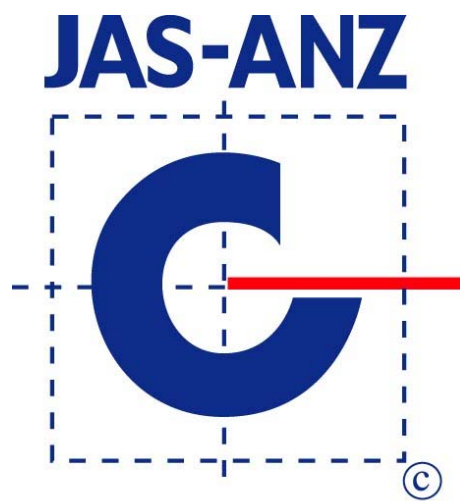


Joint Accreditation System of Australia and New Zealand

POLICY NUMBER 3/04



TRACEABILITY OF PHYSICAL MEASUREMENTS

Policy No. 3/04	<i>Joint Accreditation System of Australia and New Zealand</i>	Copy No.
	TRACEABILITY OF PHYSICAL MEASUREMENTS	

1. OBJECT AND FIELD OF APPLICATION

1.1 This document details the policy adopted by the Governing Board for recognising the traceability of physical measurements and calibrations to nationally or internationally recognised standards of measurement.

1.2 Although this policy provides an example based on ISO 9001:2000, this policy applies to all accredited conformity assessment programmes where the conformity assessment standard or normative document defines the requirements for the control of monitoring and measuring equipment.

1.3 This policy shall remain current until otherwise amended, replaced or withdrawn by the Governing Board. The intent of this policy shall be incorporated into JAS-ANZ procedures at the earliest convenience.

2. REFERENCE

- A. AS/NZS ISO 9001:2000, Clause 7.6.
- B. ISO International vocabulary of basic and general terms in metrology published as AS 3807: 1998 - 6.10 Traceability (of measurements).
- C. National Measurement Act 1960
- D. AS/NZS ISO 10012:2004 : Measurement management systems - Requirements for measurement processes and measuring equipment

3. BACKGROUND

3.1 The JAS-ANZ policy on Traceability of Measurements was first published as JAS-ANZ Policy 1/96 and has remained in force until recently withdrawn as some of the content has become obsolete. Feedback from interested parties indicates that the information contained in Policy 1/96 is still required and as a consequence has been re-published in this policy document. The thrust of the policy remains unchanged.

3.2 AS/NZS ISO 9001:2000 Standard requires measuring equipment to :-

“be calibrated or verified at specified intervals or prior to use, against measurement standards traceable to international or national standards”. Clause 7.6 (b).

3.3 AS/NZS ISO 10012:2004 Standard requires the organization to ensure that:

“all measurement results are traceable to SI unit standards.” Clause 7.3.2

3.4 AS 3807:1998 Standard defines traceability as the :-

“property of the result of a measurement or the value of a standard whereby it can be related to stated references, usually national or international standards, through an unbroken chain of comparisons all having stated uncertainties”. Section 6.10.

3.5 This policy is intended to standardise the interpretation of the phrase “traceable to international or national standards” or like phrases by conformity assessment bodies accredited by the Governing Board.

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Legal Metrology

3.6 Whilst this policy's intention is to standardise interpretations in relation to traceability of physical measurements in the context of certification, it does not apply to traceability in legal metrology as defined in Section 10 of the National Measurement Act of the Commonwealth of Australia (the Act). Although the Act achieves the same practical outcome as the traceability described in this policy, it has important additional requirements in that it:

- requires that a legally traceable measurement of a physical quantity may only be made by reference to specified standards, reference materials or measuring instruments or combinations thereof;
- provides for regulations to specify pattern approval of measuring instruments;
- provides for regulations to specify the issue of particular certificates to demonstrate legal traceability.

3.7 Legal metrology is a part of metrology relating to activities which result from statutory requirements and concern measurement, units of measurement, measuring instruments and methods of measurement and which are performed by competent bodies, such as measurement for traffic control, occupational health and safety, and environment monitoring and trade measurement.

4. POLICY

Traceability of a physical measurement

4.1 An item of measuring equipment shall be deemed to have traceability to internationally or nationally recognized standards of measurement when it has been calibrated by one of the following bodies and is of appropriate accuracy for the measurement in question:

- (a) National Measurement Institute, Australia (NMIA),
- (b) Measurement Standards Laboratory, Industrial Research Limited (MSL) – New Zealand,
- (c) A national measurement standards laboratory whose calibration capability for the measurement in question is listed in Appendix C of the Bureau International des Poids et Mesures (BIPM) database established under the Comité International des Poids et Mesures (CIPM) Mutual Recognition Arrangement,
- (d) A metrology or calibration laboratory accredited, for the measurement in question, by one of the following national laboratory accreditation authorities:
 - (i) The National Association of Testing Authorities, Australia (NATA),
 - (ii) International Accreditation New Zealand (IANZ), or
 - (iii) A national laboratory accreditation authority that is a signatory to the International Laboratory Accreditation Cooperation (ILAC) Mutual Recognition Arrangement.

To ensure that the measurements are covered by the calibration facility's scope of accreditation, the measurements must be reported on a certificate or report that contains the logo of one of the above-mentioned accreditation authorities.

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- (e) A laboratory or facility recognised by the National Measurement Institute, Australia as a Verifying Authority for the particular calibration.

4.2 Where calibrations cannot be traced to a recognised national or international standard of measurement through a body listed in clause 4.1 above for reasons of technical non-availability, conformity assessment bodies shall document their procedures for the validation of such calibrations. This procedure shall include verification that the method of calibration has been approved by an independent expert in the relevant field.

Legally traceable measurement

4.3 Conformity assessment bodies are advised that within Australia, Section 10 of the National Measurement Act of the Commonwealth of Australia requires that a legally traceable measurement of a physical quantity may only be made by means of, by reference to, by comparison with, or by derivation from:

- (a) an appropriate Australian primary standard of measurement;
- (b) an appropriate Australian secondary standard of measurement;
- (c) an appropriate State primary standard of measurement;
- (d) an appropriate recognised-value standard of measurement;
- (e) an appropriate reference standard of measurement;
- (f) two or more standards of measurement, each of which is a standard of measurement referred to in (a), (b), (c), (d) or (e);
- (g) a certified reference material;
- (h) a certified measuring material;
- (i) one or more standards of measurement, each of which is a standard of measurement referred to in (a), (b), (c), (d) or (e) and a certified reference material;
- (j) one or more standards of measurement, each of which is a standard of measurement referred to in (a), (b), (c), (d) or (e) and a certified measuring instrument; or
- (k) one or more standards of measurement, each of which is a standard of measurement referred to in (a), (b), (c), (d) or (e), a certified reference material and a certified measuring instrument.

A M CRAVEN
 Chief Executive
 With The Authority Of The Governing Board