STATUTORY INSTRUMENTS
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STATUTORY INSTRUMENTS

2007 No. 31.

THE WEIGHTS AND MEASURES (DISPENSING PUMPS, BULK METERS AND BULK MEASURES) RULES, 2007

ARRANGEMENT OF RULES

Rule

Rule

PART V—BULK MEASURES

SCHEDULES

STATUTORY INSTRUMENTS

2007 No. 31.

The Weights and Measures (Dispensing Pumps, Bulk Meters and Bulk Measures) Rules, 2007

(Under sections 33 and 43 of the Weights and Measures Act Cap 103)

IN EXERCISE of the powers conferred on the Minister responsible for Trade by sections 33 and 43 of the Weights and Measures Act, these Regulations are made this 5th day of July, 2007.

PART I—PRELIMINARY

1. Title.

These Rules may be cited as the Weights and Measures (Dispensing Pumps, Bulk Meters and Bulk Measures) Rules, 2007.

2. Interpretation.

In these Rules, unless the context otherwise requires—

"Act" means the Weights and Measures Act;

"Certified pattern" means a pattern of measuring instruments for which a certificate has been issued by Uganda National Bureau of Standards (UNBS);

"Executive Director" means the Executive Director of the Uganda National Bureau of Standards;

"liquid fuel" includes lubricants or any other mixture of liquid and lubricants;

"Minister" means the Minister responsible for trade.

PART II—DISPENSING PUMPS

3. Definition of dispensing pump.

In this Part, unless the context otherwise requires—

"dispensing pump" means a liquid fuel measuring instrument which has a meter or one or more measuring chambers and with a maximum rate of delivery not exceeding 100 litres per minute; and

4. Construction.

A dispensing pump for use in the presence of a buyer—

(a) shall not have more than one outlet for measured liquid unless an automatic mechanism is provided to ensure that liquid can flow from one outlet at a time; and

(b) shall not be installed in such a manner that the nozzle or delivery outlet of the instrument can deliver measured liquid fuel directly into any storage tank of the instrument.

5. Installation.

(1) A dispensing pump which forms part of a fixed installation shall be positioned in such a manner that a buyer may readily obtain a clear and an unobstructed view of—

(a) operations carried out by any person using the instrument to measure the liquid fuel being supplied to the buyer; and

(b) any device on the instrument which indicates the quality supplied of the amount payable or the amount delivered, is being effected.

(2) Where a dispensing pump is connected to two or more storage tanks, suitable valves shall be fitted in each suction line or at the junction of the suction lines so that any line can be closed when the corresponding tanks are empty.

6. Measuring instrument to have name of maker.

Every measuring instrument shall be marked with the name of the maker.

7. Legible markings.

Every marking, notice, inscription or indication required by these Rules or having reference to method of operation or to the quantity of liquid delivered shall be conspicuously and durably marked in a suitable position in plain block characters on a plain background and in distinct contrast to the background.

8. Dispensing pump to have inter-lock and zero setting mechanism.

(1) Every dispensing pump other than a piston or container type instrument shall have a zero reset mechanism constructed in a manner showing that a delivery has been completed and the solenoid valve de-energized.

(2) In the case of a manually operated instrument, the motor shall be switched off or the starter switch shall be in the off position in order for it to be incapable of making a further delivery until every individual sales indicator has been reset to zero.

(3) This Rule shall not apply to any instrument intended only for measurement of lubricating oils or other liquids of high viscosity.

(4) A measuring instrument shall have the starting mechanism constructed in a manner in which the delivery nozzle cannot be hung up in its normal position or what appears to be its normal position until—

(a) the solenoid valve is de-energized; or

(b) in the case of a manually operated instrument, the motor is switched off or the starter switch is in the off position and the expression 'normal position' shall for the purpose of this subrule be taken to mean the nozzle is properly located on its hung up hook with its spout in the holster.

(5) A measuring instrument shall be constructed in a manner that the reset mechanism cannot be operated while the solenoid valve is energized or in the case of a manually operated instrument, the motor is switched off or the starter switch is in the off position.

(6) The housing of every dispensing pump other than a piston or container type instrument shall be constructed so as to permit ready access to the interior of the instrument for the purpose of inspection and stamping.

9. Calibration device.

(1) Every dispensing pump shall be provided with a calibration device designed in such a manner as to permit adjustment of the ratio between indicated quantity and the actual quantity of liquid passing through the meter.

(2) Where the calibration device modifies the relation in a digital manner, the consecutive value of the relationship shall not differ by more than 0.002 digital division.

(3) Adjustment of a measuring instrument by means of by pass valve on the meter shall not be permitted.

10. Certificate of notice of approval number.

Every dispensing pump submitted for verification shall—

(a) be legibly and durably marked with the certificate number or the number of the notice of approval issued or duly adopted by the Executive Director in respect of the pattern in accordance with which it is made, preceded by the words 'Certificate No' or 'Notice No' as the case may be; and

(b) where it is made in accordance with an authorization of the Executive Director, bear a legible and durable indication of the date the authorization was given, preceded by letter 'M'.

11. Marking grade of product.

Every dispensing pump shall be marked with the identity or grade of product that it is meant to deliver or where the product is a mixture, with an indication as to the ratio of the mixture and where the instrument will only give correct deliveries when used with liquids having particular properties or under particular operating conditions, it shall be conspicuously and clearly marked to indicate the limitations.

12. Manner of marking the quantity.

(1) Every indication of quantity on a dispensing pump shall be marked either in full or by means only of one or other of the permissible abbreviation specified in Schedule 1.

(2) The indication referred to in subrule (1) may be shown by figures only where the unit of measurement is boldly marked on the display panel of the instrument or the container and the unit of measurement is in immediate association with the figures so that no confusion can arise from the figures.

(3) In the case of an instrument which is designed to deliver pre-determined quantities by using stops or other setting devices, the position for the proper setting of each stop or setting device shall be positively and accurately defined and marked.

(4) Adequate provision against inadvertent displacement from the position referred to in subrule (3) shall be made and the delivery for which the instrument is set shall be clearly and conspicuously indicated.

13. Price indication.

A dispensing pump of the price-computing type shall display the words 'price per litre' on every display panel and the indications of price.

14. Markings to be conspicuous, legible and on contrasting background.

Every marking notice, inscription or indication on a dispensing pump having reference to its method of operation or to the quantity delivered shall be conspicuously and legibly marked in a suitable position of the instrument in plain block characters on a plain background and in distinct colours contrasting to the background.

17. Graduation.

(1) Every indicating device on a dispensing pump shall be graduated and numbered in numerical sequence in one direction only.

(2) The graduation shall be straight and of uniform thickness and the thickness shall not exceed one forth the smallest scale division.

(4) The actual or optically magnified width of the smallest scale division shall not be less than 2 mm.

(5) The value of the scale division shall be equal to 1, 2, or 5 litres or decimal multiple or submultiple.

18. Numbering.

(1) Figures associated with graduated lines on any indicating device shall be uniformly placed in reference to those lines and shall be as close to the lines as practicable but not so close to interfere with the accuracy of the reading.

(2) The actual or optically magnified height of the figures shall not be less than 4 mm.

(3) In the case of an instrument fitted with a digital indicator the figures shall not be less than 18 mm in height.

(4) Where an indicator has an analogue scale only part of which is visible through an aperture or window, the size of the aperture measured parallel to the direction of the scale shall be at least equal to 105 times the distance between two numbered graduation lines.

(5) Where a dispensing pump is fitted with a ticket-printing mechanism, any letters, symbols or digits indicating the quantity, unit price and total price shall be clear and legible and shall not be less than 4 mm in height; and if the mechanism prints the total price on the ticket, the unit price must also be printed and the words 'total price' and price per litre' shall appear in appropriate positions in letters but less than 3 mm in height.

19. Discharge indicators.

Every dispensing pump other than an instrument for the measurement of lubricating oil or other liquids of high viscosity shall be fitted either—

(a) with a device to show that the container or containers are properly filled or discharged; or

(b) with a device to show that the instrument is properly primed before use and that the liquid is flowing through the instrument.

20. Fitting of sight glasses

(1) Every measuring instrument of the container type shall be provided with adequate sight glasses or observation windows or other means approved by the Executive Director or the Minister for the purpose of showing clearly that the containers are properly charged and discharged.

(2) Every measuring instrument of the piston displacement type or flowmeter type in which the flexible discharge hose is arranged to drain on delivery shall be fitted with adequate sight glasses for the purpose of showing that the instrument is properly primed before use and shall bear

adjacent to the sight glass a notice in one or other of the following forms indicating the priming level:

PRIMING LEVEL Π OR LIQUID MUST

ALWAYS SHOW Π

AT THIS MARK

(3) Every measuring instrument in which the discharge hose remains permanently filled shall be fitted with an adequate sight glass incorporating a spinner motivated by flow of liquid.

(4) A notice with the words 'Sight glass must be filled before and after delivery' shall be exhibited adjacent to the sight glass.

21. Swing arm and drainage of hose.

(1) Where a dispensing pump is provided with a swing arm or other form of rigid extension pipe, the arm or pipe shall be constructed so as to either—

(a) empty itself completely through the delivery outlet; or

(b) remain permanently filled up to the nozzle; in which case the device referred to in rule 19(b) shall be fitted at the highest point of the swing arm or extension pipe.

(2) A flexible discharge hose, together with any swing arm or extension pipe, which empties itself on delivery, shall be so arranged as to facilitate drainage of the liquid.

22. Length of the hose.

(1) A dispensing pump shall not be fitted with a flexible discharge hose exceeding 5 metres in length.

(2) This rule shall not apply to instruments for use for the delivery of—

(a) liquid fuel to ships or aircraft; and

(b) lubricants.

23. Drainage.

Except in the case of a measuring instrument in which the discharge hose remains permanently filled, every flexible discharge hose, together with any swing arm or extension pipe, which empties itself on delivery shall be so arranged as to provide for ready and adequate drainage of the liquid.

24. Nozzle.

Where the flexible discharge hose is—

(a) intended to be drained on delivery, the nozzle shall be of such form as not to trap any part of the measured quantity when open; and

(b) intended to remain permanently filled with liquid, the nozzle shall function in such a manner to prevent leakage of liquid when it is in the closed position and shall be constructed so as to permit smooth and even control of delivery of liquid and permit effective cut off.

25. Mode of testing.

(1) A dispensing pump shall be tested under practical working conditions and the liquid the instrument is intended to deliver or a liquid having similar characteristics, by reference to standard measures or testing equipment, or gravimetrically.

(2) A dispensing pump shall not be tested unless—

(a) it is complete with the parts and attachments concerned in the operation of measurement and delivery; and

(b) the packing glands, coupling and joints are free from leaks.

(3) A dispensing pump intended to be permanently fixed in the position in which it is to be used shall be tested and stamped only when completely erected ready for use and installed at the place where it is to be used.

26. Pre-requisites to testing.

(1) The inspector shall before testing a dispensing pump ensure that—

(a) the dispensing pump is colour coded in accordance with the product being dispensed;

(b) liquid has been passed through the instrument; and

(c) that any safe-guarding interlock or limiting mechanism and other automatic devices are functioning satisfactorily.

(2) The requirements of subrule (1) shall not apply to instruments in which the delivery hose remains permanently filled up to the nozzle.

27. Correct delivery within maximum and minimum flow rates.

(1) Every dispensing pump shall deliver correctly when it is operated at any speed between its maximum speed of operation and speed of 10 litres per minute.

(2) Where an instrument is found to have maximum speed of operation lower than 40 litres per minute, the test at minimum speed shall be carried out at a rate of not less than 25 per cent of the maximum speed obtained with the instrument.

(3) The speed of operation for any single delivery during testing shall be as uniform as possible.

(4) In the case of an instrument connected to two or more storage tanks, any quality of liquid delivered shall be within the maximum permissible error where—

(a) each suction line is opened in turn and the remainder closed; and

(b) where practicable all suction lines are opened, regardless of the fact that some storage tanks may be empty.

(5) The requirements of this rule shall not apply to instruments arranged to blend liquids drawn from two or more storage tanks into a liquid which is then measured and delivered at a single delivery point.

28. Price computing instruments.

The inspector shall ascertain that any dispensing pump which is constructed in a manner to calculate and indicate price, number or any other dependent function of the quantity functions correctly.

29. Inspector to be provided with the liquid for testing.

(1) For the purpose of the performance of a test by an inspector, the person in-charge of an instrument shall when requested by the inspector provide him or her with such liquid for the purpose of verification or as the inspector may reasonably require.

(2) Any liquid withdrawn from any tank or container for the purpose of the performance of a test shall, upon conclusion of the test be returned to the tank or container from which it was withdrawn.

(3) The inspector shall when requested, furnish the person in-charge of the instrument with a signed and dated statement of the quantity of liquid withdrawn from the tank or container and returned.

30. Power of inspector to break seal.

An inspector may open any locked or sealed tank or container from which liquid may have been withdrawn for the purpose of performance of a test and immediately after the liquid is returned, he or she shall securely refasten the tank or container and he or she shall replace any seal or lock broken by him or her in opening the tank or container with a seal upon which he or she shall affix a stamp.

31. Licencing of persons to erect repair or adjust dispensing pumps.

(1) The Executive Director may authorize any fit and proper person employed in the erection, repair and adjustment of dispensing pumps to break any seal or sealing device on any instrument which that person intends to erect, repair or adjust and to seal or re-seal the same subject to the following conditions—

(a) the person seeking a licence must satisfy the Executive Director that he or she possesses the necessary technical knowledge to engage in the repair of the instrument;

(b) the person licenced shall examine and verify instruments in accordance with directions given by an inspector;

(c) the person licenced shall seal or re-seal any dispensing pump only by means of stamping pliers constructed so as to impress upon every seal or sealing device a mark and number as the Executive Director may allot to him or her for the purpose of identification;

(d) the person licenced shall forward to the inspector in charge of Administration of Weights and Measures for the area in which the instrument is situated a notice in writing containing the following information—

(i) the location of and particulars by which the instrument may be identified;

(ii) the date on which the licenced person intends to erect, repair or adjust the instrument;

(iii) the business name and address of the proprietor of the instrument; and

(iv) the name, authorization number and address of the authorized person.

(e) The Executive Director may giving reasons withdraw any licence at any time.

(2) A person whose licence is withdrawn under paragraph (e) may appeal to the Minister.

(3) The Minister shall consider the appeal under subrule (2) and may within fourteen days after receipt of the appeal reverse or confirm the decision of the Executive Director.

(3) The Minister shall cause his or her decision under subrule (3) to be communicated to the Executive Director and the appellant.

32. Conditions governing verification.

(1) The inspector shall before carrying out verification tests on any measuring instrument satisfy himself or herself that the instrument—

(a) complies with the requirements of these Rules so far as they may be applicable; and

(b) is made in accordance with a certified pattern or in accordance with a pattern modified only as regards the details of construction as may have been sanctioned by the Minister.

(2) Any measuring instrument which has been in use prior to the date on which these Rules came into force and is in conformity with the requirements of rules 4 to 17 may be accepted for verification from time to time during such period which shall not be less than five years from the date of these Rules.

33. Mode of verification.

Every measuring instrument of the fixed type shall be verified when completely erected ready for use and in the situation in which it is to be used notwithstanding that it may have been previously verified and stamped in another location.

34. Leakage and priming.

(1) Prior to verification of the accuracy of any delivered quantity, every measuring instrument shall be tested for leakage and the leakage shall be free from any kind of leakage.

(2) A measuring instrument shall be fully primed immediately before a test for accuracy is commenced.

35. Safe- guarding devices, etc.

The inspector shall satisfy himself or herself by putting the instrument through a cycle of operation that any safe-guarding, interlocking, limiting or other automatically operated device is functioning satisfactorily.

36. Wetting of hose.

A measuring instrument of the drained hose type shall have liquid passed through it prior to verification of the accuracy of any delivered quantity in order to determine that the hose shall have been wetted.

37. Accuracy at varying speeds.

(1) Every measuring instrument shall deliver correctly within the limits of error specified in rule 38 at any reasonable speed of operation.

(2) An instrument of the flowmeter type shall deliver correctly at any speed of operation between 5 litres per minute and the maximum rate at which they will discharge.

(3) The speed of operation of any single delivery from any type of instrument shall be maintained as uniform as practicable.

38. Maximum permissible error.

(1) The maximum permissible error on a dispensing pump shall on verification not exceed—

(a) 0.25 per cent of the quantity delivered in excess only; and

(b) on re-verification or inspection, 0.5 per cent of the quantity delivered in deficiency.

(2) The dilation error of the delivery hose of a dispensing pump in normal conditions of use shall not exceed 50 ml.

39. Stamping.

(1) Every dispensing pump shall be provided with one or more plugs, seals or sealing material to protect or other adjustable parts affecting the quantity delivered and alternative sealing arrangements as may be authorized by the Executive Director.

(2) The stamp of verification shall be placed on the plugs, seals and sealing devices as the case may be.

40. Validity.

A stamp of verification on a liquid fuel measuring instrument applied under section 15 of the Act shall remain in force for a period not exceeding six months.

41. Delivery at one outlet.

A measuring instrument shall be constructed in such a manner so that it is incapable of delivering measured quantities at more than one discharge point.

42. Provision of seals, etc.

(1) A measuring instrument shall not be stamped unless it is provided with plugs, seals or sealing devices of suitable form and material so as to prevent adjustment of any part of the instrument which determines accuracy of measurement and indication of delivered quantities without defacing the inspector's stamp or nullifying the method of sealing.

(2) The inspector's stamp shall be placed on plugs, seals or sealing devices.

43. Person authorised to repair to be licenced under the Weights and Measures Repair Rules.

(1) The person authorized to seal, repair, adjust, erect dispensers shall be one licenced in accordance with the Weights and Measures (Repair of Weighing and Measuring Equipment) Rules, 2007.

(2) Where a dispenser is sealed, repaired, adjusted or erected by the person referred to in subrule (1) above, he or she shall within seven days give a notice to the inspector of the sealing, repair adjusting or erecting from the day the work is completed.

(3) Any person who contravenes sub-rule (2) above commits an offence.

PART III—INSPECTION.

44. Inspection of measuring instruments.

(1) Every measuring instrument to which these Rules apply may be inspected as often as shall be determined by the inspector.

(2) The inspector shall after inspection, proceed to examine and test measuring instruments in the same manner as provided for verification.

45. Obliteration of stamps after inspection.

The inspector shall after inspection obliterate a stamp on any measuring instrument where the quantity delivered is deficient by 0.5 per cent.

46. Broken or obliterated seals.

(1) Where a measuring instrument has more than one seal or sealing device, the obliteration or breaking of one of the seals or sealing device shall be deemed to render the instrument unstamped.

(2) Where an inspector finds that any seal or sealing device has been damaged or broken and he or she is satisfied that the damage has resulted otherwise than from tampering or adjustment, then, provided the instrument is correct within inspectional error allowances, the inspector may replace the damaged seal without requiring re-verification of the instrument.

47. Obstruction of an inspector.

A person shall be deemed to obstruct the inspector within the meaning of section 38 of the Act where that person—

(a) refuses to allow an inspector to use liquid fuel or lubricating oil which he or she may require for the purpose of testing any measuring instrument; or

(b) refuses without reasonable cause to open a tank or container of a measuring instrument for inspection within a reasonable period.

48. Liquid to be returned.

Any liquid fuel or lubricating oil withdrawn from any tank or container for the purpose of performance of a test on a measuring instrument shall be returned to the tank or container from which it was withdrawn or disposed of in the manner required by the person in charge of the instrument and the inspector shall when requested furnish to the person in charge of the instrument a signed statement of the quantities withdrawn and returned or disposed of.

49. Penalty for stamping etc, except in conformity with rules.
Any person who seals and stamps or who obliterates or breaks a seal or sealing device of any measuring instrument except in conformity with these Rules commits an offence and is on conviction liable to three months imprisonment.

PART IV—BULK METERS.

50. Definition of bulk meter.
In this part, unless the context otherwise requires—

'bulk meter' means a measuring instrument designed to measure liquids other than water at a maximum rate of delivery exceeding 100 litres per minute and includes a meter of a vehicle tank.

51. Construction and installation.
(1) A bulk meter shall be constructed of aluminium alloys, bronze, brass, stainless steel or special steel or any other material approved by the Executive Director.

(2) A bulk meter shall have a device which removes from the liquid being measured particles which are injurious to the meter and which may impair its accuracy and prevent air from passing through the meter to such an extent as to affect the accuracy of delivery.

(3) A bulk meter shall have a zero reset mechanism.

(4) Where a flow control valve is fitted, the bulk meter shall be installed at the outlet of the meter or where installed on the inlet side of the meter, it shall be located at a sufficient distance on the upstream side to ensure a uniform steady flow through the meter.

(5) A bulk meter shall be installed in such a manner that the register is clearly readable by the operator from the control point and it shall not be installed on the suction side of the pump.

52. Safety device and temperature monitor.
Every bulk meter mounted on a vehicle and intended for measurement of liquefied petroleum gas shall be provided with a suitable safety device and mechanism for determining the temperature of the liquid gas as it leaves the instrument.

53. Calibration device.

(1) Every bulk meter shall be provided with a calibration device designed in such a manner as to permit adjustment of the ratio between indicated quality and the actual quality of liquid passing through the meter.

(2) Where the calibration device modifies the ratio in a digital manner, the consecutive value of the relationship shall not differ by more than 0.002 interval divisions.

54. Marking of bulk meter.

(1) Every bulk meter shall be conspicuously and prominently marked with the following information—

(a) the name and address of the manufacture or his or her registered trade mark;

(b) the serial number and year of manufacture of the bulk meter;

(c) the certificate of approval number or the number of notice of approval issued or duly adopted by the Executive Director in respect of the pattern with which it is made, preceded by the words 'Certificate No' or 'Notice No.' as the case may be;

(d) the type of liquids which the instrument is designed to measure and the limits of Kinematic or dynamic viscosity, where the indication of the nature of the liquids is inadequate to characterize their viscosity; and

(e) the maximum and minimum flow rates in litres or cubic meters per minute.

(2) Where the value of maximum and minimum rates of flow of a meter are fixed in light of the results of the model approved tests, the ratio between the rates of flow shall not be greater than 10 for ordinary meters or 5 for meters for liquefied gas.

(3) Where there is a possibility of confusion with regard to the direction of flow of the liquid through a bulk meter, the direction of flow shall be indicated by an arrow on the casing of the meter.

55. Quantity indication.

(1) Every bulk meter shall be provided with an individual quantity indicator graduated in such a manner as to indicate possible deliveries and any other counting or totalizing device that may be provided shall be arranged in order to avoid any possibility of confusion with the individual quantity indicator.

(2) When a bulk meter is provided with more than one individual quantity indicator the indicators shall give the same or equivalent quantity readings.

(3) Every quantity indicator shall be arranged in such a manner so that the indication can only be advanced by the flow of liquid through the instrument and registration shall not take place when the supply of the liquid fails.

(4) Any electronic individual indicator shall be constructed such that in the event of power failure the indications of the quantity delivered up to the time of power failure can be recalled on atleast one display panel where the instrument has more than one for a total time of atleast 5 minutes over a period of atleast 30 minutes after the power failure.

56. Manner of marking quantity.

(1) Every indication of quantity on a bulk meter shall be marked either in full or by means only of one or other of the abbreviation specified in Schedule 1.

(2) The indication may be shown by figures only where the unit of measurement is boldly marked on the display panel of the instrument and the unit of measurement is in immediate association with such figures that confusion can not arise from it.

(3) In the case of a bulk meter which is designed to deliver pre-determined quantities by using pre- setting devices, the position for the proper setting of each setting device shall be positively and accurately defined and marked and adequate provision against inadvertent displacement from this position shall be made.

(4) The delivery for which the instrument is set shall be clearly and conspicuously indicated and the delivery shall automatically stop when the pre-set volume has been delivered.

57. Graduations.

(1) Every indicating device on a bulk meter shall be graduated and numbered in numerical sequence in one direction only.

(2) The graduations shall be straight and of uniform thickness and the thickness shall not exceed one-forth of the smallest scale division.

(3) The actual or optically magnified width of the smallest scale division shall not be less than 2 mm.

(4) The value of the scale division shall be equal to 1,2 or 5 litres or decimal multiple thereof

58. Numbering.

(1) Figures associated with graduation lines on any indicating device shall be uniformly placed in reference to those lines and shall be as close to the lines as practicable but not so close as to interfere with the accuracy of the reading.

(2) In the case of an instrument fitted with an analogue indicator. the actual or optically magnified height of the figures shall not be less than 4 mm.

(3) In the case of an instrument fitted with digital indicator the figure shall not be less than 18 mm in height.

(4) The bulk meter used for pre-set deliveries and the height of the figures shall not be less than 9 mm.

(5) Where an indicator has an analogue scale only part of which is visible through an aperture or window. the size of an aperture measured parallel to the direction of the scale shall be atleast equal to 1.5 times the distance between two numbered graduation lines

59. Pre-requisites to testing.

(1) The inspector shall before testing a bulk meter ensure—

(a) that the meter has been run for several minutes to ensure that all units are functioning smoothly;

(b) that any safeguarding mechanism and other automatic devices are functioning satisfactory;

(c) that in the case of an instrument fitted with an automatic temperature compensator, the compensator has been disconnected so that the basic accuracy of the meter may be determined; and

(d) that in the case of an instrument used for the measurement of liquefied petroleum gas, that the vapour pressure between the prover and the supply tank is balanced.

60. Instrument to deliver correctly within minimum and maximum flow rates.

(1) Every bulk meter shall deliver correctly when it is operated at any speed between its minimum and maximum flow rates and shall show no appreciable changes in its metrological qualities when operated at or near its maximum rate of flow for such duration as may be specified in the notice of approval.

(2) The speed of operation for any single delivery during testing shall be uniform as possible.

(3) The automatic temperature-compensating device shall be tested for accuracy by comparing the reading of instrument while temperature compensated with the uncompensated volume, converted to volume at the standard temperature of 20 degree centigrade.

61. Inspector to be provided with the liquid for testing.

(1) For the purpose of performance of a test by an inspector, the person in charge of the instrument shall when requested by the inspector, provide for the inspector's use such liquid as the inspector may reasonably require.

(2) Any liquid withdrawn from any tank or container for the purpose of an inspector's test of an instrument shall upon the conclusion of the test be returned to the tank or container from which it was withdrawn or be placed in another receptacle provided by the person in-charge of the instrument.

(3) The inspector shall when requested furnish the person in charge of the instrument with a signed and dated statement of the quantity of liquid withdrawn from the tank or container and returned.

62. Authorization of person who erect, repair or adjust bulk meters. The Executive Director may authorize any fit and proper person employed in the erection, repair and adjustment of bulk meters to break any seal or sealing device on any instrument which that person intends to erect, repair or adjust and to seal or reseal the same subject to the following conditions—

(a) the person seeking authorization shall satisfy the Executive Director that he or she possesses the necessary technical know how to engage in the repair of instrument;

(b) the persons authorized shall examine and verify instruments in accordance with directions given by an inspector;

(c) the persons authorized shall seal or re-seal any dispensing pump only by means of stamping pliers so constructed as to impress upon every seal or sealing device such mark and number as the Executive Director may allot to him or her for purposes of identification;

(d) the person authorized shall forward to the inspector in charge of administration of weights and measures for the area in which the measuring instrument is situated a notice in writing containing the following information—

(i) the location of the instrument and particulars by which the instrument may be identified;

(ii) the date on which the authorized person intends to erect, repair or adjust the instrument:

(iii) the business name and address of the proprietor of the instrument; and

(iv) the name, authorization number and address of the authorized person.

(e) the Executive Director may at any time giving reasons withdraw any authorization.

63. Maximum permissible error.

The maximum permissible error on bulk meters shall be ascertained by atleast one minute's run at maximum rate of flow of the instrument and shall not exceed—

(a) on verification 0.25 per cent of the quality delivered in excess only; and

(b) on re-verification or inspection, 0.5 per cent of the quality delivered in excess or 0.25 per cent of the quality delivered in deficiency.

64. Sealing and stamping.

(1) Every bulk meter shall be provided with suitable sealing arrangement to protect all adjustable parts affecting the quantity delivered or with such alternative sealing arrangement as may be authorized by the Executive Director.

(2) The stamp of verification shall be placed on all such seals and sealing devices as the case may be.

PART V—BULK MEASURES

65. Definition.

In this Part unless the context otherwise requires—

'bulk measures' means a measure of capacity designed to be mounted on a vehicle whether permanently or not, used for carriage of liquid fuel.

66. Materials.

(1) Bulk measures shall be made of steel or other material approved by the Executive Director.

(2) The interior of each measure shall, after sand blasting be well and evenly coated to a minimum thickness of 0.125 mm with amine cured epoxy resin paint or such other finish as the Director may approve.

(3) The interior of measures made of materials other than steel shall be coated or treated in a manner approved by the Executive Director.

67. Capacity and marking.

(1) A bulk measure shall be of a capacity of $0.5m^3$ or any multiple of it and the capacity shall be marked in cubic metres near the filling point and in litres near the discharge point of the measure.

(2) Where two or more measures are formed together they shall be numbered in sequence starting either at the front of the vehicle or where the measures are not permanently mounted on a vehicle at the end opposite the discharge point.

(3) The identification number of each measure shall be marked on the top or side of the calibration dome and also near the end of the discharge line or its associated discharge valve handle.

(4) Notwithstanding the provisions of subrules (1) to (3), every bulk measure shall have an identification plate fitted on some conspicuous part of the measure, and the following information shall be clearly and indelibly marked on the plate—

(a) name of the manufacture;

(b) year of manufacture of the measure;

(c) serial number;

(d) the registration number of vehicle, in the case of the measures mounted on the vehicle; and

(e) nominal capacity of the measure.

(5) Where two or more measures are formed together, the identification plate may be fitted on only one of the measures and that the nominal capacity of each measure shall be marked on the plate.

68. General construction.

(1) A bulk measure shall—

(a) be sufficiently rigid to prevent buckling under normal conditions of use;

(b) be of such shape as to prevent trapping of air in the filling process and to facilitate drainage when emptying; and

(c) not leak.

(2) Effective venting of the measure shall be provided to permit air to escape during the filling operation from areas designed to be filled with liquid and to permit the influx of air into the measure during the discharge of the liquid and venting shall prevent formation of air pockets.

(3) Where two or more measures are formed together, the double bulkheads between the measures shall be at least 50 mm apart at the narrowest point constructed such that they shall not become so distorted as to cause a change in the capacity of any measure exceeding 0.001 per cent when the neighboring measures are filled or emptied and provided with means for draining the space between them.

69. Displacement boxes.

(1) Displacement boxes fitted in any bulk measure shall be securely fixed to the inside of the measure in such a manner as to prevent trapping of air in the filling process and liquid in the emptying process and the boxes shall not leak.

(2) Baffle plates in the bulk measure shall have sufficient perforations to facilitate the filling of the measure without trapping air and the emptying of the measure without trapping liquid.

70. Calibration dome.

(1) At the highest point of each measure and as nearly as practicable midway between the ends of the measure, there shall be a calibration dome in the form of cylinder of elliptical section, the major axis being 600mm ± 5mm, minor axis 400mm ± 5mm and the height 300mm ± 5mm.

(2) Any dome flange extending into the measure shall be provided with perforations or openings flush with the measure shell to prevent trapping of air during the filling process.

(3) The calibration dome shall incorporate the following—

(a) a filling port which shall—

(i) if circular have a diameter of at least 200mm or if not circular, have an effective area 300mm; and

(ii) be fitted with a leak-proof cover.

(b) an observation window which shall—

(i) be circular and of a diameter of not less than 200mm;

(ii) be situated in a manner as to give a clear and unobstructed view of the indicator and be fitted in a manner that it can not be removed without removing the top plate of the calibration dome;

(iii) be fitted with a rotary wiper operated from the outside which shall be capable of effectively cleaning the inside of the window;

(iv) be fitted with a securely closing cover on the inside of which the capacity of the measure shall be marked in cubic meters; and

(v) a venting device or double acting safety valve.

71. Liquid level indication.

(1) Every bulk measure shall be fitted with an adjustable indicator level index which shall define the capacity of the measure.

(2) The indicator shall be made of such material and of such design as shall be approved by the Executive Director.

(3) The indicator shall be positioned so that when the measure is filled to the level of the indicator there shall remain an expansion space of atleast 4 per cent of the nominal capacity of the measure as defined by that indicator.

(4) Access to the indicator through the filling port shall be prevented by means of a tube with sufficient perforations to prevent trapping of air during the filling process projecting downwards from the port a distance of at least 500 mm or by such other device as the Executive Director may approve.

72. Discharge valves.

(1) At the lowest point of each bulk measure shall be fitted a bowden cable operated spring-loaded valve and the measure shall empty completely when this valve is opened.

(2) The handle foe opening the spring loaded valve of the measure shall be situated adjacent to the associated discharge line.

73. Discharge lines.

(1) Each bulk measure shall have only one discharge line.

(2) Each discharge line shall have an appreciable downward slope from the bottom of the measure to the discharge point and the discharge line shall be incapable of trapping liquid when all valves are opened.

(3) At the end of each discharge line there shall be a manually operated valve, immediately before which shall be a sight glass so situated as to give a clear and unobstructed view of the flow of liquid.

(4) Where two or more measures are formed together, discharged lines, together with the associated valve handles shall be brought to the same side or same end of the measures.

74. Calibration.

(1) The following shall not be admitted for calibration unless permanently mounted on a vehicle which is more than three measures joined together or any individual measure of a purported capacity of more than two cubic metres.

(2) Bulk measures shall be calibrated by transferring water at 20 degrees centigrade from proving tanks into the measure under test and adjusting the measure's capacity indicator to the level of the water in the measure.

(3) During calibration, the temperature of the water in the proving tank and in the measure being calibrated shall be recorded.

(4) The water temperature shall not vary by more than 2 degrees centigrade during calibration.

(5) To calculate the capacity of the measure at the reference temperature which is twenty degrees centigrade, the following procedure shall be adopted—

(a) where the water temperature is within ± 10 degrees centigrade from the reference temperature and in compliance with the conditions of paragraph (4), only the correction for proving tank shall be applied;

(b) the water temperature lies outside the limits mentioned above, the volume of the measure shall be calculated using the relation—

$$V^{c}_{t20} = V^{e}_{t20} \{1 + ß_e(t_e - t_{20}) + ß_c(t_{20} - t_c)\} \rho_{tc}/\rho_{te}$$

Where—

V^{c}_{t20} is the volume of the measure at 20 degrees centigrade;

V^{e}_{t20} is the volume of the water measured by the proving tank;

$ß_e$ is the coefficient of cubic expansion of the material used in the construction of the proving tank;

$ß_c$ is the coefficient of cubic expansion of the material used in the construction of measures being calibrated;

t_e is the mean water temperature in the proving tank;

t_c is the mean water temperature in the measure being calibrated; and

ρ_{tc} and ρ_{te} are densities of water at temperature $_{te}$ and $_{tc}$ respectively

(6) For the purpose of calculating the capacity of measures as required under rule (5) the values of the coefficient of cubic expansion shall be—

(a) 3.3 X 10-5 Per °C for mild steel

(b) 5.1 X 10-5 Per °C for stainless steel

(c) 6.9 X 10-5 Per °C for aluminium

(7) Where two or more measures are formed together and are mounted on a vehicle as a single compartmentalized tank, the inspector shall before commencing the calibration ensure that the vehicle is placed on a level surface and that the front and rear tyres of the vehicle are at the correct pneumatic pressure.

(8) The following rates shall be performed on any tank mounted on a vehicle before commencing calibration—

(a) to check for any variation in the capacity of a compartment located roughly in the middle of the tank shall be filled to its capacity and its indicator adjusted to the level of the water in the compartment;

(b) the neighboring compartments shall then be filled, this having the effect of raising the level of water in the compartment in the middle of the tank; the level of the water in this compartment shall then be adjusted to the indicator, the volume of water drawn off being measured using a volumetric standard measure; the volume shall not exceed 0.001 per cent of the capacity of the compartment;

(c) to check whether valves and venting devices are functioning correctly or have been properly fitted, the compartments in the tank shall be filled and their indicators adjusted accordingly;

(d) The vehicle shall then be driven for 5 to 10 minutes including a number of abrupt starts and stops;

(e) the vehicle shall then be returned to its initial position and the level of the water in the compartment shall be noted again; and where the level is not on the indicators, the valves and venting devices are faulty and the tank should not be calibrated until this situation has been rectified.

(9) The maximum permissible errors on any measure shall be 0.25 per cent in excess only of the purported capacity of measure.

75. Sealing and stamping.

(1) Every bulk measure shall have provisions for affixing seals to—

(a) any indicator so that the indicator cannot be adjusted without mutilating or destroying the seal; and

(b) any removable part to which an indicator may be attached so that the part cannot be removed without mutilating or destroying the seal.

(2) The stamp of verification shall be applied on all seals fitted in accordance with paragraph (1).

76. Stamping or measures mounted on vehicles.

(1) A measure mounted on a vehicle shall not be stamped when it is fully loaded or the vehicle on which it is mounted transmits to the road more than the maximum weight permitted by the Road Traffic Act or by the specifications of the manufacturer of the vehicle, whichever is the less.

(2) In calculating the weight transmitted to the road by vehicle carrying fuel, the following specific gravities shall be used—

(a) 0.72 for vehicle motor spirits;

(b) 084 for vehicle carrying middle distillates; and

(c) 0.99 for vehicle carrying black oils.

77. Calibration certification.

(1) The inspector shall on completion of calibration, issue a certificate to the owner of the road tanker in respect of the calibration and the certificate shall include the following information—

(a) name and address of the owner of measures;

(b) number of certificate;

(c) manufacturer's name, year of manufacture and serial number;

(d) vehicle registration number in the case of measures permanently mounted on a vehicle; and

(e) in the case of two or more measures joined together, the serial numbers of the measures and their respective nominal capacities.

(2) The verification certificate shall be the form specified in Schedule 2.

78. Verification of fuel truck carriers

Fuel truck carriers delivering fuel to and from Uganda and those deliverying internally shall be verified by an inspector of the department of Weights and Measures.

79. Revocation of S.I No 103-2

The Weights and Measures (Measuring Instruments) (Liquid Fuel and Lubricating Oil) Rules are revoked.

SCHEDULES

SCHEDULE 1

Rule 12

PERMISSIBLE ABBREVIATIONS

1. Measurement of Mass

Kilogram	kg.
Gram	g.
Milligram	mg.
Carat (metric)	C.M.

2. Measurement of Length

Kilometre	km.
Metre	m.
Decemetre	dm.
Centimetre	cm.
Millimetre	mm.

3. Measurement of Area

Hectare	ha.
Decare	da.
Are	a.
Square kilometer	km^2.
Square metre	m^2
Square decimeter	dm^2
Square centimeter	cm^2
Square millimeter	mm^2

4. Measurement of Volume

Cubic metre	m^3 or (cu.m).
Cubic decimeter	dm^3 or (cu.dm).
Cubic centimetre	cm^3 or (c.c).

5. Measurement of Capacity

Litre	l.
Decilitre	dl.
Centilitre	cl.
Millilitre	ml.

SCHEDULE 2

Rule 77(2)

ROAD TANK CERTIFICATE OF VERIFICATION

I hereby certify that the road tankers whose particulars are specified below was brought to me by (Manufacturer's Name) ..... of (Address)..... and was this day verified and stamped by me, the same having been examined and found correct.

Dated at.....this.....day of....., 20.....

.....
Inspector of Weights and Measures.

Note: This certificate remains in force for twelve calendar months from the date of issue unless otherwise specified.

Particulars of Tanker
Registration No. .....Type or Make.....
Engine No. .....Chassis No.....
Year of Manufacture.....
Weights and measures Serial No.....

Compartments
No. 1.....Litres No.2.....Litres No.3.....Litres
No.4 .....Litres No.5.....Litres No.6.....Litres

TOTAL CAPACITY:.....Litres

REMARKS:.....

HON HAJAT JANAT MUKWAYA,
Minister of Trade Tourism and Industry.