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REPUBLIC OF SOUTH AFRICA

MEASUREMENT UNITS AND MEASUREMENT STANDARDS BILL, 2006

(As introduced in the National Assembly as a section 75 Bill; Explanatory summary of Bill published in Government Gazette No.\*\*\*of 2006; The English text is the official text of the Bill)

(Minister of Trade and Industry)

[B\*\*of 2006]

## BILL

To provide for the use of measurement units of the International System of Units and certain other measurement units; for the designation of national measurement standards; for keeping and maintaining national measurement standards and units; for the establishment, powers and functions of the National Metrology Institute; and to provide for matters connected therewith.

### RECOGNISING –

- The need for an internationally recognised national metrology system as the foundation for the South African measurement system;
- the need to strengthen the metrology system as a key component of the technical infrastructure that is aligned with international best practice;
- the importance to ensure that South Africa maintain national measurement standards and demonstrate their comparability to international standards and measurements;
- the supporting needs of our enterprises competing in a fast-paced global economy and public policy objectives in terms of health, safety and the environment compliance issues; and
- that government is committed to providing a supportive legal environment for a national metrology system.

### IN ORDER TO—

- recognise the National Metrology Institute as the body in South Africa responsible to provide for the use of measurement units of the International System of Units and certain other measurement units;
- designate national measurement standards and for keeping and maintaining national measurement standards and units; and
- disseminate traceability to the South African industry.

Be it therefore enacted by the Parliament of the Republic of South Africa as follows:

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## INTERPRETATION AND PURPOSE

### 1. Definitions

- (1) In this Act, unless the context otherwise indicates -
- (a) **"Board"** means the Board appointed in terms of section 13;
  - (b) **"calibration laboratory"** means a body that performs a set of operations that establish, under specified conditions, the relationship between values of quantities indicated by a measuring instrument or measuring system, or values represented by a material measure or reference material, and corresponding values realized by standards whatever their uncertainty;
  - (c) **"CIPM"** means the International Committee of Weights and Measures (Comité International des Poids et Mesures) established under the Convention of the Metre;
  - (d) **"CIPM Mutual Recognition Arrangement"** means an arrangement signed by member states under the Metre Convention for the mutual recognition of national measurement standards and calibration and measurement certificates issued by National Metrology Institutes;
  - (e) **"CSIR"** means the Council for Scientific and Industrial Research described in the Scientific Research Act No. 46 of 1988 ;
  - (f) **"Metre Convention"** (Convention du Mètre), a diplomatic treaty which gives authority to the General Conference on Weights and Measures (Conférence Générale des Poids et Mesures (CGPM)) the CIPM and the International Bureau of Weights and Measures (Bureau International des Poids et Mesures (BIPM)) to act in matters of world metrology, particularly concerning the demand for measurement standards of ever increasing accuracy, range and diversity, and the need to demonstrate equivalence between national measurement standards.
  - (g) **"Minister"** means the Minister responsible for Trade and Industry in South Africa;
  - (h) **"national measurement standard"** means a measurement standard designated in terms of section 6 as a national measurement standard;
  - (i) **"national reference measurement"** means a reference measurement designated in terms of section 7 as a national reference measurement;
  - (j) **"National Metrology Institute"** means the National Metrology Institute of South Africa established under section 9;



- (k) **"Public Finance Management Act"** means the Public Finance Management Act, 1999 (Act No 1 of 1999);
- (l) **"quantity"** means the property of a phenomenon, body or substance to which a magnitude can be assigned;
- (m) **"SI"** means the recommended practical system of units of measurement as accepted under the Metre Convention and known as the International System of Units (Système International d'Unités);
- (n) **"this Act"** includes the regulations and Schedules;
- (o) **"traceable"** means traceable in terms of section 6(3);
- (p) **"uncertainty of measurement"** means a parameter associated with the result of a measurement, that characterises the dispersion of the values that could reasonably be attributed to the measurement;
- (q) **"unit"** means a measurement unit published by the Minister in terms of section 3;
- (r) **"use"** in relation to a unit, means the expression of the magnitude of any quantity by means of a unit;

## 2. Purpose of Act

- (1) The purpose of the Act is-
  - (a) to provide a legal framework for the measurement units and measurement standards in the Republic; and
  - (b) to establish the National Metrology Institute.

## NATIONAL MEASUREMENT UNITS

### 3. Units

- (1) The units in the Republic, the symbols of the units and the rules relating to the use of units and their symbols must be:
  - (a) the units and the appropriate symbols and the rules of the SI as published from time to time by the Minister in the Gazette; and
  - (b) such other units, such other symbols of the units and such rules relating to the use of units and their symbols as the Minister may publish in the Gazette.

#### 4. Prohibition of expression of magnitude of quantities and designation of units

- (1) The Minister may by notice in the Gazette prohibit-
  - (a) the expression, in the circumstances or for the purposes or in connection with the matters and in respect of the goods or things specified in the notice, of the magnitude of quantities by means of any unit other than a unit so specified;
  - (b) the designation, in the circumstances or for the purposes or in connection with the matters and in respect of the goods or things specified in the notice, of any unit so specified by means of any symbol other than a symbol so specified.
- (2) A notice under subsection (1) may be expressed to apply to specified area only and may make provision for the granting of exemptions from its provisions.

#### 5. Equivalent of certain units

The Minister may by notice in the Gazette determine the equivalent of any unit, expressed in any other unit of the same quantity, and any equivalent so determined must for all purposes be deemed to be the equivalent of the unit in question.

### NATIONAL MEASUREMENT STANDARDS

#### 6. National measurement standards

- (1) The Minister may by notice in the Gazette designate any measurement standard described in the notice, as a national measurement standard;
- (2) The value of a national measurement standard in relation to the SI units must -
  - (a) be the value as determined from time to time by the National Metrology Institute;
  - (b) be deemed to be the most accurate value of that national measurement standard; and
  - (c) have stated uncertainties of measurement.

- (3) A measurement standard which is not a national measurement standard must-
- (a) for the purposes of measurement for any legal purpose, be traceable to one or more national measurement standards;
  - (b) be so traceable that the measurement standard is related to one or more national measurement standards as defined in section (3)(a) through an unbroken chain of comparisons-
    - (i) stating appropriate uncertainties of measurement ; and
    - (ii) carried out by a calibration laboratory accredited by the South African National Accreditation System (SANAS) or an accreditation body enabled in terms of the Accreditation for Conformity Assessment, Calibration and Good Laboratory Practice Act, in that specific area of metrology.

#### **NATIONAL REFERENCE MEASUREMENTS**

##### **7. National reference measurements**

- (1) A reference measurement or analysis performed for any legal purpose by the National Metrology Institute;
- (a) stating uncertainties of measurement; and
  - (b) traceable to;
    - (i) one or more national measurement standards; and or
    - (ii) certified reference materials traceable to national measurement standards recognised under the CIPM MRA; and or
    - (iii) internationally agreed references recognised through the CIPM;
- must be deemed to be the true value.

##### **8. Certificates**

- (1) The National Metrology Institute may issue a certificate stating the outcome of a measurement or analysis regarding any matter mentioned in section 6 (2) or (3) and section 7.
- (2) The certificate referred to in subsection (1) must be signed by a person in the employ of the National Metrology Institute as determined by the Board.