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Government Notice No. 108 of 1994.

# THE LEGAL METROLOGY ACT 1985 Regulations made by the Minister under section 14 of the Legal Metrology Act 1985

- 1. These regulations may be cited as the Legal Metrology (Assize) (Amendment) Regulations 1994.
  - 2. In these regulations —

    "principal regulations" means the Legal Metrology (Assize)
    Regulations 1990.
  - 3. Regulation 2 of the principal regulations is amended
    - (a) by deleting the definition of "crane machine" and replacing it by the following definition
      - "crane machine" means a weighing instrument of a capacity of 1000 kg or more specially designed for suspension from the hook of a crane and fitted with a hook for lifting the load;
    - (b) in the definition of "self-indicating weighing machine" by deleting the words "other than a spring balance";
    - (c) by deleting the definition of "spring balance" and replacing it by the following definition
      - "spring balance" means a weighing instrument which determines the weight of a body by the extension or compression of spring, such extension or compression being registered by means of a pointer on a dial or by a moving graduated scale;
    - (d) by deleting the definition of "steelyard" and replacing it by the following definition
      - "steelyard" means an unequal arm single lever weighing instrument, the shorter arm of which carries a load hook suspended from knife edges whilst the longer arm has a poise weight moving over a graduated scale to indicate the weight of the load;
    - (e) by adding in their proper alphabetical order the following definitions —

"bulk meter" means a measuring instrument having capacity to measure liquid fuel for individual deliveries exceeding 500 L and which can also make individual deliveries of less than 500 L and includes a vehicle tank metre;

"calibration", in relation to a vehicle tank, means the set of operations to determine and authenticate the capacity of vehicle tank compartments at one or several filling levels;

"vehicle tank" means an assembly used for measurement and delivery of liquid fuel comprising a tank which may or may not be subdivided into compartments, mounted upon a vehicle or its trailer together with its necessary pipework, valves and other parts;

"verification", in relation to instrument, weight or measure, means the examination and test of the instrument, weight or measure with a view to ascertain that it conforms to the requirements of these regulations.

- 4. Regulation 3 of the principal regulations is amended by adding after paragraph (3) the following new paragraphs
  - (4) The authorised officer shall issue a certificate of verification in respect of the assized instrument, weight or measure.
  - (5) Subject to paragraphs (6) and (7), the person to whom a certificate of verification is issued shall exhibit the same in a conspicuous place in the premises where the instrument, weight or measure to which the certificate relates is used.
  - (6) Where the person to whom the certificate of verification is issued is a hawker, he shall carry the certificate of verification.
  - (7) Where the certificate of verification is issued to a vehicle tank, it shall be kept on the vehicle.
  - 5. Regulation 4 of the principal regulations is amended
    - (a) in paragraph (1)
      - (i) by deleting subparagraph (a) and replacing it by the following subparagraph —

- (a) be of denomination 1 g to 20 kg as specified in column 1 of Table 1 of the First Schedule and have that denomination marked on its top surface;
- (ii) in subparagraph (c), by deleting the words "100 g" and replacing it by the words "50 g";
- (iii) by deleting subparagraph (i), and replacing it by the following subparagraph
  - (i) have, when new or readjusted, no error in deficiency and no error in excess greater than the limit of error for its denomination specified in the second column of Table 1 of the First Schedule;
- (b) in paragraph (2)
  - (i) by deleting the words "one-third of"; and
  - (ii) by adding immediately after the words "second column of", the words "Table 2 of";
- (c) in paragraph (4), by deleting the words "Subject to paragraph (5),";
- (d) by deleting paragraph (5) and replacing it by the following paragraph
- (5) No person shall use weights for general trade which in service have error in excess or deficiency, greater than the double of the limit of error specified in the second column of Table 1 of the First Schedule, notwithstanding that such weights bear the stamp of assize.
- Regulation 5 of the principal regulations is amended
  - (a) in paragraph (1)
    - (i) in subparagraph (a), by adding immediately after the words "specified in", the words "column 1 of Table 1 of";
    - (ii) by deleting subparagraph (b) and replacing it by the following subparagraph
      - (b) be made of brass, bronze, gun metal or stainless steel;
    - (iii) by deleting subparagraph (f), and replacing it by the following subparagraph
      - (f) have, when new or readjusted, no error in deficiency, and no error in excess, greater than the limit of error for

its denomination as specified in the third column of Table 1 of the First Schedule.

- (b) in paragraph (2)
  - (i) by deleting the words "one third of"; and
  - (ii) by adding immediately after the words "third column of", the words "Table 2 of";
- (c) in paragraph (4), by deleting the words "Subject to paragraph 5,";
- (d) by deleting paragraph (5) and replacing it by the following paragraph
  - (5) No person shall use weights for trade in valuable goods which in service have errors in excess or in deficiency, greater than the double of the limit of error specified in the third column of Table 1 of the First Schedule, notwithstanding that such weights bear the stamp of assize.
- 7. Regulation 6 of the principal regulations is amended
  - (a) in paragraph (1)
    - (i) by deleting subparagraph (d) and replacing it by the following subparagraph
      - (d) a spring balance of capacity not less than 500 g;
    - (ii) by deleting subparagraph (e) and replacing it by the following subparagraphs
      - (e) a platform machine;
      - (f) a weighbridge;
      - (g) a precision balance;
      - (h) a self-indicating weighing machine (including a price computing and/or printing electronic balance);
      - (i) a crane machine: and
      - (j) an automatic weighing machine.
  - (b) in paragraph (2), by adding immediately after the words "NOT FOR TRADE USE", the words "or NOT LEGAL FOR TRADE".
- **8.** Regulation 8 of the principal regulations is repealed and replaced by the following regulation
  - 8. (1) The maximum capacity of a weighing instrument shall be clearly and conspicuously marked —

- (a) on a descriptive plate fixed to the instrument; or (b) on the instrument.
- (2) The marking shall be indelible and of a size, shape and clarity allowing easy reading under normal conditions of use of the weighing instrument;
- 9. Regulation 9 of the principal regulations is repealed and replaced by the following regulation
  - 9. (1) The range of maximum capacities and the corresponding limit of error in respect of
    - (a) weighing instruments for general trade, shall be as specified in the Second Schedule; and
    - (b) weighing instruments for trade in valuable goods, shall be as specified in the Third Schedule.
    - (2) The graduated weight indicating, printing and tare devices of any weighing instrument shall have scale intervals expressed in milligrams, grams, kilograms or tonnes, corresponding to the value 1 x 10<sup>n</sup>, 2 x 10<sup>n</sup> or 5 x 10<sup>n</sup>, the index <sup>n</sup> being a positive or negative whole number or zero.
    - (3) Subject to paragraph (8), the total number of scale intervals in a self-indicating weighing machine for general trade shall not be less than
      - (a) 100, where the value of scale interval is 1 g, or 2 g; and
      - (b) 500, where the value of scale interval is 5 g or more.
    - (4) In a self-indicating weighing machine for trade in valuable goods, the number of scale intervals shall not be less than
      - (a) 100, where the value of scale interval is 20 mg or 50 mg; and
      - (b) 5000, where the value of scale interval is 100 mg or more.
    - (5) The weighing result and information about correct zero position shall be displayed clearly and simultaneously to the operator and the customer.
    - (6) Subject to paragraph (8), in a weighi ng instrument with scale marks on a dial
      - (a) the scale spacing (distance between any 2 consecutive scale marks) shall not be less than 1.25 mm for

- ordinary device and 1.75 mm, for optical projection device;
- (b) the scale spacing shall be reasonably uniform so that the greatest scale spacing shall not exceed 1.2 times the smallest scale spacing of the same scale; and
- (c) the width of the extremity of pointer shall be approximately equal to the width of the scale mark and the distance between the pointer and the scale shall not be more than 2 mm.
- (7) In a weighing instrument with a steelyard
  - (a) the scale marks shall be notches or lines, and shall be in one plane at right angles to the beam; and
  - (b) the poise weight shall be provided with an indicating component, and shall not obscure the scale marks.
- (8) Paragraphs (3) and (6) shall, for a period of 5 years from their commencement, not apply to self-indicating weighing machines
  - (a) already in use before the commencement of these regulations; or
  - (b) in relation to which a certificate of suitability has been issued.
- 10. Regulation 10 of the principal regulations is amended in paragraph (2) by adding immediately after the word "instrument", the words "for general trade".
  - 11. Regulation 11 of the principal regulations is amended
    - (a) in paragraph (2), by adding after the words "greater than its", the word "maximum";
    - (b) by adding after paragraph (4) the following new paragraph-
      - (5) No person shall use for trade in valuable goods weighing instruments other than those which comply with the requirements specified in the Third Schedule.
- 12. Regulation 12 of the principal regulations is amended by adding after paragraph (1) the following new paragraph
  - (lA) On verification of a new weighing instrument, an authorised officer shall ascertain that a certificate of suitability has been issued in relation to the pattern and design of the instrument.

- 13. Regulation 16 of the principal regulations is amended
  - (a) by deleting paragraph (5) and replacing it by the following paragraph
    - (5) A petrol pump shall, on verification or reverification, have no error in deficiency, and no error in excess greater than 0.5% of the volume purported to be delivered.
  - (b) by adding after paragraph (8) the following new paragraph-
    - (9) No person shall use for trade a petrol pump having error, in excess or deficiency, greater than 0.5%.
- 14. The principal regulations are amended by adding immediately after regulation 16 the following new regulations
  - 16A. (1) A bulk meter shall
    - (a) be of a pattern approved by the Controller;
    - (b) have no leakage;
    - (c) have devices which prevent air from passing through the meter to such an extent as not to affect the accuracy of delivery;
    - (d) have devices to ensure that no registration takes place when the supply of fuel stops;
    - (e) have figures which are indelible, clear and legible, the actual or apparent height of which shall not be less than 4 mm;
    - (f) have the makers' name legibly marked on the instrument;
    - (g) have the maximum and minimum rates of flow legibly marked either on the dial of the indicating mechanism or on a special plate;
    - (h) incorporate a calibrating device which can vary the relationship between the indicated and actual volumes of liquid passing through the meter;
    - (i) when new or in service, have no error greater than +/-0.5% of the volume purported to be delivered, or 2 L, whichever is greater.
    - (2) The authorised officer shall test a bulk meter
      - (a) under conditions which resemble its normal operating conditions as closely as possible

- particularly in respect of rates of flow and the product involved;
- (b) using working standard measures or a calibrated master meter having error not exceeding ± 0.15%;
- (c) by passing the liquid through the meter into a working standard measure in such number and volumes of deliveries as he may consider necessary or by comparing the indication of the meter under test with the indication of a calibrated master meter.
- (3) Where a bulk meter does not comply with this regulation, the authorised officer shall not pass it as correct at verification.
- (4) Where an authorised officer passes a bulk meter as correct at verification, he shall
  - (a) stamp it on a lead plug inserted in conspicuous and easily accessible part of the meter; and
  - (b) affix seals to prevent access to the working parts or adjusting device without the seals being broken.
- 16B. (1) Every tank compartment in a vehicle tank shall
  - (a) be of such shape that no air is trapped on filling and no liquid is retained on emptying, when the vehicle is standing on a level surface;
  - (b) (i) have no leakage;
    - (ii) after filling, show no traces of leakage or dampness at the joints, walls, couplines and other parts;
    - (iii) have no leakage from one compartment to another;
  - (c) have its discharge device connected to the lowest part of the tank to ensure complete and rapid discharge of the liquid in the compartment;
  - (d) have its discharge pipe
    - (i) as short as possible:
    - (ii) sloping towards the stop valve; and
    - (iii) easily verifiable;

- (e) have a single drain orifice;
- (f) have a single stop valve which shall be readily accessible and which shall be at the rear or on the appropriate side of the tank compartment;
- (g) have means for being discharged independently;
- (h) be provided with access to enable the operator conveniently to open and close the filling aperture, to observe the liquid level and to observe the emptying of the tank compartment;
- (i) have its number legibly and indelibly marked on each compartment sequentially from the front of the vehicle and adjacent to the stop valve pertaining to the compartment;
- (j) have its nominal capacity marked legibly, indelibly and conspicuously on each side of the compartment and on the manhole cover pertaining to the compartment;
- (k) be checked by the authorised officer for complete drainage to ensure that the quantity of liquid not likely to drain out from the compartment under normal operation conditions does not exceed 0.05% of its nominal capacity;
- (1) be calibrated by the authorised officer with working standard measures or a calibrated master-meter having error not exceeding +/- 0.15%.
- (2) No baffles or stiffeners inside the tank compartment shall interfere with its filling or emptying.
- (3) No deadwood or any other body which when removed or changed, could modify the capacity of the compartment, shall be placed inside the tank compartment for the purposes of adjusting its capacity to a given value.
- (4) The discharge device may incorporate a supplementary safety valve (foot valve) to stop the flow of liquid between the tank compartment and the discharge pipe.
- (5) A discharge manifold may be permitted when making large deliveries from more than one compartment.

- (6) The tank may be thermally insulated.
- (7) (a) The dip/ullage stick used to determine the distance of the liquid-level from the bottom/top shall —
  - (i) be made of suitable hard material:
  - (ii) be sufficiently straight to be satisfactory for measurement; and
  - (iii) have a metal rivet fixed near the top for receiving the stamp of assize.
  - (b) Where a compartment is fitted with ullage indicator, the indicator shall be so constructed that
    - it can be set to any desired level to which the liquid in the compartment is required to be filled; and
    - (ii) it is possible to seal it in such a way that its position cannot be changed without breaking the seal.
  - (c) The registration number of the vehicle tank, the compartment number and the capacity of the compartment shall be indelibly marked at the top end of the dip/ullage stick.
- (8) (a) The vehicle tank shall have a metallic plate riveted on it to receive the stamp of calibrating authority.
  - (b) The plate shall bear
    - (i) the title of the Weights & Measures Act;
    - (ii) the name of the owner of vehicle tank; and
    - (iii) the registration number of the vehicle tank.
  - (c) The plate shall be in the form specified in the Eighth Schedule.
- (9) The error on calibration shall not exceed +/- 0.5% of the nominal capacity of each compartment.
- (10) The vehicle tank submitted for calibration shall be cleaned internally, as any deposits on the internal walls would affect the accuracy of calibration.

- (11) The authorised officer shall issue a verification certificate containing the calibration details to the person submitting the vehicle tank, and shall put stamp of assize on the plate and dip/ullage stick.
- 15. The First Schedule to the principal regulations is deleted and replaced by the First Schedule to these regulations.
  - 16. The Second Schedule to the principal regulations is amended—
    - (a) by deleting the heading and replacing it by the following heading
      - REQUIREMENTS FOR WEIGHING INSTRUMENTS USED FOR GENERAL TRADE
    - (b) in the third column of the Table, by deleting the words "(at initial verification)";
    - (c) by adding at the end after the Table, the following paragraphs
      - (1) For a self-indicating or an automatic weighing machine having scale interval less than the limit of error specified in the above Table, the limit of error shall be one scale interval.
      - (2) For a self-indicating or an automatic weighing machine having a capacity exceeding 2,000 scale intervals, the limit of error shall be 2 scale intervals for loads exceeding 2,000 scale intervals.
  - 17. The Third Schedule to the principal regulations is amended—
    - (a) in the third column of the Table, by deleting the words "(at initial verification)";
    - (b) by adding at the end after the Table, the following paragraphs
      - (1) For a self-indicating or an automatic weighing machine having scale interval less than the limit of error specified in the above Table, the limit of error shall be one scale interval.
      - (2) For a self-indicating weighing machine having a capacity exceeding 20,000 scale intervals, the limit of error shall be 2 scale intervals for loads exceeding 20,000 scale intervals.

- 18. The Seventh Schedule to the principal regulations is amended by -
  - (a) numbering the existing Table as Table 1;
  - (b) adding after Table 1, the Table specified in the Second Schedule to these regulations.
- 19. The principal regulations are amended by adding the Third Schedule to these regulations as the Eighth Schedule.

Made by the Minister on 4 May 1994.

### FIRST SCHEDULE (regulation 15) FIRST SCHEDULE (regulations 4 and 5)

#### TABLE 1

#### LIMITS OF ERROR FOR WEIGHTS USED FOR TRADE

Denomination	Weights for general trade	Weights for trade in valuable goods
10 mg		0.25 mg
20	<del>-</del> '	0.3
50	_	0.4
100	_	0.5
200	_	0.6
500		0.8
1 g	10 mg	1.0
2	12	1.2
5	15	1.5
10	20	2.0
20	25	2.5
50	30	3
100	50	5
200	100	10
500	250	25
1 kg	500	50
2	1000	100
5	2500	250
10	5000	500
20	10000	1000

TABLE 2 LIMITS OF ERROR FOR WORKING STANDARD WEIGHTS

Denomination	Working standards for testing weights for general trade	Working standards for testing weights for trade in valuable goods
10 mg		±0.08 mg
20	_	0.10
50	_	0.12
100		0.15
200		0.20
500	_	0.25
1 g	± 3 mg	0.3
2	4	0.4
5	5	0.5
10	6	0.6
20	8	0.8
50	10	1.0
100	15	1.5
200	30	3.0
500	75	7.5
1 kg	150	15
2	300	30
5	750	75
10	1500	150
20	3000	300

## SECOND SCHEDULE (regulation 18)

### TABLE 2

## MEASURES OF VOLUME PERMITTED FOR LIQUOR

Capacity of measures	Limit of error
25 ml	+/-1 ml
35 ml	+/- 1.5 ml
50 ml	+/-2 ml

## THIRD SCHEDULE (regulation 14)

## EIGHTH SCHEDULE (regulation 16B)

### FORM OF PLATE OF VEHICLE TANK

#### THE LEGAL METROLOGY ACT 1985

Compartment	Compartment	Space for
number	capacity in litres	stamp