

LOK SABHA

**THE STANDARDS OF WEIGHTS AND  
MEASURES BILL, 1956**

**(Report of the Joint Committee)**

PRESENTED ON THE 20TH NOVEMBER, 1956



सत्यमेव जयते

**LOK SABHA SECRETARIAT  
NEW DELHI  
November, 1956**

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# THE STANDARDS OF WEIGHTS AND MEASURES BILL, 1956

## Composition of the Joint Committee

Shri Nityanand Kanungo—*Chairman*

### MEMBERS

#### *Lok Sabha*

2. Shri R. D. Misra
3. Shri P. T. Thanu Pillai
4. Shri Bhagwat Jha 'Azad'
5. Shrimati Ammu Swaminadhan
6. Shri M. Muthukrishnan
7. Shri U. R. Bogawat
8. Shri Akbar Chavda
9. Shri M. B. Vaishya
10. Shri Ganpati Ram
11. Shri Sunder Lall
12. Shri A. R. Sewal
13. Shri Khub Chand Sodhia
14. Shri S. R. Telkikar
15. Shri Bhagu Nandu Malvia
16. Shri Balwant Sinha Mehta
17. Sardar T. S. Akarpuri
18. Shri C. R. Basappa
19. Shri Laisram Jogeshwar Singh
20. Shri K. T. Achuthan
21. Shri Kamal Krishna Das
22. Shri Birendranath Katham
- \*23. Shri Bhawani Singh
24. Shri N. R. M. Swamy
25. Shri Baddam Yella Reddy
26. Shri H. N. Mukerjee
27. Shri M. S. Gurupadaswamy
28. Shri R. N. Singh
29. Shri Nand Lal Sharma
30. Shri Kailash Pati Sinha

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\*Died on the 6th October 1956.

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*Rajya Sabha*

31. Shri M. Govinda Reddy
32. Shri V. C. Kesava Rao
33. Shrimati K. Bharati
34. Dr. N. S. Hardikar
35. Dr. W. S. Barlingay
36. Shri B. K. Mukerjee
37. Shri Akhtar Hussain
38. Sardar M. H. S. Nihal Singh
39. Shri Bhagirathi Mahapatra
40. Shah Mohammad Umair
41. Prof. A. R. Wadia
42. Dr. Raghubir Sinh
43. Shri Kishen Chand
44. Shri M. Govindan Nair
45. Shri V. K. Dhage.

**DRAFTSMAN**

Shri R. S. Sarkar, *Joint Secretary and Draftsman, Ministry of Law.*

**SECRETARIAT**

Shri N. N. Mallya, *Deputy Secretary.*

Shri P. K. Patnaik, *Under Secretary.*

## Report of the Joint Committee

1, the Chairman of the Joint Committee to which the \*Bill to establish standards of weights and measures based on the metric system was referred, having been authorised to submit the report on their behalf, present their Report with the Bill as amended by the Committee annexed thereto.

2. The Bill was introduced in the Lok Sabha on the 13th August, 1956. The motion for reference of the Bill to a Joint Committee of the Houses (*vide* Appendix I) was moved by Shri Nityanand Kanungo on the 25th August, 1956 and was discussed in the Lok Sabha on the 27th and 28th August, 1956 and was adopted on the 28th August, 1956.

3. The Rajya Sabha discussed and concurred in the said motion on the 1st September, 1956 (*vide* Appendix II).

4. The message from the Rajya Sabha was read out to the Lok Sabha on the 4th September, 1956.

5. The Committee held four sittings in all.

6. The first sitting of the Committee was held on the 11th September, 1956 to draw up a programme of work.

7. The Committee considered the Bill clause by clause at the sittings held on the 24th and 25th October, 1956.

8. The Committee considered and adopted the Report on the 17th November, 1956.

9. The observations of the Committee with regard to the principal changes proposed in the Bill are detailed in the succeeding paragraphs.

10. *Clause 4.*—The amendment made in this clause is clarificatory.

11. *Clause 12.*—The Committee feel that the secondary units to be declared under this clause should be only in relation to the units of mass and measures referred to in Clause 3, 4, 9, 10, and 11 of the Bill.

The clause has been amended accordingly.

12. *Clause 17.*—The Committee consider that all rules made under this Act should be laid before both Houses of Parliament for a period

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\*Published in Part II, Section 2 of the Gazette of India Extraordinary, dated the 13th August, 1956.

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of not less than thirty days and shall be subject to such modification as Parliament may make.

Sub-clause (3) has, therefore, been amended accordingly.

13. The Committee have considered that the question whether international terms should be used for the various units of mass and measures proposed to be introduced by this Bill, or whether Indian names might be used in addition to or in place of international terms.

The Committee are of the view that the international terms as proposed in the Bill might be adopted.

The Committee would however like to suggest to the Central Government that efforts may be made by them to evolve suitable and acceptable terms for a few of the multiples and sub-multiples of these units which may be adopted later, in addition to the international terms.

14. The Committee recommend that steps should be taken to bring into force and implement this measure as early as possible.

15. The Joint Committee recommend that the Bill as amended be passed.

NEW DELHI;  
The 19th November, 1956.

NITYANAND KANUNGO,  
Chairman,  
Joint Committee.

## MINUTES OF DISSENT

### I

In the Bill the so-called international nomenclature has been accepted *in toto* along with its Greek-derived and Latin-derived prefixes for their secondary units, and it does not provide any alternative suitable Indian nomenclature for the various units of weights and measures. In the Report of the Select Committee there is a suggestion to set up a body to consider and formulate suitable Indian nomenclature for these units. But that is going to be a prolonged process and it cannot possibly fulfil the immediate needs in respect of this Bill. As such, the continuance of this lacuna in this Bill of not giving suitable alternative Indian nomenclature is going to be the cause of much confusion and real hardship especially to the villagers and the common man. The use of prefixes like 'Deka' and 'Deci' will most definitely create confusion and much misunderstanding among the illiterate and the unknowing villagers who cannot possibly understand the basic difference in the two. As such, it is earnestly urged that the Bill should provide alternate suitable Indian nomenclature also and should use prefixes based on Indian origin in conjunction with this Indian nomenclature. The retention of the Indian nomenclature with suitable prefixes to differentiate it from the prevailing similar names is most earnestly urged.

In clause 4(1) the primary unit of mass is 'kilogram' which is just a little more than 2 lbs. or a seer of 80 tolas. In the Metric system, the highest prefix that can possibly be used is 'kilo' while to an ordinary farmer generally 'seer' is the smallest unit. Lack of any intervening unit between the kilogram and the metric ton will add to the difficulty and confusion. Then again, villagers who are accustomed to deal and talk in terms of 'manasas' equivalent to 100 maunds will find the metric ton too small a unit. Similarly, in respect of a metre it is suggested that the term 'gaz' be accepted as its Indian equivalent. The need for similar suitable Indian equivalents to the names of various secondary units cannot also be over-emphasised. Obviously enough the Indian equivalent 'ghanta' will have to be preferred to the adoption of the word 'hour' as a word in Indian languages.

Need for providing such Indian equivalents is felt all the more because the use of international nomenclature *in toto* by ordinary common men does not seem easily possible nor is likely to be readily acceptable to them. Moreover, as the Constitution provided for Hindi as the national language and gives equal importance to other Indian languages, not providing Indian equivalents for these units in this measure would ultimately mean acceptance of all these words *in toto* as words of all the Indian languages including Hindi, the national language, which does not seem either feasible, possible or advisable. These suggestions about Indian nomenclature may be changed suitably, if considered necessary, if better names can be proposed either by the Government or any other competent authority or person.

Clause 12 gives power to the Central Government to declare the magnitude and denominations of the various secondary units of mass and measures. As there too the question of alternate Indian nomenclature does arise, it is earnestly desired that all such notifications, issued by the Central Government under clause 12, should be placed before both Houses of Parliament so that the Houses will have a chance to express their opinion on the nomenclature proposed by the Central Government for these secondary units and suggest amendments thereto, if necessary.

BALWANT SINHA MEHTA  
 V. K. DHAGE  
 A. R. SEWAL  
 N. S. HARDIKAR  
 U. R. BOGAWAT  
 RAGHUBAR DAYAL MISRA  
 RAM NAGINA SINGH.

NEW DELHI;  
 The 17th November, 1956.

## II

I am completely in agreement with the object of the Bill, namely, to enforce a uniform system of weights and measures based on the metric system throughout the country, in order to facilitate trade transactions and to save the masses from exploitation. Along with the Decimal Coinage, which we have already adopted, it will, no doubt, be in the best interest of trade and industry, scientific development and all other calculations.

2. In spite of this, I am constrained to say that I doubt the propriety of some aspects of the Bill.

3. According to clauses 3 and 14 of the Bill, the complete change-over may come 13 years after passing of this Bill. In view of the



fact that some of the countries, which have adopted the metric system, did not take such a long time for its implementation, the period of ten years seems to be too long. It should not be more than 5 years.

4. I deprecate the idea of leaving several items undecided in the body of the Act and making them a subject of delegated legislation to be dealt with by the Executive. Unlike the previous Acts (The Measures of Length Act, 1889 and the Standards of Weights Act, 1939), the secondary units of Mass and Measures are not incorporated in any of the provisions of this Bill; but are left to be provided by the rules to be framed by the Central Government. The magnitude and the denominations of such units are also to be decided by the Central Government under the rule-making powers delegated to the Government by Clause 17 of the Bill. The question of the custody of the set of standards of mass and measures is left vague.

I do not consider it proper to allow such major problems as are mentioned above should have been left unsolved.

5. Clause 2 is a definition clause and as such all the definitions scattered in the several clauses of the Bill should have been brought together in the same clause only. So also, the primary units of mass, measures, time, electric current, temperature, luminous intensity, area, volume and capacity ought to have been provided in one clause only.

6. My amendments would have gone a long way in bringing about briefness, clarity and propriety in the unsystematically drafted original Bill. Therefore, I propose the Bill to be amended and redrafted on the lines indicated above.

S. R. TELKIKAR

NEW DELHI;  
The 17th November, 1956.

### III

I have very carefully read the report of the Joint Committee and although I fully agree with the objects of the Bill, there are a few points about nomenclature and the pace of the introduction of this measure on which I disagree with the report and hence this minute of dissent.

An essential feature of the decimal system is that subsidiary units must be progressively ten times or tenth parts of the main unit and, as far as possible, the names of subsidiary units should be derived by adding prefixes signifying ten, hundred and thousand. The metric system is framed on this basis. If *gram* is taken as a

basic unit of weight we have subsidiary units of *dekagram*, *hectogram* and *kilogram* on one side, and *decigram*, *centigram* and *miligram* on the other side. Similarly, metre is a unit of length from which are derived subsidiary units by adding the same prefixes as in the case of weight.

The Joint Committee examined the question of the nomenclature of the subsidiary units and the majority thought that the international nomenclature should be adopted *in toto*. Further, *kilogram* which is a compound unit has been adopted as the unit of mass and it cannot be used for forming the names of higher units. The French people use *Quintal* and *Ton* which are not derived from *Kilogram*. I submit that the international nomenclature may be adopted for scientific purposes, but the common man cannot easily write in Indian scripts or pronounce or understand the significance of the French prefixes; and so, side by side with the international nomenclature, we should adopt a nomenclature with Indian prefixes which can be easily understood by everybody.

The unit of length should be a metre and it can be easily written in all the Indian scripts and pronounced correctly. For subsidiary units I suggest the Indian prefixes दस, सौ and हजार which are easily understood all over India; if we abbreviate them by द, स and, ह, the subsidiary units of lengths will be दमीटर, समीटर and, कीटर, corresponding with *decametre*, *hectometre* and *kilometre*. Similarly, tenth, hundredth and thousandth parts are दसवां, सौवां and हजारवां भाग and may be abbreviated by द, स and ह. Thus *decimetre*, *centimetre* and *millimetre* will become ददमीटर, ससमीटर and हदमीटर. Even non-Hindi-speaking persons can easily grasp the significance of these prefixes and get used to them.

These prefixes can be applied to the unit of mass if it is a *gram*, but as pointed out above, *Kilogram* is a compound word. I suggest the *Kilogram*, which is barley 7% more than the present *seer*, be called the *naya seer*. In forming the subsidiary units the part "naya" may be dropped. Thus 10 *Kilogram*, 100 *Kilogram* and 1000 *Kilogram* or the metric ton will become दसेर, ससेर and हसेर. Even now, पसेरी is in common use and the use of दसेर will not look odd. If ससेर is not liked, it may be replaced by मन्न and so the *maund* will have 100 *naya seers* instead of 40 old *seers*, and हसेर may be replaced by टन which is the metric ton.

Subsidiary units below the *naya seer* will be formed from ग्राम and they will be दग्राम, सग्राम and हग्राम the last

corresponding to the *naya seer*. The smaller units will be **बवग्राम**, **सवग्राम** and **हवग्राम** the last corresponding to the milligram.

I may repeat once more that the Indian nomenclature will run side by side with international nomenclature. Much is made of the argument that most countries of the world have adopted the metric system and the international nomenclature. It was not clear whether other countries have also local nomenclature. Our country is an agricultural country and the unit of *seer* is too small. In the metric system every ten-fold of the unit must have a name, and so my suggestion of **दसेर**, **मन** and **टन** fits in with the scheme. I would like that 100 square metres be called a **बरगा** and higher units of area be formed by adding prefixes to it.

Regarding the phasing of its introduction, I believe that the sooner it is done, the better. We are introducing decimal coinage from the 1st of April 1957, and if the metric system is introduced at the same time, it will simplify all calculations very considerably. At one stroke, the people will get used to decimal system in all phases of transactions between the exchange of money with goods purchased by weight, length or area. A period of three years has been allowed in the Bill for the translation and the period is long enough for a very smooth transition.

Lastly, when we are completely adopting the decimal system, it is essential that we introduce it in enumerations after ten. In all European languages, in Sanskrit and in the four Indian languages Telugu, Tamil, Kanarese and Malayalam, at least after twenty, the further numerals are formed by adding one, two, three etc. Thus we have twenty-one, twenty-two etc.; but only in the North Indian languages we have a new name for every numeral upto a hundred. I suggest that from 1st April, 1957, in all schools the Hindi numerals should be **दस एक**, **दस दो**, **दस तीन** etc. as also **बीस एक**, **बीस दो** etc. and so on. The present nomenclature is a complete negation of decimal notation.

NEW DELHI;

KISHEN CHAND

The 18th November, 1956.

#### IV

I could not rest in peace unless I wrote this note of dissent. The Bill has been rushed through without duly considering the difficulties in the way of its enforcement.

2. No one can object to the adoption of the metric system for scientific and Technological purposes, but to enforce it *in toto* for everyday life throughout the length and breadth of the country is a thing to which I cannot subscribe.

3. Adoption of foreign terminology is shocking to the national self-respect and proviso to sec. 12 of the Bill was not adopted even in our new currency. Translation of the Land records into the new measurement will let loose confusion and corruption in the countryside.

4. The Bill is an instance of the zeal for innovation without paying head to the realities of the situation and I cannot support the Bill as it is.

KHUB CHAND SODHIA.

NEW DELHI;

The 19th November, 1956.

I am constrained to record this note of dissent because of certain observations in the Joint Report which are not quite germane to the main provisions of this Bill. The Report has suggested to the Central Government that efforts may be made by them to evolve suitable and acceptable terms for a few of the multiples, sub-multiples of these units which may be adopted later in addition to the international terms. The Joint Committee have taken the view that the International terminology should be adopted in consonance with the rest of the world which has adopted a uniform terminology except perhaps China, which has unfortunately no phonetic alphabets in its language.

The Board of Scientific Terminology has recommended certain terms for certain multiples but they are derived from epics and other ancient literature which are almost dead or forgotten. Any terminology that might hereafter be evolved would either find its origin in Sanskrit, which has a moribund existence or in Hindi which is yet in the initial stage of development. It would be better to leave these international terminologies as they are, to the people who would in the long run get familiarised to their use and they enrich the languages of our country. There are fourteen regional languages and so any terminology will be alien to the other regional languages. So, in the circumstances the international terms are mostly suited as a workable compromise and we would be in line with the rest of the world in adopting the international scientific terminology. So, I am opposed to the suggestion of future constitution of any Board for the purpose of evolving acceptable or suitable terms.

The establishment of standards of weights and measures based on the metric system is a new experiment and it has to be implemented as quickly as possible if the desired results are to

be achieved. Therefore, the Constitution of India has to be amended in order that the Central Government may be enjoined with the responsibility of implementation of the provisions of this Bill instead of leaving it to the State Governments which might take longer period than anticipated or prescribed in the sub-clause (3) of clause 1 of the present Bill. It is contemplated under the provision that the Act shall come into force on such date, not being later than ten years from the passing of this Act, as the Central Government may appoint; but under the provisions of clause 14 of this Bill, the Central Government may, despite the coming into force of this Act, permit the continuance of the use, after such commencement, of such weights and measures, not exceeding three years. This would mean thirteen years in all for this Act to be in force uniformly all over the country. I should deem it a pretty long period. So it would be better to shorten the original period to ten years at the most.

I am doubtful if the Parliament is competent enough to repeal the State enactments as enumerated in the second Schedule of this Bill in entirety. Sub-Clause (2) of clause 18 repeals certain provisions of the State enactments which are in conflict with the provisions of this Bill and keeps in force all the provisions which correspond to the provisions of this Bill, but the sub-clause (3) of clause 18 again contemplates repealing of all corresponding provisions of law that are in force. So much so, what was being retained by sub-clause (2) is repealed by sub-clause (3) of clause 18 of the Bill. Hence I am doubtful if the legislative competence of Parliament would go to the extent of repealing virtually the entire enactments passed by the State legislatures. This has to be examined.

NEW DELHI;

N. R. M. SWAMY

*The 19th November, 1956.*

## VI

This Bill has been overdue for some time and there is no question that it should be implemented in the quickest possible time, particularly in view of the requirements of our Planning. On this point the Committee was unanimous, but we regret that in Clause 1(3) it is set out that implementation shall occur not later than ten years from the passing of this legislation. We are not unmindful of the difficulties, but we feel that no more than a period of five years should be permitted to intervene before implementation.

From the information supplied to us it appears that countries like Iran and Syria gave immediate effect to the metric system,

while the Philippines took two years and Czechoslovakia four. The Soviet Union, spread over one-sixth of the earth's surface, secured full implementation in nine years, but the delay may very well have been due to the fact that in that period the USSR faced civil war, foreign attack, famine, economic blockade and a hundred other problems. Given a real effort, we can reach the target in certainly less than ten years.

We learn that in 1949 a Special Committee of Weights and Measures of the Indian Standards Institution envisaged a period of eleven to fifteen years for completion of the metric project. That was a time when our Plans had not been launched, and as appears from documents supplied to us, there was considerable resistance even from the Government departments principally concerned. Much water has flown down the bridge since, and we were happy to learn from the Chairman that the Railways and Communications Ministries among others, are enthusiastically in favour of rapid adoption of the metric system. That being so, we feel that in clause 1(3), the period shall be "not later than five years".

We are fortified in our argument by the fact that in Clause 14 there are already provisions enabling Government to order continuance of certain weights and measures during the transition for a period not exceeding three years. If this is agreed to, we shall have virtually a period of eight years at the maximum for the completion of the phased programme. This is as far as we are ready to go and we cannot agree with the envisagement of some fifteen years, as at present. If of course, very exceptional circumstances supervene, Government may come up before Parliament later on for necessary measures which will no doubt be agreed to. But fixation of a ten-to-fifteen years' target would be not only technically unnecessary but also a moral damper.

We say this because there is everywhere, and particularly in countries like ours, a great deal of inertia, a kind of allergy towards departure from habits formed long ago. The right kind of initiative can furnish a corrective to this inertia. There is no doubt whatever that the metric system is best suited to us as to other countries. But the longer the period of transition, the greater is likely to be the confusion and the resistance of inertia to change. It is, therefore, important to remember what the Indian Decimal Society has pointed out, namely, that "the success of this reform would depend not so much on the period allowed for transition, as on the nature and volume of publicity and propaganda in its favour, and on the ability and devotion of the persons entrusted by the Government with the charge of publicity". We are glad that the Chairman gave us repeated and categorical assurances about Government's earnestness in this matter and its readiness to

enlist popular support in the task of publicising this great change and its undoubted advantages.

In regard to the question of terminology we agree with the Committee's view that international terminology should be adopted. On this point, experts are nearly unanimous, and so are the States of the Indian Union. When there is not even a remote uniformity in regard to such well-known units as *seer* or *maund*, and when in South India, generally, terms familiar in the North sound strange, it is better not to make a laborious effort for the invention of new Indian names. The adoption of international terminology is, indeed, the simplest and best solution of the problem.

In clause 7, we suggest that after the words "the centigrade scale", in line 7, the words "otherwise known as Celsius", be added. This is because we find in the report of the U. K. Committee on Weights and Measures Legislation (1951, p. 17) that by recent international agreement the degree "Centigrade" is now described as "Celsius". Centigrade, of course, is a familiar expression, but it seems necessary to mention also the other word, internationally agreed upon, in our legislation.

There was a suggestion that since our aim in this Bill is standardisation and there is no controversy as to the meaning to be attached to "second", "ampere", "candela", etc. Clauses 5, 6 & 8 could be safely omitted. If, however, they were to be retained, it might be desirable to mention in the Bill other measuring units like the Volt, the Ohm, the Watt etc. and define them. With great respect to the scientific advice which was placed before the Committee, we wish to make a suggestion for consideration by Parliament. The Report of the U.K. Committee on Weights and Measures Legislation, already referred to, mentions this point and gives its view that adequate definition either of the derived units of measurement or of the standards which are to be the physical representations of both the fundamental and derived units is not, in general, practicable in Acts of Parliament. This is because, we learn, the definitions of derived units tend in many cases to be complex and lengthy, and also because with the advance of science progressively greater precision in definition becomes possible and the definition of more units, like the units of barometric and hydrostatic pressure for instance, becomes desirable. In view, therefore, of the complexity of the definitions, which will be usually above the heads of laymen in Parliament, and in view of the need to change them constantly in the light of changing techniques—the definition of the second even may require emendation as scientific knowledge advances—the U.K. Committee proposed that a permanent body of eminent scientists be set up to keep these matters under regular review and to advise Government on alterations or additions

required. It also proposed that each definition decided on in pursuance of such advice should be given effect to by some form of delegated legislation without detriment to the authority of Parliament which should, besides, have laid before it periodically reports of the work of the Scientists mentioned above. This is a very suggestive idea and we wish Parliament gives its mind to it.

NEW DELHI;

*The 19th November, 1956.*

HIRENDRA NATH MUKERJEE

M. GOVINDAN NAIR



THE STANDARDS OF WEIGHTS AND MEASURES  
BILL, 1956

(AS AMENDED BY THE JOINT COMMITTEE)

(Words side-lined or underlined indicate the amendments made by the Committee; asterisks indicate omissions).

A  
BILL

to establish standards of weights and measures based on the metric system.

BE it enacted by Parliament in the Seventh Year of the Republic of India as follows:—

1. (1) This Act may be called the Standards of Weights and Measures Act, 1956.

Short title, extent and commencement.

5 (2) It extends to the whole of India except the State of Jammu and Kashmir.

(3) It shall come into force on such date, not being later than ten years from the passing of this Act, as the Central Government may, by notification in the Official Gazette, appoint; and different  
10 dates may be appointed for different provisions of this Act or for different areas or for different classes of undertakings or for different classes of goods.

2. In this Act, unless the context otherwise requires,—

Definitions.

15 (a) "First General Conference of Weights and Measures" means the Conference Generale des poids et Mesures held at Paris in 1889;

(b) "International Bureau of Weights and Measures" means the Bureau Internationale des poids et Mesures at Sevres in France:

(c) "kilogram" means the mass of the platinum-iridium cylinder deposited at the International Bureau of Weights and Measures and declared international proto-type of the kilogramme by the First General Conference of Weights and Measures; 5

(d) "meter" means the distance, at zero degree centigrade and under normal atmospheric pressure, between the axes of the two median lines traced on the platinum-iridium bar deposited at the International Bureau of Weights and Measures and declared international proto-type of the metre by the First 10 General Conference of Weights and Measures;

(e) "normal atmospheric pressure" means the pressure exercised by 101325 newtons per square meter, a newton being the force which imparts to a mass of one kilogram an acceleration of one meter per second per second. 15

Primary unit  
of length.

3. (1) The primary unit of length shall be a metre.

(2) For the purpose of deriving the value of the metre, the Central Government shall cause to be prepared a national proto-type of the metre and shall cause the same to be certified in terms of the international proto-type of the metre and shall deposit the 20 same in such custody and at such place as the Central Government may think fit.

Primary unit  
of mass and  
standard unit  
of weight.

4. (1) The primary unit of mass shall be a kilogram.

(2) For the purpose of deriving the value of kilogram, the Central Government shall cause to be prepared a national proto- 25 type of the kilogram and shall cause the same to be certified in terms of the international proto-type of kilogramme and shall deposit the same in such custody and at such place as the Central Government may think fit.

(3) Notwithstanding anything contained in sub-section (1) of 30 this section and section 12, the primary unit of mass for precious stones shall be a carat which is equal to one-five-thousandth of one kilogram.

(4) The standard unit of weight at any place shall be the weight of the primary unit of mass at that place. 35

Unit of time.

5. (1) The primary unit of time shall be a second.

(2) A second means  $1/31,556,925.975$  of the length of the tropical year for 1900.0, the year commencing at 12.00 hours universal time on the 1st day of January, 1900.

6. (1) The unit of electric current shall be an ampere.

Unit of electric current.

(2) An ampere means that constant current which, flowing in two parallel straight conductors of infinite length, of negligible circular cross section and placed at a distance of one metre from each other in vacuum, produces a force of  $2 \times 10^{-7}$  newtons per metre length between the conductors.

7. The scale of temperature shall be the centigrade scale where the temperature, under normal atmospheric pressure, is taken to be zero degree at the melting point of ice and one hundred degrees at the boiling point of water.

Scale of temperature.

8. (1) The unit of luminous intensity shall be the candela.

Unit of luminous intensity.

(2) A candela means one-sixtieth part of luminous intensity normally emitted by one centimetre square of integral radiator (black body) at the temperature of solidification of platinum.

9. The primary unit of area shall be the square metre.

Primary unit of area.

10. The primary unit of volume shall be the cubic metre.

Primary unit of volume.

11. The unit of capacity shall be a litre which is the volume occupied by the mass of one kilogram of pure air-free water at the temperature of its maximum density and under normal atmospheric pressure.

Unit of capacity.

12. The Central Government may, by notification in the Official Gazette, declare in relation to the units of mass and measures referred to in sections 3 and 4 and sections 9 to 11, both inclusive, the magnitude and denominations of such units of mass and measures as it thinks fit to be the secondary units of mass and measures under this Act:

Secondary units of mass and measures.

Provided that every such secondary unit shall be an integral power of ten (positive or negative) of any one of such \* units.

13. (1) The units of mass and measures referred to in sections 3 and 4 and sections 9 to 11, both inclusive, and the secondary units of mass and measures declared under section 12 shall be the standards of mass and measures.

Standards of mass and measures.

(2) No unit of mass or measure other than the units of mass and measures referred to in sub-section (1) shall be used as a standard of mass or measure.

Continuance  
of certain  
weights and  
measures  
during  
transitional  
period.

14. (1) Notwithstanding that this Act has come into force in respect of any area or class of goods or undertakings, the Central Government may, by notification in the Official Gazette, permit the continuance of the use, after such commencement, in respect of that area or class of goods or undertakings, of such weights and measures, 5 in addition to the standards of mass and measures and for such period, not exceeding three years, as may be specified in the notification.

(2) Nothing in sub-section (1) shall be deemed to empower the Central Government to issue any such notification in respect of any 10 weight or measure which was not in use immediately before the commencement of this Act.

Sets of stan-  
dards of  
mass and  
measures.

15. (1) The Central Government shall cause to be prepared as many sets as it may deem necessary of such standards of mass and measures referred to in section 13 or multiples or sub-multiples 15 thereof as the Central Government may consider expedient, and shall cause each mass and measure of such set to be authenticated as having been ascertained from the primary units of mass or measure, as the case may be.

(2) The Central Government shall supply to each of the State 20 Governments as many such sets as it may deem fit.

Conversion  
of existing  
weights and  
measures  
into standard  
mass and  
measures.

16. (1) The value expressed in terms of any weight set forth in sub-section (1) of section 3 of the Standards of Weight Act, 1939, 9 of 1939. or in terms of any measure expressed in inches, feet, yards or miles or in gallons may be converted into the value expressed in terms 25 of a standard mass or measure at the rates specified in the First Schedule.

(2) The Central Government may, by notification in the Official Gazette, specify the rates at which the value expressed in terms of any weight or measure other than those referred to in sub-section 30 (1) may be converted into the value expressed in terms of a standard mass or measure.

(3) All references in any enactment or in any notification, rule or order under any enactment or in any contract, deed or other instruments to a value expressed in terms of any weight or measure 35 other than those of a standard mass or measure shall be construed as references to that value expressed in terms of a standard mass or measure, as the case may be, converted thereto at the rates specified in the First Schedule or in the notification issued under sub-section (2), as the case may be.

(4) Where in any transaction the value expressed in terms of any weight or measure is required to be converted into that value expressed in terms of a standard mass or measure under this section, the calculation, for the purposes of such transaction, shall be made **5** in such manner as may be prescribed by rules.

17. (1) The Central Government may, by notification in the Official Gazette, make rules to carry out the purposes of this Act. Power to  
make rules.

(2) In particular, and without prejudice to the generality of the foregoing power, such rules may provide for all or any of the following matters, namely:—

(a) the preparation of the standards of mass and measures under section 15;

(b) the custody of the set of standards of mass and measures which are to be maintained by the Central Government and the periodical verification and adjustment thereof; **15**

(c) the periodical verification and adjustment of sets of standards of mass and measures supplied to the State Governments;

(d) the limits of error which may be tolerated in the standards of mass and measures when they are manufactured for being used, or are being used, in transactions generally, or in any class of transactions in particular; **20**

(e) the manner in which the value expressed in terms of any weight or measure other than in terms of a standard of mass and measure may be converted thereto; and **25**

(f) any other matter which has to be, or may be, prescribed.

(3) All rules made under this Act shall be laid for not less than thirty days before both Houses of Parliament as soon as possible after they are made, and shall be subject to such modifications as Parliament may make during the session in which they are so laid or the session immediately following. **30**

2 of 1889.  
9 of 1939.

18. (1) The Measures of Length Act, 1889, and the Standards of Repeal. Weight Act, 1939, are hereby repealed.

(2) The enactments specified in the Second Schedule shall, to the extent to which they contain any provision which corresponds **35** to any provision of this Act, stand repealed.

(3) If, immediately before the commencement of this Act or any provision thereof in respect of any area or class of goods or under-

takings, there is in force in respect of that area or class of goods or undertakings, any law which corresponds to this Act or to any provision thereof and which is not repealed by sub-section (1) or sub-section (2), that corresponding law shall stand repealed.

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### THE FIRST SCHEDULE

[See section 16 (1)]

#### STANDARDS OF WEIGHT

1 grain	= 0.00064799	kilogram.	
1 ounce	= 0.0283495	kilogram.	
1 pound	= 0.4535924	kilogram.	10
1 cwt.	= 50.802	kilograms.	
1 ton	= 1016.05	kilograms.	
1 tola	= 0.0116638	kilogram.	
1 seer	= 0.93310	kilogram.	
1 maund	= 37.3242	kilograms.	15

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#### STANDARDS OF LENGTH AND CAPACITY

1 inch	= 0.0254	metre (exact).	
1 foot	= 0.3048	metre (exact).	
1 yard	= 0.9144	metre (exact).	
1 mile	= 1609.344	metres (exact).	20
1 imperial gallon.	= 4.54596	litres.	

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### THE SECOND SCHEDULE

[See section 18 (2)]

1. The Assam Adoption of Standard Weights Act, 1955, (IX of 1955). 25
2. The Bhopal State Weights and Measures Act, 1953, (XV of 1953).

3. The Bihar Weights Act, 1947 (XVII of 1947).
4. The Bombay Weights and Measures Act, 1932 (XV of 1932).
5. The Central Provinces and Berar Weights and Measures of Capacity Act, 1928 (II of 1928).
6. The Cochin Weights and Measures Act, 1112 (LXIII of 1112).
7. The Coorg Act, 1954 (VII of 1954).
8. The Hyderabad Weights and Measures Act, 1356 Fasli (XIV of 1356 Fasli).
9. The Madhya Bharat Weights Act, 1954 (21 of 1954).
10. The Madras Weights and Measures Act, 1948 (XXII of 1948), as in force in the State of Madras or of Andhra.
11. The Mysore Weights and Measures Act, 1902 (III of 1902).
12. The Orissa Weights and Measures Act, 1943 (VII of 1943).
13. The Punjab Weights and Measures Act, 1941 (XII of 1941).
14. The Rajasthan Weights and Measures Act, 1954 (XIX of 1954).
15. The Travancore Weights and Measures Act, 1085 (VI of 1085).
16. The United Provinces Weights and Measures Act, 1947 (XXIII of 1948).

## APPENDIX I

(Vide para 2 of the Report)

### Motion in the Lok Sabha for reference of the Bill to Joint Committee

"That the Bill to establish standards of weights and measures based on the metric system be referred to a Joint Committee of the Houses consisting of 45 members; 30 from this House, namely:—

1. Shri R. D. Misra
2. Shri P. T. Thanu Pillai
3. Shri Bhagwat Jha 'Azad'
4. Shrimati Ammu Swaminadhan
5. Shri M. Muthukrishnan
6. Shri U. R. Bogawat
7. Shri Akbar Chavda
8. Shri M. B. Vaishya
9. Shri Ganpati Ram
10. Shri Sunder Lall
11. Shri A. R. Sewal
12. Shri Khub Chand Sodhia
13. Shri S. R. Telkikar
14. Shri Bhagu Nandu Malvia
15. Shri Balwant Sinha Mehta
16. Sardar T. S. Akarpuri
17. Shri C. R. Basappa
18. Shri L. J. Singh
19. Shri K. T. Achuthan
20. Shri Kamal Krishna Das
21. Shri Birendranath Katham
22. Shri N. R. M. Swamy
23. Shri Baddam Yella Reddy
24. Shri H. N. Mukerjee
25. Shri M. S. Gurupadaśwamy
26. Shri R. N. Singh



27. Shri Nand Lal Sharma
28. Shri Kailash Pati Sinha, and
29. Shri Nityanand Kanungo

and 15 members from Rajya Sabha;

that in order to constitute a sitting of the Joint Committee the quorum shall be one-third of the total number of members of the Joint Committee;

that the Committee shall make a report to this House by the 20th November, 1956;

that in other respects the Rules of Procedure of this House relating to Parliamentary Committees will apply with such variations and modifications as the Speaker may make; and

that this House recommends to Rajya Sabha that Rajya Sabha do join the said Joint Committee and communicate to this House the names of members to be appointed by Rajya Sabha to the Joint Committee."

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## APPENDIX II

(Vide para. 3 of the Report)

### Motion in the Rajya Sabha

"That this House concurs in the recommendation of the Lok Sabha that the Rajya Sabha do join in the Joint Committee of the Houses on the Bill to establish standards of weights and measures based on the metric system and resolves that the following members of the Rajya Sabha be nominated to serve on the said Joint Committee:—

1. Shri M. Govinda Reddy
  2. Shri V. C. Kesava Rao
  3. Shrimati K. Bharati
  4. Dr. N. S. Hardiker
  5. Dr. W. S. Barlingay
  6. Shri B. K. Mukerjee
  7. Shri Akhtar Hussain
  8. Shri M. H. S. Nihal Singh
  9. Shri Bhagirathi Mahapatra
  10. Shah Mohammad Umair
  11. Prof. A. R. Wadia
  12. Dr. Raghubir Sinh
  13. Shri Kishen Chand
  14. Shri M. Govindan Nair
  15. Shri V. K. Dhage."
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### APPENDIX III

## MINUTES OF THE SITTINGS OF THE JOINT COMMITTEE ON THE STANDARDS OF THE WEIGHTS AND MEASURES BILL, 1956.

### I

#### First Sitting.

The Committee met from 10 A.M. to 10-15 A.M. on Tuesday the  
11th September, 1956.

#### PRESENT

Shri Nityanand Kanungo—*Chairman.*

#### MEMBERS

##### *Lok Sabha*

2. Shri R. D. Misra
3. Shri P. T. Thanu Pillai
4. Shri Bhagwat Jha 'Azad'
5. Shrimati Ammu Swaminadhan
6. Shri M. Muthukrishnan
7. Shri Akbar Chavda
8. Shri A. R. Sewal
9. Shri Khub Chand Sodhia
10. Sardar T. S. Akarpuri
11. Shri C. R. Basappa
12. Shri K. T. Achuthan
13. Shri Kamal Krishna Das
14. Shri Birendranath Katham
15. Shri N. R. M. Swamy
16. Shri Baddam Yella Reddy
17. Shri H. N. Mukerjee
18. Shri R. N. Singh

##### *Rajya Sabha*

19. Shri M. Govinda Reddy
20. Shri V. C. Kesava Rao
21. Shrimati K. Bharati

22. Dr. N. S. Hardikar
23. Dr. W. S. Barlingay
24. Shri B. K. Mukerjee
25. Shri Akhtar Hussain
26. Sardar M. H. S. Nihal Singh
27. Shri Bhagirathi Mahapatra
28. Dr. Raghubir Singh
29. Shri Kishen Chand
30. Shri V. K. Dhage.

REPRESENTATIVES OF MINISTRIES AND OTHER OFFICES

Shri P. N. Nayar, *Secretary, Standing Metric Committee.*

Shri Pitamber Pant, *Member of the Standing Metric Committee.*

SECRETARIAT

Shri P. K. Patnaik, *Under Secretary.*

\* 2. The Committee held a preliminary discussion on the programme to be adopted by them.

3. The Committee decided to hold their next sitting from the 24th to 26th October, 1956, to consider the clauses of the Bill.

4. The Chairman informed the Committee that the following papers would be circulated to the members:--

- (1) Minutes of the first meeting of the Standing Metric Committee held on 22nd June, 1955.
- (2) Summary of Recommendations of the second meeting of the Standing Metric Committee held on 21st October, 1955.
- (3) Summary of the Recommendations of the third meeting of the Standing Metric Committee held on 21st May, 1956.
- (4) Minutes of the second meeting of the sub-Committee on Nomenclature, of the Standing Metric Committee, held on 31st March, 1956.
- (5) Summary of conclusions and recommendations of the second meeting of the Technical Sub-Committee held on 14th September, 1955.

5. The Chairman suggested that if any member desired to have any other material, an intimation to that effect might be sent to the Lok Sabha Secretariat within three days.

6. The Committee then adjourned to meet again at 10 A.M. on Wednesday, the 24th October, 1956.

## II

### Second Sitting.

The Committee met from 11 A.M. to 1 P.M. on Wednesday, the 24th October, 1956.

#### PRESENT

Shri Nityanand Kanungo, *Chairman.*

#### MEMBERS

*Lok Sabha*

2. Shri R. D. Misra
3. Shri P. T. Thanu Pillai
4. Shri Bhagwat Jha 'Azad'
5. Shri M. Muthukrishnan
6. Shri Akbar Chavda
7. Shri Ganpati Ram
8. Shri Sunder Lall
9. Shri A. R. Sewal
10. Shri Khub Chand Sodhia
11. Shri S. R. Telkikar
12. Shri Balwant Sinha Mehta
13. Sardar T. S. Akarpuri
14. Shri Laisram Jogeshwar Singh
15. Shri K. T. Achuthan
16. Shri Kamal Krishna Das
17. Shri Birendranath Katham
18. Shri N. R. M. Swamy
19. Shri Baddam Yella Reddy
20. Shri H. N. Mukerjee
21. Shri M. S. Gurupadaswamy
22. Shri R. N. Singh
23. Shri Kailash Pati Sinha

*Rajya Sabha*

24. Shrimati K. Bharati
25. Dr. N. S. Hardikar
26. Dr. W. S. Barlingay
27. Shri B. K. Mukerjee
28. Shri Akhtar Hussain
29. Sardar M. H. S. Nihal Singh
30. Shri Bhagirathi Mahapatra
31. Shah Mohammad Umair
32. Dr. Raghbir Singh
33. Shri Kishen Chand
34. Shri M. Govindan Nair
35. Shri V. K. Dhage.

## DRAFTSMAN

Shri R. S. Sarkar, *Joint Secretary and Draftsman, Ministry of Law.*

## REPRESENTATIVES OF MINISTRIES &amp; OTHER OFFICERS

Dr. A. Nagaraja Rao, *Chief Industrial Adviser.*

Shri P. N. Nayar, *Secretary, Standing Metric Committee.*

Dr. Lal C. Verma, *Director, Indian Standards Institution.*

Shri Pitambar Pant, *Member of the Standing Metric Committee.*

## SECRETARIAT

Shri P. K. Patnaik, *Under Secretary.*

2. The Committee had a general discussion on the provisions of the Bill.

3. The Committee then took up clause by clause consideration of the Bill.

4. Clause 2.—The clause was adopted without any amendment.

5. The Committee then adjourned to meet again at 10 A.M. on Thursday, the 25th October, 1956.

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### III

#### Third Sitting

The Committee met from 10 A.M. to 1-30 P.M. and 3 P.M. to 4-45 P.M. on Thursday, the 25th October, 1956.

#### PRESENT

Shri Nityanand Kanungo, *Chairman.*

#### MEMBERS

#### *Lok Sabha*

2. Shri R. D. Misra
3. Shri P. T. Thanu Pillai
4. Shri Bhagwat Jha 'Azad'
5. Shri M. Muthukrishnan
6. Shri Akbar Chavda
7. Shri Sunder Lall
8. Shri A. R. Sewal
9. Shri Khub Chand Sodhia
10. Shri S. R. Telkikar
11. Shri Balwant Sinha Mehta
12. Sardar T. S. Akarpuri
13. Shri C. R. Basappa
14. Shri Laisram Jogeshwar Singh
15. Shri K. T. Achuthan
16. Shri Kamal Krishna Das
17. Shri Birendranath Katham
18. Shri N. R. M. Swamy
19. Shri Baddam Yella Reddy
20. Shri H. N. Mukerjee
21. Shri M. S. Gurupadaswamy
22. Shri R. N. Singh
23. Shri Nand Lal Sharma
24. Shri Kailash Pati Sinha

*Rajya Sabha*

25. Shri V. C. Kesava Rao
26. Shrimati K. Bharati
27. Dr. N. S. Hardikar
28. Dr. W. S. Barlingay
29. Shri B. K. Mukerjee
30. Shri Akhtar Hussain
31. Sardar M. H. S. Nihal Singh
32. Shri Bhagirathi Mahapatra
33. Shah Mohammad Umair
34. Dr. Raghbir Sinh
35. Shri Kishen Chand
36. Shri V. K. Dhage.

DRAFTSMAN

Shri R. S. Sarkar, *Joint Secretary, and Draftsman, Ministry of Law.*

REPRESENTATIVES OF MINISTRIES

Dr. A. Nagaraja Rao, *Chief Industrial Adviser.*

Shri P. N. Nayar, *Secretary, Standing Metric Committee.*

OTHER OFFICERS

Dr. K. S. Krishnan, *Director, National Physical Laboratory.*

SECRETARIAT

Shri P. K. Patnaik, *Under Secretary.*

2. The Committee resumed clause by clause consideration of the Bill.
3. *Clause 3.*—The clause was adopted without any amendment.
4. *Clause 4.*—The following amendment was accepted:—  
In line 28, *after "Sub-section (1)" insert "or Section 12".*  
The clause as amended was adopted.
5. *Clauses 5 to 11.*—These clauses were adopted without any amendment.
6. *Clause 12.*—The Committee felt that the secondary units to be declared under this clause should be only in relation to units of mass and measures referred to in clauses 3, 4, 9, 10 and 11.



The draftsman was directed to recast the clause accordingly.

Subject to the above, the clause was adopted.

7. *Clases 13 to 16.*—These clauses were adopted without any amendment.

8. *Clause 17.*—The following amendment was accepted:—  
“for lines 27 and 28, substitute:

“(3) All rules made under this Act shall be laid for not less than thirty days before both Houses of Parliament as soon as possible after they are made, and shall be subject to such modifications as Parliament may make during the session in which they are so laid or the session immediately following”.

The clause as amended was adopted.

9. *Clause 18.*—The clause was adopted without any amendment.

10. *The First and Second Schedules.*—The Schedules were adopted without any amendment.

11. *Clause 1.*—The clause was adopted without any amendment.

12. *Nomenclature.*—The Committee discussed the nomenclature to be used in relation to the various units of mass and measures. They considered whether the international terminology as used in the Bill should be adopted or whether Indian names should be used either in addition to or in substitution of the same.

It was decided that the terminology used in the Bill should be retained.

The Committee suggested that efforts may be made by Government to evolve suitable and acceptable terms for a few of the multiples and Sub-multiples which may be adopted later, in addition to the international terms.

13. *Special Recommendation.*—The Committee desired that steps should be taken to bring into force and implement this measure as early as possible.

14. The Committee decided to consider the Draft Report at their next sitting.

15. The Committee then adjourned to meet again at 3 P.M. on Saturday, the 17th November, 1956.

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## IV

### Fourth Sitting

The Committee met from 4-15 P.M. to 4-40 P.M. on Saturday, the 17th November, 1956.

#### PRESENT

Shri Nityanand Kanungo, *Chairman.*

#### MEMBERS

##### *Lok Sabha*

2. Shri R. D. Misra
3. Shri P. T. Thanu Pillai
4. Shri U. R. Bogawat
5. Shri Ganpati Ram
6. Shri A. R. Sewal
7. Shri Khub Chand Sodhia
8. Shri Balwant Sinha Mehta
9. Shri Laisram Jogeshwar Singh
10. Shri K. T. Achuthan
11. Shri N. R. M. Swamy
12. Shri H. N. Mukerjee
13. Shri R. N. Singh

##### *Rajya Sabha*

14. Shri M. Govinda Reddy
15. Shri V. C. Kesava Rao
16. Shrimati K. Bharati
17. Dr. N. S. Haridikar
18. Dr. W. S. Barlingay
19. Shri B. K. Mukerjee
20. Shri Akhtar Hussain
21. Sardar M. H. S. Nihal Singh
22. Shri Kishen Chand
23. Shri M. Govindan Nair
24. Shri V. K. Dhage.

## DRAFTSMAN

Shri R. S. Sarkar, *Joint Secretary and Draftsman, Ministry of Law.*

## REPRESENTATIVES OF MINISTRIES AND OTHER OFFICERS

Shri P. N. Nayar, *Secretary Standing Metric Committee, Ministry of Commerce and Consumer Industries.*

## SECRETARIAT

Shri N. N. Mallya, *Deputy Secretary*

2. The Committee decided that the word "meter" should be uniformly spelt as "metre" throughout the Bill. Subject to this, the Bill as amended was adopted.

3. The Committee thereafter considered the draft Report and adopted the same.

4. The Committee authorised the Chairman to present the Report on their behalf.

5. The Committee authorised Shrimati K. Bharati to lay the Report of the Committee on the Table of the Rajya Sabha.

6. The Committee decided that Minutes of Dissent, if any, should be sent to the Lok Sabha Secretariat so as to reach them by 3 P.M. on Monday, the 19th November, 1956.

7. The Committee then adjourned at 4-40 P.M.