 proposed by NMI are included in the attached draft of NMI R 76 below. NMI invites feedback on these proposed amendments as well.

A list of questions has been provided below to assist stakeholders in making submissions.

Questions

1. NMI proposes to adopt OIML R 76 as NMI R 76 to be the pattern approval standard for non-automatic weighing instruments in Australia. Do you have any comments on the adoption or content of the proposed standard, including NMI's amendments?
2. Do you believe any additional amendments should be made to NMI R 76? If so, please specify and provide details.
3. Concerning compatibility of modules, should NMI adopt OIML R 76 Annex F or retain the present General Certificate 6B/0, or accept either? What issues might arise from these options?
Note: In considering this it should be noted that some information needed to carry out a compatibility of modules analysis according to Annex F may not be available in existing certificates of approval (or at all).
4. Do you support the proposed timeframe for adoption of the new standard?

How to make submissions

All submissions should be forwarded to NMI by close of business 11 September 2015 by either

- emailing your submission with the subject heading "Non-automatic weighing instruments consultations" at: NMILegalMetrologyPolicy@measurement.gov.au; or
- mailing your submission with the subject heading "Non-automatic weighing instruments consultations" to:

Attention: Legal Metrology Policy
Legal Metrology Branch
National Measurement Institute
PO Box 264
Lindfield NSW 2070

FREQUENTLY ASKED QUESTIONS

How does this effect instruments which have already been manufactured or installed?

There is no effect. Equipment which complies with an existing approval can remain in operation.

What about instruments that are currently approved?

There is no effect on the current approval. However when an approval is reviewed, or when a variant to an approval is examined it is possible that changes to requirements may apply. See the proposed timeframe for details.

Can an instrument be partly examined to current requirements, and partly to new requirements?

No. Examination for approval will be to either the current, or the new requirements.

Is there any change in the approval process?

No, details of how to apply for a certificate of approval can be found at www.measurement.gov.au/patternapprovalapplication

It should be noted however that the new requirements involve two additional testing modules - for the electromagnetic susceptibility testing from 1 to 2 GHz, and for testing in relation to surges. Fees may apply for these modules in accordance with the National Measurement Regulations.

The manufacturer has altered the equipment design (from that currently approved in an Australian Certificate of Approval) to comply with requirements regarding EMC immunity in other markets (e.g. Europe). What do I need to do?

Make an application for a variant to the certificate and supply details of the changes made, together with any evidence (e.g. test results) which supports the manufacturers belief that the changed design will comply with the new requirements without affecting other aspects of instrument performance.

NMI will assess this material and advise whether additional testing by NMI is required. Fees will be charged for this assessment and any testing required. In some cases it will be necessary to issue a variant to the certificate documentation, whereas in others changes to the documentation may not be necessary.