TARIFF COMMISSION
GOVERNMENT OF INDIA

REPORT

ON THE CONTINUANCE OF
PROTECTION TO THE

DRY BATTERY INDUSTRY

BOMBAY
1953

Rs. 2 as. 14 or 4 Sh. 9 d.

GOVERNMENT OF INDIA
MINISTRY OF COMMERCE AND INDUSTRY

PTC. 233(N)
350

REPORT

OF THE

TARIFF COMMISSION

ON THE CONTINUANCE OF PROTECTION TO THE

DRY BATTERY INDUSTRY

BOMBAY
1953

PRINTED IN INDIA FOR THE MANAGER, GOVERNMENT OF INDIA PUBLICATIONS BRANCH, DELHI BY THE MANAGER GOVT. OF INDIA PHOTO-LITHO PRESS, NEW DELHI

PERSONNEL OF THE COMMISSION

Shri M.D. Bhat	*Chairman*
Dr. B.V. Narayanaswamy Naidu, M.A., B.Com., Ph.D., Bar-at-Law	*Member*
Shri B.N. Adarkar, M.A. (Cantab.)	*Member*
Shri B.N. Das Gupta, B.A., A.S.A.A. (London), F.C.A.	*Member*
Shri G. Ramasubban	*Member*
Dr. D.K. Malhotra, M.A., Ph.D.	*Secretary*

PERSONNEL OF THE PANEL WHICH HEARD THE CASE

Dr. B.V. Narayanaswamy Naidu	*Member*
Shri B.N. Adarkar	*Member*
Shri B.N. Das Gupta	*Member*

GOVERNMENT OF INDIA
MINISTRY OF COMMERCE AND INDUSTRY

RESOLUTION
(Tariffs)

New Delhi, the 15th August, 1953.

No.5(2)T.B./53.- The Tariff Commission has submitted its Report on the continuance of protection to the Dry Battery Industry on the basis of an enquiry undertaken by it under Section 11(e) read with Sections 13 and 15 of the Tariff Commission Act, 1951. Its recommendations are as follows:-

(1) The measure of protection needed by the industry is less than that afforded by the normal revenue duty and since the domestic industry is not exposed to any threat of foreign competition under the present import policy, the protection granted to it need not be continued beyond the 31st December, 1953.

(2) Solar Batteries should be given a reasonable quota for imports of flashlights and bulbs, in order to place them on an equal footing with their competitors.

(3) All the three units which are at present in regular production should be given adequate opportunities to supply Government requirements.

(4) Government should keep a careful watch over the developments in this industry and take suitable steps, if necessary, to maintain conditions of healthy competition.

(5) The plan prepared by Solar Batteries for manufacture of manganese dioxide from indigenous ore should be examined in consultation with the Council of Scientific and Industrial Research and their request for necessary financial assistance given due consideration.

(6) The industry should make fuller use of the facilities offered by the Council of Scientific and Industrial Research with a view to increasing the utilisation of indigenous materials.

(7) The manufacturers should make fresh efforts to form an association.

2. Government accept the view of the Commission that in the present circumstances the industry does not need any protection. If the underlying assumptions of the Commission's recommendations change, it would be open to the industry to apply afresh for protection.

3. Recommendations (2) to (4) have been accepted by Government and steps will be taken to implement them as far as possible.

4. As regards recommendation (5), Government propose to examine the scheme of M/s. Solar Batteries Limited as recommended by the Commission.

5. The attention of the industry is invited to recommendations Nos. (6) and (7).

L. K. JHA,

Joint Secretary to the Government of India.

CONTENTS

REPORT ON THE CONTINUANCE OF PROTECTION TO THE DRY BATTERY INDUSTRY

Origin of the case.

The claim of the dry battery industry to protection or assistance was first examined by the interim Tariff Board in 1947. The Board recommended the grant of protection to this industry by converting the existing revenue duty of 30 per cent *ad valorem* into a protective duty at the same rate. The Government of India accepted this recommendation. The protective duty was to remain in force upto 31st March, 1949, but it was subsequently extended, in consultation with the Tariff Board, to 31st March, 1950. In 1950, the Board conducted another inquiry into this industry and recommended continuance of protection at the same rate of duty upto 31st December, 1952. This recommendation also was accepted by Government. Towards the end of 1952, in common with many other industries, the protection granted to which was due to expire on 31st December, 1952, the period of protection granted to this industry was extended, by the Indian Tariff (Fourth Amendment) Act, 1952, upto 31st December, 1953. The present inquiry has been undertaken under Section 11(e) read with Sections 13 and 15 of the Tariff Commission Act under which the Commission has been empowered to inquire into and report on any further action required in relation to the protection granted to an industry, with a view to its increase, decrease, modification or abolition according to the circumstances of the case.

Method of inquiry.

2. (a) A questionnaire was issued to the producers of dry batteries on 27th December, 1952 and separate questionnaires were issued to importers and consumers on 10th January, 1953. A list of those to whom questionnaires were issued and from whom replies or memoranda were received is given in Appendix I. On 19th January, 1953, the Commission issued a press communiqué

inviting all persons and associations interested in this inquiry to communicate their views on the question of continuance of protection and/or assistance to the dry battery industry. The Industrial Adviser (Engineering), Ministry of Commerce and Industry, Government of India, was requested to furnish the Commission with a detailed memorandum on the progress of the industry and its present position, with particular reference to the rated capacity of the industry, its actual production, the quality of its product and the import control policy. The Director General of Supplies and Disposals was requested to submit a memorandum on Government purchases, with particular reference to the quality of indigenous batteries and the actual quantity purchased from different producers. The Directors of Industries with the State Governments of Bombay and West Bengal were also addressed for information on various points arising out of this inquiry. The Directors of the Council of Scientific and Industrial Research, the National Physical Laboratory and the National Chemical Laboratory were requested to inform the Commission of the research work done on the utilisation of indigenous raw materials and the extent to which the industry had availed itself of the results of such researches. As imports of dry cells and batteries in general use have been banned since 1947, information regarding c.i.f. prices and landed costs was not available locally. The Commercial Counsellors attached to Indian Embassies were, therefore, requested to furnish the Commission with the f.o.b. or c.i.f. prices of dry batteries.

(b) Shri B.N. Adarkar, Member, accompanied by Shri S.S. Mehta, Technical Adviser, visited the factories of the Estrela Batteries and the Solar Batteries on 7th and 14th March, 1953, respectively. On 7th March, 1953, Shri B.N. Das Gupta, Member, visited the works of the National Carbon Company at Calcutta. He also visited the works of the Flash Lights (India) Ltd., at Calcutta, on 9th March, 1953. Shri L.M. Ghosh, Assistant Cost Accounts Officer, examined

the accounts of the Estrela Batteries and the National Carbon Company on 18th February and 9th March, 1953 respectively, and prepared a report on their costs of production. A public inquiry into this industry was held at the Commission's office in Bombay on 16th March, 1953. A list of those who attended the inquiry and gave evidence is given in Appendix II.

Present position of the industry.

3. (a) The domestic dry battery industry consists mainly of 3 units at present, namely, National Carbon Co. (India) Ltd., Calcutta, Estrela Batteries Ltd., Bombay and Solar Batteries and Flashlights Ltd., Bombay. Sunbeam Electrical Industries Ltd., who had commenced production in January 1949 and produced small quantities from 1949 to 1951 went out of production in 1952. A firm called Flash Lights (India) Ltd., Calcutta, has recently installed a plant for the manufacture of dry batteries and claims to have an annual capacity of 15 million cells. The firm, however, has not submitted a detailed memorandum and no information is available about its actual production. National Carbon whose rated capacity was estimated at the previous inquiry at 205 million cells on two shift basis, now estimate their capacity on single shift basis at 100 million cells at their Calcutta factory and 25 million cells at their new factory at Madras. The Madras factory, which commenced experimental production in October, 1952, is expected to produce to 50 per cent. of its capacity by June 1953 and to full capacity by December 1953. National Carbon propose to utilise a part of the capacity at Calcutta for manufacture of layer-built batteries, called "Mini-max" batteries, to meet the requirements of the Defence Department and the radio trade. Additional equipment for this purpose is at present being installed and the manufacture of layer-built batteries is expected to commence by the middle of 1953. The annual capacity of the Calcutta factory will then be 80 million round cells and 24 to 25 million cells for the layer-built batteries. The annual capacity of Estrela Batteries has remained unchanged at 40 million cells and that of Solar Batteries at 30 million cells on single shift.

The total rated capacity of the industry for the manufacture of dry cells thus comes to 210 million cells per annum on single shift. Owing to financial difficulties, Solar Batteries have been in production only intermittently and have so far been able to utilise only a small proportion of their capacity. In 1950, the company worked only from September to November, and in 1951, from April to November. Since September, 1952 however, the Company has resumed regular production and is hopeful of being able to maintain and expand its output, provided it receives the necessary financial assistance from Industrial Finance Corporation. The Company has already received two loans from the Corporation, one of Rs. 8½ lakhs and another of Rs. 2 lakhs. The radio batteries produced by this company have recently been in good demand and this should enable it to consolidate its position. Both Estrela Batteries and Solar Batteries are experimenting in the production of layer-built batteries. Solar Batteries have completed their work and have, in addition, evolved a new type of dry cell construction which is designed to effect a substantial saving in zinc. Solar Batteries have stated that they would be able to undertake production on an economic scale of both dry cells of the new design and layer-built batteries, if they are able to secure additional finance to the extent of Rs. 2½ lakhs. Estrela Batteries are also experimenting in the manufacture of inert cells. Since the last inquiry, the three units have made various improvements in their equipment and processes with a view to reducing their costs of production or improving the quality of their product.

(b) The total amount of fixed capital employed in the three main units in the industry is Rs. 110 lakhs. The total number of workers employed in them was 2,434 in 1952.

Domestic demand.

4. At the previous inquiry, the Tariff Board had estimated the domestic demand for dry batteries for the three years, 1950, 1951 and 1952 at 180, 200 and 220 million cells respectively. During these years the whole of the demand was met from local sources and judging from the figures of domestic production given

later in this Report, the actual consumption appears to have been much less than what was estimated by the Board. In 1952, there was a sharp reduction in defence orders, as well as in civilian demand. The decline in civilian demand was largely due to the slump which set in in March 1952, and is expected to be temporary. On the other hand, there has been a steady increase in the demand for radio batteries and the consensus of opinion in the trade and industry is that the upward trend is likely to continue. At the public inquiry, the three principal producers gave the following estimates of the current demand for flash light and radio batteries:-

	Flashlights	*Radio*
National Carbon	130 million cells	30 million cells
Estrela	110 " "	24 " "
Solar	120 " "	30 " "

Taking into account the views expressed by the other interests, we think that the current demand for flashlight batteries may be estimated at 125 million cells and that for radio batteries at 30 million cells. The Defence requirements and the requirements for certain special types of batteries may be estimated at 10 million cells. The total demand for dry cells is accordingly estimated by us at 165 million cells. It was generally agreed at the public inquiry that the demand is likely to increase during the next three years at a rate of approximately 10 per cent. per year.

Production.

5. The following statements show the rated capacity of the individual units engaged in the manufacture of dry batteries and their actual production during the three years, 1950, 1951 and 1952.

I. *The rated capacity and actual production of dry cells in 1950, 1951 and 1952.*

(Figures in million cells)

Name of the producer	Annual rated capacity (single shift)	PRODUCTION		
		1950	1951	1952
National Carbon Co. (India) Ltd., Calcutta and Madras.	125	112.38	114.40	110.70
Estrela Batteries Ltd., Bombay.	40	23.57	28.57	19.35
Solar Batteries and Flashlights Ltd., Bombay.	30	0.92	3.98	0.38
Flash Lights (India) Ltd., Calcutta.	15	-	-	-
Total	210	136.87*	146.95*	130.43

Note:- The figures given above include cells for radio batteries.

* Sunbeam Electrical Industries Ltd., Bombay, which had a capacity of 10 million cells produced 2.27 million cells in 1950 and 1.56 million cells in 1951. The factory has stopped production since the beginning of 1952.

II. *Production of radio batteries in 1950, 1951 and 1952.*

Sl. No.	Name of producers	1950		1951		1952	
		Number of radio Batteries	Number of cells required for batteries in 3	Number of radio Batteries	Number of cells required for batteries in 5	Number of radio Batteries	Number of cells required for batteries in 7
1	2	3	4	5	6	7	8
1.	Estrela Batteries Ltd., Bombay.	9,780	659,759	3,908	122,145	2,999	61,556
2.	National Carbon Co. (India) Ltd., Calcutta.	164,532	12,365,611	217,149	16,534,043	271,043	21,295,716
3.	Solar Batteries and Flashlights Ltd., Bombay.	-	-	6,912	601,344	4,549	400,432
	Total	174,312	13,025,370	227,969	17,257,506	278,591	21,757,704

It will be seen that the present installed capacity is more than sufficient to meet the domestic demand. There has been a marked increase in the production of radio batteries. The total production of cells, however, declined in 1952, mainly because of the slump in demand which effected almost all industries during that year. Dry batteries being a perishable article, dealers are not inclined to hold large stocks and consequently production is immediately affected by a fall in demand.

Raw materials.

6. (a) The following are the principal materials used in the manufacture of dry batteries:-

(1) Zinc containers	Zinc slabs.
	Zinc strips.
	Zinc sheets.
	Solder.
(2) Depolariser mixture	Manganese dioxide (natural and activated).
	Carbon rods.
	Graphite.
	Acetylene black.
(3) Electrolyte	Ammonium chloride.
	Zinc chloride.
	Calcium chloride.
	Mercuric chloride.
	Starch.
	Dextrine.
	Flour.
(4) Sealing compound	Resin.
	Mexphalt.
	Rosin.
	Lamp black.
	Felspar.

(4) Sealing compound (contd.)	Silica sand.
	Barytes.
	Coal tar.
	Bitumen.
	Castor oil.
(5) Miscellaneous	Brass coils for making brass caps.
	Cloth and Yarn for wrapping the dollies.
	Connecting wires and cables.
	Paper board and paper for making wasners, rings, wrappers, etc.
	Printed labels.
(6) Packing materials	Corrugated boards.
	Paper.
	Timber.
	Nails.

The ratio between the value of the imported materials and that of the indigenous materials used in the manufacture of dry cells works out to 82:18 in the case of Estrela Batteries, 79:21 in the case of National Carbon and 70:30 in the case of Solar Batteries. The corresponding ratio for Estrela Batteries was 71:29 in 1947 and 1950 and that for National Carbon was 85:15 in 1947. The indigenous producers have made some progress in the utilisation of indigenous materials, but in the meantime there has been a marked rise in the prices of imported materials and consequently, the value of imported materials has risen in relation to that of indigenous materials.

(b) At the last inquiry, Estrela Batteries were found to be using imported and indigenous manganese ore in the ratio of 50:50, but they have now changed the proportion to to 4.5:1. Their representative stated at the public inquiry that the use of indigenous manganese ore in a higher pro-

portion gives lower output and the batteries made with indigenous manganese ore have also been found to have less storage life. As was stated in the Tariff Board's first Report on this industry, the Industrial Research Council had found six varieties of indigenous manganese ore to be suitable for use, in combination with imported activated manganess dioxide, for the manufacture of dry cell depolarisers. Subsequently, the Council of Scientific and Industrial Research evolved a process for manufacturing activated manganese dioxide and leased it out to Estrela Batteries. The latter, however, have not been able to utilise the process. National Carbon have set up a pilot plant for testing different varieties of Indian manganese and although one variety of ore was found suitable for the manufacture of radio battery cells, difficulties have been experienced in procuring adequate supplies of that ore for production on a commercial scale. Solar Batteries are more hopeful about the prospects of using indigenous manganese ore. They are in possession of a complete plan based on German methods for utilising indigenous ore and have estimated that given suitable financial assistance, a plant for producing 2,400 tons of manganese dioxide from indigenous ore could be set up at an approximate capital cost of about Rs. 2 lakhs. We recommend that the plans prepared by Solar Batteries for manufacture of manganese dioxide which will be suitable for use in the production of dry cells should be examined in consultation with the Council of Scientific and Industrial Research and their request for necessary financial assistance given due consideration. Solar Batteries are of the view that adequate supplies of suitable ore would be available from Shivrajpur in Bombay State. We understand from Solar Batteries that they also propose to carry out experiments with the chemical manganese dioxide which is obtained by a firm in Bombay as a by-product and which is likely to serve as a substitute for activated manganese dioxide.

(c) As in the case of activated manganese dioxide, the Council of Scientific and Industrial Research had sold to

Estrela Batteries a process for manufacturing carbon rods also, but the firm has not been able to produce the rods on a commercial scale. The National Physical Laboratory now propose to manufacture these rods on a pilot plant scale. The Laboratory had put up a pilot plant for processing graphite ores which are amenable to flotation, so as to make them suitable for use in the production of dry cells. This process is being used at present in the Laboratory for processing graphite for use in the manufacture of carbon brushes. Shri G.D. Joglekar, Assistant Director, National Physical Laboratory, stated at the public inquiry that, subject to its usual rules, the Laboratory would be glad to advise individual manufacturers regarding the method of processing indigenous graphite, if it is supplied with samples of graphite which the manufacturers proposed to use. While we recognise that commercial production of indigenous materials suitable for manufacture of dry cells may raise difficult financial problems, we feel that a proper examination of even the technical problems involved needs a fuller collaboration between the industry and the Council of Scientific and Industrial Research than what exists at present. We, therefore, recommend that the industry should make fuller use of the facilities offered by the Council of Scientific and Industrial Research with a view to increasing its utilisation of indigenous materials.

(d) In the case of zinc chloride and single faced corrugated boards, the industry is now meeting its requirements wholly from local sources. The Fertilisers and Chemicals (Travancore) Ltd. have ordered an ammonium chloride plant with a daily capacity of 25 metric tons and expect to be able to supply this chemical, to the specifications required by the dry battery industry, by the middle of 1954. Double faced corrugated paper is now wholly imported, but the Jayant Paper Box Co., Bombay, propose to manufacture this paper shortly from imported brown paper. The dry battery manufacturers have also informed us that they will in future use indigenous corn starch, in spite of its relatively

higher price. The other indigenous materials used by the industry are kraft paper, gummed paper tapes (which, however, are made from imported paper), dextrine, connecting wires and cables, cloth and yarn, rosin, pitch, lamp black, mexphalt, asphalt and packing materials. National Carbon and Solar Batteries do not wrap their dollies into cloth and yarn, while Estrela Batteries, who at present use the unwrapped construction for 60 per cent. of their production of one type, namely, No. 112, propose to use this type of construction more extensively in future. National Carbon, who were importing sealing compound worth about Rs. 8 lakhs a year are now producing it themselves with indigenous materials such as rosin, lamp black, silica sand, etc. Solar Batteries have dispensed with the sealing compound altogether and use a metal disc to close the cell. The industry has tried to use indigenous brass strips which, however, have not been found suitable, because they are not soft enough and their thickness and width are not uniform. We consider that the manufacturers of brass strips should endeavour to remove these defects. There is no prospect of carbon gas black being available locally, until the carbide industry is developed.

(e) The industry is wholly dependent on imports for one essential material, namely, zinc. Zinc is imported in the form of ingots, strips or sheets and is used for the manufacture of dry cell containers. Containers can be made either from zinc strips, by soldering or from zinc slabs by extrusion. The extrusion process is more economical, because while zinc strips cost about Rs. 2,400/- per ton c.i.f. Bombay, plus 31½ per cent. import duty, zinc slabs can be purchased in Bombay at Rs. 1,400/- per ton. The extrusion process also eliminates the use of tin and lead which are required in the soldering process. Solar Batteries are using the extrusion process for their entire production and are also making the necessary dies in their own factory. Estrela Batteries are using extruded cans for only one size of dry cells, namely, No. 114, and propose to use such cans

for other sizes also when the necessary dies are obtained. National Carbon regard soldered cans as technically more suitable than extruded cans and do not, therefore, propose to change their process. In order to minimise the use of zinc, Solar Batteries have evolved an entirely new cell construction by which the consumption of zinc can be reduced by approximately 50 per cent. The Company has obtained an Indian Patent for this construction. The new type has so far been manufactured on a pilot scale, but the Company propose to go into large scale production as soon as it has been able to arrange the necessary finance. It claims that the new type of cell gives the same performance as the conventional cell of the same size and specifications.

(f) Estrela Batteries have represented to us that they are at present experiencing difficulties in obtaining first grade manganese ore from West Africa which is best suited for the manufacture of dry cells. Estrela have their own machinery for grinding manganese ore lumps and were hitherto importing their supplies of ore in lumps from a London firm. Recently, however, they were informed by the London firm that supplies of first grade ore were not available and they received the same reply from the African Manganese Co., who arrange the sale of West African ore. The London firm has offered to supply only second grade ore, which contains less manganese, at the high price of £33/5 per ton, as against £27 per ton at which first grade ore is still imported in adequate quantities by National Carbon, or alternatively ground material at the price of £45/10 per ton c.i.f. Bombay, plus the import duty at 27.3 per cent. i.e., at the total landed cost of £58 per ton. Manganese ore in lumps is free of duty, while ground manganese is classified as a chemical product and is subject to a duty of 27.3 per cent. Estrela have pointed out that the Union Carbide and Corbon Corporation, which is the parent company of National Carbon, have a predominant interest in the African Manganese Co., and that this probably explains why National Carbon have so far not

experienced similar difficulties in obtaining their requirements of first grade ore from West Africa. Estrela have, therefore, requested that they should be allowed to import manganese ore in ground form, free of duty, as a special case, as this would reduce the disparity in the cost of this material between them and their competitors, National Carbon. We have discussed this question with National Carbon who have expressed their willingness to consider the possibility of importing manganese ore lumps on behalf of Estrela (provided suitably large quantities are ordered). We think that Estrela should try to make such arrangement with National Carbon and also to reduce their dependence on imported manganese by utilising indigenous manganese to the maximum possible extent.

Quality of the indigenous product.

7. We understand that the indigenous dry batteries which are purchased on Government account have been found to conform to the Indian Standard Specifications and in the case of types for which Indian Standard Specifications have not yet been finalised, to foreign specifications. The Director of Ordnance Services, Government of India, has also informed us that no complaints have been received from the Army Units concerned about the quality of indigenous dry batteries and that the reports from Inspectors are also favourable. In the case of certain lots supplied to the Army, the shelf life was still found to be less than the prescribed period, but this is not a general experience. The All-India Radio Merchant's Association has also expressed satisfaction about the quality of indigenous radio batteries. Both Estrela Batteries and National Carbon, however, have stated that in respect of appearance, their products still do not compare favourably with the foreign product. Estrela have attributed this to the fact that they have not yet been successful in getting a uniform type of labels, while National Carbon have complained of a shortage of high quality finishing materials which are subject to import restrictions and of which adequate supplies are not available from indigenous sources.

8. Since 1947, no imports have taken place of flashlight batteries or dry batteries of other popular types, imports of only special types such as hearing aid batteries or layer-built batteries being allowed. On the other hand, the domestic industry has developed a small export trade in dry batteries, with countries such as Burma, Pakistan, Zanzibar, Ceylon and the Persian Gulf. The statement given below shows the dry batteries exported by the indigenous producers during the last three years.

Imports and exports.

Exports of dry batteries

Year	*Quantity*	*Value (in Rs.)*
1950	85,193	20,098- 0- 0
1951	1,445,676	2,58,301- 0- 0
1952	1,114,966	2,92,123- 0- 0

9. At the previous inquiries into this industry, the Tariff Board had to confine its investigation into the cost of production of indigenous dry batteries to only one unit, namely, Estrela Batteries, since National Carbon, the most important indigenous producer, had expressed their inability to afford the necessary costing facilities, on the ground that they had not applied for protection. On the present occasion, however, we have examined the cost of production at both these units. For the purpose of costing, we have selected the standard cell, 1.5 volts, 1 3/8" x 2 3/8", represented by Estrela type No. 112 and Eveready type No. 950. The standard cell is the most popular type and accounted for 47.87 per cent of the total production in 1951-52 and 69.12 per cent in the first eight months of 1952-53 in the case of Estrela and 58.57 per cent and 55.94 per cent in 1951 and 1952 respectively in the case of National Carbon. We have examined the cost figures for 1951-52 and for the first eight months of 1952-53 in the case of Estrela and those for 1951

Cost of production and fair ex-works price.

in the case of National Carbon. The cost of production of National Carbon in 1952 were found to be unduly high owing to the high cost of materials in that year and were, therefore, not examined in detail. The details of cost were discussed *in camera* with the representatives of both the firms, and on the basis of these discussions and the data collected by the Assistant Cost Accounts Officer, we have prepared estimates of the future fair ex-works prices of standard cells for the two firms. In working out these estimates, we have taken due account of the changes in the prices of materials and in particular, the recent decline in the price of zinc sheets. Interest has been allowed at 4½ per cent on working capital which has been taken as equal to 3 months' average cost of production. Depreciation has been allowed at Income Tax rates (except for initial depreciation which has not been allowed) on the written-down value of the block actually used for the production of standard cells. Return has been allowed at 10 per cent on the original value of the block. The fair ex-works price of standard cells estimated on this basis comes to Rs. 223 per 1,000 cells in the case of Estrela and Rs. 218 per 1,000 cells in the case of National Carbon. In the case of Estrela, there is considerable scope for reduction in labour charges and we consider that Estrela should be able to achieve this by greater use of automatic machines. Both the firms have requested us to keep the details of their costs confidential and we have accordingly given such details in a separate enclosure to this Report.

C.i.f. prices and landed costs of imported batteries.

10. Since dry batteries of standard types have not been imported into India for some years, we tried to obtain from India's Commercial Representatives abroad information regarding the current f.o.b. prices in the principal exporting countries and the c.i.f. prices in some of the importing countries. The information so obtained is given in a statement in Appendix III. At the public inquiry, the representative of Messrs. Jivraj and Sons, an importing firm, gave the current c.i.f. prices of dry batteries of

'Pagoda' brand from Hongkong as Rs. 187-8-0 per 1,000 cells. The representative of National Carbon gave the current price, f.a.s. U.S. port, of Standard Eveready dry cells as $ 6.25 per 100 cells which (after addition of 8 per cent for freight and insurance) works out to a c.i.f. price of Rs. 321.3 per 1,000 cells. It was agreed at the public inquiry that these figures could be taken as indicating the current level of c.i.f. prices. On the basis of this information, the landed costs of dry batteries from Hongkong and U.S.A. work out as follows:-

	Hongkong	*U. S. A.*
C.i.f. price per 1,000 cells	187 8 0	321 4 10
Clearing and handling charges	3 12 0	6 6 10
Landed cost without duty	191 4 0	327 11 3
Duty @ 31½ per cent	59 0 11	101 3 5
Landed cost with duty	250 4 11	428 15 1

Existing rate of duty.

11. Dry batteries are assessed to duty under Item No. 73(7) of the First Schedule to the Indian Customs Tariff. The relevant extract from the Indian Customs Tariff (37th issue) is given below:-

Item No.	Name of article	Nature of duty	Standard rate of duty	Preferential rate of duty if the article is the produce or manufacture of			Duration of protective rates of duty
				The United Kingdom	A British Colony	Burma	
73(7)	Dry batteries	Protective	31½ per cent *ad valorem.*	..	..	10½ per cent *ad valorem*	December 31st 1953.

12. (a) It will be seen that while the fair ex-works price of indigenous dry batteries as determined by the Commission is Rs. 223/- per 1,000 cells for one unit and Rs. 218/- for another, the c.i.f. prices for foreign dry cells range from Rs. 187/8/- per 1,000 cells for cells available from Hongkong to Rs. 321/4/10 for those available from the U.S.A. The measure of protection needed by the industry is, therefore, less than that afforded by the normal revenue duty of 30 per cent. Since the import duties on many of the raw materials imported by the industry are equal or higher, it is reasonable to assume that the duty on dry batteries, if converted into a revenue duty, is not likely to be reduced below its pre-protection level of 30 per cent *ad valorem*. Moreover, there have been no imports of dry batteries for several years past and the industry has, therefore, had an adequate opportunity to consolidate its position. Since the industry now has sufficient capacity to meet the domestic demand, it would only involve a waste of foreign exchange to permit imports of dry batteries. It is, therefore, safe to assume that the present import policy in regard to dry batteries will also be continued. The domestic industry, therefore, is not exposed to any threat of foreign competition at present and we accordingly recommend that the protection granted to the industry need not be continued beyond 31st December, 1953, the date on which the present period of protection expires.

Continuance of protection.

(b) While the industry as a whole is at present not exposed to foreign competition, the Indian sector of the industry is seriously apprehensive of a possible threat to its position arising from the fact that National Carbon, which has at its disposal the technical and other resources of a powerful foreign combine with world-wide ramifications, is already supplying about 80 per cent of the home market and is also able to produce dry batteries at a lower cost. The two Indian units, Estrela and Solar, are already strug-

gling hard to maintain their position in competition with this foreign unit. Normally, the interests of the country should not be deemed to be adversely affected if internal competition results in weeding out the less efficient units and in concentrating production in the more efficient ones. In the case of this industry, however, which at present consists mainly of 3 units, the elimination of two units will result in the remaining unit acquiring a monopolistic control of the entire field and this is obviously not in the long-term interests of the consumer. Irrespective of whether the unit which acquires such a predominant position is an Indian or a foreign one, the emergence of a monopoly is undesirable in itself, especially in the case of a product of strategic importance, like dry batteries. Moreover, the two Indian units, Estrela and Solar, cannot on any score be regarded as inefficient or unfit to survive. They have demonstrated their ability to produce dry batteries of good quality at a cost which, by standards usually applied to other Indian industries of similar standing, can be regarded as reasonable. They have never needed a higher measure of tariff protection than is afforded by the normal revenue duty. Both the units are utilising indigenous materials to a somewhat larger extent than National Carbon and are also genuinely interested in increasing the proportion of indigenous materials used by them. Solar Batteries have made valuable contributions to the technology of dry battery manufacture and it is in the wider interests of the country that Indian nationals who have shown initiative and enterprise in the technological field, should have due opportunities to exploit their researches on a commercial scale. We are happy to note that National Carbon themselves appreciate the importance of preserving competitive conditions in this industry. Besides, so long as imports of raw materials continue to be restricted on balance of payments grounds, the extent to which each unit can expand its output will be limited by the foreign exchange allotted to it for imports of raw materials. Nevertheless, we recommend that Government should keep a careful watch over

the developments in this industry and take suitable steps, if necessary, to maintain conditions of healthy competition. The industry should also be able to solve its internal problems by co-operation among its various units, which, we regret to note, is at present conspicuous by its absence. An association of manufacturers may be helpful in bringing about such co-operation and we recommend that the manufacturers should make fresh efforts to form an association. Estrela Batteries have represented to us that in the absence of co-operation among the different manufacturers, isolated attempts on the part of any one manufacturer to utilise indigenous materials are likely to aggravate the consumers' prejudice against the quality of his products. An association of manufacturers may enable co-ordinated action to be taken with regard to the utilisation of indigenous materials, in addition to providing a forum for discussion of other problems of common interest.

Ancillary matters.

13. (a) *Prices of radio batteries:* The All-India Radio Merchants' Association have drawn our attention to the rise in the prices of radio batteries which has taken place in recent years and have pointed out that at the current levels, the price of a radio battery is out of proportion to that of a battery-operated radio set. According to the figures supplied by the Association, the list price of an Eveready X818 type which was Rs.25 in September 1947 has risen to Rs. 35/- since April, 1951, while the trade discount has been reduced from 25 to 15 per cent. and the distributor's discount from 10 to 7½ per cent. The net price to distributors has consequently increased from Rs. 16/14/- to Rs. 27/8/6. We have discussed this matter with the National Carbon Co. and have also scrutinised the details of their costs of production. National Carbon have pointed out that the earlier low price was uneconomical to the Company and was fixed at that level in order to popularise the use of radio batteries. We find that this contention is borne out by their records and we are satisfied that the rise in prices since 1947 is mainly due to the increase in the cost of materials.

(b) *Government orders:* Government orders have been of considerable assistance to this industry and have been of particular benefit to two of the producers, National Carbon and Estrela. Solar Batteries are now in regular production and we recommend that all the three units should be given due opportunities to supply Government requirements.

(c) *Imports of flashlights and bulbs:* National Carbon and Estrela are classed as established importers of flashlights and bulbs and import them under their own brands. This gives these two units a certain advantage in pushing the sales of their dry batteries, since consumers normally prefer to purchase dry batteries of the same brand as flashlights. In order that Solar Batteries may also have the same advantage and thus be placed on an equal footing with their competitors, we recommend that they also should be given a reasonable quota for imports of flashlights and bulbs.

14. Our conclusions and recommendations are summarised below:-

Summary of conclusions and recommendations.

(i) The domestic demand for dry cells is estimated at 165 million cells per annum. The demand is likely to increase during the next 3 years at the rate of approximately 10 per cent. per year. The installed capacity in the industry is more than sufficient to meet the demand. [Paragraphs 4 and 5]

(ii) The industry has made some progress in the utilization of indigenous materials. The plan prepared by Solar Batteries for manufacture of manganese dioxide from indigenous ore should be examined in consultation with the Council of Scientific and Industrial Research and their request for necessary financial assistance given due consideration. The industry should make fuller use of the facilities offered by the Council of Scientific and Industrial Research with a view to increasing its utilisation of indigenous materials. [Paragraph 6]

(iii) The indigenous dry batteries have been found to conform to the Indian Standard Specifications. [Paragraph 7]

(iv) The fair ex-works price of standard cells is estimated at Rs. 223/- per thousand cells in the case of Estrela and Rs. 218/- per thousand cells in the case of National Carbon. [Paragraph 9]

(v) The current c.i.f. prices of standard cells from Hongkong and U.S.A. are Rs. 187/8/- and Rs. 321/4/10 per 1,000 cells respectively. [Paragraph 10]

(vi) A comparison of the fair ex-works price with the current c.i.f. prices shows that the measure of protection needed by the industry is less than that afforded by the normal revenue duty. There have been no imports of dry batteries for several years past and since the industry now has adequate capacity to meet the domestic demand, it is reasonable to assume that the present import policy will be continued. The domestic industry, therefore, is not exposed to any threat of foreign competition at present and hence the protection granted to the industry need not be continued beyond 31st December, 1953. [Paragraph 12]

(vii) Government should keep a careful watch over the developments in this industry and take suitable steps, if necessary, to maintain conditions of healthy competition. The manufacturers should make fresh efforts to form an association. An association of manufacturers may enable co-ordinated action to be taken with regard to the utilization of indigenous materials, in addition to providing a forum for discussion of other problems of common interest. [Paragraph 12]

(viii) All the three units which are at present in regular production should be given due opportunities to supply Government requirements. Further, Solar Batteries should be given a reasonable quota for imports of flashlights and bulbs, in order to place them on an equal footing with their competitors. [Paragraph 13]

Acknowledgements.

15. We wish to express our thanks to the representatives of producers, importers and consumers who furnished us with valuable information and tendered oral evidence before us. Our thanks are also due to Shri P.N. Deobhakta, Deputy Development Officer, Ministry of Commerce and Industry (Development Wing), Government of India, Shri G.D. Joglekar, Assistant Director, National Physical Laboratory, New Delhi, and Shri V.B. Thosar, Assistant Director of Industries, Bombay.

B.V. Narayanaswamy,
Member.

B.N. Adarkar,
Member.

B.N. Das Gupta,
Member.

D.K. Malhotra,
Secretary

Bombay,
Dated the 16th April, 1953.

APPENDIX I

(*Vide* paragraph 2)

List of persons or bodies to whom the Commission's questionnaires were issued and from whom replies or memoranda were received.

* Indicates those who have replied or sent memoranda.

@ Indicates those who are not interested.

A. PRODUCERS.

* 1. Estrela Batteries Ltd.,
Yusuf Building, Churchgate Street, Bombay 1.

* 2. National Carbon Co. (India) Limited,
P.O. Box 2170, Calcutta 1.

* 3. Solar Batteries and Flashlights Ltd.,
Industrial Estate,
41 D, Parel Chawl Road, Lalbaug, Bombay 12.

4. Baroda Batteries Ltd.,
Goya Gate, Baroda.

5. Sunbeam Electrical Industries Ltd.,
139, Esplanade Mansion,
Fuller Road, Fort, Bombay.

B. IMPORTERS.

* 1. Bombay Stove and Hardware Depot,
T.G. Shah Building,
Pydhonie, Bombay.

2. Bhailal G. Patel,
188/189, China Bazaar Street, Calcutta.

3. Getz Brothers & Co.,
Western India House,
Sir P.M. Road, Fort,
Bombay.

* 4. Jivraj & Sons,
Vithal Sayana Building,
Lohar Chawl, Bombay.

B. IMPORTERS (Contd.)

* 5. Kasamali Company,
Bunder Street, Madras.

6. Light House,
Anand Bhavan, 3rd Floor,
Princess Street, Bombay.

7. R. Vasantrai & Co.,
Opp. Mangaldas Market, Sheikh Memon St.,
Bombay.

8. Sarabhai & Co.,
Western India House,
Sir P.M. Road, Fort, Bombay.

9. Shantilal Chaganlal & Co.,
Post Box No. 202, Bombay.

C. CONSUMERS.

1. Eastern Lights Co.,
78, Lohar Chawl,
Bombay 2.

2. Chicago Telephone & Radio Co. Ltd.,
127, Mahatma Gandhi Road, Bombay 1.

3. Royal Electric Co.,
193, Princess Street, Bombay.

* 4. All India Radio Merchants' Association,
Fateh Manzil, Opera House, Bombay 4.

* 5. The Commandant,
Central Ordnance Depot, Agra.

* 6. The Naval Store Officer,
I.N. Dockyard, Bombay 1.

7. The Sidhpur Mills Co. Ltd.,
Sidhpur, N. Gujarat.

* 8. B.E.S.T. Undertaking,
Bombay Municipality,
Electric House,
Bombay.

@ 9. Canteen Stores Department (India),
Amar Building, Sir P.M. Road, Fort,
Bombay 1.

APPENDIX II

(*Vide* paragraph 2)

List of persons who attended the Commission's public inquiry on Monday, 16th March, 1953 and gave evidence

Name of the Representative			*Name of the Firm*
	PRODUCERS		
1.	Shri H.N. Doshi	Representing	Estrela Batteries Ltd., Bombay.
2.	Mr. J.E. Potts	"	National Carbon Co. (India) Ltd., Calcutta.
3.	Mr. J.R. Galloway		
4.	Shri A.G. Bhate	"	Solar Batteries & Flashlights Ltd., Bombay.
5.	Dr. L.C. Jariwala		
	IMPORTERS		
6.	Shri S.M. Shah	"	Bombay Stove & Hardware Depot, Bombay.
7.	Shri J.A. Sanghavi	"	Jivraj & Sons, Bombay.
	CONSUMERS		
8.	Shri Y.A. Fazalbhoy	"	All India Radio Merchants' Association, Bombay.
9.	Shri A.J. Valia		
10.	Mr. D.M. Palmer	"	The Naval Stores Officer, Indian Naval Dockyard, Bombay.
11.	Shri Chandrakant Lolayekar	"	Chicago Telephone & Radio Co. Ltd., Bombay.
	GOVERNMENT OFFICIALS		
Name of the official			
12.	Shri P.N. Deobhakta, Deputy Development officer	"	Ministry of Commerce and Industry (Development Wing), New Delhi.
13.	Shri G.D. Joglekar, Assistant Director.	"	National Physical Laboratory, New Delhi.
14.	Shri V.B. Thosar, Assistant Director of Industries.	"	Director of Industries, Bombay.

APPENDIX III

(Vide paragraph 10)

STATEMENT SHOWING THE BREAK-DOWN OF THE LANDED COSTS OF DRY BATTERIES INTO C.I.F., CUSTOMS DUTY AND CLEARING CHARGES

(For 1000 cells)

Sl. No.	Source of information	Source of Imports	Type and specification	F.O.B. Price Rs.	C.I.F. Price Rs.	Customs duty (31½%) Rs.	Clearing charges Rs.	Landed cost Rs.	Remarks
1.	Commercial Attache, Embassy of India, West Germany.	W. Germany	Mono Cells 1.5 volts. 33 x 60 mms. case of 660 cells	277 12 8	300 0 1	94 8 0	6 0 0	400 8 1	
2.	Indian Government Trade Commissioner in Australia.	Australia	-	318 8 4	344 0 0	108 5 9	6 14 0	459 3 9	
3.	Commercial Counsellor, Embassy of India in Washington, U.S.A.	U.S.A.	Standard cells	273 11 2	295 9 6	93 1 10	5 14 7	394 9 11	
4.	Jivraj & Sons, Bombay	Hongkong	Pagoda Brand Standard cells	-	187 8 0	59 0 11	3 12 0	250 4 11	
5.	National Carbon Co.(India) Ltd., Calcutta.	U.S.A.	Standard cells	297 8 0	321 4 10	101 3 5	6 6 10	428 15 1	
			C.I.F. PRICES IN SOME IMPORTING COUNTRIES						
6.	First Secretary (Commercial) Embassy of India, Burma.	-	Rushlite cells	-	312 8 0	-	-	-	
7.	" "	-	BA6103 cells	-	375 0 0	-	-	-	
8.	Embassy of India, Djakarta, Indonesia.	-	Standard cells	-	333 5 3	-	-	-	
9.	Representative of the Govt. of India in Malaya, Singapore.	-	Standard cells	-	296 14 0	-	-	-	

Note:- (i) F.O.B. prices have been converted to c.i.f. by adding 8 per cent.

(ii) Clearing charges have been taken as 2 per cent. of c.i.f.


सत्यमेव जयते

LIST OF REPORTS OF THE INDIAN TARIFF BOARD

I. TARIFF INQUIRIES

(A) *NEW CASES*

1.	Sodium thiosulphate, sodium sulphite (anhydrous) and sodium bisulphite (1946).	PTB 158
2.	Bichromates (1946).	PTB 157
3.	Phosphates and phosphoric acid (1946).	PTB 156
4.	Butter colour and aerated water powder colour (1946).	PTB 154
5.	Calcium chloride (1946).	PTB 153
6.	Coated abrasives (other than grinding wheels) (1946).	PTB 159
7.	Hurricane lanterns (1946).	PTB 152
8.	Cocoa powder and chocolate (1946).	PTB 155
9.	Wood screws (1946).	PTB 97
10.	Bicycles (1946).	PTB 100
11.	Caustic soda and bleaching powder (1946).	PTB 88
12.	Antimony (1946).	PTB 94
13.	Sewing machines (1946).	PTB 101
14.	Aluminium (1946).	PTB 90
15.	Steel baling hoops (1946).	PTB 87
16.	Preserved fruits (1946).	PTB 145
17.	Non-ferrous metals (1946)	PTB 146
18.	Cotton textile machinery (ring frames, spindles and spinning rings) (1947).	PTB 111
19.	Rubber manufactures (1947).	PTB 110
20.	Sodium and potassium metabisulphites (1947).	PTB 105
21.	Alloy tool and special steel (1947).	PTB 118
22.	Sodium sulphide (1947).	PTB 102
23.	Electric motors (1947).	PTB 112
24.	Dry battery (1947).	PTB 115
25.	Plywood and teachests (1947).	PTB 113
26.	Cotton and hair belting (1947).	PTB 121
27.	Starch (1947).	PTB 103
28.	Glucose (1947).	PTB 104
29.	Chloroform, ether, sulphuric p.b. and anaesthetic and potassium permanganate (1947).	PTB 109
30.	Fire hose (1947).	PTB 120
31.	Steel belt lacing (1947).	PTB 119
32.	Ferro-silicon (1947).	PTB 116
33.	Oleic acid and stearic acid (1947).	PTB 117
34.	Machine tools (1947).	PTB 114
35.	Wire healds (1948).	PTB 123
36.	Pickers (1948).	PTB 125

(B) *REVIEW CASES*

(Continuance of Protection)

20. Starch (1949).	PTB 163
21. Bichromates (1949).	PTB 168
22. Ferro-silicon (1949).	PTB 169
23. Sewing machines (1949).	PTB 170
24. Cocoa powder and chocolate (1949).	PTB 172
25. Electric motors (1949).	PTB 166
26. Steel belt lacing (1949).	PTB 171
27. Cotton and hair belting (1949).	PTB 173
28. Calcium chloride (1950).	PTB 175
29. Sugar (1950).	PTB 179
30. Potassium permanganate (1950).	PTB 176
31. Wood screws (1950).	PTB 177
32. Dry battery (1950).	PTB 180
33. Oleic acid and stearic acid (1950).	PTB 178
34. Plywood and teachests (1950).	PTB 181

II. PRICE REPORTS

1. Cotton yarn and cloth prices (1948).	PTB 127
2. Paper prices (1948).	PTB 130
3. Fair ex-works prices of superphosphate (1949).	PTB 139
4. Fair retention prices of steel produced by the Tata Iron & Steel Company and the Steel Corporation of Bengal (1949).	PTB 135
5. Ex-works costs of hot metal (Iron for steel making) and fair ex-works prices of pig iron (Basic and foundry grade) (1949).	PTB 137
6. Fair retention prices of steel produced by Mysore Iron & Steel Works, Bhadravati (1949).	PTB 151
7. Fair retention prices of steel produced by the Tata Iron & Steel Company and the Steel Corporation of Bengal (1951).	PTB 205

All the above reports are available with the Manager of Publications, Civil Lines, Delhi, and the Secretary, Indian Tariff Board, Contractor Building, Nicol Road, Ballard Estate, Bombay 1.